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2015 American Academy of Pediatric Dentistry
INTRODUCTION

This fifth edition of American Academy of Pediatric Dentistry (AAPD) Coding and Insurance Manual; A Comprehensive Resource For Reporting Pediatric Dental Services – 2016 is published specifically for pediatric dentists, and general dentists who treat children, as a quick and convenient guide for effectively reporting procedure codes when filing dental and medical insurance claims. The AAPD Committee on Dental Benefit Programs (CDBP) designed this manual to include a select set of dental codes from the latest version of the Code on Dental Procedures and Nomenclature (Code) CDT 2016 that pertain to pediatric dentistry. This version of the Code is effective for services rendered on or after Jan. 1, 2016, through Dec. 31, 2016.

For information on the coding process and submitting future codes for consideration, please go to http://www.ada.org/3827.aspx. The recommendations should be sent to the AAPD Committee on Dental Benefit Programs for review prior to the Code Maintenance Committee (CMC) review. This ensures that the submission receives the proper attention and avoids duplication of submissions. If the proposal has merit, the AAPD may also decide to add its endorsement and support.

Because pediatric dentists often render services in hospitals and ambulatory surgical centers (ASC), it is often necessary for them to bill to medical insurance using CPT medical codes and ICD9/10-CM diagnostic codes. This manual will assist you in converting dental codes to corresponding codes. We have selected a subset of CDT codes frequently used by pediatric dentists and then linked (cross-coded) these dental codes to the medical CPT procedure codes and diagnostic ICD-9/10 codes as published in 2015 Physicians Current Procedural Terminolog, and ICD-10-CM Mappings). These sources are quite reliable; however, the accuracy cannot be guaranteed by the AAPD. A section on modifiers, sometimes necessary for reporting extenuating circumstances on the CMS 1500 form, is also included.

To guide the dental team with third party issues, information on completing the ADA Dental Claim Form, CMS 1500 Medical Claim Form, cross-coding dental/medical procedures and diagnostic codes, frequently asked coding questions, vignettes describing typical patients and circumstances and contact information for various government and third party carriers are included.

Coding decisions are personal choices to be made by individual dentists exercising their own professional judgment in each situation. The information provided to you in this manual is intended for educational purposes only. In no event shall AAPD be held liable for any decision made or action taken or not taken by you or anyone else in reliance on the information contained in the American Academy of Pediatric Dentistry (AAPD) Coding and Insurance Manual – 2016.

The listing of a CDT/CPT procedure and its code number in this publication does not restrict its use to any particular specialty group. Any procedure or service in this manual may be used to report the service when appropriately rendered.

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ACKNOWLEDGEMENTS

This fifth edition of the AAPD Coding and Insurance Manual 2016; a Comprehensive Resource for Reporting Pediatric Dental Services represents a combination of efforts of the AAPD Councils on Dental Benefit Programs and Clinical Affairs and respective consultants.

Dr. Paul Reggiardo chaired the CDBP during development of the fifth edition. Other members of the CDBP included Drs. Sara Filstrup, Warren Brill, Yasmi Crystal, Bill Steinhauer, and Santos Cortes. Consultants for the CDBP is Jim Nickma. Dr. David Tesini served as liaison to the board of trustees.

The AAPD staff wishes to express sincere thanks to each of these individuals for their time, expertise and commitment to this project. This project was managed by Dental Benefits Manager, Ms. Mary E. Essling. Please contact Ms. Essling by phone at (312)-337-2169 or by email at (messling@aapd.org) with questions or comments concerning this manual.

Future editions will coincide with the annual revision of Current Dental Terminology (CDT).

BEST PRACTICE PRINCIPLES OF CODING

The following principles are offered to assist pediatric dentists and others in developing a basic philosophy of coding. Once established, these principles allow for more consistent and accurate coding.

• The pediatric dentist who provided the service is legally responsible for any coding submitted for the service, and therefore, is the person to select the diagnosis and procedure codes.

• It is important that pediatric dentists and other dentists document in the dental record, with regard to justification for the selection of a particular code for the service rendered. At a minimum, the record should contain the date of service, procedure performed, complaint with appropriate history, dental examination findings, laboratory tests results, diagnosis, recommended treatment, prescribed prescriptions and follow up plans. Carriers and courts assume that if it is not documented in the dental record, it did not happen.

• Code appropriately for different types of encounters. Medical (CPT) evaluation and management codes have various levels based on the complexity of medical decision making, patient history and examination. Hospital visits have three to five levels of service within a family of codes. Encounters should be evaluated to determine which level is appropriate.

• When billing for medical procedures, always use a CPT modifier when altering a standard fee or when required by CPT guidelines. Use of modifiers informs the payer that there are extenuating circumstances that may require manual adjudication of the claim.

• Since the pediatric dentist is responsible for the codes and charges applied to any particular service, the dentist should review the charges and codes used in the office periodically with the office manager.
CHAPTER 1
Code on Dental Procedures and Nomenclature for Pediatric Services

Category of Service Code Series
The CDT Code is organized into twelve categories of service, each with its own series of five-digit alphanumeric codes:

I. Diagnostic D0100 – D0999
II. Preventive D1000 – D1999
III. Restorative D2000 – D2999
IV. Endodontics D3000 – D3999
V. Periodontics D4000 – D4999
VI. Prosthodontics, removable D5000 – D5899
VII. Maxillofacial Prosthetics D5900 – D5999
VIII. Implant Services D6000 – D6199
IX. Prosthodontics, fixed D6200 – D6999
X. Oral & Maxillofacial Surgery D7000 – D7999
XI. Orthodontics D8000 – D8999
XII. Adjunctive General Services D9000 – D9999

These categories exist solely as a means to organize the CDT Code. As a result, some categories of service are divided into subcategories of related procedures. Many categories and subcategories have descriptors applicable to all procedure codes therein.

Components of a Dental Procedure Code Entry
Every procedure in the CDT Code must have the first two of the following three components:

1. Procedure Code – A five character alphanumeric code beginning with the letter “D” that identifies a specific dental procedure. A Procedure Code cannot be changed or abbreviated.

2. Nomenclature – The written title of a Procedure Code. Nomenclature may be abbreviated when printed on claim forms or other documents that are subject to space limitation. Any such abbreviation does not constitute a change to the Nomenclature.

3. Descriptor – A written narrative that further defines the nature and intended use of a single Procedure Code, or group of such codes. A Descriptor, when present, follows the applicable Procedure Code and its Nomenclature. Descriptors that apply to a series of Procedure Codes precede that series of codes.

Using the CDT Code
The following points should prove helpful when using the CDT Code for recording services provided on the patient record, and when reporting procedures on a paper or electronic claim submission.

1. The presence of a CDT Code does not mean that the procedure is:
   a. endorsed by any entity or is considered a standard of care
   b. covered or reimbursed by a dental benefits plan

2. General practitioners, specialists, and other individuals may report any of the listed CDT Codes as long as they are acting within the scope of their state law.

3. CDT Codes that require inclusion of a narrative description on the claim have the words “by report” in their nomenclature.

4. “Unspecified… procedure, by report” codes are used when, in the opinion of the dentist, there is no other CDT Code entry that accurately describes the services provided the patient.
CLASSIFICATION OF MATERIALS

Names of dental materials are included in numerous procedure nomenclatures within several Categories of Service (e.g., Restorative; Prosthodontics, fixed). The following list of dental materials is included in the CDT Code solely to aid to selection of a procedure code applicable to the service provided. The noble metal classification system has been adopted as a more precise method of reporting various alloys used in dentistry. The alloys are defined on the basis of the percentage of metal content.

CLASSIFICATION REQUIREMENTS

High Noble Alloys
Noble Metal Content ≥ 60% (gold + platinum group*) and gold ≥ 40%

Titanium and Titanium Alloys
Titanium ≥ 85%

Noble Alloys
Noble Metal Content ≥ 25% (gold + platinum group*)

Predominantly Base Alloys
Noble Metal Content < 25% (gold + platinum group*)
* metals of the platinum group are platinum, palladium, rhodium, iridium, osmium and ruthenium

Porcelain/Ceramic
Refers to pressed, fired, polished or milled materials containing predominantly inorganic refractory compounds including porcelains, glasses, ceramics, and glass-ceramics.

▲Resin
Refers to any resin-based composite, including fiber or ceramic reinforced polymer compounds, and glass ionomers.

Required Statement

If there is more than one code in this edition that covers a procedure and a dentist submits a claim under one of these codes, the payer may process the claim under any of these codes that is consistent with the payer’s reimbursement policy.

Code on Dental Procedures and Nomenclature

The current version of the Code on Dental Procedures and Nomenclature (CDT Code) that follows is effective for the calendar year Jan. 1, 2015, through Dec. 31, 2015. There are a number of changes from the prior version, which are identified by the following symbols:

• New procedure code

▲ Revision to a nomenclature or descriptor

Please note that when a code’s nomenclature includes a “by report” notation, a narrative explaining the treatment provided must be included with the claim submission.
I. DIAGNOSTIC
D0100 — D0999

CLINICAL ORAL EVALUATIONS

The codes in this section recognize the cognitive skills necessary for patient evaluation. The collection and recording of some data and components of the dental examination may be delegated; however, the evaluation, which includes diagnosis and treatment planning, is the responsibility of the dentist. As with all ADA procedure codes, there is no distinction made between the evaluations provided by general practitioners and specialists. Report additional diagnostic and/or definitive procedures separately.

D0120 periodic oral evaluation – established patient
An evaluation performed on a patient of record to determine any changes in the patient’s dental and medical health status since a previous comprehensive or periodic evaluation. This includes an oral cancer evaluation and periodontal screening where indicated, and may require interpretation of information acquired through additional diagnostic procedures. Report additional diagnostic procedures separately.

D0140 limited oral evaluation – problem focused
An evaluation limited to a specific oral health problem or complaint. This may require interpretation of information acquired through additional diagnostic procedures. Report additional diagnostic procedures separately. Definitive procedures may be required on the same date as the evaluation.

Typically, patients receiving this type of evaluation present with a specific problem and/or dental emergencies, trauma, acute infections, etc.

D0145 oral evaluation for a patient under three years of age and counseling with primary caregiver
Diagnostic services performed for a child under the age of three, preferably within the first six months of the eruption of the first primary tooth, including recording the oral and physical health history, evaluation of caries susceptibility, development of an appropriate preventive oral health regimen and communication with and counseling of the child's parent, legal guardian and/or primary caregiver.

D0150 comprehensive oral evaluation – new or established patient
Used by a general dentist and/or a specialist when evaluating a patient comprehensively. This applies to new patients; established patients who have had a significant change in health conditions or other unusual circumstances, by report, or established patients who have been absent from active treatment for three or more years. It is a thorough evaluation and recording of the extraoral and intraoral hard and soft tissues. It may require interpretation of information acquired through additional diagnostic procedures. Additional diagnostic procedures should be reported separately.

This includes an evaluation for oral cancer where indicated, the evaluation and recording of the patient’s dental and medical history and a general health assessment. It may include the evaluation and recording of dental caries, missing or unerupted teeth, restorations, existing prostheses, occlusal relationships, periodontal conditions (including periodontal screening and/or charting), hard and soft tissue anomalies, etc.

D0160 detailed and extensive oral evaluation – problem focused, by report
A detailed and extensive problem focused evaluation entails extensive diagnostic and cognitive modalities based on the findings of a comprehensive oral evaluation. Integration of more extensive diagnostic modalities to develop a treatment plan for a specific problem is required. The condition requiring this type of evaluation should be described and documented.

Examples of conditions requiring this type of evaluation may include dentofacial anomalies, complicated perio-prosthetic conditions, complex temporomandibular dysfunction, facial pain of unknown origin, conditions requiring multi-disciplinary consultation, etc.

D0170 re-evaluation – limited, problem focused (established patient; not post-operative visit)
Assessing the status of a previously existing condition. For example:
• a traumatic injury where no treatment was rendered but patient needs follow-up monitoring;
• evaluation for undiagnosed continuing pain;
• soft tissue lesion requiring follow-up evaluation.

D0171 re-evaluation – post-operative office visit

PRE-DIAGNOSTIC SERVICES

D0190 screening of a patient
A screening, including state or federally mandated screenings, to determine an individual’s need to be seen by a dentist for diagnosis.

D0191 assessment of a patient
A limited clinical inspection that is performed to identify possible signs of oral or systemic disease, malformation, or injury, and the potential need for referral for diagnosis and treatment.

DIAGNOSTIC IMAGING

Should be taken only for clinical reasons as determined by the patient's dentist. Should be of diagnostic quality and properly identified and dated. Is a part of the patient’s clinical record and the original images should be retained by the dentist. Originals should not be used to fulfill requests made by patients or third-parties for copies of records.
### IMAGE CAPTURE WITH INTERPRETATION

**D0210** intraoral – complete series of radiographic images  
A radiographic survey of the whole mouth, usually consisting of 14-22 periapical and posterior bitewing images intended to display the crowns and roots of all teeth, periapical areas and alveolar bone.

**D0220** intraoral – periapical first radiographic image

**D0230** intraoral – periapical each additional radiographic image

**D0240** intraoral – occlusal radiographic image

**D0250** extra-oral – 2D projection radiographic image created using a stationary radiation source, and detector  
These images include, but are not limited to: Lateral Skull; Posterior-Anterior Skull; Submentovertex; Waters; Reverse Tomes; Oblique Mandibular Body; Lateral Ramus.

**D0251** extra-oral posterior dental radiographic image  
Image limited to exposure of complete posterior teeth in both dental arches. This is a unique image that is not derived from another image

**D0270** bitewing – single radiographic image

**D0272** bitewings – two radiographic images

**D0273** bitewings – three radiographic images

**D0274** bitewings – four radiographic images

**D0277** vertical bitewings – 7 to 8 radiographic images  
This does not constitute a full mouth intraoral radiographic series.

**D0290** posterior-anterior or lateral skull and facial bone survey radiographic image

**D0330** panoramic radiographic image

**D0340** 2D cephalometric radiographic image – acquisition, measurement and analysis  
Image of the head made using a cephalostat to standardize anatomic positioning, and with reproducible X-ray beam geometry

**D0350** oral/facial photographic image obtained intra-orally or extra-orally

**D0355** cone beam CT capture and interpretation with limited field of view – less than one whole jaw

**D0370** cone beam CT capture and interpretation with field of view of one full dental arch – mandible

**D0371** cone beam CT capture and interpretation with field of view of both jaws; with or without cranium

**D0368** cone beam CT capture and interpretation for TMJ series including two or more exposures

**D0369** maxillofacial MRI capture and interpretation

**D0370** maxillofacial ultrasound capture and interpretation

**D0371** sialoendoscopy capture and interpretation

**D0380** cone beam CT image capture with limited field of view – less than one whole jaw

**D0381** cone beam CT image capture with field of view of one full dental arch – mandible

**D0382** cone beam CT image capture with field of view of one full dental arch – maxilla, with or without cranium

**D0383** cone beam CT image capture with field of view of both jaws, with or without cranium

**D0384** cone beam CT image capture for TMJ series including two or more exposures

**D0385** maxillofacial MRI image capture

**D0386** maxillofacial ultrasound image capture

**INTERPRETATION AND REPORT ONLY**

Interpretation and Report by a Practitioner not associated with Image Capture

**D0391** interpretation of diagnostic image by a practitioner not associated with capture of the image, including report

**POST PROCESSING OF IMAGE OR IMAGE SETS**

**D0393** treatment simulation using 3D image volume  
The use of 3D image volumes for simulation of treatment including, but not limited to, dental implant placement, orthognathic surgery and orthodontic tooth movement.

**D0394** digital subtraction of two or more images or image volumes of the same modality  
To demonstrate changes that have occurred over time.

**D0395** fusion of two or more 3D image volumes of one or more modalities

**TESTS AND EXAMINATIONS**

**D0415** collection of microorganisms for culture and sensitivity

**D0416** viral culture  
A diagnostic test to identify viral organisms, most often herpes virus.
D0417  collection and preparation of saliva sample for laboratory diagnostic testing

D0418  analysis of saliva sample

*D0422  collection and preparation of genetic sample material for laboratory analysis and report

*D0423  genetic test for susceptibility to diseases – specimen analysis

Certified laboratory analysis to detect specific genetic variations associated with increased susceptibility for diseases. Chemical or biological analysis of saliva sample for diagnostic purposes.

D0425  caries susceptibility tests

Not to be used for carious dentin staining.

D0431  adjunctive pre-diagnostic test that aids in detection of mucosal abnormalities including premalignant and malignant lesions, not to include cytology or biopsy procedures

D0460  pulp vitality tests

Includes multiple teeth and contra lateral comparison(s), as indicated.

D0470  diagnostic casts

Also known as diagnostic models or study models.

D0601  caries risk assessment and documentation, with a finding of low risk

Using recognized assessment tools.

D0602  caries risk assessment and documentation, with a finding of moderate risk

Using recognized assessment tools.

D0603  caries risk assessment and documentation, with a finding of high risk

Using recognized assessment tools.

TOPICAL FLUORIDE TREATMENT

(Office Procedure)

Prescription strength fluoride product designed solely for use in the dental office, delivered to the dentition under the direct supervision of a dental professional. Fluoride must be applied separately from prophylaxis paste.

D1206  topical application of fluoride varnish

D1208  topical application of fluoride – excluding varnish

OTHER PREVENTIVE SERVICES

D1310  nutritional counseling for control of dental disease

Counseling on food selection and dietary habits as a part of treatment and control of periodontal disease and caries.

D1320  tobacco counseling for the control and prevention of oral disease

Tobacco prevention and cessation services reduce patient risks of developing tobacco-related oral diseases and conditions and improves prognosis for certain dental therapies.

D1330  oral hygiene instructions

This may include instructions for home care. Examples include tooth brushing technique, flossing, and use of special oral hygiene aids.

D1351  sealant – per tooth

Mechanically and/or chemically prepared enamel surface sealed to prevent decay.

D1352  preventive resin restoration in a moderate to high caries risk patient – permanent tooth

Conservative restoration of an active cavitated lesion in a pit or fissure that does not extend into dentin; includes placement of a sealant in any radiating non-carious fissures or pits.

D1353  sealant repair – per tooth

D1354  interim caries arresting medicament application

Conservative treatment of an active, non-symptomatic carious lesion by topical application of a caries arresting or inhibiting medicament and without mechanical removal of sound tooth structure.

SPACE MAINTENANCE

(Passive Appliances)

Passive appliances are designed to prevent tooth movement.

D1510  space maintainer – fixed – unilateral

D1515  space maintainer – fixed – bilateral

D1520  space maintainer – removable – unilateral

D1525  space maintainer – removable – bilateral
American Academy of Pediatric Dentistry
CODEx ON DENTAL PROCEDURES

D1550 re-cementation of space maintainer

D1555 removal of fixed space maintainer
Procedure delivered by dentist who did not originally place the appliance, or by the practice where the appliance was originally delivered to the patient.

D1999 unspecified preventive procedure, by report
Used for procedure that is not adequately described by another CDT Code. Describe procedure.

III. RESTORATIVE
D2000–D2999

Local anesthesia is usually considered to be part of Restorative procedures.

A one-surface posterior restoration is one in which the restoration involves only one of the five surface classifications (mesial, distal, occlusal, lingual, or facial, including buccal and labial).

A two-surface posterior restoration is one in which the restoration extends to two of the five surface classifications.

A three-surface posterior restoration is one in which the restoration extends to three of the five surface classifications.

A four-or-more surface posterior restoration is one in which the restoration extends to four or more of the five surface classifications.

A one-surface anterior proximal restoration is one in which neither the lingual nor the facial margins of the restoration extend beyond the line angle.

A two-surface anterior proximal restoration is one in which either the lingual or facial margin of the restoration extends beyond the line angle.

A three-surface anterior proximal restoration is one in which both the lingual and facial margins of the restorations extend beyond the line angle.

A four-or-more surface anterior restoration is one in which both the lingual and facial margins extend beyond the line angle and the incisal angle is involved. This restoration might also involve all four surfaces of an anterior tooth and not involve the incisal angle.

AMALGAM RESTORATIONS (INCLUDING POLISHING)

Tooth preparation, all adhesives (including amalgam bonding agents), liners and bases are included as part of the restoration. If pins are used, they should be reported separately (see D2951).

D2140 amalgam – one surface, primary or permanent

D2150 amalgam – two surfaces, primary or permanent

D2160 amalgam – three surfaces, primary or permanent

D2161 amalgam – four or more surfaces, primary or permanent

RESIN-BASED COMPOSITE RESTORATIONS – DIRECT

Resin-based composite refers to a broad category of materials including but not limited to composites. May include bonded composite, light-cured composite, etc. Tooth preparation, acid etching, adhesives (including resin bonding agents), liners and bases and curing are included as part of the restoration. Glass ionomers, when used as restorations, should be reported with these codes. If pins are used, they should be reported separately (see D2951).

D2330 resin-based composite – one surface, anterior

D2331 resin-based composite – two surfaces, anterior

D2332 resin-based composite – three surfaces, anterior

D2335 resin-based composite – four or more surfaces or involving incisal angle (anterior)
Incisal angle to be defined as one of the angles formed by the junction of the incisal and the mesial or distal surface of an anterior tooth.

D2390 resin-based composite crown, anterior
Full resin-based composite coverage of tooth.

D2391 resin-based composite – one surface, posterior
Used to restore a carious lesion into the dentin or a deeply eroded area into the dentin. Not a preventive procedure.

D2392 resin-based composite – two surfaces, posterior

D2393 resin-based composite – three surfaces, posterior

D2394 resin-based composite – four or more surfaces, posterior

CROWNS - SINGLE RESTORATIONS ONLY

D2799 provisional crown – further treatment or completion of diagnosis necessary prior to final impression.
Not to be used as a temporary crown for a routine prosthetic restoration.

OTHER RESTORATIVE SERVICES

D2920 recement crown or rebond crown

D2921 reattachment of tooth fragment, incisal edge or cusp

D2929 prefabricated porcelain/ceramic crown – primary tooth

D2930 prefabricated stainless steel crown – primary tooth
D2931 prefabricated stainless steel crown – permanent tooth

D2932 prefabricated resin crown

D2933 prefabricated stainless steel crown with resin window
Open-face stainless steel crown with aesthetic resin facing or veneer.

D2934 prefabricated esthetic coated stainless steel crown – primary tooth
Stainless steel primary crown with exterior esthetic coating.

D2940 protective restoration
Direct placement of a restorative material to protect tooth and/or tissue form. This procedure may be used to relieve pain, promote healing, or prevent further deterioration. Not to be used for endodontic access closure, or as a base or liner under restoration.

D2941 interim therapeutic restoration – primary dentition
Placement of an adhesive restorative material following caries debridement by hand or other method for the management of early childhood caries. Not considered a definitive restoration.

D2949 restorative foundation for an indirect restoration
Placement of restorative material to yield a more ideal form, including elimination of undercuts.

D2950 core buildup, including any pins
Refers to building up of anatomical crown when restorative crown will be placed, whether or not pins are used. A material is placed in the tooth preparation for a crown when there is insufficient tooth strength and retention for the crown procedure. This should not be reported when the procedure only involves a filler to eliminate any undercut, box form, or concave irregularity in the preparation.

D2951 pin retention – per tooth, in addition to restoration

D2952 post and core in addition to crown, indirectly fabricated
Post and core are custom fabricated as a single unit.

D2954 prefabricated post and core in addition to crown
Core is built around a prefabricated post. This procedure includes the core material.

D2960 labial veneer (resin laminate) – chairside
Refers to labial/facial direct resin bonded veneers.

D2990 resin infiltration of incipient smooth surface lesions
Placement of an infiltrating resin restoration for strengthening, stabilizing and/or limiting the progression of the lesion.

D2999 unspecified restorative procedure, by report
Use for procedure that is not adequately described by a code. Describe procedure.

IV. ENDODONTICS
D3000–D3999

Local anesthesia is usually considered to be part of Endodontic procedures.

PULP CAPPING

D3110 pulp cap (direct)
Procedure in which the exposed pulp is covered with a dressing or cement that protects the pulp and promotes healing and repair.

D3120 pulp cap (indirect)
Procedure in which the nearly exposed pulp is covered with a protective dressing to protect the pulp from additional injury and to promote healing and repair via formation of secondary dentin. This code is not to be used for bases and liners when all caries has been removed.

PULPOTOMY

D3220 therapeutic pulpotomy (excluding final restoration) – removal of pulp coronal to the dentinocemental junction and application of medicament
Pulpotomy is the surgical removal of a portion of the pulp with the aim of maintaining the vitality of the remaining portion by means of an adequate dressing.
• To be performed on primary or permanent teeth.
• This is not to be construed as the first stage of root canal therapy.
• Not to be used for apexogenesis.

D3221 pulpal debridement, primary and permanent teeth
Pulpal debridement for the relief of acute pain prior to conventional root canal therapy. This procedure is not to be used when endodontic treatment is completed on the same day.

D3222 partial pulpotomy for apexogenesis – permanent tooth with incomplete root development
Removal of a portion of the pulp and application of a medicament with the aim of maintaining the vitality of the remaining portion to encourage continued physiological development and formation of the root.
This procedure is not to be construed as the first stage of root canal therapy.

Note: Traditionally, most dental carriers have not required a radiograph for a pulpotomy claim unless performed on a permanent tooth. If documentation is requested by a carrier for an apexogenesis claim,
the dental consultant will most likely request a film that shows a permanent tooth with an immature root(s) and either caries into the pulp chamber or a tooth fracture into the pulp chamber. Since D3222 is a fairly new code, some dental carriers may also require a narrative. There may be a waiting period for endodontic procedures contingent upon the contractual provisions of the patient’s dental plan.

ENDODONTIC THERAPY ON PRIMARY TEETH

D3230 pulpal therapy (resorbable filling) – anterior, primary tooth (excluding final restoration)
Primary incisors and cuspids.

D3240 pulpal therapy (resorbable filling) – posterior, primary tooth (excluding final restoration)
Primary first and second molars.

ENDODONTIC THERAPY (INCLUDING TREATMENT PLAN, CLINICAL PROCEDURES AND FOLLOW-UP CARE)

Includes primary teeth without succedaneous teeth and permanent teeth. Complete root canal therapy: pulpectomy is part of root canal therapy.

Includes all appointments necessary to complete treatment; also includes intra-operative radiographs. Does not include diagnostic evaluation and necessary radiographs/diagnostic images.

D3310 endodontic therapy, anterior tooth (excluding final restoration)

D3320 endodontic therapy, bicuspids tooth (excluding final restoration)

D3330 endodontic therapy, molar (excluding final restoration)

D3331 treatment of root canal obstruction; non-surgical access in lieu of surgery, the formation of a pathway to achieve an apical seal without surgical intervention because of a non-negotiable root
canal blocked by foreign bodies, including but not limited to separated instruments, broken posts or calcification of 50% or more of the length of the tooth root.

D3332 incomplete endodontic therapy; inoperable, unrestorable or fractured tooth
Considerable time is necessary to determine diagnosis and/or provide initial treatment before the fracture makes the tooth unretainable.

D3333 internal root repair of perforation defects
Non-surgical seal of perforation caused by resorption and/or decay but not iatrogenic by provider filing claim.

APEXIFICATION/RECALCIFICATION

D3351 apexification/recalcification – initial visit (apical closure/calcific repair of perforations, root resorption, pulp space disinfection, etc.)
Includes opening tooth, preparation of canal spaces, first placement of medication and necessary radiographs. (This procedure may include first phase of complete root canal therapy.)

D3352 apexification/recalcification – interim medication replacement
For visits in which the intra-canal medication is replaced with new medication. Includes any necessary radiographs.

D3353 apexification/recalcification – final visit (includes completed root canal therapy – apical closure/calcific repair of perforations, root resorption, etc.)
Includes removal of intra-canal medication and procedures necessary to place final root canal filling material including necessary radiographs. (This procedure includes last phase of complete root canal therapy.)

PULPAL REGENERATION

D3355 pulpal regeneration – initial visit
Includes opening tooth, preparation of canal spaces, placement of medication.

D3356 pulpal regeneration – interim medication replacement

D3357 pulpal regeneration – completion of treatment
Does not include final restoration.

OTHER ENDODONTIC PROCEDURES

D3910 surgical procedure for isolation of tooth with rubber dam

D3950 canal preparation and fitting of preformed dowel or post
Should not be reported in conjunction with D2952, D2953, D2954 or D2957 by the same practitioner.

D3999 unspecified endodontic procedure, by report
Used for procedure that is not adequately described by a code. Describe procedure.
V. PERIODONTICS

D4000 — D4999

Local anesthesia is usually considered to be part of periodontal procedures.

SURGICAL SERVICES (INCLUDING USUAL POSTOPERATIVE CARE)

Site: A term used to describe a single area, position, or locus. The word “site” is frequently used to indicate an area of soft tissue recession on a single tooth or an osseous defect adjacent to a single tooth; also used to indicate soft tissue defects and/or osseous defects in edentulous tooth positions.

- If two contiguous teeth have areas of soft tissue recession, each area of recession is a single site.
- If two contiguous teeth have adjacent but separate osseous defects, each defect is a single site.
- If two contiguous teeth have a communicating interproximal osseous defect, it should be considered a single site.
- All non-communicating osseous defects are single sites.
- All edentulous non-contiguous tooth positions are single sites.
- Depending on the dimensions of the defect, up to two contiguous edentulous tooth positions may be considered a single site.

Tooth Bounded Space: A space created by one or more missing teeth that has a tooth on each side.

D4210 gingivectomy or gingivoplasty – four or more contiguous
Teeth or tooth bounded spaces per quadrant. It is performed to eliminate suprabony pockets or to restore normal architecture when gingival enlargements or asymmetrical or unaesthetic topography is evident with normal bony configuration.

D4211 gingivectomy or gingivoplasty – one to three contiguous
Teeth or tooth bounded spaces per quadrant. It is performed to eliminate suprabony pockets or to restore normal architecture when gingival enlargements or asymmetrical or unaesthetic topography is evident with normal bony configuration.

D4212 gingivectomy or gingivoplasty to allow access for restorative procedure, per tooth

D4230 anatomical crown exposure – four or more contiguous teeth per quadrant
This procedure is utilized in an otherwise periodontally healthy area to remove enlarged gingival tissue and supporting bone (ostectomy) to provide an anatomically correct gingival relationship.

D4231 anatomical crown exposure – one to three teeth per quadrant
This procedure is utilized in an otherwise periodontally healthy area to remove enlarged gingival tissue and supporting bone (ostectomy) to provide an anatomically correct gingival relationship.

D4240 gingival flap procedure, including root planing – four or more contiguous teeth or tooth bounded spaces per quadrant
A soft tissue flap is reflected or resected to allow debridement of the root surface and the removal of granulation tissue. Osseous recontouring is not accomplished in conjunction with this procedure. May include open flap curettage, reverse bevel flap surgery, modified Kirkland flap procedure, and modified Widman surgery. This procedure is performed in the presence of moderate to deep probing depths, loss of attachment, need to maintain esthetics, need for increased access to the root surface and alveolar bone, or to determine the presence of a cracked tooth, fractured root, or external root resorption. Other procedures may be required concurrent to D4240 and should be reported separately using their own unique codes.

D4241 gingival flap procedure, including root planing – one to three contiguous teeth or tooth bounded spaces per quadrant
A soft tissue flap is reflected or resected to allow debridement of the root surface and the removal of granulation tissue. Osseous recontouring is not accomplished in conjunction with this procedure. May include open flap curettage, reverse bevel flap surgery, modified Kirkland flap procedure, and modified Widman surgery. This procedure is performed in the presence of moderate to deep probing depths, loss of attachment, need to maintain esthetics, need for increased access to the root surface and alveolar bone, or to determine the presence of a cracked tooth, fractured root, or external root resorption. Other procedures may be required concurrent to D4241 and should be reported separately using their own unique codes.

D4245 apically positioned flap
Procedure is used to preserve keratinized gingiva in conjunction with osseous resection and second stage implant procedure. Procedure may also be used to preserve keratinized/attached gingiva during surgical exposure of labially impacted teeth, and may be used during treatment of peri-implantitis.

D4320 provisional splinting – intracoronal
This is an interim stabilization of mobile teeth. A variety of methods and appliances may be employed for this purpose. Identify the teeth involved.
D4321  provisional splinting – extracoronal
This is an interim stabilization of mobile teeth. A variety of methods and appliances may be employed for this purpose. Identify the teeth involved.

D4341  periodontal scaling and root planing – four or more teeth per quadrant
This procedure involves instrumentation of the crown and root surfaces of the teeth to remove plaque and calculus from these surfaces. It is indicated for patients with periodontal disease and is therapeutic, not prophylactic, in nature. Root planing is the definitive procedure designed for the removal of cementum and dentin that is rough, and/or permeated by calculus or contaminated with toxins or microorganisms. Some soft tissue removal occurs. This procedure may be used as a definitive treatment in some stages of periodontal disease and/or as a part of pre-surgical procedures in others.

D4342  periodontal scaling and root planing – one to three teeth per quadrant
This procedure involves instrumentation of the crown and root surfaces of the teeth to remove plaque and calculus from these surfaces. It is indicated for patients with periodontal disease and is therapeutic, not prophylactic, in nature. Root planing is the definitive procedure designed for the removal of cementum and dentin that is rough, and/or permeated by calculus or contaminated with toxins or microorganisms. Some soft tissue removal occurs. This procedure may be used as a definitive treatment in some stages of periodontal disease and/or as a part of pre-surgical procedures in others.

D4355  full mouth debridement to enable comprehensive evaluation and diagnosis
The gross removal of plaque and calculus that interfere with the ability of the dentist to perform a comprehensive oral evaluation. This preliminary procedure does not preclude the need for additional procedures.

D4381  localized delivery of antimicrobial agents via a controlled release vehicle into diseased crevicular tissue, per tooth, by report
FDA-approved subgingival delivery devices containing antimicrobial medication(s) are inserted into periodontal pockets to suppress the pathogenic microbiota. These devices slowly release the pharmacological agents so they can remain at the intended site of action in a therapeutic concentration for a sufficient length of time.

OTHER PERIODONTAL SERVICES

D4910  periodontal maintenance
This procedure is instituted following periodontal therapy and continues at varying intervals, determined by the clinical evaluation of the dentist, for the life of the dentition or any implant replacements. It includes removal of the bacterial plaque and calculus from supragingival and subgingival regions, site specific scaling and root planing where indicated, and polishing the teeth. If new or recurring periodontal disease appears, additional diagnostic and treatment procedures must be considered.

D4920  unscheduled dressing change (by someone other than treating dentist)

D4921  gingival irrigation – per quadrant
Irrigation of gingival pockets with medicinal agent. Not to be used to report use of mouth rinses or non-invasive chemical debridement.

D4999  unspecified periodontal procedure, by report
Use for procedure that is not adequately described by a code. Describe procedure.

VI. MAXILLOFACIAL PROSTHETICS
D5900 – D5999

D5911  facial moulage (sectional)
A sectional facial moulage impression is a procedure used to record the soft tissue contours of a portion of the face. Occasionally several separate sectional impressions are made, then reassembled to provide a full facial contour cast. The impression is utilized to create a partial facial moulage and generally is not reusable.

D5912  facial moulage (complete)
Synonymous terminology: facial impression, face mask impression. A complete facial moulage impression is a procedure used to record the soft tissue contours of the whole face. The impression is utilized to create a facial moulage and generally is not reusable.

D5951  feeding aid
Synonymous terminology: feeding prosthesis. A prosthesis, which maintains the right and left maxillary segments of an infant cleft palate patient in their proper orientation until surgery is performed to repair the cleft. It closes the oral-nasal cavity defect, thus enhancing sucking and swallowing. Used on an interim basis, this prosthesis achieves separation of the oral and nasal cavities in infants born with wide clefts necessitating delayed closure. It is eliminated if surgical closure can be affected or, alternatively, with eruption of the deciduous dentition, a pediatric speech aid may be made to facilitate closure of the defect.

D5952  speech aid prosthesis, pediatric
Synonymous terminology: nasopharyngeal obturator, speech appliance, obturator, cleft palate appliance, prosthetic speech aid, speech bulb. A temporary or interim prosthesis used to close a defect in the hard and/or soft palate. It may replace tissue lost due to developmental or surgical alterations. It is necessary for the production of intelligible speech.
Normal lateral growth of the palatal bones neces-
sitates occasional replacement of this prosthesis. Intermittent revisions of the obturator section can assist in maintenance of palatalpharyngeal closure (termed a speech aid prosthesis modification). Frequently, such prostheses are not fabricated before the deciduous dentition is fully erupted since clasp retention is often essential.

**D5953 speech aid prosthesis, adult**
Synonymous terminology: prosthetic speech appli-
cance, speech aid, speech bulb. A definitive pros-
thesis, which can improve speech in adult cleft palate patients either by obturating (sealing off) a palatal cleft or fistula, or occasionally by assisting an incompetent soft palate. Both mechanisms are necessary to achieve velopharyngeal competency. Generally, this prosthesis is fabricated when no further growth is anticipated and the objective is to achieve long-term use. Hence, more precise materi-
als and techniques are utilized. Occasionally such procedures are accomplished in conjunction with precision attachments in crown work undertaken on some or all maxillary teeth to achieve improved aesthetics.

**D5954 palatal augmentation prosthesis**
Synonymous terminology: superimposed pros-
thesis, maxillary glossectomy prosthesis, maxil-
inary speech prosthesis, palatal drop prosthesis. A removable prosthesis which alters the hard and/or soft palate's topographical form adjacent to the tongue.

**D5955 palatal lift prosthesis, definitive**
A prosthesis which elevates the soft palate superi-
orly and aids in restoration of soft palate functions which may be lost due to an acquired, congenital or developmental defect. A definitive palatal lift is usually made for patients whose experience with an interim palatal lift has been successful, especially if surgical alterations are deemed unwarranted.

**D5958 palatal lift prosthesis, interim**
Synonymous terminology: diagnostic palatal lift. A prosthesis which elevates and assists in restor-
ing soft palate function which may be lost due to clefting, surgery, trauma or unknown paralysis. It is intended for interim use to determine its useful-
ness in achieving palatalpharyngeal competency or enhance swallowing reflexes. This prosthesis is intended for interim use as a diagnostic aid to as-
sess the level of possible improvement in speech intelligibility. Some clinicians believe use of a palatal lift on an interim basis may stimulate an otherwise flaccid soft palate to increase functional activity, subsequently lessening its need.

**D5959 palatal lift prosthesis, modification**
Synonymous terminology: revision of lift, adjust-
ment. Alterations in the adaptation, contour, form or function of an existing palatal lift necessitated due to tissue impingement, lack of function, poor clasp adaptation or the like.

**D5960 speech aid prosthesis, modification**
Synonymous terminology: adjustment, repair, revi-
sion. Any revision of a pediatric or adult speech aid not necessitating its replacement. Frequently, revi-
sions of the obturating section of any speech aid is required to facilitate enhanced speech intelligibility. Such revisions or repairs do not require complete remaking of the prosthesis, thus extending its lon-
gevity.

**D5984 radiation shield**
Synonymous terminology: radiation stent, tongue protector, lead shield. An intraoral prosthesis de-
signed to shield adjacent tissues from radiation dur-
ing orthovoltage treatment of malignant lesions of the head and neck region.

**D5985 radiation cone locator**
Synonymous terminology: docking device, cone lo-
cator. A prosthesis utilized to direct and reduplicate the path of radiation to an oral tumor during a split course of irradiation.

**D5986 fluoride gel carrier**
Synonymous terminology: fluoride applicator. A prosthesis, which covers the teeth in either dental arch and is used to apply topical fluoride in close proximity to tooth enamel and dentin for several minutes daily.

**D5987 commissure splint**
Synonymous terminology: lip splint. A device placed between the lips, which assists in achieving increased opening between the lips. Use of such devices enhances opening where surgical, chemi-
ical or electrical alterations of the lips has resulted in severe restriction or contractures.

**D5991 vesiculobullous disease medicament carrier**
A custom fabricated carrier that covers the teeth and alveolar mucosa, or alveolar mucosa alone, and is used to deliver prescription medicaments for treatment of immunologically mediated vesiculobul-
lous diseases.

**D5994 periodontal medicament carrier with peripheral seal – laboratory processed**
A custom fabricated, laboratory processed carrier that covers the teeth and alveolar mucosa. Used as a vehicle to deliver prescribed medicaments for sus-
tained contact with the gingiva, alveolar mucosa, and into the periodontal sulcus or pocket

**D5991 topical medicament carrier**
A custom fabricated carrier that covers the teeth and alveolar mucosa, or alveolar mucosa alone, and is used to deliver topical corticosteroids and similar effective medicaments for maximum sustained con-
tact with the alveolar ridge and/or attached gingival tissues for the control and management of immuno-
logically mediated vesiculobullous mucosal, chronic recurrent ulcerative, and other desquamative dis-
eases of the gingival and oral mucosa.
D5999 unspecified maxillofacial prosthesis, by report
Used for procedure that is not adequately described by a code. Describe procedure.

VII. ORAL AND MAXILLOFACIAL SURGERY
D7000 — D7999

Local anesthesia is usually considered to be part of Oral and Maxillofacial Surgical procedures.

For dental benefit reporting purposes a quadrant is defined as four or more contiguous teeth and/or teeth spaces distal to the midline.

Extractions (Includes local anesthesia, suturing, if needed, and routine postoperative care)

D7111 extraction, coronal remnants – deciduous tooth
Removal of soft tissue – retained coronal remnants

D7140 extraction, erupted tooth or exposed root (elevation and/or forceps removal)
Includes routine removal of tooth structure, minor smoothing of socket bone, and closure, as necessary.

D7210 surgical removal of erupted tooth requiring removal of bone and/or sectioning of tooth, and including elevation of mucoperiosteal flap if indicated
Includes related cutting of gingiva and bone, removal of tooth structure, minor smoothing of socket bone and closure.

D7220 removal of impacted tooth – soft tissue
Occlusal surface of tooth covered by soft tissue; requires mucoperiosteal flap elevation.

D7230 removal of impacted tooth – partially bony
Part of crown covered by bone; requires mucoperiosteal flap elevation and bone removal.

D7240 removal of impacted tooth – completely bony
Most or all of crown covered by bone; requires mucoperiosteal flap elevation and bone removal.

D7241 removal of impacted tooth – completely bony, with unusual surgical complications
Most or all of crown covered by bone; unusually difficult or complicated due to factors such as nerve dissection required, separate closure of maxillary sinus required or aberrant tooth position.

D7250 surgical removal of residual tooth roots (cutting procedure)
Includes cutting of soft tissue and bone, removal of tooth structure, and closure.

D7251 coronectomy – intentional partial tooth removal
Intentional partial tooth removal is performed when a neurovascular complication is likely if the entire impacted tooth is removed.

OTHER SURGICAL PROCEDURES

D7270 tooth reimplantation and/or stabilization of accidentally evulsed or displaced tooth
Includes splinting and/or stabilization.

D7272 tooth transplantation (includes reimplantation from one site to another and splinting and/or stabilization)

D7280 surgical access of an unerupted tooth
An incision is made and the tissue is reflected and bone removed as necessary to expose the crown of an impacted tooth not intended to be extracted.

D7282 mobilization of erupted or malpositioned tooth to aid eruption
To move/luxate teeth to eliminate ankylosis; not in conjunction with an extraction.

D7283 placement of device to facilitate eruption of impacted tooth
Placement of an orthodontic bracket, band or other device on an unerupted tooth, after its exposure, to aid in its eruption. Report the surgical exposure separately using D7280.

D7285 biopsy of oral tissue – hard (bone, tooth)
For removal of specimen only. This code involves biopsy of osseous lesions and is not used for apicoectomy/periradicular surgery.

D7286 biopsy of oral tissue – soft
For surgical removal of an architecturally intact specimen only. This code is not used at the same time as codes for picoectomy/periradicular curettage.

D7287 exfoliative cytological sample collection
For collection of non-transepithelial cytology sample via mild scraping of the oral mucosa.

D7288 brush biopsy – transepithelial sample collection
For collection of oral disaggregated transepithelial cells via rotational brushing of the oral mucosa.

D7290 surgical repositioning of teeth
Grafting procedure(s) is/are additional

D7291 transseptal fiberotomy/supra crestal fiberotomy, by report
The supraosseous connective tissue attachment is surgically severed around the involved teeth. Where there are adjacent teeth, the transseptal fiberotomy of a single tooth will involve a minimum of three teeth. Since the incisions are within the gingival sulcus and tissue and the root surface is not instrumented, this procedure heals by the reunion of connective tissue with the root surface on which viable periodontal tissue is present (reattachment).
D7292 surgical placement: temporary anchorage device [screw retained plate] requiring surgical flap
   Insertion of a temporary skeletal anchorage device that is attached to the bone by screws and requires a surgical flap. Includes device removal.

D7293 surgical placement: temporary anchorage device requiring surgical flap
   Insertion of a device for temporary skeletal anchorage when a surgical flap is required. Includes device removal.

D7294 surgical placement: temporary anchorage device without surgical flap
   Insertion of a device for temporary skeletal anchorage when a surgical flap is not required. Includes device removal.

D7295 harvest of bone for use in autogenous grafting procedure
   Reported in addition to those autogenous graft placement procedures that do not include harvesting of bone.

SURGICAL EXCISIONS OF SOFT TISSUE LESIONS
Includes non-odontogenic cysts.

D7410 excision of benign lesion up to 1.25 cm

D7411 excision of benign lesion greater than 1.25 cm

D7412 excision of benign lesion, complicated
   Requires extensive undermining with advancement or rotational flap. Closure.

D7413 excision of malignant lesion up to 1.25 cm

D7414 excision of malignant lesion greater than 1.25 cm

D7415 excision of malignant lesion, complicated
   Requires extensive undermining with advancement or rotational flap closure.

D7465 destruction of lesion(s) by physical or chemical method, by report
   Examples include using cryo, laser or electro surgery.

SURGICAL EXCISION OF INTRA-OSSEOUS LESIONS

D7440 excision of malignant tumor – lesion diameter up to 1.25 cm

D7441 excision of malignant tumor – lesion diameter greater than 1.25 cm

D7450 removal of benign odontogenic cyst or tumor – lesion diameter up to 1.25 cm

D7451 removal of benign odontogenic cyst or tumor – lesion diameter greater than 1.25 cm

D7460 removal of benign nonodontogenic cyst or tumor – lesion diameter up to 1.25 cm

D7461 removal of benign nonodontogenic cyst or tumor – lesion diameter greater than 1.25 cm

SURGICAL INCISION

D7510 incision and drainage of abscess – intraoral soft tissue
   Involves incision through mucosa, including periodontal origins.

D7511 incision and drainage of abscess – intraoral soft tissue - complicated (includes drainage of multiple fascial spaces)
   Incision is made intraorally and dissection is extended into adjacent fascial space(s) to provide adequate drainage of abscess/cellulitis.

D7520 incision and drainage of abscess – extraoral soft tissue
   Involves incision through skin

D7530 removal of foreign body from mucosa, skin, or subcutaneous alveolar tissue

D7540 removal of reaction producing foreign bodies, musculoskeletal system
   May include, but is not limited to, removal of splinters, pieces of wire, etc., from muscle and/or bone.

TREATMENT OF FRACTURES - SIMPLE

D7610 maxilla – open reduction (teeth immobilized, if present)
   Teeth may be wired, banded or splinted together to prevent movement. Surgical incision required for interosseous fixation.

D7620 maxilla – closed reduction (teeth immobilized, if present)
   No incision required to reduce fracture. See D7610 if interosseous fixation is applied.

D7630 mandible – open reduction (teeth immobilized, if present)
   Teeth may be wired, banded or splinted together to prevent movement. Surgical incision required to reduce fracture.

D7640 mandible – closed reduction (teeth immobilized, if present)
   No incision required to reduce fracture. See D7630 if interosseous fixation is applied.

D7650 malar and/or zygomatic arch – open reduction

D7660 malar and/or zygomatic arch – closed reduction

D7671 alveolus – open reduction, may include stabilization of teeth
   Teeth may be wired, banded or splinted together to prevent movement.
TREATMENT OF FRACTURES - COMPOUND

D7880 occlusal orthotic device, by report
Presently includes splints provided for treatment of temporomandibular joint dysfunction.

*D7881 occlusal orthotic device adjustment

D7899 unspecified TMD therapy, by report
Used for procedure that is not adequately described by a code. Describe procedure.

REPAIR OF TRAUMATIC WOUNDS
Excludes closure of surgical incisions.

D7910 suture of recent small wounds up to 5 cm

OTHER REPAIR PROCEDURES

D7960 frenulectomy – also known as frenectomy or frenotomy
Surgical removal or release of mucosal and muscle elements of a buccal, labial or lingual that is associated with a pathological condition, or interferes with proper oral development or treatment.

D7963 frenuloplasty
Excision of frenum with accompanying excision or repositioning of aberrant muscle and z-plasty or other local flap closure.

D7970 excision of hyperplastic tissue – per arch

D7971 excision of pericoronal gingiva
Surgical removal of inflammatory or hypertrophied tissues surrounding partially erupted/impacted teeth.

D7972 surgical reduction of fibrous tuberosity

D7990 emergency tracheotomy
Surgical formation of a tracheal opening usually below the cricoid cartilage to allow for respiratory exchange.

D7999 unspecified oral surgery procedure, by report
Used for procedure that is not adequately described by a code. Describe procedure.

VI.Orthodontics

D8000 – D8999

Primary Dentition: Teeth developed and erupted first in order of time.

Transitional Dentition: The final phase of the transition from primary to adult teeth, in which the deciduous molars and canines are in the process of shedding and the permanent successors are emerging.

Adolescent Dentition: The dentition that is present after the normal loss of primary teeth and prior to cessation of growth that would affect orthodontic treatment.

Adult Dentition: The dentition that is present after the cessation of growth that would affect orthodontic treatment.

All of these codes may be used more than once for the treatment of a particular patient depending on the particular circumstance. A patient may require more than one interceptive procedure or more than one limited procedure depending on their particular problem.

LIMITED ORTHODONTIC TREATMENT
Orthodontic treatment with a limited objective, not involving the entire dentition. It may be directed at the only existing problem, or at only one aspect of a larger problem in which a decision is made to defer or forego more comprehensive therapy.

D8010 limited orthodontic treatment of the primary dentition

D8020 limited orthodontic treatment of the transitional dentition

D8030 limited orthodontic treatment of the adolescent dentition

D8040 limited orthodontic treatment of the adult dentition

INTERCEPTIVE ORTHODONTIC TREATMENT
Interceptive orthodontics is an extension of preventive orthodontics that may include localized tooth movement. Such treatment may occur in the primary or transitional dentition and may include such procedures as the redirection of ectopically erupting teeth, correction of dental crossbite or recovery of space loss where overall space is inadequate. When initiated during the incipient stages of a developing problem, interceptive orthodontics may reduce the severity of the malformation and mitigate its cause. Complicating factors such as skeletal disharmonies, overall space deficiency, or other conditions may require subsequent comprehensive therapy.

D8050 interceptive orthodontic treatment of the primary dentition

D8060 interceptive orthodontic treatment of the transitional dentition
COMPREHENSIVE ORTHODONTIC TREATMENT

Interceptive orthodontics is an extension of preventive orthodontics that may include localized tooth movement. Such treatment may occur in the primary or transitional dentition and may include such procedures as the redirection of ectopically erupting teeth, correction of dental crossbite or recovery of space loss where overall space is inadequate. When initiated during the incipient stages of a developing problem, interceptive orthodontics may reduce the severity of the malformation and mitigate its cause. Complicating factors such as skeletal disharmonies, overall space deficiency, or other conditions may require subsequent comprehensive therapy.

D8070 comprehensive orthodontic treatment of the transitional dentition

D8080 comprehensive orthodontic treatment of the adolescent dentition

D8090 comprehensive orthodontic treatment of the adult dentition

MINOR TREATMENT TO CONTROL HARMFUL HABITS

D8210 removable appliance therapy
Removable indicates patient can remove; includes appliances for thumb sucking and tongue thrusting.

D8220 fixed appliance therapy
Fixed indicates patient cannot remove appliance; includes appliances for thumb sucking and tongue thrusting.

OTHER ORTHODONTIC SERVICES

D8660 pre-orthodontic treatment visit

D8670 periodic orthodontic treatment visit (as part of contract)

D8680 orthodontic retention (removal of appliances, construction and placement of retainer(s))

*D8681 removable orthodontic retainer adjustment

D8690 orthodontic treatment (alternative billing to a contract fee)
Services provided by dentist other than original treating dentist. A method of payment between the provider and responsible party for services that reflect an open-ended fee arrangement.

D8691 repair of orthodontic appliance
Does not include bracket and standard fixed ortho appliances. It does include functional appliances and palatal expanders.

D8692 replacement of lost or broken retainer

D8693 rebonding or recementing; and/or repair, as required, of fixed retainers

D8694 repair of fixed retainers, includes reattachment

D8999 unspecified orthodontic procedure, by report
Used for procedure that is not adequately described by a code. Describe procedure.

XII. ADJUNCTIVE GENERAL SERVICES D9000 — D999

UNCLASSIFIED TREATMENT

D9110 palliative (emergency) treatment of dental pain – minor procedure
This is typically reported on a per-visit basis for emergency treatment of dental pain.

ANESTHESIA

D9210 local anesthesia not in conjunction with operative or surgical procedures

D9211 regional block anesthesia

D9212 trigeminal division block anesthesia

D9215 local anesthesia in conjunction with operative or surgical procedures

D9219 evaluation for deep sedation or general anesthesia

*D9223 deep sedation/general anesthesia – each 15 minute increment
Anesthesia time begins when the doctor administering the anesthetic agent initiates the appropriate anesthetics effects upon the central nervous system and not dependent upon the route of administration.

D9230 inhalation of nitrous oxide/ anxiolysis, analgesia

*D9243 intravenous moderate (conscious) sedation/analgesia – each 15 minute increment
Anesthesia time begins when the doctor administering the anesthetic agent initiates the appropriate anesthetics effects upon the central nervous system and not dependent upon the route of administration.
non-intravenous conscious sedation
This includes non-IV minimal and moderate sedation. A medically controlled state of depressed consciousness while maintaining the patient's airway, protective reflexes and the ability to respond to stimulation or verbal commands. It includes non-intravenous administration of sedative and/or analgesic agent(s) and appropriate monitoring.
The level of anesthesia is determined by the anesthesia provider's documentation of the anesthetic's effects upon the central nervous system and not dependent upon the route of administration.

professional consultation
D9310 consultation – diagnostic service provided by dentist or physician other than requesting dentist or physician
A patient encounter with a practitioner whose opinion or advice regarding evaluation and/or management of a specific problem; may be requested by another practitioner or appropriate source. The consultation includes an oral evaluation. The consulted practitioner may initiate diagnostic and/or therapeutic services.

professional visits
D9410 house/extended care facility call
Includes visits to nursing homes, long-term care facilities, hospice sites, institutions, etc. Report in addition to reporting appropriate code numbers for actual services performed.
D9420 hospital or ambulatory surgical center call
May be reported when providing treatment in hospital or ambulatory surgical center, in addition to reporting appropriate code numbers for actual services performed.
D9430 office visit for observation (during regularly scheduled hours) - no other services performed
D9440 office visit – after regularly scheduled hours
D9450 case presentation, detailed and extensive treatment planning
Established patient. Not performed on same day as evaluation.

Drugs
D9610 therapeutic parenteral drug, single administration
Includes single administration of antibiotics, steroids, anti-inflammatory drugs, or other therapeutic medications. This code should not be used to report administration of sedative, anesthetic or reversal agents.

D9612 therapeutic parenteral drug, two or more administrations, different medications
Includes single administration of antibiotics, steroids, anti-inflammatory drugs, or other therapeutic medications. This code should not be used to report administration of sedative, anesthetic or reversal agents.
This code should be reported when two or more different medications are necessary and should not be reported in addition to code D9610 on the same date.
D9630 other drugs and/or medicaments, by report
Includes, but is not limited to oral antibiotics, oral analgesics, and topical fluoride dispensed in the office for home use; does not include writing prescriptions.

Miscellaneous Services
D9910 application of desensitizing medicament
Includes in-office treatment for root sensitivity. Typically reported on a per-visit basis for application of topical fluoride. This code is not to be used for bases, liners or adhesives used under restorations.
D9911 application of desensitizing resin for cervical and/or root surface, per tooth
Typically reported on a per-tooth basis for application of adhesive resins. This code is not to be used for bases, liners, or adhesives used under restorations.
D9920 behavior management, by report
May be reported in addition to treatment provided. Should be reported in 15-minute increments.
D9930 treatment of complications (post-surgical) – unusual circumstances, by report
For example, treatment of a dry socket following extraction or removal of bony sequestrum.
D9940 occlusal guard, by report
Removable dental appliances, which are designed to minimize the effects of bruxism (grinding) and other occlusal factors.
D9941 fabrication of athletic mouthguard
D9942 repair and/or reline of occlusal guard
D9943 occlusal guard adjustment
D9950 occlusal adjustment – limited
May also be known as equilibration; reshaping the occlusal surfaces of teeth to create harmonious contact relationships between the maxillary and mandibular teeth. Presently includes discing/odontoplasty/enamoplasty. Typically reported on a “per visit” basis. This should not be reported when the procedure only involves bite adjustment in the routine post-delivery care for a direct/indirect restoration or fixed/removable prosthodontics.
D9970  enamel microabrasion
    The removal of discolored surface enamel defects resulting from altered mineralization or decalcification of the superficial enamel layer. Submit per treatment visit.

D9971  odontoplasty 1-2 teeth; includes removal of enamel projections

D9972  external bleaching – per arch - performed in office

D9973  external bleaching – per tooth

D9974  internal bleaching – per tooth

D9975  external bleaching for home application, per arch; includes materials and fabrication of custom trays

D9985  sales tax

D9999  unspecified adjunctive procedure, by report
    Used for procedure that is not adequately described by a code. Describe procedure.

D9986  missed appointment

D9987  cancelled appointment
# CHAPTER 2
## Dental & Medical Cross Coding

### DIAGNOSTIC

<table>
<thead>
<tr>
<th>CDT PROCEDURE CODE:</th>
<th>CPT PROCEDURE CODE:</th>
<th>ICD-9/10 DIAGNOSTIC CODE:</th>
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<tr>
<td>D0140</td>
<td>99201 Office or other outpatient visit for the evaluation and management of a new patient, which requires all 3 key components:&lt;br&gt;• Problem focused history&lt;br&gt;• Problem focused examination&lt;br&gt;• Straightforward medical decision making</td>
<td>See ICD-10-CM Sections K00.0 - K03.6 M26.00 - M26.9 K08.0 - K14.1 (Diseases of the Digestive system) for possible diagnosis codes. &lt;br&gt;<a href="https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx">https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx</a></td>
</tr>
<tr>
<td>99204 Office or other outpatient visit for the evaluation and management of a new patient, which requires all 3 key components:&lt;br&gt;• Comprehensive history&lt;br&gt;• Comprehensive examination&lt;br&gt;• Medical decision making of moderate complexity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D0145</td>
<td>99212 Office or other outpatient visit for the evaluation and management of a new patient, which requires at least 2 of the 3 key components:&lt;br&gt;• Problem focused history&lt;br&gt;• Problem focused examination&lt;br&gt;• Straightforward medical decision making</td>
<td></td>
</tr>
<tr>
<td>99215 Office or other outpatient visit for the evaluation and management of an established patient, which requires at least 2 of the 3 key components:&lt;br&gt;• Comprehensive history&lt;br&gt;• Comprehensive examination&lt;br&gt;• Medical decision making of high complexity</td>
<td></td>
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</tr>
<tr>
<td>CDT PROCEDEURE CODE:</td>
<td>CPT PROCEDURE CODE:</td>
<td>ICD-9/10 DIAGNOSTIC CODE:</td>
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<tr>
<td><strong>D0150</strong>&lt;br&gt;Comprehensive oral evaluation – new or established patient</td>
<td>99204&lt;br&gt;Office or other outpatient visit for the evaluation and management of a new patient, which requires all 3 key components:&lt;br&gt;• Comprehensive history&lt;br&gt;• Comprehensive examination&lt;br&gt;• Medical decision making of moderate complexity</td>
<td>See ICD-10-CM Sections K00.0 - K03.6 M26.00 - M26.9 K08.0 - K14.1 (Diseases of the Digestive system) for possible diagnosis codes. <a href="https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx">https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx</a></td>
</tr>
<tr>
<td><strong>99215</strong>&lt;br&gt;Office or other outpatient visit for the evaluation and management of an established patient, which requires at least 2 of the 3 key components:&lt;br&gt;• Comprehensive history&lt;br&gt;• Comprehensive examination&lt;br&gt;• Medical decision making of high complexity</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>D0160</strong>&lt;br&gt;Detailed and extensive oral evaluation</td>
<td>99213&lt;br&gt;Office or other outpatient visit for the evaluation and management of an established patient, which requires at least 2 of the 3 key components:&lt;br&gt;• An expanded problem focused history&lt;br&gt;• An expanded problem focused examination&lt;br&gt;• Medical decision making of low complexity</td>
<td>See ICD-10-CM Sections K00.0 - K03.6 M26.00 - M26.9 K08.0 - K14.1 (Diseases of the Digestive system) for possible diagnosis codes. <a href="https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx">https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx</a></td>
</tr>
<tr>
<td><strong>99214</strong>&lt;br&gt;Office or other outpatient visit for the evaluation and management of an established patient, which requires at least 2 of these 3 key components:&lt;br&gt;• A detailed history&lt;br&gt;• A detailed examination&lt;br&gt;• Medical decision making of moderate complexity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDT PROCEDURE CODE:</td>
<td>CPT PROCEDURE CODE:</td>
<td>ICD-9/10 DIAGNOSTIC CODE:</td>
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<tr>
<td>Re-evaluation – limited, problem focused (established patient; not post-operative visit)</td>
<td>Office or other outpatient visit for the evaluation and management of an established patient, which requires at least 2 of these 3 key components:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>A problem focused history</td>
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</tr>
<tr>
<td></td>
<td>A problem focused examination</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Straightforward medical decision making</td>
<td></td>
</tr>
<tr>
<td>99213</td>
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</tr>
<tr>
<td></td>
<td>Office or other outpatient visit for the evaluation and management of an established patient, which requires at least 2 of these 3 key components:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>An expanded problem focused history</td>
<td></td>
</tr>
<tr>
<td></td>
<td>An expanded problem focused examination</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medical decision making of low complexity</td>
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</tr>
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</table>
# Radiographs

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>D0210</td>
<td>70320</td>
<td></td>
</tr>
<tr>
<td>Intraoral – Complete Series (including bitewings)</td>
<td>Radiologic examination, teeth, complete full mouth</td>
<td></td>
</tr>
</tbody>
</table>

| D0220              | 70300              |                          |
| Intraoral – Periapical First Film | Radiologic examination, teeth, single view |                          |

| D0230              | 70310              |                          |
| Intraoral – Periapical Each Additional Film | Radiologic examination, teeth, partial exam, less than full mouth |                          |

| D0240              | 70300              |                          |
| Intraoral – Occlusal Film | Radiologic examination, teeth, single view |                          |

| D0250              | 70300              |                          |
| Extraoral – First Film | Radiologic examination, teeth, single view |                          |

| D0260              | 70310              |                          |
| Extraoral – Each Additional Film | Radiologic examination, teeth, partial exam, less than full mouth |                          |

| D0270              | 70300              |                          |
| Bitewing – Single Film | Radiologic examination, teeth, single view |                          |

| D0272              | 70310              |                          |
| Bitewing – Two Films | Radiologic examination, teeth, partial exam, less than full mouth |                          |

| D0273              | 70310              |                          |
| Bitewing – Three Films | Radiologic examination, teeth, partial exam, less than full mouth |                          |

| D0274              | 70310              |                          |
| Bitewing – Four Films | Radiologic examination, teeth, partial exam, less than full mouth |                          |

| D0277              | 70310              |                          |
| Bitewing – Vertical – 7-8 Films | Radiologic examination, teeth, partial exam, less than full mouth |                          |

**Note:**

Imaging and X-Ray Require Diagnosis Codes; Coordinate with CPT Procedural Diagnosis Code(s) Used.

See ICD-10-CM Sections
- K00.0 - K03.6
- M26.00 - M26.9
- K08.0 - K14.1
(Diseases of the Digestive system) for possible diagnosis codes.

<table>
<thead>
<tr>
<th>CDT PROCEDURE CODE:</th>
<th>CPT PROCEDURE CODE:</th>
<th>ICD-9/10 DIAGNOSTIC CODE:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>D0290</strong>&lt;br&gt;Post/Anterior or Lateral Skull and Facial Bone Survey Film</td>
<td>70140&lt;br&gt; Radiologic examination, facial bones; less than 3 views</td>
<td></td>
</tr>
<tr>
<td></td>
<td>70150&lt;br&gt; Radiologic examination, facial bones; minimum of 3 views</td>
<td></td>
</tr>
<tr>
<td></td>
<td>70540&lt;br&gt; Computed tomography, w/o contrast material</td>
<td></td>
</tr>
<tr>
<td><strong>D0320</strong>&lt;br&gt;Temporomandibular joint arthrogram, including injection</td>
<td>70332&lt;br&gt; Temporomandibular joint arthrography, radical supervision and interpretation</td>
<td>See ICD-10-CM Sections&lt;br&gt;K00.0 - K03.6&lt;br&gt;M26.00 - M26.9&lt;br&gt;K08.0 - K14.1&lt;br&gt;(Diseases of the Digestive system) for possible diagnosis codes. &lt;br&gt;<a href="https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx">https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx</a></td>
</tr>
<tr>
<td></td>
<td>21116&lt;br&gt; Injection procedure for temporomandibular joint arthrography</td>
<td></td>
</tr>
<tr>
<td><strong>D0321</strong>&lt;br&gt;Other temporomandibular joint films, by report</td>
<td>70328&lt;br&gt; Radiologic examination, temporomandibular joint, open and closed mouth; unilateral</td>
<td>See ICD-10-CM Sections&lt;br&gt;K00.0 - K03.6&lt;br&gt;M26.00 - M26.9&lt;br&gt;K08.0 - K14.1&lt;br&gt;(Diseases of the Digestive system) for possible diagnosis codes. &lt;br&gt;<a href="https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx">https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx</a></td>
</tr>
<tr>
<td></td>
<td>70330&lt;br&gt; Radiologic examination, temporomandibular joint, open and closed mouth; bilateral</td>
<td></td>
</tr>
<tr>
<td><strong>D0330</strong>&lt;br&gt;Panoramic film</td>
<td>70355&lt;br&gt; Orthopantogram</td>
<td>See ICD-10-CM Sections&lt;br&gt;K00.0 - K03.6&lt;br&gt;M26.00 - M26.9&lt;br&gt;K08.0 - K14.1&lt;br&gt;(Diseases of the Digestive system) for possible diagnosis codes. &lt;br&gt;<a href="https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx">https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx</a></td>
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<tr>
<td><strong>D0340</strong>&lt;br&gt;Cephalometric Film</td>
<td>70350&lt;br&gt; Cephalogram, orthodontic</td>
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</table>
## PERIODONTICS

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<tr>
<th>CDT PROCEDURE CODE:</th>
<th>CPT PROCEDURE CODE:</th>
<th>ICD-9/10 DIAGNOSTIC CODE:</th>
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</thead>
<tbody>
<tr>
<td>D4210</td>
<td>41820</td>
<td>See ICD-10-CM Sections</td>
</tr>
<tr>
<td>Gingivectomy or gingivoplasty</td>
<td>Gingivectomy; excision gingival, each quadrant</td>
<td>K00.0 - K03.6</td>
</tr>
<tr>
<td>Four or more contiguous teeth or tooth bounded spaces per quadrant</td>
<td>41872</td>
<td>M26.00 - M26.9</td>
</tr>
<tr>
<td>D4211</td>
<td></td>
<td>K08.0 - K14.1</td>
</tr>
<tr>
<td>Gingivectomy or gingivoplasty</td>
<td>Gingivoplasty, each quadrant</td>
<td>(Diseases of the Digestive system) for possible diagnosis codes.</td>
</tr>
<tr>
<td>One to three contiguous teeth or tooth bounded spaces per quadrant</td>
<td></td>
<td><a href="https://www.cms.gov/medicare-cover-age-database/staticpages/icd-10-code-lookup.aspx">https://www.cms.gov/medicare-cover-age-database/staticpages/icd-10-code-lookup.aspx</a></td>
</tr>
<tr>
<td>D4230</td>
<td>41899</td>
<td>See ICD-10-CM Sections</td>
</tr>
<tr>
<td>Anatomical crown exposure – four or more contiguous teeth per quadrant</td>
<td>Unlisted procedure, dentoalveolar structure</td>
<td>K00.0 - K03.6</td>
</tr>
<tr>
<td>D4231</td>
<td></td>
<td>M26.00 - M26.9</td>
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<tr>
<td>Anatomical crown exposure – one to three teeth per quadrant</td>
<td>K08.0 - K14.1</td>
<td>(Diseases of the Digestive system) for possible diagnosis codes.</td>
</tr>
<tr>
<td>D4240</td>
<td>41899</td>
<td>See ICD-10-CM Sections</td>
</tr>
<tr>
<td>Gingival flap procedure, including root planning - four or more contiguous teeth or tooth bounded spaces per quadrant</td>
<td>Unlisted procedure, dentoalveolar structure</td>
<td>K00.0 - K03.6</td>
</tr>
<tr>
<td>D4241</td>
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<td>M26.00 - M26.9</td>
</tr>
<tr>
<td>Gingival flap procedure, including root planning – one to three contiguous teeth or tooth bounded spaces per quadrant</td>
<td>K08.0 - K14.1</td>
<td>(Diseases of the Digestive system) for possible diagnosis codes.</td>
</tr>
<tr>
<td>D4245</td>
<td>41899</td>
<td>See ICD-10-CM Sections</td>
</tr>
<tr>
<td>Apically positioned flap</td>
<td>Unlisted procedure, dentoalveolar structure</td>
<td>K00.0 - K03.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>M26.00 - M26.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K08.0 - K14.1</td>
</tr>
<tr>
<td>CDT PROCEDURE CODE:</td>
<td>CPT PROCEDURE CODE:</td>
<td>ICD-9/10 DIAGNOSTIC CODE:</td>
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<tr>
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</tr>
</tbody>
</table>
| D4249  
Clinical crown lengthening – hard tissue | 41899  
Unlisted procedure, dentoalveolar structure  
Note: Include narrative to explain circumstances | See ICD-10-CM Sections  
K00.0 - K03.6  
M26.00 - M26.9  
K08.0 - K14.1  
(Diseases of the Digestive system) for possible diagnosis codes.  
| D4260  
Osseous surgery (including flap entry and closure) – four or more contiguous teeth or tooth bounded spaces per quadrant  
D4261  
Osseous surgery (including flap entry and closure) – one to three contiguous teeth or tooth bounded spaces per quadrant | 41899  
Unlisted procedure, dentoalveolar structure  
Note: Include narrative to explain circumstances | See ICD-10-CM Sections  
K00.0 - K03.6  
M26.00 - M26.9  
K08.0 - K14.1  
(Diseases of the Digestive system) for possible diagnosis codes.  
| D4266  
Guided tissue regeneration – resorbable barrier, per site  
D4267  
Guided tissue regeneration – nonresorbable barrier, per site | 41899  
Unlisted procedure, dentoalveolar structure  
Note: Include narrative to explain circumstances | See ICD-10-CM Sections  
K00.0 - K03.6  
M26.00 - M26.9  
K08.0 - K14.1  
(Diseases of the Digestive system) for possible diagnosis codes.  
| D4270  
pedicle soft tissue graft  
D4271  
free soft tissue graft procedure  
(including donor site surgery)  
D4273  
subepithelial connective tissue graft procedures, per tooth  
D4275  
soft tissue allograft  
D4276  
combined connective tissue and double pedicle graft, per tooth | 41870  
Periodontal mucosal grafting | See ICD-10-CM Sections  
K00.0 - K03.6  
M26.00 - M26.9  
K08.0 - K14.1  
(Diseases of the Digestive system) for possible diagnosis codes.  
MAXILLOFACIAL PROSTHETICS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>D5999</td>
<td>Unspecified maxillofacial prosthetic procedure, by report</td>
</tr>
<tr>
<td>21089</td>
<td>Unlisted maxillofacial prosthetic procedure</td>
</tr>
<tr>
<td></td>
<td>CPT code 21089 should only be used when the practitioner actually designs</td>
</tr>
<tr>
<td></td>
<td>and prepares the prosthesis (i.e. not prepared by an outside laboratory)</td>
</tr>
<tr>
<td></td>
<td>Include narrative that explains circumstances and describes procedure</td>
</tr>
</tbody>
</table>

See ICD-10-CM Sections
K00.0 - K03.6
M26.00 - M26.9
K08.0 - K14.1
(Diseases of the Digestive system) for possible diagnosis codes.
## ORAL AND MAXILLOFACIAL SURGERY

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<th>ICD-9/10 DIAGNOSTIC CODE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>D7140 extraction, erupted tooth or exposed root</td>
<td>41899 Unlisted procedure, dentoalveolar structure</td>
<td>520.1 Supernumerary teeth</td>
</tr>
<tr>
<td>D7210 surgical removal of erupted tooth requiring elevation of mucoperiosteal flap and removal of bone</td>
<td></td>
<td>520.6 Disturbance of tooth eruption (includes impacted teeth)</td>
</tr>
<tr>
<td>D7220 removal of impacted tooth – soft tissue</td>
<td></td>
<td>521.00 Dental caries, unspecified</td>
</tr>
<tr>
<td>D7230 removal of impacted tooth – partial bony</td>
<td></td>
<td>K02.3 Arrested dental caries</td>
</tr>
<tr>
<td>D7240 removal of impacted tooth – complete bony</td>
<td></td>
<td>K02.51 Dental caries on pit and fissure surface limited to enamel</td>
</tr>
<tr>
<td>D7241 removal of impacted tooth – completely bony, with unusual surgical complications</td>
<td></td>
<td>K02.52 Dental caries on pit and fissure surface penetrating into dentin</td>
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<tr>
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<td></td>
<td>K02.53 Dental caries on pit and fissure surface penetrating into pulp</td>
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<tr>
<td></td>
<td></td>
<td>K02.61 Dental caries on smooth surface limited to enamel</td>
</tr>
<tr>
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<td></td>
<td>K02.62 Dental caries on smooth surface penetrating into dentin</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K02.63 Dental caries on smooth surface penetrating into pulp</td>
</tr>
<tr>
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<td>K02.7 Dental root caries</td>
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<td>K02.9 Dental caries, unspecified</td>
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<tr>
<td></td>
<td></td>
<td>K08.131 Complete loss of teeth due to caries, class I</td>
</tr>
<tr>
<td></td>
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<td>K08.132 Complete loss of teeth due to caries, class II</td>
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<td>K08.133 Complete loss of teeth due to caries, class III</td>
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<td>K08.134 Complete loss of teeth due to caries, class IV</td>
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<td>K08.139 Complete loss of teeth due to caries, unspecified class</td>
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<td>K08.431 Partial loss of teeth due to caries, class I</td>
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<td>K08.432 Partial loss of teeth due to caries, class II</td>
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<td>K08.433 Partial loss of teeth due to caries, class III</td>
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<td>K08.434 Partial loss of teeth due to caries, class IV</td>
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<tr>
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<td>K08.439 Partial loss of teeth due to caries, unspecified class</td>
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</tbody>
</table>

**See ICD-10-CM Sections**

- K00.0 - K03.6
- M26.00 - M26.9
- K08.0 - K14.1

(Diseases of the Digestive system) for possible diagnosis codes.

<table>
<thead>
<tr>
<th>CDT PROCEDURE CODE:</th>
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<th>ICD-9/10 DIAGNOSTIC CODE:</th>
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<tbody>
<tr>
<td>D7250</td>
<td>41899</td>
<td>525.3 Retained dental root</td>
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<tr>
<td>surgical removal of residual tooth roots (cutting procedure)</td>
<td>Unlisted procedure, dentoalveolar structure</td>
<td>See ICD-10-CM Sections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K00.0 - K03.6 M26.00 - M26.9 K08.0 - K14.1</td>
</tr>
<tr>
<td>D7270</td>
<td>41899</td>
<td>524.30 Unspecified anomaly of tooth position (includes displacement of teeth)</td>
</tr>
<tr>
<td>tooth reimplantation and/or stabilization of accidentally evulsed or displaced tooth</td>
<td>Unlisted procedure, dentoalveolar structure</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>Note: Include narrative to explain circumstances</td>
</tr>
<tr>
<td>D7285</td>
<td>20240</td>
<td>170.0 Neoplasm, malignant, skull/face bones</td>
</tr>
<tr>
<td>biopsy of oral tissue – hard (bone, tooth)</td>
<td>Biopsy, bone, open; superficial (e.g., ilium, sternum, spinous process, ribs, trochanter of femur)</td>
<td>170.1 Neoplasm, malignant, mandible</td>
</tr>
<tr>
<td></td>
<td>20245</td>
<td>213.0 Neoplasm, benign, skull/face bones</td>
</tr>
<tr>
<td></td>
<td>Biopsy, bone, open; deep (e.g., humerus, ischium, femur)</td>
<td>213.1 Neoplasm, benign, lower jaw</td>
</tr>
<tr>
<td></td>
<td></td>
<td>See ICD-10-CM Sections</td>
</tr>
<tr>
<td></td>
<td></td>
<td>K00.0 - K03.6 M26.00 - M26.9 K08.0 - K14.1</td>
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<td></td>
<td></td>
<td>(Diseases of the Digestive system) for possible diagnosis codes.</td>
</tr>
<tr>
<td>CDT PROCEDURE CODE:</td>
<td>CPT PROCEDURE CODE:</td>
<td>ICD-9/10 DIAGNOSTIC CODE:</td>
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<td>D7286</td>
<td>11100</td>
<td>528.6</td>
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<tr>
<td>biopsy of oral tissue – soft</td>
<td>Biopsy of skin, subcutaneous tissue and/or mucous membrane (including simple closure), unless otherwise listed; single lesion</td>
<td>Leukoplakia, oral mucosa including tongue</td>
</tr>
<tr>
<td></td>
<td>11101</td>
<td>701.5</td>
</tr>
<tr>
<td></td>
<td>Biopsy of skin, subcutaneous tissue and/or mucous membrane (including simple closure), unless otherwise listed; each separate/additional lesion (list separately in addition to code for primary procedure)</td>
<td>Abnormal granulation tissue NEC</td>
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<tr>
<td></td>
<td>40490</td>
<td>See ICD-10-CM Sections</td>
</tr>
<tr>
<td></td>
<td>Biopsy of lip</td>
<td>K00.0 - K03.6</td>
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<tr>
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<td>Benign neoplasm of other and unspecified parts of the mouth</td>
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<td>Other benign neoplasm of connective and other soft tissue of head, face, neck</td>
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<td>destruction of lesion(s) by physical or chemical method, by report</td>
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<td>Destruction (e.g., laser surgery, electrosurgery, cryosurgery, chemosurgery, surgical curettlement), premalignant lesions (e.g., actinic keratoses); first lesion</td>
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<td>Incision and drainage of abscess 9eg, carbuncle, suppurative hidradenitis, cutaneous or subcutaneous abscess, cyst, foruncle, or paronychia); simple or single</td>
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<td>Removal of embedded foreign body from dentoalveolar structures; soft tissues</td>
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See ICD-10-CM Sections
K00.0 - K03.6
M26.00 - M26.9
K08.0 - K14.1
(Diseases of the Digestive system) for possible diagnosis codes.
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<td>Simple repair of superficial wounds of face, ears, eyelids, nose, lips and or mucous membranes; 2.6 cm to 5.0 cm</td>
<td>Wound open, tongue, floor of mouth w/o complications</td>
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<td>41010 Incision of lingual frenum (frenotomy)</td>
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<td>41115 Excision of lingual frenum (frenectomy)</td>
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<td>41828 Excision of hyperplastic alveolar mucosa, each quadrant (specify)</td>
<td>528.6 Leukoplakia, oral mucosa (gingival) 528.79 Other disturbances of oral epithelium, including tongue See ICD-10-CM Sections K00.0 - K03.6 M26.00 - M26.9 K08.0 - K14.1 (Diseases of the Digestive system) for possible diagnosis codes. <a href="https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx">https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx</a></td>
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<td>excision of pericoronal gingiva</td>
<td>Operculectomy, excision pericoronal tissue</td>
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<td>surgical reduction of fibrous tuberosity</td>
<td>Excision of fibrous tuberosities, dentoalveolar structures</td>
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# ADJUNCTIVE GENERAL SERVICES

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<td>Acute Pain Due to Trauma</td>
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<td>Local Anesthesia Not in Conjunction With Operative or Surgical Procedures</td>
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<td>Neoplasm Related Pain (Acute) (Chronic)</td>
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<td>Anesthesia for intraoral procedures, including biopsy; not otherwise specified</td>
<td>Disturbances of tooth eruption</td>
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<td>Deep Sedation/General Anesthesia – Each Additional 15 Minutes</td>
<td>Fracture of face bones; angle of jaw</td>
<td>Fracture of face bones; angle of jaw</td>
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See ICD-10-CM Sections

K00.0 - K03.6
M26.00 - M26.9
K08.0 - K14.1
(Diseases of the Digestive system) for possible diagnosis codes.

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<td>D9248</td>
<td>Non-Intravenous Conscious Sedation</td>
<td>see Moderate Conscious Sedation guidelines and codes 99143-99150 in the current CPT manual</td>
</tr>
<tr>
<td>D9241</td>
<td>Intravenous Conscious Sedation/Analgesia – First 30 Minutes</td>
<td>520.6 Disturbances of tooth eruption</td>
</tr>
<tr>
<td>D9310</td>
<td>Consultation – diagnostic service provided by dentist or physician other than requesting dentist or physician</td>
<td>99241 office consultation for a new or established patient, which requires these 3 key components: • Problem focused history • Problem focused examination; and • Straightforward medical decision making</td>
</tr>
<tr>
<td></td>
<td>99242 office consultation for a new or established patient, which requires these 3 key components: • Expanded problem focused history • Expanded problem focused examination; and • Straightforward medical decision making</td>
<td>See ICD-10-CM Sections K00.0 - K03.6 M26.00 - M26.9 K08.0 - K14.1 (Diseases of the Digestive system) for possible diagnosis codes. <a href="https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx">https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx</a></td>
</tr>
<tr>
<td>CDT PROCEDURE CODE:</td>
<td>CPT PROCEDURE CODE:</td>
<td>ICD-9/10 DIAGNOSTIC CODE:</td>
</tr>
<tr>
<td>---------------------</td>
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</tr>
<tr>
<td>D9430 Office visit for observation – no other services performed</td>
<td>99204 Postoperative Follow-up Visit, Included in Global Service</td>
<td>See ICD-10-CM Sections K00.0 - K03.6 M26.00 - M26.9 K08.0 - K14.1 (Diseases of the Digestive system) for possible diagnosis codes. <a href="https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx">https://www.cms.gov/medicare-coverage-database/staticpages/icd-10-code-lookup.aspx</a></td>
</tr>
<tr>
<td>D9610 Therapeutic Drug Injection, By Report (includes antibiotic or injection of sedative)</td>
<td>20550 Injection, Tendon Sheath, Ligament 90772 Therapeutic, Prophylactic or Diagnostic Injection; Subcutaneous or Intramuscular 90774 Same as above; Intravenous Push, Single or Initial Substance/Drug 90784 Same as above, Intravenous</td>
<td>995.1 Angioneurotic Edema 995.20 Unspecified Adverse Effect of Unspecified Drug, Medicinal and Biological Substance 995.4 Shock Due to Anesthesia</td>
</tr>
</tbody>
</table>
## ENDODONTIC SERVICES

<table>
<thead>
<tr>
<th>CDT PROCEDURE CODE:</th>
<th>CPT PROCEDURE CODE:</th>
<th>ICD-9/10 DIAGNOSTIC CODE:</th>
</tr>
</thead>
<tbody>
<tr>
<td>D3410</td>
<td>Apicoectomy/periradicular surgery – anterior</td>
<td>522.4 Acute apical periodontitis of pulpal origin</td>
</tr>
<tr>
<td>D3421</td>
<td>Apicoectomy/periradicular surgery – bicuspid</td>
<td>522.8 Radicular cyst</td>
</tr>
<tr>
<td>D3425</td>
<td>Apicoectomy/periradicular surgery – bicuspid – molar</td>
<td>522.9 Other and unspecified diseases of pulp and periapical tissues</td>
</tr>
<tr>
<td></td>
<td>41899 Unlisted procedure, dentoalveolar structures (Note: include narrative that explains circumstances and describes procedure)</td>
<td></td>
</tr>
</tbody>
</table>
After Sept. 30, 2015, dentists who take Medicaid patients and those covered under the Health Insurance Portability and Accountability Act will not be able to use the ninth revision of the International Classification of Diseases to report diagnostic codes on their claim, and the AAPD is preparing to assist members to transition to the next version. Both ICD-9 and 10 are included in this chapter for reference.

After Oct. 1, 2015, ICD-9 Clinical Modification will not be available for reporting purposes. ICD-10 CM will be the standard diagnostic code set but not all states are yet requiring affected dentists to use the updated codes. Currently, only state Medicaid programs in Nevada and Arizona have across the board requirements for reporting diagnosis coding information in dental claims.

Dentists who do not take Medicaid patients may be required to use ICD in limited situations. Some commercial plans have identified specific dental procedures that may minimize the risks associated with the connection between the patient’s oral and systemic health conditions. These dental plans may provide additional benefits for conditions such as diabetes, pregnancy or heart conditions. Diagnosis codes will continue to be required for medical claims for oral and maxillofacial surgery and/or anesthesiology services.

ICD-10 CM is the latest version of the disease classification used in the United States to record many types of health and vital records, including death certificates. Europe is already using ICD-10 and is working to implement ICD-11.

The primary purpose of ICD clinical modification codes is for epidemiological tracking of illness and injury. In health care, diagnosis codes are used as a tool to group and identify diseases, disorders and symptoms.

State Medicaid programs that require ICD reporting want to capture clinical data to support public health activities, the development of evidence-based benefit plans and efforts for increased funding. The ICD reporting is also required to facilitate payment for services related to the oral-systemic connection and coverage for additional dental services for certain medical conditions.

**State Medicaid Programs that Require Diagnosis Codes as of Oct. 1, 2015**

<table>
<thead>
<tr>
<th>STATE MEDICAID</th>
<th>REQUIREMENTS *</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARIZONA</td>
<td>Diagnosis codes required along with use of ADA 2012 form for paper claim submissions.</td>
</tr>
<tr>
<td>IOWA</td>
<td>V22.2 (Pregnancy) and V49.89 (Disabled) must be reported whenever a patient has either of these conditions, regardless of services provided. Note that Iowa is still accepting the 2006 claim form and there is no cutoff date planned at this time.</td>
</tr>
<tr>
<td>MAINE</td>
<td>Diagnosis code required on dental claims for procedure code D4341 for all patients whose diagnosis is ICD-9 code 101 (Acute Necrotizing Ulcerative Gingivitis) or ICD-10 code A69.0 (necrotizing ulcerative stomatitis) or A69.1 (other Vincent’s infections). For patients with no ICD-9 code 101 or ICD-10 codes A69.0 or A69.1 diagnosis, claims for this procedure code require prior authorization.</td>
</tr>
<tr>
<td>MICHIGAN</td>
<td>Diagnosis codes are required for all oral and maxillofacial surgery and/or anesthesiology services</td>
</tr>
<tr>
<td>NEVADA</td>
<td>New 2012 ADA form with valid diagnosis codes, diagnosis pointers and place of treatment.</td>
</tr>
<tr>
<td>VERMONT</td>
<td>Will not require reporting of ICD codes until Oct. 1, 2015, at the earliest.</td>
</tr>
</tbody>
</table>

*Dentists should check their state Medicaid websites for up to date information and a complete list of requirements.*
When required to do so, a dental claim submitter must report an appropriate ICD diagnostic code along with the correct CDT code for the service performed. The meaning of “appropriate” in relation to diagnostic codes may vary, but two conditions always apply:

- The diagnostic code must be valid, i.e., one that is current for the date of service.
- The diagnostic code should be relevant and specific enough to provide a rationale for the service reported.

If filing electronically, you may be able to use a state Medicaid Web portal for filing dental claims electronically. In-office dental billing systems in current deployment may require upgrades to support diagnostic code reporting. The ADA 2012 Dental Claim Form can accommodate ICD diagnostic codes. However, due to space constraints, the diagnostic codes themselves are not reported on the service line item in the same manner as procedure codes.

Here’s how to do it:

1. Locate Items 34 and 34a on the ADA 2012 claim form. They are near the bottom of the “Record of Services Provided” section of the form and slightly to the left of center.

2. Take note of Item 34a. In Item 34a, there are four lines labeled “A,” “B,” “C,” and “D.” Up to four diagnoses may be reported on these lines in Item 34a.

3. Before doing that, however, the submitter must indicate the source of the diagnostic codes used to report all diagnoses. Use ICD-10-CM. Indicate this by entering “AB” in Item 34.

4. Enter the appropriate ICD-10-CM code for the PRIMARY diagnosis on line “A.” This diagnosis and its corresponding ICD-10-CM code provide supporting rationale for all reported services performed in connection with it.

5. If there is a second diagnosis that requires services in addition to those associated with the primary diagnosis, enter the ICD-10-CM code for that diagnosis on line “B.”

6. If in the unlikely event there is a need to report a third or even a fourth diagnosis, enter those ICD-10 codes on lines “C” and “D,” respectively.

7. Next, look at the Record of Services Provided, the table with ten lines divided by ten columns located about halfway down the form.

8. Enter the details of each service provided in the normal manner, leaving out 29a “Diag. Pointer” for now.

9. To link any of the services reported with its supporting diagnosis, a submitter must enter a “diagnostic pointer” in Item 29a, immediately to the right of the procedure code reported in Item 29.

10. A diagnostic pointer is a block capital letter, A, B, C, or D, referencing the code entered on the corresponding line in Item 34a. Enter each pointer as appropriate in Item 29 for each service where a diagnosis is required.
Summary:

- Enter procedure information in the normal manner, save for Item 29a.
- Item 34 on the 2012 ADA Dental Claim Form is used to identify the source of the diagnosis codes listed in Item 34a.
- ICD-10-CM is the current source of diagnosis codes and is identified by the letter “AB”.
- Enter the primary diagnosis on line A in Item 34a.
- If necessary, enter a second diagnosis on line B.
- Enter third and fourth diagnoses on lines C and D, but again, only if necessary.
- On each service line where it is required to do so, enter a “pointer” in Item 29a referencing the diagnostic code entered on the corresponding line in Item 34a.
- Each pointer is a block capital letter, A, B, C, or D, and references a diagnosis entered on the corresponding line in Item 34a.
- Your state Medicaid organization may have additional instructions available on their website.
ICD–10 CODE AND CODE DESCRIPTION

Diseases of oral cavity and salivary glands (K00-K14)

K00  DISORDERS OF TOOTH DEVELOPMENT AND ERUPTION

  Excludes 2: embedded and impacted teeth (K01.0-)

K00.0  Anodontia
  Hypodontia
  Oligodontia

  Excludes 1: acquired absence of teeth (K08.1-)

K00.1  Supernumerary teeth Distomolar
  Fourth molar
  Mesiodens
  Paramolar
  Supplementary teeth

  Excludes 2: supernumerary roots (K00.2)

K00.2  Abnormalities of size and form of teeth
  Concrescence of teeth
  Fusion of teeth
  Germination of teeth
  Dens evaginatus
  Dens in dente
  Dens invaginatus
  Enamel pearls
  Macrodontia
  Microdontia
  Peg-shaped [conical] teeth
  Supernumerary roots
  Taurodontism
  Tuberculum paramolare

  Excludes 1: abnormalities of teeth due to congenital syphilis (A50.5) tuberculum Carabelli, which is regarded as a normal variation and should not be coded

K00.3  Mottled teeth
  Dental fluorosis
  Mottling of enamel
  Nonfluoride enamel opacities

  Excludes 2: deposits [acccretions] on teeth (K03.6)

K00.4  Disturbances in tooth formation
  Aplasia and hypoplasia of cementum
  Dilaceration of tooth
  Enamel hypoplasia (neonatal) (postnatal) (prenatal)
  Regional odontodysplasia
  Turner’s tooth

  Excludes 1: Hutchinson’s teeth and mulberry molars in congenital syphilis (A50.5)

  Excludes 2: mottled teeth (K00.3)

K00.5  Hereditary disturbances in tooth structure, not elsewhere classified
  Amelogenesis imperfecta
  Dentinogenesis imperfecta
  Odontogenesis imperfecta
  Dens talonius
  Shell teeth

K00.6  Disturbances in tooth eruption
  Dentia praecox
  Natal tooth
  Neonatal tooth
  Premature eruption of tooth
  Premature shedding of primary [deciduous] tooth
  Prenatal teeth
  Retained [persistent] primary tooth

  Excludes 2: embedded and impacted teeth (K01.0-)

K00.7  Teething syndrome

K00.8  Other disorders of tooth development
  Color changes during tooth formation
  Intrinsic staining of teeth NOS

  Excludes 2: posteruptive color changes (K03.7)

K00.9  Disorder of tooth development, unspecified
  Disorder of odontogenesis NOS

K01  EMBEDDED AND IMPACTED TEETH

  Excludes 1: abnormal position of fully erupted teeth (M26.3-)

K01.0  Embedded teeth

K01.1  Impacted teeth

K02  DENTAL CARIES

  Includes: dental cavities, tooth decay

K02.3  Arrested dental caries
  Arrested coronal and root caries

K02.5  Dental caries on pit and fissure surface
  Dental caries on chewing surface of tooth

K02.51  Dental caries on pit and fissure surface limited to enamel
  White spot lesions [initial caries] on pit and fissure surface of tooth

K02.52  Dental caries on pit and fissure surface penetrating into dentin

K02.53  Dental caries on pit and fissure surface penetrating into pulp
K02.6 Dental caries on smooth surface

K02.61 Dental caries on smooth surface limited to enamel
- White spot lesions [initial caries] on smooth surface of tooth

K02.62 Dental caries on smooth surface penetrating into dentin

K02.63 Dental caries on smooth surface penetrating into pulp

K02.7 Dental root caries

K02.9 Dental caries, unspecified

K03 OTHER DISEASES OF HARD TISSUES OF TEETH

Excludes 2:
- bruxism (F45.8)
- dental caries (K02.-)
- teeth-grinding NOS (F45.8)

K03.0 Excessive attrition of teeth
- Approximal wear of teeth
- Occlusal wear of teeth

K03.1 Abrasion of teeth
- Dentifrice abrasion of teeth
- Habitual abrasion of teeth
- Occupational abrasion of teeth
- Ritual abrasion of teeth
- Traditional abrasion of teeth
- Wedge defect NOS

K03.2 Erosion of teeth
- Erosion of teeth due to diet
- Erosion of teeth due to drugs and medicaments
- Erosion of teeth due to persistent vomiting
- Erosion of teeth NOS
- Idiopathic erosion of teeth
- Occupational erosion of teeth

K03.3 Pathological resorption of teeth
- Internal granuloma of pulp
- Resorption of teeth (external)

K03.4 Hypercementosis
- Cementation hyperplasia

K03.5 Ankylosis of teeth

K03.6 Deposits [accretions] on teeth
- Betel deposits [accretions] on teeth
- Black deposits [accretions] on teeth
- Extrinsic staining of teeth NOS
- Green deposits [accretions] on teeth
- Materia alba deposits [accretions] on teeth
- Orange deposits [accretions] on teeth
- Staining of teeth NOS
- Subgingival dental calculus

K03.7 Posteruptive color changes of dental hard tissues

Excludes 2: deposits [accretions] on teeth (K03.6)

K03.8 Other specified diseases of hard tissues of teeth

K03.81 Cracked tooth

Excludes 1: asymptomatic craze lines in enamel - omit code broken or fractured tooth due to trauma (S02.5)

K03.89 Other specified diseases of hard tissues of teeth

K03.9 Disease of hard tissues of teeth, unspecified

K04 DISEASES OF PULP AND PERIAPIRAL TISSUES

K04.0 Pulpitis
- Acute pulpitis
- Chronic (hyperplastic) (ulcerative) pulpitis
- Irreversible pulpitis
- Reversible pulpitis

K04.1 Necrosis of pulp
- Pulpal gangrene

K04.2 Pulp degeneration
- Denticles
- Pulpal calcifications
- Pulpal stones

K04.3 Abnormal hard tissue formation in pulp
- Secondary or irregular dentine

K04.4 Acute apical periodontitis of pulpal origin
- Acute apical periodontitis NOS

Excludes 1: acute periodontitis (K05.2-)

K04.5 Chronic apical periodontitis
- Apical or periapical granuloma
- Apical periodontitis NOS

Excludes 1: chronic periodontitis (K05.3-)

K04.6 Periapical abscess with sinus
- Dental abscess with sinus
- Dentoalveolar abscess with sinus

K04.7 Periapical abscess without sinus
- Dental abscess without sinus
- Dentoalveolar abscess without sinus
K04.8  Radicular cyst
Apical (periodontal) cyst
Periapical cyst
Residual radicular cyst
Excludes 2: lateral periodontal cyst (K09.0)

K04.9  Other and unspecified diseases of pulp and periapical tissues
K04.90  Unspecified diseases of pulp and periapical tissues
K04.99  Other diseases of pulp and periapical tissues

K05  GINGIVITIS AND PERIODONTAL DISEASES

Use additional code to identify:
- alcohol abuse and dependence (F10.-)
- exposure to environmental tobacco smoke (Z77.22)
- exposure to tobacco smoke in the perinatal period (P96.81) history of tobacco use (Z87.891)
- occupational exposure to environmental tobacco smoke (Z57.31) tobacco dependence (F17.-)
- tobacco use (Z72.0)

K05.0  Acute gingivitis
Excludes 1: acute necrotizing ulcerative gingivitis (A69.1) herpetic (herpes simplex) gingivostomatitis (B00.2)
K05.00  Acute gingivitis, plaque induced
Acute gingivitis NOS
K05.01  Acute gingivitis, non-plaque induced

K05.1  Chronic gingivitis
Desquamative gingivitis (chronic)
Gingivitis (chronic) NOS
Hyperplastic gingivitis (chronic)
Simple marginal gingivitis (chronic)
Ulcerative gingivitis (chronic)
K05.10  Chronic gingivitis, plaque induced
Chronic gingivitis NOS
Gingivitis NOS
K05.11  Chronic gingivitis, non-plaque induced

K05.2  Aggressive periodontitis
Acute pericoronitis
Excludes 1: acute apical periodontitis (K04.4) periapical abscess (K04.7) periapical abscess with sinus (K04.6)
K05.20  Aggressive periodontitis, unspecified
K05.21  Aggressive periodontitis, localized
Periodontal abscess
K05.22  Aggressive periodontitis, generalized

K05.3  Chronic periodontitis
Chronic pericoronitis
Complex periodontitis

K05.4  Periodontosis
Juvenile periodontosis

K05.5  Other periodontal diseases
Excludes 2: leukoplakia of gingiva (K13.21)

K05.6  Periodontal disease, unspecified

K06  OTHER DISORDERS OF THE GINGIVA AND EDENTULOUS ALVEOLAR RIDGE

Excludes 2: acute gingivitis (K05.0) atrophy of edentulous alveolar ridge (K08.2) chronic gingivitis (K05.1) gingivitis NOS (K05.1)

K06.0  Gingival recession
Gingival recession (generalized) (localized) (postinfective) (postprocedural)

K06.1  Gingival enlargement
Gingival fibromatosis

K06.2  Gingival and edentulous alveolar ridge lesions associated with trauma
Irritative hyperplasia of edentulous ridge [denture hyperplasia]

K06.8  Other specified disorders of gingiva and edentulous alveolar ridge
Fibrous epulis
Flabby alveolar ridge
Giant cell epulis
Peripheral giant cell granuloma of gingiva
Pyogenic granuloma of gingiva
Excludes 2: gingival cyst (K09.0)

K06.9  Disorder of gingiva and edentulous alveolar ridge, unspecified

K08  OTHER DISORDERS OF THE TEETH AND SUPPORTING STRUCTURES

Excludes 2: dentofacial anomalies [including malocclusion] (M26.-) disorders of jaw (M27.-)

K08.0  Exfoliation of teeth due to systemic causes
Code also underlying systemic condition

K08.1  Complete loss of teeth
Acquired loss of teeth, complete
Excludes 1: congenital absence of teeth (K00.0) exfoliation of teeth due to systemic causes (K08.0) partial loss of teeth (K08.4-)
K08.10 Complete loss of teeth, unspecified cause
K08.101 Complete loss of teeth, unspecified cause, class I
K08.102 Complete loss of teeth, unspecified cause, class II
K08.103 Complete loss of teeth, unspecified cause, class III
K08.104 Complete loss of teeth, unspecified cause, class IV
K08.109 Complete loss of teeth, unspecified cause, unspecified class
K08.11 Complete loss of teeth due to trauma
K08.111 Complete loss of teeth due to trauma, class I
K08.112 Complete loss of teeth due to trauma, class II
K08.113 Complete loss of teeth due to trauma, class III
K08.114 Complete loss of teeth due to trauma, class IV
K08.119 Complete loss of teeth due to trauma, unspecified class
K08.12 Complete loss of teeth due to periodontal diseases
K08.121 Complete loss of teeth due to periodontal diseases, class I
K08.122 Complete loss of teeth due to periodontal diseases, class II
K08.123 Complete loss of teeth due to periodontal diseases, class III
K08.124 Complete loss of teeth due to periodontal diseases, class IV
K08.129 Complete loss of teeth due to periodontal diseases, unspecified class
K08.13 Complete loss of teeth due to caries
K08.131 Complete loss of teeth due to caries, class I
K08.132 Complete loss of teeth due to caries, class II
K08.133 Complete loss of teeth due to caries, class III
K08.134 Complete loss of teeth due to caries, class IV
K08.139 Complete loss of teeth due to caries, unspecified class
K08.19 Complete loss of teeth due to other specified cause
K08.191 Complete loss of teeth due to other specified cause, class I
K08.192 Complete loss of teeth due to other specified cause, class II
K08.193 Complete loss of teeth due to other specified cause, class III
K08.194 Complete loss of teeth due to other specified cause, class IV
K08.199 Complete loss of teeth due to other specified cause, unspecified class
K08.2 Atrophy of edentulous alveolar ridge
K08.20 Unspecified atrophy of edentulous alveolar ridge
K08.21 Minimal atrophy of the mandible
K08.22 Moderate atrophy of the mandible
K08.23 Severe atrophy of the mandible
K08.24 Minimal atrophy of maxilla
K08.25 Moderate atrophy of the maxilla
K08.26 Severe atrophy of the maxilla
K08.3 Retained dental root
K08.4 Partial loss of teeth
Acquired loss of teeth, partial
Excludes 1: complete loss of teeth (K08.1-)
Excludes 2: exfoliation of teeth due to systemic causes (K08.0)
K08.40 Partial loss of teeth, unspecified cause
K08.401 Partial loss of teeth, unspecified cause, class I
K08.402 Partial loss of teeth, unspecified cause, class II
K08.403 Partial loss of teeth, unspecified cause, class III
K08.404 Partial loss of teeth, unspecified cause, class IV
K08.409 Partial loss of teeth, unspecified cause, unspecified class
Tooth extraction status NOS
K08.41 Partial loss of teeth due to trauma
K08.411 Partial loss of teeth due to trauma, class I
K08.412 Partial loss of teeth due to trauma, class II
K08.413 Partial loss of teeth due to trauma, class III
K08.414 Partial loss of teeth due to trauma, class IV
K08.419 Partial loss of teeth due to trauma, unspecified class
K08.42 Partial loss of teeth due to periodontal diseases
K08.421 Partial loss of teeth due to periodontal diseases, class I
K08.422 Partial loss of teeth due to periodontal diseases, class II
K08.423 Partial loss of teeth due to periodontal diseases, class III
K08.424 Partial loss of teeth due to periodontal diseases, class IV
K08.429 Partial loss of teeth due to periodontal diseases, unspecified class
K08.43 Partial loss of teeth due to caries
K08.431 Partial loss of teeth due to caries, class I
K08.432 Partial loss of teeth due to caries, class II
K08.433 Partial loss of teeth due to caries, class III
K08.434 Partial loss of teeth due to caries, class IV
K08.439 Partial loss of teeth due to caries, unspecified class
K08.49 Partial loss of teeth due to other specified cause
K08.491 Partial loss of teeth due to other specified cause, class I
K08.492 Partial loss of teeth due to other specified cause, class II
K08.493 Partial loss of teeth due to other specified cause, class III
K08.494 Partial loss of teeth due to other specified cause, class IV
K08.499 Partial loss of teeth due to other specified cause, unspecified class
K08.5 Unsatisfactory restoration of tooth
Defective bridge, crown, filling
Defective dental restoration
Excludes 1: dental restoration status (Z98.811)
Excludes 2: endosseous dental implant failure (M27.6-), unsatisfactory endodontic treatment (M27.5-)
K08.50 Unsatisfactory restoration of tooth, unspecified
Defective dental restoration NOS
K08.51 Open restoration margins of tooth
Dental restoration failure of marginal integrity
Open margin on tooth restoration
Poor gingival margin to tooth restoration
K08.52 Unreparable overhanging of dental restorative materials
Overhanging of tooth restoration
K08.53 Fractured dental restorative material
Excludes 1: cracked tooth (K03.81), traumatic fracture of tooth (S02.5)
K08.530 Fractured dental restorative material without loss of material
K08.531 Fractured dental restorative material with loss of material
K08.539 Fractured dental restorative material, unspecified
K08.54 Contour of existing restoration of tooth biologically incompatible with oral health
Dental restoration failure of periodontal anatomical integrity
Unacceptable contours of existing restoration of tooth
Unacceptable morphology of existing restoration of tooth
K08.55 Allergy to existing dental restorative material
Use additional code to identify the specific type of allergy
K08.56 Poor aesthetic of existing restoration of tooth
Dental restoration aesthetically inadequate or displeasing
K08.59 Other unsatisfactory restoration of tooth
Other defective dental restoration
K08.8 Other specified disorders of teeth and supporting structures
Enlargement of alveolar ridge NOS
Irregular alveolar process
Toothache NOS
K08.9 Disorder of teeth and supporting structures, unspecified
K09 CYSTS OF ORAL REGION, NOT ELSEWHERE CLASSIFIED
Includes: lesions showing histological features both of aneurysmal cyst and of another fibro-osseous lesion
Excludes 2: cysts of jaw (M27.0-, M27.4-) radicular cyst (K04.8)
K09.0 Developmental odontogenic cysts
Dentigerous cyst
Eruption cyst
Follicular cyst
Gingival cyst
Lateral periodontal cyst
Primordial cyst
Excludes 2: keratocysts (D16.4, D16.5) odontogenic keratocystic tumors (D16.4, D16.5)
K09.1 Developmental (nonodontogenic) cysts of oral region
Cyst (of) incisive canal
Cyst (of) palatine of papilla
Globulomaxillary cyst
Median palatal cyst
Nasoalveolar cyst
Nasolabial cyst
Nasopalatine duct cyst
K09.8 Other cysts of oral region, not elsewhere classified
Dermoid cyst
Epidermoid cyst
Lymphoepithelial cyst
Epstein’s pearl

K09.9 Cyst of oral region, unspecified

K11 DISEASES OF SALIVARY GLANDS

Use additional code to identify:
- alcohol abuse and dependence (F10.-)
- exposure to environmental tobacco smoke (Z77.22)
- exposure to tobacco smoke in the perinatal period (P96.81)
- history of tobacco use (Z87.891)
- occupational exposure to environmental tobacco smoke (Z57.31)
- tobacco dependence (F17.-)
- tobacco use (Z72.0)

K11.0 Atrophy of salivary gland
K11.1 Hypertrophy of salivary gland
K11.2 Sialoadenitis
Parotitis
Excludes 1: epidemic parotitis (B26.-) mumps (B26.-) uveoparotid fever [Heerfordt] (D86.89)
K11.20 Sialoadenitis, unspecified
K11.21 Acute sialoadenitis
Excludes 1: acute recurrent sialoadenitis (K11.22)
K11.22 Acute recurrent sialoadenitis
K11.23 Chronic sialoadenitis

K11.3 Abscess of salivary gland

K11.4 Fistula of salivary gland
Excludes 1: congenital fistula of salivary gland (Q38.4)

K11.5 Sialolithiasis
Calcus of salivary gland or duct
Stone of salivary gland or duct

K11.6 Mucocele of salivary gland
Mucous extravasation cyst of salivary gland
Mucous retention cyst of salivary gland
Ranula

K11.7 Disturbances of salivary secretion
Hypoptyalism
Ptyalism
Xerostomia
Excludes 2: dry mouth NOS (R68.2)

K11.8 Other diseases of salivary glands
Benign lymphoepithelial lesion of salivary gland
Mikulicz’ disease
Necrotizing sialometaplasia
Sialectasia
Stenosis of salivary duct
Stricture of salivary duct
Excludes 1: sicca syndrome [Sjögren] (M35.0-)

K11.9 Disease of salivary gland, unspecified
Sialoadenopathy NOS

K12 STOMATITIS AND RELATED LESIONS

Use additional code to identify:
- alcohol abuse and dependence (F10.-)
- exposure to environmental tobacco smoke (Z77.22)
- exposure to tobacco smoke in the perinatal period (P96.81)
- history of tobacco use (Z87.891)
- occupational exposure to environmental tobacco smoke (Z57.31)
- tobacco dependence (F17.-)
- tobacco use (Z72.0)

Excludes 1: cancrum oris (A69.0) cheilitis (K13.0) gangrenous stomatitis (A69.0) herpessviral [herpes simplex] gingivostomatitis (B00.2) noma (A69.0)

K12.0 Recurrent oral aphthae
Aphthous stomatitis (major) (minor)
Bednar’s aphthae
Periadenitis mucosa necrotica recurrens
Recurrent aphthous ulcer
Stomatitis herpetiformis

K12.1 Other forms of stomatitis
Stomatitis NOS
Denture stomatitis
Ulcerative stomatitis
Vesicular stomatitis
Excludes 1: acute necrotizing ulcerative stomatitis (A69.1) Vincent’s stomatitis (A69.1)

K12.2 Cellulitis and abscess of mouth
Cellulitis of mouth (floor)
Submandibular abscess
Excludes 2: abscess of salivary gland (K11.3) abscess of tongue (K14.0) periapical abscess (K04.6-K04.7) periodontal abscess (K05.21) peritonsillar abscess (J36)
K12.3  Oral mucositis (ulcerative)
Mucositis (oral) (oropharyngeal)

Excludes 2: gastrointestinal mucositis (ulcerative) (K92.81) mucositis (ulcerative) of vagina and vulva (N76.81) nasal mucositis (ulcerative) (J34.81)

K12.30 Oral mucositis (ulcerative), unspecified

K12.31 Oral mucositis (ulcerative) due to antineoplastic therapy
Use additional code for adverse effect, if applicable, to identify antineoplastic and immunosuppressive drugs (T45.1X5)
Use additional code for other antineoplastic therapy, such as: radiological procedure and radiotherapy (Y84.2)

K12.32 Oral mucositis (ulcerative) due to other drugs
Use additional code for adverse effect, if applicable, to identify drug (T36-T50 with fifth or sixth character 5)

K12.33 Oral mucositis (ulcerative) due to radiation
Use additional external cause code (W88-W90, X39.0-) to identify cause

K12.39 Other oral mucositis (ulcerative)
Viral oral mucositis (ulcerative)

K13  OTHER DISEASES OF LIP AND ORAL MUCOSA

Includes: epithelial disturbances of tongue

Use additional code to identify:
alcohol abuse and dependence (F10.-)
exposure to environmental tobacco smoke (Z77.22)
exposure to tobacco smoke in the perinatal period (P96.81)
history of tobacco use (Z87.891)
occupational exposure to environmental tobacco smoke (Z57.31)
tobacco dependence (F17.-)
tobacco use (Z72.0)

Excludes 2: certain disorders of gingiva and edentulous alveolar ridge (K05-K06) cysts of oral region (K09.-) diseases of tongue (K14.-) stomatitis and related lesions (K12.-)

K13.0  Diseases of lips
Abscess of lips
Angular cheilitis
Cellulitis of lips
Cheilitis NOS
Cheilodynia
Cheilosis
Exfoliative cheilitis
Fistula of lips
Glandular cheilitis
Hypertrophy of lips

K13.1  Cheek and lip biting

K13.2  Leukoplakia and other disturbances of oral epithelium, including tongue

Excludes 1: carcinoma in situ of oral epithelium (D00.0-) hairy leukoplakia (K13.3)

K13.21 Leukoplakia of oral mucosa, including tongue
Leukokeratosis of oral mucosa
Leukoplakia of gingiva, lips, tongue
Excludes 1: hairy leukoplakia (K13.3)

K13.22 Minimal keratinized residual ridge mucosa
Minimal keratinization of alveolar ridge mucosa

K13.23 Excessive keratinized residual ridge mucosa
Excessive keratinization of alveolar ridge mucosa

K13.24 Leukokeratosis nicotina palati
Smoker's palate

K13.29 Other disturbances of oral epithelium, including tongue
Erythroplakia of mouth or tongue
Focal epithelial hyperplasia of mouth or tongue
Leukoedema of mouth or tongue
Other oral epithelium disturbances

K13.3  Hairy leukoplakia

K13.4  Granuloma and granuloma-like lesions of oral mucosa
Eosinophilic granuloma
Granuloma pyogenicum
Verrucous xanthoma

K13.5  Oral submucous fibrosis
Submucous fibrosis of tongue

K13.6  Irritative hyperplasia of oral mucosa
Excludes 2: irritative hyperplasia of edentulous ridge [denture hyperplasia] (K06.2)

K13.7  Other and unspecified lesions of oral mucosa

K13.70 Unspecified lesions of oral mucosa

K13.79 Other lesions of oral mucosa
Focal oral mucinosis
K14 DISEASES OF THE TONGUE

Use additional code to identify:
- alcohol abuse and dependence (F10.-)
- exposure to environmental tobacco smoke (Z77.22)
- history of tobacco use (Z87.891)
- occupational exposure to environmental tobacco smoke (Z57.31)
- tobacco dependence (F17.-)
- tobacco use (Z72.0)

Excludes 2: erythroplakia (K13.29)
- focal epithelial hyperplasia (K13.29)
- leukedema of tongue (K13.29)
- leukoplakia of tongue (K13.21)
- hairy leukoplakia (K13.3)
- macroglossia (congenital) (Q38.2)
- submucous fibrosis of tongue (K13.5)

K14.0 Glossitis
- Abscess of tongue
- Ulceration (traumatic) of tongue

Excludes 1: atrophic glossitis (K14.4)

K14.1 Geographic tongue
- Benign migratory glossitis
- Glossitis areata exfoliativa

K14.2 Median rhomboid glossitis

K14.3 Hypertrophy of tongue papillae
- Black hairy tongue
- Coated tongue
- Hypertrophy of foliate papillae
- Lingua villosa nigra

K14.4 Atrophy of tongue papillae
- Atrophic glossitis

K14.5 Plicated tongue
- Fissured tongue
- Furrowed tongue
- Scrotal tongue

Excludes 1: fissured tongue, congenital (Q38.3)

K14.6 Glossodynia
- Glossopyrosis
- Painful tongue

K14.8 Other diseases of tongue
- Atrophy of tongue
- Crenated tongue
- Enlargement of tongue
- Glossocele
- Glossoptosis
- Hypertrophy of tongue

K14.9 Disease of tongue, unspecified
- Glossopathy NOS
ICD-9 DIAGNOSTIC CODES AND DESCRIPTION

Diagnostic codes are a must for filing medical claims. Diagnostic codes are used to establish medical necessity. The diagnostic codes are the most important piece of information on a claim form because ICD-9 codes verify that the procedure performed was medically necessary. These codes also describe the patient’s health and condition at the time of service. Many dental codes have already been linked to diagnostic codes in the previous section. If the listed diagnosis(es) is not appropriate, this list of diagnostic codes will help you to select the proper diagnosis(es) when cross linking dental codes to medical codes.


202.0 Other malignant neoplasms of lymphoid and histiocytic tissue
202.5 Histocytosis
228.0 Hemangioma
271.8 Oxaluria
275.3 Alkaline Phosphate Disease
277.89 Eosinophilic Granuloma
282.4 Thalassemia
284 Aplastic Anemia
288.2 White Cell Disorder
306.8 Bruxism
307.1 Anorexia Nervosa
307.2 Tics
308.9 Unspecified acute reaction to stress (Severe Stress Reaction to Dental Therapy)
307.81 Tension headache
307.9 Nail biting and thumb sucking
327.23 Obstructive sleep apnea
346.00 Classical migraine – with aura, not intractable migraine
346.10 Common migraine – atypical, not intractable migraine
346.20 Variants of migraine (e.g., cluster, retinal, etc.), not intractable migraine
346.80 Other forms of migraine
346.90 Migraine, unspecified
350.1 Trigeminal neuralgia
350.2 A typical facial pain
351 Facial nerve disorders – disorders of 7th cranial nerve
352.1 Glossopharyngeal neuralgia
388.30 Tinnitus, unspecified (abnormal noises in ear, e.g., ringing, clicking, roaring, and buzzing)
388.30 Tinnitus, unspecified (abnormal noises in ear, e.g., ringing, clicking, roaring, and buzzing)
388.31 Objective tinnitus
388.7 Otalgia (earache)
388.72 Otalgia, referred pain
461.0 Sinusitis
Diseases of Oral Cavity, Salivary Glands, and Jaws (520-529)

520 Unspecified disorders of tooth development and eruption
520.0 Anodontia
   Absence of teeth (complete) (congenital) (partial)
   Hypodontia
   Oligodontia
   Excludes: Acquired absence of teeth (525.10-525.19)
520.1 Supernumerary teeth
   Distomolar
   Fourth molar
   Mesiodens
   Paramolar
   Supplemental teeth
   Excludes: Supernumerary roots (520.0)
520.2 Abnormalities of size and form
   Concrescence of teeth
   Gemination of teeth
   Fusion of teeth
   Dens evaginatus
   Dens in dente
   Dens invaginatus
   Enamel pearls
   Macrodontia
   Microdontia
   Peg-shaped (conical) teeth
   Supernumerary roots
   Taurodontism
   Tuberculum paramolare
   Excludes: That due to congenital syphilis (090.5)
   Tuberculum Carabelli, which is regarded as a normal variation
520.25 Dens in Dente
520.3 Mottled teeth
   Dental Fluorosis
   Mottling of enamel
   Nonfluoride enamel opacities
520.4 Disturbance of tooth formation
   Aplasia and hypoplasia of cementum
   Dilaceration of tooth
   Horner's teeth
   Hypocalcification of teeth
   Regional odontodysplasia
   Turner's tooth
   Excludes: Hutchinson's teeth and mulberry molars in congenital syphilis (090.5)
   Mottled teeth (520.3)
520.4 Enamel hypoplasia (neonatal) (postnasal) (prenatal)
   Hypoplastic Injury
520.5 Hereditary disturbances in tooth structure, not elsewhere classified
   Amelogenesis imperfecta
   Dentinogenesis imperfecta
   Odontogenesis imperfecta
   Dentinal dysplasi
   Shell teeth
520.51 Hereditary Opalescent Dentin
520.6 Disturbances in tooth eruption
   Teeth
   Embedded
   Impacted
   Natal
   Neonatal
   Primary (deciduous)
   Persistant
   Shedding premature
   Tooth eruption
   Late
   Obstructed
   Premature
   Excludes: Exfoliation of teeth (attributable to disease of surrounding tissues) (525.0 – 525.19)
520.7 Teething syndrome
520.8 Other specified disorders of tooth development and eruption
   Color changes during tooth formation
   Pre-eruptive color changes
   Excludes: Posteruptive color changes (521.7)
521 Diseases of the hard tissues of teeth
521.0 Dental caries
   Early Childhood Caries (ECC)/Baby Bottle Tooth Decay
521.00 Dental caries, unspecified
521.01 Dental caries limited to enamel
521.02 Dental caries extending into dentin
521.03 Dental caries extending into pulp
521.04 Arrested dental caries
521.05 Odontoclasia
521.1 Excessive attrition (approximal wear) (occlusal wear)

521.2 Abrasion

   Abrasion of teeth
   Dentifrice
   Habitual
   Occupational
   Ritual
   Traditional

   Wedge defect NOS teeth

521.3 Erosion

   Erosion of teeth
   NOS due to:
   Medicine
   Persistent vomiting
   Idiopathic
   Occupational
521.4 Pathological resorption
521.5 Hypercementosis
   Cementation hyperplasia
521.6 Ankylosis of teeth
521.7 Intrinsic posteruptive color changes
   Staining (discoloration) of teeth (523.6)
   Extrinsic color changes (523.6)
   Pre-eruptive color changes (520.8)
521.71 Dark tooth, discolored tooth
521.8 Other specified diseases of hard tissues of teeth
521.81 Cracked tooth

   Excludes: asymptomatic craze lines
   in enamel omit code, broken tooth due to trauma
   (873.63, 873.73) Fractured tooth due to trauma
   (873.63, 873.73)

521.89 Other specified diseases of hard tissues of teeth
   Irradiated enamel
   Sensitive enamel
521.9 Unspecified diseases of hard tissues of teeth
522 Diseases of Pulp and Periapical Tissues

522.0 Pulpitis
   Pulpal
   Abscess
   Polyp

   Pulpitis
   Acute
   Chronic (hyperplastic) (ulcerative)
   Suppurative
522.1 Necrosis of the pulp
   Pulp gangrene
522.2 Pulp degeneration
   Denticles
   Pulp calcifications
   Pulp stones
522.3 Abnormal hard tissue formation in pulp
   Secondary or irregular dentin
522.4 Acute apical periodontitis of pulpal origin

522.5 Periapical abscess without sinus
   Abscess:
   Dental
   Dentoalveolar

   Excludes: Periapical abscess with sinus (522.7)
522.6 Chronic apical periodontitis
   Apical or periapical granuloma
   Apical periodontitis NOS
   Gingival tumor

522.7 Periapical abscess with sinus
   Fistula:
   Alveolar process
   Dental
522.8  Radicular cyst
Cyst:
  Apical (periodontal)
  Periapical
  Radiculodental
  Residual radicular
Excludes: Lateral developmental or lateral periodontal cyst (526.0)

523  Gingival and Periodontal Disease

523.0  Acute gingivitis
Excludes: Acute necrotizing ulcerative gingivitis (101) Herpetic gingivostomatitis (054.2)

523.1  Chronic gingivitis
Gingivitis (chronic):
  NOS
  Desquamative
  Hyperplastic
  Simple marginal
  Ulcerative
  Gingivostomatitis
Excludes: Herpetic gingivostomatitis (054.2)

523.2  Gingival recession
Gingival recession (postinfective) (postoperative)

523.3  Acute periodontitis
Acute
  Pericementitis
  Pericoronitis
Paradontal abscess
Periodontal abscess
Excludes: Acute apical periodontitis (522.4) Periapical abscess (522.5, 522.7)

523.4  Chronic periodontitis
Alveolar pyorrhea
Chronic pericoronitis
Pericementitis (chronic)
Periodontitis
  NOS
  Complex
  Simplex
Excludes: Chronic apical periodontitis (522.6)

523.5  Periodontosis

523.6  Accretions on teeth
Dental calculus
  Subgingival
  Supragingival
Deposits on teeth:
  Betel
  Material alba
  Soft
  Tartar
  Tobacco
Extrinsic discoloration of teeth
Excludes: Intrinsic discoloration of teeth (521.7)

523.8  Other specified periodontal diseases
Giant cell:
  Epulis
  Peripheral granuloma
Gingival:
  Cysts
  Enlargements NOS
  Fibromatosis
Gingival polyp
Periodontal lesions due to traumatic occlusion
Peripheral giant cell granuloma
Excludes: Leukoplia of gingival (528.6)

523.9  Unspecified gingival and periodontal disease

524  Dentofacial anomalies, including malocclusion
  abnormalities (e.g., abnormal swallowing, mouth breathing, tongue/finger habits, etc.)
Major anomalies of jaw size
Excludes: Hemifacial atrophy or hypertrophy (754.0) Unilateral condylar hyperplasia or hypoplasia of mandible (526.89)

524.01  Maxillary hyperplasia

524.02  Mandibular hyperplasia

524.03  Maxillary hypoplasia

524.04  Mandibular hypoplasia

524.05  Macrogenia

524.06  Microgenia

524.07  Excessive tuberosity of jaw

524.09  Other specified anomaly
524.1 Anomalies of relationship of jaw to cranial base
524.2 Anomalies of dental arch relationship
524.2 Posterior crossbite
Excludes: Hemifacial atrophy or hypotrophy (754.0) Soft tissue impingement (524.81–524.82) Unilateral condylar hyperplasia or hypoplasia of mandible (526.89)
524.3 Anomalies of tooth position of fully erupted teeth
Excludes: Impacted or embedded teeth with abnormal position of such teeth or adjacent teeth (520.6)
524.4 Malocclusion, unspecified
524.5 Dentofacial functional abnormalities
524.51 Abnormal jaw closure
524.52 Limited mandibular range of motion
524.53 Deviation in opening and closing of the mandible
524.59 Other dentofacial functional
524.6 Temporomandibular joint disorders
Excludes: Current temporomandibular joint: Dislocation (830.0–830.1) Strain (848.1)
524.61 Adhesions and ankylosis, TMJ (bony or fibrous)
524.62 Arthralgia of TMJ (pain in joint—not inflammatory in nature)
524.63 Articular disc disorder (reducing or non-reducing)
524.64 TMJ sounds on opening and/or closing the jaw
524.69 Other specified temporomandibular joint disorders
524.7 Dental alveolar anomalies
524.8 Other specified dentofacial anomalies
524.9 Unspecified dentofacial anomalies
525 Other diseases and conditions of the teeth and supporting structures
525.0 Exfoliation of teeth due to systematic causes
525.1 Loss of teeth due to trauma, extraction or periodontal disease
Code first class of edentulism (525.40 – 525.44, 525.50 – 525.54)
525.10 Acquired absence of teeth, unspecified
525.11 Loss of teeth due to trauma
525.12 Loss of teeth due to periodontal disease
525.13 Loss of teeth due to caries
525.19 Other loss of teeth
525.2 Atrophy of edentulous ridge
525.3 Retained dental root
525.4 Complete edentulism
525.5 Partial edentulism
525.6 Unsatisfactory restoration of tooth
525.8 Other specified disorders of the teeth and supporting structures
525.9 Unspecified disorder of teeth and supporting structures
526 Diseases of the jaw
526.0 Developmental odontogenic cysts
Cyst
Dentigerous
Eruption
Follicular
Lateral developmental
Lateral periodontal
Primordial
Keratocyst
Excludes: Radicular cyst (522.8)
526.1 Fissural cysts of the jaw
Cyst
Globulomaxillary
Incisor canal
Median anterior maxillary
Median palatal
Nasopalatine
Palatine of papilla
Excludes: Cysts of oral soft tissues (528.4)
526.2 Other cysts of jaws
Cyst of jaw: NOS
Aneurismal
Hemorrhagic
Traumatic
526.3 Central giant cell (reparative) granuloma
Excludes: Peripheral giant cell granuloma (523.8)
526.4  Inflammatory conditions
Abscess of jaw (acute) (chronic) (suppurative)
Osteitis of jaw (acute) (chronic) (suppurative)
Osteomyelitis (neonatal) of jaw (acute) (chronic)
Periostitis of jaw (acute) (chronic) (suppurative)
Sequestrum of jaw bone
*Excludes: Alveolar osteitis (526.5)*

526.89  Other specified diseases of jaw

527  Diseases of the salivary glands
527.0  Atrophy
527.1  Hypertrophy

**527.2 Sialoadenitis**

**Parotitis:**
- NOS
- Allergic
- Toxic
- Sialoangitis
- Sialochitis
*Excludes: Epidemic or infectious parotitis (072.0 – 072.9) Uveoparatid fever (135)*

527.3  Abcess
527.4  Fistula
*Excludes: Congenital fistula of salivary gland (750.24)*

527.5  Sialolithiasis
- Calculus of salivary gland or duct
- Stone of salivary gland or duct
- Sialodocholithiasis

527.6  Mucocele

**Mucous:**
- Extravasation cyst of salivary gland
- Retention of cyst of salivary gland

**Ranula**

527.7  Disturbance of salivary secretion
- Hypossecretion
- Ptyalism
- Sialorrhea
- Xerostomia

527.8  Other specified diseases of the salivary glands
- Benign lymphoepithelial lesion of salivary gland
- Sialocele
- Sialosis
- Stenosis of salivary duct
- Stricture of salivary duct

527.9  Unspecified disease of the salivary glands

528  Diseases of the oral soft tissues, excluding lesions specific for gingiva and tongue

**528.0 Stomatitis**

**Stomatitis:**
- NOS
  - Ulcerative (101)

**Vesicular stomatitis**
*Excludes: Stomatitis: Acute necrotizing ulcerative (101) Apmnous (528.2) Gangrenous (528.1) Herpetic (054.2) Vincent’s (101)*

528.1  Cancri oris

**Gangrenous stomatitis**

**Noma**

528.2  Oral aphpthae
- Apmnous stomatitis
- Canker sore
- Periapenditis mucosa necrotica recursens
- Recurrent aphpthae ulcer
- Stomatitis herpetiformis
*Excludes: Herpetic stomatitis (054.2)*

583.3  Cellulitis and abscess
- Cellulitis of the mouth (floor)
- Ludwig’s angina
- Oral fistula
*Excludes: Abscess of tongue (529.0) Cellulitis or abscess of lip (528.5) Fistula (9): Dental (522.7) Lip (528.5) Gingivitis (523.0-523.1)*
528.4  Cysts
Dermoid cyst of mouth
Epidermoid cyst of mouth
Epstein’s pearl of mouth
Lymphoepithelial cyst of mouth
Nasalveolar cyst of mouth
Nasolabial cyst of mouth
\textbf{Excludes:} Cyst: Gingiva (523.8) Tongue (529.8)

528.5  Diseases of lips
Abscess of lip(s)
Cellulites of lip(s)
Fistula of lip(s)
Hypertrophy of lip(s)
Cheilosis
\textbf{Excludes:} Carcinoma in situ (230.0, 232.0)
Leukokeratosis NOS (702)

528.8  Oral submucosal fibrosis, including of tongue
528.9 Other and unspecified diseases of the oral soft tissues
Cheek and lip biting (includes while under local anesthesia)
Denture sore mouth
Denture stomatitis
Melanplakia
Papillary hyperplasia

529  Diseases and other conditions of the tongue
529.0 Glossitis
Abscess of tongue
Ulceration (traumatic) of tongue
\textbf{Excludes:} Glossitis: Benign migratory (529.1)
Hunter’s (529.4) Moeller’s (529.4)
Median rhomboid (529.2)

529.2  Median rhomboid glossitis

529.3  Hypertrophy of tongue papillae
Black hairy tongue
Lingua villosa nigra
Coated tongue

529.4  Atrophy of tongue papillae
Bald tongue
Glazed tongue
Glossitis:
  Hunter’s
  Moeller’s
Glossodynia exfoliativa
Hypertrophy of foliate papillae
Smooth atrophic tongue

529.5 Plicated tongue
Fissured tongue
Furrowed tongue
Scrotal tongue
\textbf{Excludes:} fissure of tongue, congenital (750.13)

529.6 Glossodynia
Glossopyrosis
Painful tongue
\textbf{Excludes:} glossodynia exfoliativa (529.4)

529.8 Other specified conditions of the tongue
Atrophy (of) tongue
Crenated (of) tongue
Enlargement (of) tongue
Hypertrophy (of) tongue
Glossocele
Glossoptosis
\textbf{Excludes:} erythroplasia of tongue (528.79)
leukoplaikia of tongue (528.6)
macroglossia (congenital) (750.15)
microglossia (congenital) (750.16)
oral submucosal fibrosis (528.8)

529.9 Unspecified condition of the tongue

728 Disorders of muscle, ligament, and fascia
728.85 Spasm of muscle
729 Other disorders of soft tissue
729.1 Myalgia/Myositis (unspecified muscle pain)
750 Other congenital anomalies of upper alimentary tract
750.0 Ankyloglossia, tongue tied
756.01 Oculomandibulodyccephaly with Hypotrichosis
757.33 Pigment abnormality
759.80 Flat facial hemangiomata
General symptoms

Sleep disturbance, unspecified
(only used when a more specific diagnosis cannot be made at the time of treatment)

Insomnia with sleep apnea, unspecified
(transient cessation of breathing disturbing sleep)

Hypersomnia with sleep apnea, unspecified
(autonomic response inhibited during sleep, causes insufficient oxygen intake, acidosis and pulmonary hypertension)

Unspecified sleep apnea

Clubbing of fingers

Symptoms involving head and neck

Headache, facial pain, pain in head

Excludes: Atypical face pain (350.2) Migraine (346.0-346.9) Tension headache (307.81)

Fracture of face bones

Fracture of mandible/jaw, closed, unspecified site

Condylar process

Subcondylar

Coronoid process

Ramus, unspecified

Angle of jaw

Symphysys of body

Alveolar border of body

Multiple sites

Fracture of mandible, open, unspecified site

Condylar process

Subcondylar

Coronoid process

Ramus, unspecified

Angle of jaw

Symphysys of body

Alveolar border of body

Multiple sites

Fracture of malar and maxillary bones, closed
(superior maxilla, upper jaw bone, zygoma, and zygomatic arch)

Fracture of malar and maxillary bones, open

Dislocation of jaw

Closed dislocation of jaw, includes meniscus, mandible, maxilla (inferior), temporomandibular joint

Open dislocation of jaw

Other open wound of the head

Open wound – Buccal mucosa

Open wound – Gum

Tooth fractured due to trauma (uncomplicated)

Wound – tongue and floor of mouth

Open wound of lip without complications

Tooth fractured due to trauma (no complications)

Tooth fractured due to trauma (complicated)

Root fracture

Palate

Intrusion

Avulsion, Exarticulation

Other and multiple sites

Contusion of face, neck and scalp

Tooth in tongue, penetration wound, tooth embedding

Burn of face, scalp and neck

Face, head

Lips

Chin

Nose

Burn of mouth and pharynx

Head injury, unspecified

Injury of face and neck

Other complications due to internal joint prosthesis
CHAPTER 4
Dental and Medical Claim Forms

BOX 25:

<table>
<thead>
<tr>
<th>CODE</th>
<th>AREA</th>
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<tbody>
<tr>
<td>00</td>
<td>Entire Oral Cavity</td>
</tr>
<tr>
<td>01</td>
<td>Maxillary Arch</td>
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<tr>
<td>02</td>
<td>Mandibular Arch</td>
</tr>
<tr>
<td>10</td>
<td>Upper Right Quadrant</td>
</tr>
<tr>
<td>20</td>
<td>Upper Left Quadrant</td>
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<td>30</td>
<td>Lower Left Quadrant</td>
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<tr>
<td>40</td>
<td>Lower Right Quadrant</td>
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</tbody>
</table>

CMS 1500 CLAIM FORM FOR MEDICAL CLAIMS REPORTING

Detailed instructions for completing this form are located on the National Uniform Claim Committee website at http://www.nucc.org. Another source for line by line instructions may be found at http://www.valueoptions.com/providers/Forms/Administrative/Tips_for_Completing_the_CMS_1500.pdf.

BOX 27:

Compliance with HIPAA-required code sets has changed the way dentists bill supernumerary teeth. The chart below indicates how to identify supernumerary teeth when completing box number 27 of the ADA claim form.

<table>
<thead>
<tr>
<th>PRIMARY DENTITION</th>
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<tbody>
<tr>
<td>UPPER ARCH</td>
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<td>Tooth #</td>
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<tr>
<td>Super #</td>
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<tr>
<td>LOWER ARCH</td>
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<tr>
<td>Tooth #</td>
</tr>
<tr>
<td>Super #</td>
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</table>

<table>
<thead>
<tr>
<th>PERMANENT DENTITION</th>
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</tr>
<tr>
<td>Super #</td>
</tr>
</tbody>
</table>
Comprehensive completion instructions for the ADA Dental Claim Form are found in Section 4 of the ADA Publication titled CDT-2007/2008. Five relevant extracts from that section follow:

**GENERAL INSTRUCTIONS**

A. The form is designed so that the name and address (Item 3) of the third-party payer receiving the claim (insurance company/dental benefit plan) is visible in a standard #10 window envelope. Please fold the form using the “tick-marks” printed in the margin.

B. In the upper-right of the form, a blank space is provided for the convenience of the payer or insurance company, to allow the assignment of a claim or control number.

C. All items in the form must be completed unless it is noted on the form or in the following instructions that completion is not required.

D. When a name and address field is required, the full name of an individual or a full business name, address and zip code must be entered.

E. All dates must include the four-digit year.

F. If the number of procedures reported exceeds the number of lines available on one claim form, the remaining procedures must be listed on a separate, fully completed claim form.

**COORDINATION OF BENEFITS (COB)**

When a claim is being submitted to the secondary payer, complete the form in its entirety and attach the primary payer’s Explanation of Benefits (EOB) showing the amount paid by the primary payer. You may indicate the amount the primary carrier paid in the “Remarks” field (Item # 35).

**NATIONAL PROVIDER IDENTIFIER (NPI)**

NPI (National Provider Identifier): This is an identifier assigned by the Federal government to all providers considered to be HIPAA covered entities. Dentists who are not covered entities may elect to obtain an NPI at their discretion, or may be enumerated if required by a participating provider agreement with a third-party payer or applicable state law/regulation. An NPI is unique to an individual dentist (Type 1 NPI) or dental entity (Type 2 NPI), and has no intrinsic meaning. Additional information on NPI and enrollment can be obtained from the ADA’s website at www.ada.org/goto/npi.

**ADDITIONAL PROVIDER IDENTIFIER**

Additional Provider ID: This is an identifier assigned by the billing entity or dental entity other than a Social Security Number (SSN) or Tax Identification Number (TIN). Protect the provider’s NPI. The additional identifier is sometimes referred to as a Legacy Identifier (LID). LIDs are not unique and they are assigned by different entities (e.g., third-party payer; Federal government). Some Legacy IDs have an intrinsic meaning.

**PROVIDER SPECIALTY CODES**

Provider Specialty Code: Enter the code that indicates the type of dental professional who delivered the treatment. Available codes describing treating dentists are listed below. The general code listed as ‘Dentist’ may be used instead of any other dental practitioner code.

<table>
<thead>
<tr>
<th>Category / Description Code</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dentist</td>
<td>122300000X</td>
</tr>
<tr>
<td>A doctor of dentistry qualified by a doctorate in dental surgery (D.D.S) and/or a dentist (D.M.D) licensed by the state to practice dentistry, and practicing within the scope of that license.</td>
<td></td>
</tr>
<tr>
<td>General Practice</td>
<td>1223G0001X</td>
</tr>
<tr>
<td>Dental Specialty (see following list)</td>
<td>Various</td>
</tr>
<tr>
<td>Dental Public Health</td>
<td>1223D0001X</td>
</tr>
<tr>
<td>Endodontics</td>
<td>1223E0200X</td>
</tr>
<tr>
<td>Orthodontics</td>
<td>1223X0400X</td>
</tr>
<tr>
<td>Pediatric Dentistry</td>
<td>1223P0221X</td>
</tr>
<tr>
<td>Periodontics</td>
<td>1223P0300X</td>
</tr>
<tr>
<td>Prosthodontics</td>
<td>1223P0700X</td>
</tr>
<tr>
<td>Oral &amp; Maxillofacial Pathology</td>
<td>1223P0106X</td>
</tr>
<tr>
<td>Oral &amp; Maxillofacial Radiology</td>
<td>1223D0008X</td>
</tr>
<tr>
<td>Oral &amp; Maxillofacial Surgery</td>
<td>1223S0112X</td>
</tr>
</tbody>
</table>

Dental provider taxonomy codes listed above are a subset of the full code set that is posted at: www.wpc-edi.com/codes/taxonomy

Should there be any updates to ADA Dental Claim Form completion instructions, the updates will be posted on the ADA’s website at: www.ada.org/goto/dentalcode
# Completing the CMS-1500 Form

<table>
<thead>
<tr>
<th>Field</th>
<th>Name and Number</th>
<th>Instructions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 ▲</td>
<td>MEDICARE MEDICAID TRICARE CHAMPUS CHAMPVA GROUP HEALTH PLAN FECA BLK LUNG OTHER</td>
<td>Place an “X” in the appropriate box for the type of health insurance applicable to this claim. If the “other” box contains an “X”, complete field 1a with the primary coverage identification number. If secondary coverage, refer to field 9. Mark only one box.</td>
</tr>
<tr>
<td>1a △</td>
<td>Insured’s I.D. number</td>
<td>Enter insured’s ID number as shown on insured’s ID card for the payer to whom the claim is being submitted. Do not include the patient’s two-digit member number at the end of the ID.</td>
</tr>
<tr>
<td>2 △</td>
<td>Patient’s name</td>
<td>Enter the patient’s last name, first name and middle initial as it appears on the ID card.</td>
</tr>
<tr>
<td>3 △</td>
<td>Patient’s birth date Sex</td>
<td>Enter the patient’s eight-digit date of birth in (MM/DD/YYYY) format. Place an “X” in the appropriate box to indicate the patient’s sex. Mark only one box. If gender is unknown, leave blank.</td>
</tr>
<tr>
<td>4 △</td>
<td>Insured’s name</td>
<td>Enter insured’s last name, first name and middle initial.</td>
</tr>
<tr>
<td>5 △</td>
<td>Patient’s address</td>
<td>Enter the patient’s address, city, state, zip code and phone number. If the patient’s phone number is unknown leave blank. Do not use punctuation. Use two-digit state code and, if available, nine-digit zip code.</td>
</tr>
<tr>
<td>6 △</td>
<td>Patient relationship to insured</td>
<td>Place an “X” in the box for “self” if the patient is the insured, “spouse” if the patient is the insured's husband or wife. If none of the above applies, place an “X” to indicate “child” or “other” as applicable. Mark only one box.</td>
</tr>
<tr>
<td>7 ▲</td>
<td>Insured’s address</td>
<td>Enter the insured’s address, city, state, zip code and phone number. Do not use punctuation. If insured’s address or telephone number is unknown leave blank. Use two-digit state code and, if available, nine-digit zip code. Note: For Worker’s Compensation, use address of employer.</td>
</tr>
<tr>
<td>8 ▲</td>
<td>Patient status</td>
<td>Place an “X” in the appropriate boxes. If the patient is a full-time student, complete field 11b if the information is available.</td>
</tr>
<tr>
<td>9 ▲</td>
<td>Other insured’s name</td>
<td>When additional group health coverage exists, enter other insured’s last name, first name and middle initial. Enter the employee’s group health insurance information for Worker’s Compensation claims.</td>
</tr>
<tr>
<td>9a ▲</td>
<td>Other insured’s policy or group number</td>
<td>Enter the policy or group number of the other insured as indicated.</td>
</tr>
<tr>
<td>9b ▲</td>
<td>Other insured’s date of birth Sex</td>
<td>Enter the other insured’s eight-digit date of birth in (MM/DD/YYYY) format. Place an “X” in the appropriate box to indicate the other insured’s sex. Mark only one box. If gender is unknown, leave blank.</td>
</tr>
<tr>
<td>9c ▲</td>
<td>Employer’s name or school name</td>
<td>Enter the name of the other insured’s employer or school.</td>
</tr>
<tr>
<td>9d ▲</td>
<td>Insurance plan name or program name</td>
<td>Enter the other insured’s insurance plan or program name.</td>
</tr>
<tr>
<td>10 ▲</td>
<td>Is patient’s condition related to: a. Employment (current or previous) b. Auto accident c. Other accident</td>
<td>Only one box can be marked per submission. a. Place an “X” in the appropriate box. If “yes”, complete field 14. b. Place an “X” in the appropriate box. If “yes”, indicate state and also complete field 14. c. Place an “X” in the appropriate box. If “yes”, complete field 14.</td>
</tr>
<tr>
<td>10d ○</td>
<td>Reserved for local use</td>
<td>Not used.</td>
</tr>
<tr>
<td>11 ▲</td>
<td>Insured’s policy group or FECA number</td>
<td>Enter the insured’s policy or group number as it appears on the ID card if present. For Worker’s Compensation, enter the Worker’s Compensation payer claim number if available.</td>
</tr>
<tr>
<td>11a ▲</td>
<td>Insured’s date of birth Sex</td>
<td>If known, enter the insured’s eight-digit date of birth in (MM/DD/YYYY) format. If insured’s date of birth is unknown, leave blank. Place an “X” in the appropriate box to indicate the insured’s sex. Mark only one box. If gender is unknown, leave blank.</td>
</tr>
<tr>
<td>11b ▲</td>
<td>Employer’s name or school name</td>
<td>Complete if full-time student. Enter the name of the insured’s employer or school.</td>
</tr>
<tr>
<td>Field</td>
<td>Name and Number</td>
<td>Instructions</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>11c ▲</td>
<td>Insurance plan name or program name</td>
<td>Enter the insurance plan or program name of the insured.</td>
</tr>
<tr>
<td>11d ▲</td>
<td>Is there another health benefit plan?</td>
<td>Place an “X” in the appropriate box. If “yes”, complete fields 9a through 9d.</td>
</tr>
<tr>
<td>12 ▲</td>
<td>Patient’s or authorized person’s signature</td>
<td>Enter “Signature on File”, “SOF” or legal signature. When legal signature, enter date signed.</td>
</tr>
<tr>
<td>13 ▲</td>
<td>Insured’s or authorized person’s signature</td>
<td>Enter “Signature on File”, “SOF” or legal signature. This authorization will not be honored for in-state non-participating providers.</td>
</tr>
<tr>
<td>14 ▲</td>
<td>Date of current illness, injury, or pregnancy</td>
<td>Enter the first date in six-digit (MMDDYY) or eight-digit (MMDDCCYY) format of the current illness, injury or pregnancy. For pregnancy, use the date of LMP as the first date. A date is required if injury or emergency.</td>
</tr>
<tr>
<td>15 ▲</td>
<td>If patient has had same or similar illness, give first date</td>
<td>Enter the first date in six-digit (MMDDYY) or eight-digit (MMDDCCYY) format that the patient had the same or similar illness. Previous pregnancies are not a similar illness. Leave blank if unknown.</td>
</tr>
<tr>
<td>16 ▲</td>
<td>Dates patient unable to work in current occupation</td>
<td>Enter dates patient is unable to work in six-digit (MMDDYY) or eight-digit (MMDDCCYY) format. Leave blank if unknown.</td>
</tr>
<tr>
<td>17 ▲</td>
<td>Name of referring physician or other source</td>
<td>Enter the name of the physician or other source that referred the patient to the billing provider or ordered the test(s) or item(s).</td>
</tr>
<tr>
<td>17a ▲</td>
<td>Other ID #</td>
<td>Enter the two-character qualifier and Other ID. For a list of valid two-character qualifiers refer to the Minnesota Standards for the Use of the CMS-1500 Health Insurance Claim Form manual.</td>
</tr>
<tr>
<td>17b ▲</td>
<td>NPI</td>
<td>Enter the ten-digit NPI.</td>
</tr>
<tr>
<td>18 ▲</td>
<td>Hospitalization dates related to current services</td>
<td>Enter the inpatient hospital admission date followed by the discharge date (if discharge has occurred) using the six-digit (MMDDYY) or eight-digit (MMDDCCYY) format. If not discharged, leave discharge date blank.</td>
</tr>
<tr>
<td>19 ○</td>
<td>Reserved for local use</td>
<td>Not used.</td>
</tr>
<tr>
<td>20 ▲</td>
<td>Outside lab? $Charges</td>
<td>For lab services enter an “X” in Yes if the reported service(s) was performed by an outside laboratory. If yes, enter the purchase price. Enter an “X” in No if outside lab service(s) is not included on the claim.</td>
</tr>
<tr>
<td>21 ▲</td>
<td>Diagnosis or nature of illness or injury</td>
<td>List up to four ICD-9-CM diagnosis codes. Relate lines 1,2,3,4 to lines of service in 24E by line number. Use the highest level of specificity. Do not provide narrative description in this box.</td>
</tr>
<tr>
<td>22 ▲</td>
<td>Medicaid resubmission</td>
<td>For Medicaid resubmission claims only. Enter the correct three-digit replacement reason code followed by the 17-digit TCN of the most current incorrectly paid claim. Refer to Medicaid Manual for code list.</td>
</tr>
<tr>
<td>23 ▲</td>
<td>Prior authorization number</td>
<td>Enter the prior authorization or service agreement number as assigned by the payer for the current service.</td>
</tr>
<tr>
<td>24A-24G ▲</td>
<td>Narrative Description</td>
<td>Enter the supplemental information in the shaded section of 24A through 24G above the corresponding service line. If an unlisted code is used, a narrative description must be present.</td>
</tr>
<tr>
<td>24A ▲</td>
<td>Date(s) of service</td>
<td>Enter the six-digit date(s) of service in (MMDDYY) format. If one date of service only, enter that date under From. Leave To blank or re-enter From date. If grouping services, the place of service, procedure code, charge and rendering provider for each line must be identical for that service line. Grouping is allowed only if the number of days matches the number of units in 24G.</td>
</tr>
<tr>
<td>24B ▲</td>
<td>Place of service</td>
<td>Enter the two-digit code from the place of service list in Appendix 2 in the Minnesota Standards for the Use of the CMS-1500 Health Insurance Claim Form manual.</td>
</tr>
<tr>
<td>24C ▲</td>
<td>EMG</td>
<td>EMG means emergency. Enter Y for “Yes” or leave blank for “No”.</td>
</tr>
<tr>
<td>24D ▲</td>
<td>Procedures, services, or supplies</td>
<td>Enter HCPCS Level I codes (CPT), Level II codes (A-DMEPOS) and modifiers. Up to four modifiers may be submitted.</td>
</tr>
<tr>
<td>Field</td>
<td>Name and Number</td>
<td>Instructions</td>
</tr>
<tr>
<td>-------</td>
<td>-----------------</td>
<td>-------------</td>
</tr>
<tr>
<td>24E △ UNSHADED</td>
<td>Diagnosis code</td>
<td>Enter diagnosis pointer(s) referenced in field 21 to indicate which diagnosis code(s) apply to the related HCPCS code. Do not enter ICD-9-CM codes or narrative descriptions in this field. Do not use slashes, dashes, or commas between reference numbers.</td>
</tr>
<tr>
<td>24F △ UNSHADED</td>
<td>$ Charges</td>
<td>Enter the charge amount in (Dollars</td>
</tr>
<tr>
<td>24G △ UNSHADED</td>
<td>Days or units</td>
<td>Enter the number of days or units on each line of service. When determining units refer to Appendix 5 in the Minnesota Standards for the Use of the CMS-1500 Health Insurance Claim Form manual.</td>
</tr>
<tr>
<td>24H ▲ UNSHADED</td>
<td>EPSDT Family Planning</td>
<td>If related to EPSDT enter Y for “Yes” with a valid referral code. If not related to EPSDT enter N for “No”. For a list of valid EPSDT (C&amp;TC) referral codes refer to the Minnesota Standards for the Use of the CMS-1500 Health Insurance Claim Form manual.</td>
</tr>
<tr>
<td>24I ▲ SHADED</td>
<td>ID Qualifier</td>
<td>Enter the two-character qualifier. For a list of valid two-character qualifiers refer to the Minnesota Standards for the Use of the CMS-1500 Health Insurance Claim Form manual.</td>
</tr>
<tr>
<td>24J ▲ SHADED</td>
<td>Rendering Provider ID</td>
<td>Enter the Other ID.</td>
</tr>
<tr>
<td>24J ▲ UNSHADED</td>
<td>Rendering Provider ID</td>
<td>Enter the ten-digit NPI.</td>
</tr>
<tr>
<td>25 △</td>
<td>Federal tax ID number</td>
<td>Enter your employer identification number (EIN) and place an “X” in the EIN box. If not available, enter your Social Security Number (SSN) and place an “X” in the SSN box. Only one box can be marked.</td>
</tr>
<tr>
<td>26 △</td>
<td>Patient’s account number</td>
<td>Enter the patient’s account number.</td>
</tr>
<tr>
<td>27 ▲</td>
<td>Accept assignment?</td>
<td>For patients with Medicare coverage, place an “X” in the appropriate box.</td>
</tr>
<tr>
<td>28 ▲</td>
<td>Total charge</td>
<td>Enter the sum of the charges in column 24F (lines 1-6). Enter the total charge amount in (Dollars</td>
</tr>
<tr>
<td>29 ▲</td>
<td>Amount paid</td>
<td>Enter payment amount from the patient or other payer. An Explanation of Benefits may be required.</td>
</tr>
<tr>
<td>50 ▲</td>
<td>Balance due</td>
<td>Leave blank.</td>
</tr>
<tr>
<td>31 ▲</td>
<td>Signature of physician or supplier including degrees or credentials</td>
<td>Enter the signature of the physician, provider, supplier or representative with the degree, credentials, or title and the date signed.</td>
</tr>
<tr>
<td>52 ▲</td>
<td>Service facility location information</td>
<td>Enter the name and actual address of the organization of facility where services were rendered if other than box 55 or patient’s home. Enter this information in the following format: Line 1: name of physician or clinic Line 2: address Line 3: city, state, zip code</td>
</tr>
<tr>
<td>52a ▲ UNSHADED</td>
<td>NPI</td>
<td>Enter the ten-digit NPI.</td>
</tr>
<tr>
<td>52b ▲ SHADED</td>
<td>Other ID</td>
<td>Enter the two-character qualifier and Other ID. For a list of valid two-character qualifiers refer to the Minnesota Standards for the Use of the CMS-1500 Health Insurance Claim Form manual.</td>
</tr>
<tr>
<td>53 △</td>
<td>Billing provider info and phone number</td>
<td>Enter this information in the following format: Line 1: name of physician or clinic Line 2: address Line 3: city, state, zip code Name and address is required. Phone number is not required. If providing a phone number it must be entered in the area to the right of the box title. The area code is entered in parenthesis; do not use a hyphen or space as a separator.</td>
</tr>
<tr>
<td>55 ▲ UNSHADED</td>
<td>NPI</td>
<td>Enter the ten-digit NPI.</td>
</tr>
<tr>
<td>53b ▲ SHADED</td>
<td>Other ID</td>
<td>Enter the two-character qualifier and Other ID. For a list of valid two-character qualifiers refer to the Minnesota Standards for the Use of the CMS-1500 Health Insurance Claim Form manual.</td>
</tr>
</tbody>
</table>
# Place-of-Service Codes for Professional Claims

Listed below are place-of-service codes and descriptions. These codes should be used on professional claims to specify the entity where service(s) were rendered. Check with individual payers (e.g., Medicare, Medicaid, other private insurance) for reimbursement policies regarding these codes.

<table>
<thead>
<tr>
<th>Place of Service Codes</th>
<th>Place of Service Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td>School</td>
<td>A facility whose primary purpose is education.</td>
</tr>
<tr>
<td>05</td>
<td>Indian Health Service freestanding facility</td>
<td>A facility or location, owned and operated by the Indian Health Service, that provides diagnostic, therapeutic (surgical and nonsurgical) and rehabilitation services to American Indians and Alaska Natives who do not require hospitalization.</td>
</tr>
<tr>
<td>06</td>
<td>Indian Health Service provider-based facility</td>
<td>A facility or location, owned and operated by the Indian Health Service, that provides diagnostic, therapeutic (surgical and nonsurgical) and rehabilitation services rendered by, or under the supervision of, physicians to American Indians and Alaska Natives admitted as inpatients or outpatients.</td>
</tr>
<tr>
<td>07</td>
<td>Tribal 638 freestanding facility</td>
<td>A facility or location owned and operated by a federally recognized American Indian or Alaska Native tribe or tribal organization under a 638 agreement that provides diagnostic, therapeutic (surgical and nonsurgical) and rehabilitation services to tribal members who do not require hospitalization.</td>
</tr>
<tr>
<td>08</td>
<td>Tribal 638 provider-based facility</td>
<td>A facility or location owned and operated by a federally recognized American Indian or Alaska Native tribe or tribal organization under a 638 agreement that provides diagnostic, therapeutic (surgical and nonsurgical) and rehabilitation services to tribal members admitted as inpatients or outpatients.</td>
</tr>
<tr>
<td>11</td>
<td>Office</td>
<td>Location, other than a hospital, skilled nursing facility, military treatment facility, community health center, state or local public health clinic, or intermediate care facility, where the health professional routinely provides health examinations, diagnosis and treatment of illness or injury on an ambulatory basis.</td>
</tr>
<tr>
<td>15</td>
<td>Mobile Unit</td>
<td>A facility or location that moves from place to place and is equipped to provide preventive, screening, diagnostic and/or treatment services.</td>
</tr>
<tr>
<td>21</td>
<td>Inpatient Hospital</td>
<td>A facility, other than psychiatric, that primarily provides diagnostic, therapeutic (both surgical and nonsurgical), and rehabilitation services by, or under, the supervision of physicians to patients admitted for a variety of medical conditions.</td>
</tr>
<tr>
<td>22</td>
<td>Outpatient Hospital</td>
<td>A portion of a hospital that provides diagnostic, therapeutic (both surgical and nonsurgical) and rehabilitation services to sick or injured persons who do not require hospitalization or institutionalization.</td>
</tr>
<tr>
<td>23</td>
<td>Emergency Room – Hospital</td>
<td>A portion of a hospital where emergency diagnosis and treatment of illness or injury is provided.</td>
</tr>
<tr>
<td>Code</td>
<td>Place of Service Code</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
<td>----------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>24</td>
<td>Ambulatory surgical center</td>
<td>A freestanding facility, other than a physician's office, where surgical and diagnostic services are provided on an ambulatory basis.</td>
</tr>
<tr>
<td>25</td>
<td>Birthing Center</td>
<td>A facility, other than a hospital's maternity facilities or a physician's office, that provides a setting for labor, delivery, and immediate postpartum care as well as immediate care of newborn infants.</td>
</tr>
<tr>
<td>26</td>
<td>Military treatment facility</td>
<td>A medical facility operated by one or more of the uniformed services. Military treatment facility also refers to certain former US Public Health Service facilities now designated as uniformed service treatment facilities.</td>
</tr>
<tr>
<td>31</td>
<td>Skilled Nursing Facility</td>
<td>A facility that primarily provides inpatient skilled nursing care and related services to patients who require medical, nursing, or rehabilitative services but does not provide the level of care or treatment available in a hospital.</td>
</tr>
<tr>
<td>32</td>
<td>Nursing Facility</td>
<td>A facility that primarily provides to residents skilled nursing care and related services for the rehabilitation of injured, disabled or sick persons, or, on a regular basis, health-related care services above the level of custodial care to other than mentally retarded individuals.</td>
</tr>
<tr>
<td>33</td>
<td>Custodial Care Facility</td>
<td>A facility that provides room and board and other personal assistance services, generally on a long-term basis, and does not include a medical component.</td>
</tr>
<tr>
<td>34</td>
<td>Hospice</td>
<td>A facility, other than a patient's home, in which palliative and supportive care for terminally ill patients and their families are provided.</td>
</tr>
<tr>
<td>41</td>
<td>Ambulance – land</td>
<td>A land vehicle specifically designed, equipped, and staffed for lifesaving and transporting the sick or injured.</td>
</tr>
<tr>
<td>42</td>
<td>Ambulance – air or water</td>
<td>An air or water vehicle specifically designed, equipped, and staffed for lifesaving and transporting the sick or injured.</td>
</tr>
<tr>
<td>49</td>
<td>Independent Clinic</td>
<td>A location, not part of a hospital and not described by any other place-of-service code, that is organized and operated to provide preventive, diagnostic, therapeutic, rehabilitative, or palliative services to outpatients only. (effective 10/1/03)</td>
</tr>
<tr>
<td>50</td>
<td>Federally Qualified Health Center</td>
<td>A facility located in a medically underserved area that provides Medicare beneficiaries preventive primary medical care under the general direction of a physician.</td>
</tr>
<tr>
<td>51</td>
<td>Inpatient Psychiatric Facility</td>
<td>A facility that provides inpatient psychiatric services for the diagnosis and treatment of mental illness on a 24-hour basis, by or under the supervision of a physician.</td>
</tr>
<tr>
<td>52</td>
<td>Psychiatric Facility – partial hospitalization</td>
<td>A facility for the diagnosis and treatment of mental illness that provides a planned therapeutic program for patients who do not require full-time hospitalization but who need broader programs than are possible from outpatient visits to a hospital-based or hospital-affiliated facility.</td>
</tr>
<tr>
<td>53</td>
<td>Community Mental Health Center</td>
<td>A facility that provides the following services: outpatient services, including specialized outpatient services for children, the elderly, individuals who are chronically ill, and residents of the community mental health center's mental health service area who have been discharged from inpatient treatment at a mental health facility; 24-hour-a-day emergency care services; day treatment, other partial hospitalization services, or psychosocial rehabilitation services; screening for patients being considered for admission to state mental health facilities to determine the appropriateness of such admission; and consultation and education services.</td>
</tr>
<tr>
<td>Code</td>
<td>Service Description</td>
<td></td>
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</tr>
<tr>
<td>54</td>
<td>Intermediate Care Facility/Mentally Disabled</td>
<td>A facility that primarily provides health-related care and services above the level of custodial care to mentally disabled individuals but does not provide the level of care or treatment available in a hospital or skilled nursing facility.</td>
</tr>
<tr>
<td>55</td>
<td>Residential Substance Abuse Treatment Center</td>
<td>A facility that provides treatment for substance (alcohol and drug) abuse to live-in residents who do not require acute medical care. Services include individual and group therapy and counseling, family counseling, laboratory tests, drugs and supplies, psychological testing, and room and board.</td>
</tr>
<tr>
<td>57</td>
<td>Nonresidential Substance Abuse Treatment Facility</td>
<td>A location that provides treatment for substance (alcohol and drug) abuse on an ambulatory basis. Services include individual and group therapy and counseling, family counseling, laboratory tests, drugs and supplies, and psychological testing.</td>
</tr>
<tr>
<td>61</td>
<td>Comprehensive Inpatient Rehabilitation Facility</td>
<td>A facility that provides comprehensive rehabilitation services under the supervision of a physician to inpatients with physical disabilities. Services include physical therapy, occupational therapy, speech pathology, social or psychological services, and orthotics and prosthetics services.</td>
</tr>
<tr>
<td>62</td>
<td>Comprehensive Outpatient Rehabilitation Facility</td>
<td>A facility that provides comprehensive rehabilitative services under the supervision of a physician to outpatients with physical disabilities. Services include physical therapy, occupational therapy and speech pathology services.</td>
</tr>
<tr>
<td>71</td>
<td>Public Health Clinic</td>
<td>A facility maintained by either state or local departments that provides ambulatory primary medical care under the general direction of a physician.</td>
</tr>
<tr>
<td>72</td>
<td>Rural Health Clinic</td>
<td>A certified facility located in a rural, medically underserved area that provides ambulatory primary medical care under the general direction of a physician.</td>
</tr>
<tr>
<td>99</td>
<td>Other Place of Service</td>
<td>Other place of service not identified above.</td>
</tr>
</tbody>
</table>
# MODIFIERS

When submitting a medical claim, a modifier provides the means by which the reporting dentist can indicate that a service or procedure that has been performed has been altered by some specific circumstance but not changed in its definition or code. The thoughtful application of modifiers avoids the necessity to list separate procedure codes that may describe the modifying circumstance. Modifiers may be used to indicate that:

- A service or procedure has both a professional and technical component.
- A service or procedure was performed by more than one provider and/or in more than one location.
- A service or procedure has been increased or reduced.
- Only part of a service was performed.
- An adjunctive service was performed.
- A bilateral procedure was performed.
- A service or procedure was provided more than once.
- Unusual events occurred.

<table>
<thead>
<tr>
<th>Modifier</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-22</td>
<td>Unusual Procedural Services: When the service(s) provided is greater than that usually required for the listed procedure, it may be identified by adding modifier “-22” to the usual procedure number or by use of the separate five digit modifier code 09922. A report may also be appropriate.</td>
</tr>
<tr>
<td>-25</td>
<td>Significant, separately identifiable evaluation and management service by the same provider on the same day of the procedure or other service.</td>
</tr>
<tr>
<td>-26</td>
<td>Professional Component: Certain procedures are a combination of a physician component and a technical component. When the physician component is reported separately, the service may be identified by adding the modifier “-26” to the usual procedure number or the service may be reported by use of the five digit modifier code 09926.</td>
</tr>
<tr>
<td>-32</td>
<td>Mandated Services: Services related to mandated consultation and/or related services (e.g., PRO, third party pay or) may be identified by adding the modifier “-32” to the basic procedure or the service may be reported by use of the five digit modifier code 09932.</td>
</tr>
<tr>
<td>-47</td>
<td>Anesthesia by Surgeon: Regional or general anesthesia provided by the surgeon may be reported by adding the modifier “-47” to the basic service or by use of the separate five digit modifier code 09947. (This does not include local anesthesia)</td>
</tr>
</tbody>
</table>

Note: Modifier “-47” or 09947 would not be used as a modifier for the anesthesia procedures 00100-01999. |

<table>
<thead>
<tr>
<th>Modifier</th>
<th>Description</th>
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<tbody>
<tr>
<td>-50</td>
<td>Bilateral Procedure: Unless otherwise identified in the listings, bilateral procedures that are performed at the same operative session, should be identified by the appropriate five digit code describing the first procedure. The second (bilateral) procedure is identified either by adding modifier “-50” to the procedure number or by use of the separate five digit modifier code 09950.</td>
</tr>
<tr>
<td>-51</td>
<td>Multiple Procedures: When multiple procedures are performed on the same day or at the same session, the major procedure or service may be reported as listed. The secondary, additional, or lesser procedure(s) or service(s) may be identified by adding the modifier “-51” to the secondary procedure number(s) or by use of the separate five digit modifier code 09951. This modifier may be used to report multiple medical procedures performed at the same session, as well as a combination of medical and surgical procedures, or several surgical procedures performed at the same operative session.</td>
</tr>
<tr>
<td>-52</td>
<td>Reduced Services: Under certain circumstances a service or procedure is partially reduced or eliminated at the physician’s election. Under these circumstances the service provided can be identified by its usual procedure number and the addition of the modifier “-52”, signifying that the service is reduced. This provides a means of reporting reduced services without disturbing the identification of the basic service. Modifier code 09952 may be used as an alternative to modifier “-52”.</td>
</tr>
<tr>
<td>-54</td>
<td>Surgical Care Only: When one physician performs a surgical procedure and another provides preoperative and/or postoperative management, surgical services may be identified by adding the modifier “-54” to the usual procedure number or by use of the separate five digit modifier code 09954.</td>
</tr>
<tr>
<td>-55</td>
<td>Postoperative Management Only: When one physician performs the postoperative management and another physician has performed the surgical procedure, the postoperative component may be identified by adding the modifier “-55” to the usual procedure number or by use of the separate five digit modifier code 09955.</td>
</tr>
<tr>
<td>-56</td>
<td>Preoperative Management Only: When one physician performs the preoperative care and evaluation...</td>
</tr>
</tbody>
</table>
and another physician performs the surgical procedure, the preoperative component may be identified by adding the modifier "-56" to the usual procedure number or by use of the separate five digit modifier code 09956.

-62 Two surgeons: Under certain circumstances the skills of two surgeons (usually with two different skills) may be required in the management of a specific surgical procedure. Under such circumstances the separate services may be identified by adding the modifier "-62" to the procedure number used by each surgeon for reporting services.

-66 Surgical Team: Under some circumstances, highly complex procedures (requiring the concomitant services of several physicians, often of different specialties, plus other highly skilled, specially trained personnel and various types of complex equipment) are carried out under the "surgical team" concept. Such circumstances may be identified by each participation physician with the addition of the modifier "-66" to the basic procedure number used for reporting services. Modifier code 09966 may be used as an alternative to modifier "-66".

-76 Repeat Procedure by Same Physician: The physician may need to indicate that a procedure or service was repeated subsequent to the original service. This circumstance may be reported by adding the modifier "-76" to the repeated service or the separate five digit modifier code 09976 may be used.

-77 Repeat Procedure By Another Physician: The physician may need to indicate that a basic procedure performed by another physician had to be repeated. This situation may be reported by adding modifier "-77" to repeated service or the separate five digit modifier code 09977 may be used.

-78 Return to the Operating Room for a Related Procedure During the Postoperative Period: The physician may need to indicate that another procedure was performed during the postoperative period of the initial procedure. When this subsequent procedure is related to the first, and requires the use of the operating room, it may be reported by adding the modifier "-78" to the related procedure, or by using the separate five digit modifier 09978. (For repeat procedures on the same day, see "-76").

-79 Unrelated Procedure or Service by the Same Physician During the Postoperative Period: The physician may need to indicate that the performance of a procedure or service during the postoperative period was unrelated to the original procedure. This circumstance may be reported by using the modifier "-79" or by using the separate five digit modifier 09979. (For repeat procedures on the same day, see "-79").

-80 Assistant Surgeon: Surgical assistant services may be identified by adding the modifier "-80" to the usual procedure number(s) or by use of the separate five digit modifier code 09980.

-81 Minimum Assistant Surgeon: Minimum surgical assistant services are identified by adding the modifier "-81" to the usual procedure number or by use of the separate five digit modifier code 00981.

-82 Assistant Surgeon (when qualified resident surgeon not available): The unavailability of a qualified resident is a prerequisite for this modifier or by use of the separate 5-digit code 00982.

-90 Reference Laboratory (outside lab): When laboratory procedures are performed by a party other than the treating or reporting doctor or by use of the separate 5-digit code 09990.

-99 Multiple Modifiers: Indicates circumstances when two or more modifiers are needed to delineate the service completely or by use of the separate 5-digit code 09999.
TIPS FOR DEVELOPING AN EFFECTIVE APPEAL LETTER FOR DENIED DENTAL CLAIMS

The first step in appealing a denied claim is to review the insurance carrier’s explanation of benefits (EOB) to determine the reason for denial. Compare that to the limitations and conditions in the contract you signed with either the organization that has contracted with the employee for delivery of care and/or the vendor (3rd party payer) they have selected. Many denials are the result of the pediatric dentist submitting incomplete or incorrect claims. You should be aware that insurance carriers’ systems are programmed to verify basic submission data. Carriers’ systems may automatically reject claims that are incomplete, for example, claims in which the patient’s or the provider’s identification number does not match the number in the carrier’s database or claims in which the procedure codes submitted are no longer valid (not using the current CDT-2016 terminology).

The opening paragraph of your appeal letter should clearly request a review of the insurance carrier’s initial claim determination, mentioning the specific service rendered, the child’s name, the name of the person holding the contract (i.e., the responsible party) and restating the carrier’s initial reason for the denial. You have the right to request a review by a qualified pediatric dentist, citing that any other health care professional who provides an opinion or dictates a patient’s course of treatment may be liable for acting beyond the scope of practice or licensure.

The body of your appeal letter should concentrate on the reasons why you believe the services rendered should be covered. It is to your benefit as well as the patient’s to be as detailed as possible. Be sure to mention the patient’s chief complaint, as well as emphasize your personal findings, results from clinical evaluation quantifying or defining the patient’s functional impairment or existing pathology. You should also call attention to any pain and discomfort the patient may be experiencing as well as any difficulty chewing, speaking and breathing associated with the condition. It is also beneficial to mention treatment options that have been tried and which, if any, have failed to alleviate the patient’s symptoms, necessitating additional treatment.

Depending upon the nature of the denial, you may want to quote from the guidelines found in the AAPD Reference Manual. The documentation that you submit with your letter of appeal should support what you have reported in the body of your appeal letter. Be sure to include as appropriate, diagnostically valid radiographs, photographs and models.

The concluding paragraph of your appeal letter should thank the carrier for its consideration and offer to provide additional information to assist the re-evaluation of the claim. A copy of all correspondence to the carrier regarding denials should be sent to both the patient and the employer via the Human Resources Manager. The “cc” in your letter will make the carrier realize that you are keeping the patient and employer informed of the dispute.

Once your appeal letter is formed, documentation gathered and the name of the plan’s contact person, the pediatric dental consultant or insurance dental director obtained, you are ready to send your appeal. It is recommended that the appeal be sent via certified mail, return receipt. The return receipt may be useful in the event the insurance carrier does not acknowledge the appeal.

Finally, do not despair if it appears that multiple appeals are required to reverse a carrier’s denial. Even when a procedure has been appropriately performed and documented, persistence may be necessary. If all levels of the carrier’s appeal process have been exhausted and the carrier maintains its original position, you and/or your patient may file for an external appeal.
review (over 40 states have external review laws), as well as file a complaint with your state’s insurance commissioner or seek legal action.

Unfortunately, if the patient’s benefit plan is an Employee Retirement Income Security Act (ERISA) or self-insured plan, the benefits for these types of plans are determined individually by the employer and can have exclusion statements for specific services, e.g., general anesthesia for medically adjunctive care. Since ERISA plans are exempt from mandated state benefits, the method for appealing these claims is very limited. The patient and your office should direct appeals to the employers’ benefits director and solicit the company’s involvement. Employers are more responsive to their employee’s reaction to a denial of coverage. When applicable, encourage the patient to solicit assistance from union officials or stewards and the local department of labor office which oversees ERISA plans.

You may wish to consider maintaining a master appeal follow-up log that identifies each claim submitted and contains rationale for the partially paid, delayed or denied claim initially received from each insurance carrier, including the outcome of your appeal efforts. Tracking such information may reduce future claim denials and may be used to improve your internal claims management process.

Additional assistance is available from the Committee on Dental Benefit Programs (CDBP). Please contact Dental Benefits Manager and CDBP Staff Liaison Mary Essling at messling@aapd.org.

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COORDINATION OF BENEFITS

The AAPD receives general information calls regarding coordination of benefits (COB). Dentists and staff are often not aware of the coordination of benefit rules which affect the patient's benefits. Apparent inconsistencies in the way different carriers coordinate benefits can be confusing. As with all plan information, the AAPD believes that applicable COB provisions should be clearly defined and described in employee benefit booklets and available on carrier websites.

COB is governed by state insurance law when the medical or dental plan is a regulated carrier. While state insurance law can vary from state to state, most states follow a model adopted by the National Association of Insurance Commissioners.

With the growth of employer-sponsored medical and dental plans and collectively bargained plans that operate under federal law ERISA of 1974 plans, the variability in COB clauses has expanded. A provision called non-duplication has also been added to some ERISA and other plans.

DEFINITION OF A PRIMARY CARRIER

• The plan covering the patient, other than as a dependent, is the primary plan.

• When both plans cover the patient as a dependent child, the plan of the parent whose birthday occurs first in a calendar year should be considered as primary.

• When a determination cannot be made in accordance with the above, the plan that has covered the patient for the longer time should be considered as primary.

• When one of the plans is a medical plan and the other is a dental plan, and a determination cannot be made in accordance with the above, the medical plan should be considered as primary.

• When carriers are licensed by the state, like most dental carriers, state COB regulations provide guidelines by which the primary carrier and secondary carrier(s) are determined. See http://nadp.org for more details.

NADP DERIVED CHART ON NAIC MODEL FOR COORDINATING BENEFITS UNDER MULTIPLE POLICIES

Notes

This rule is referred to as the birthday rule. It is also applied to parents with joint custody if no court order assigns responsibility for healthcare expenses to a particular party. Some states use the “gender rule” rather than the birthday rule. This makes the father's coverage primary. When there is a disagreement between carriers as to which rule applies, the gender rule is often used. Birthday refers only to the month and day in a calendar year, not the year in which the person was born.

The patient with coverage under two or more group dental plans should have them coordinated so that they receive the maximum allowable benefit from each plan. The total benefit should be more than that offered by any of the plans individually, but the patient shouldn’t receive more than the total charges for the dental services received.

How do you coordinate between a capitated plan (dental health maintenance organization) and a dental preferred provider organization plan when contracted with both?

When the reduced-fee plan (DPPO) is primary and treatment is provided by a participating dentist, the reduced fee is that dentist's full fee unless the dentist has contractually made another arrangement. The secondary plan should pay the lesser of its allowed benefit or the difference between the primary plan’s benefit and the reduced fee.

If you are only contracted with the primary payer, not the secondary payer, should you bill your contracted amount to the secondary payer or your full fee?

Dental offices should submit their usual fee, defined as “the fee which an individual dentist most frequently charges for a specific dental procedure,” to a dental benefit plan. The benefit plan will adjudicate the claim based on its allowed fee schedules.
When contracted with secondary payer only, can you bill the patient over the contracted amount when the primary has considered the entire amount? If the dentist is not contracted with the primary payer, doesn’t he or she have a right to the full fee?

When a full-fee plan is primary and a reduced-fee plan is secondary, the full-fee plan should provide its allowed amount for the service and the secondary plan should pay the lesser of: its allowed benefit for the service or the difference between the primary plan’s benefit and the allowable charge of the secondary plan.

NADP Viewpoint: The charge to the patient is governed by contract law. When a DPPO is secondary, there is a binding legal agreement that the allowable charges are the limits of the patient’s responsibility. In this instance, the maximum amount that can be charged to the patient are the DPPO deductible and co-payments, if applicable. If the secondary carrier is state licensed, then COB applies and that carrier would be responsible for paying up to its maximum allowable benefit which may cover the co-payments that are the responsibility of the patient.

The secondary plan did not pay anything, due to non-duplication of benefits. What is non-duplication of benefits? If an employee is paying insurance premiums for two plans, why is it possible that there may not be benefits available from the secondary payer (after all, the secondary payer has accepted the premiums paid)?

Non-duplication of benefits is a term used to describe one of the ways the secondary group carrier may calculate its portion of the payment when that carrier is an “employer-sponsored” or collectively bargained plan. Employer-sponsored and collectively bargained plans operate under federal law not state COB law.

Where non-duplication provisions exist, the secondary carrier calculates what it would have paid if it were the primary plan and subtracts what the other plan paid. For example, if the primary carrier paid 80 percent, and the secondary carrier normally covers 80 percent as well, the secondary carrier would not make any additional payment. If the primary carrier paid 50 percent, the secondary carrier would pay up to 30 percent to meet the 80 percent coverage.

According to NADP, non-duplication of benefit provisions are contrary to state insurance law regulating state-licensed carriers.

State COB laws provide that when an insurance company accepts premiums from an employer and it is the secondary carrier, it should coordinate benefits with the primary carrier and pay its appropriate amount as follows: (1) The coverage from those plans should be coordinated so that the patient receives the maximum allowable benefit from each plan; (2) The aggregate benefit should be more than that offered by any of the plans individually, but not such that the patient receives more that the total charges for the dental services received.

If an indemnity plan is primary and a capitated plan (DHMO) is secondary and the capitated plan says that the patient is only responsible for the DHMO co-pay amount, but the primary indemnity plan states the patient responsibility is the full amount owed, what is the patient responsibility?

When the indemnity plan is primary, and treatment is received from a capitation-participating dentist, the indemnity plan should pay its allowable benefit.

NADP Viewpoint: The charge to the patient is governed by contract law. Even where the DHMO is secondary, there is a binding legal agreement that the allowable charges are the capitation amount for a general dentist or the discounted fee of a specialist. In this instance, the maximum amount that can be charged to the patient are the DHMO co-payments. If the secondary carrier is state licensed, then that carrier would be responsible for paying up to its maximum allowable benefit which may cover the co-payments made by the patient.

The secondary carrier paid too much because there is no COB clause in the patient’s plan. Who gets the overpaid amount?

The secondary carrier should receive back the amount it overpaid.

If the dentist is contracted with the primary plan only and the procedure is not a covered benefit (denied) does the dentist bill the secondary payer the full fee or the contracted fee?

The dentist should bill the carrier his/her usual fee and the carrier will determine the allowed amount based on any applicable agreement.

If the dentist is contracted with primary and secondary (both DPPOs) and the allowed amounts are different, what is the write-off amount and what amount should the patient be billed?

When the reduced-fee plan is primary and treatment is provided by a participating dentist, the reduced fee is that dentist’s full fee unless the dentist has made other contractual arrangements. The secondary plan should pay the lesser of its allowed benefit or the difference between the primary plan’s benefit and the reduced fee.

The National Association of Dental Plans (NADP) granted AAPD permission to re-print its COB guidelines and recommendations.

The charge to the patient is governed by contract law. Even where the DHMO is secondary, there is a binding legal agreement that the allowable charges are the capitation amount for a general dentist or the discounted fee of a specialist. In this instance, the maximum amount that can be charged to the patient are the DHMO co-payments. If the secondary carrier is state licensed, then that carrier would be responsible for paying up to its maximum allowable benefit which may cover the co-payments made by the patient.
**FREQUENTLY ASKED QUESTIONS**

*When excavating decay on a tooth that is not restorable, what code do you use?*

The code you use depends on what you do once you determine the tooth is unrestorable. According to the American Association of Endodontists (AAE), if you remove the pulp and place a temporary restoration to keep the patient comfortable until such time that the tooth can be extracted, either in your office, by the patient’s regular dentist, or by an oral surgeon, you can use the following code D3332 incomplete endodontic therapy; inoperable or fractured tooth.

Considerable time is necessary to determine diagnosis and/or provide initial treatment before the fracture makes the tooth unretainable.

This code was revised in CDT-2005 to clarify that it may be used when a root canal cannot be completed because the tooth is unrestorable. You can also bill for a limited oral evaluation – problem focused (D0140) and a periapical, if taken (D0220). Keep in mind that some dental plans limit patients to two evaluations per plan year, regardless of the type of evaluation performed. Many plans, however, do allow additional benefits for evaluations performed by specialists, so be sure to indicate your specialty if applicable.

If considerable time is spent excavating extensive decay only to end up extracting the tooth at the same appointment, you can either bill D2999, unspecified restorative procedure, by report for the time excavating the decay or increase your extraction fee to compensate for the additional time involved. While D2999 is not likely to be covered by the patient’s dental plan, contracted providers may be allowed to charge the patient for the extra time spent due to the extenuating circumstance.

*What code can I use when doing a root canal on a primary molar?*

If you are performing a root canal on a retained primary molar with no permanent successor tooth and filling the canals with gutta percha, you can report D3330 endodontic therapy, molar (excluding final restoration).

If there is a permanent successor and you are doing root canal therapy and placing a resorbable material in the canal(s), report D3240 pulpal therapy (resorbable filling) – posterior, primary tooth (excluding final restoration).

*If patients request copies of their dental records, are they required to pay for them?*

The Privacy Rule permits the covered entity to charge reasonable, cost-based fees for copying records. The fee may only include the cost of copying (including supplies and labor) and postage, if the patient requests the copy be mailed. If the patient has agreed to receive a summary or explanation of his/her protected health information, the covered entity may charge a fee for preparation of the summary of explanation, typically that of an office visit. According to the guidance published by the Office of Civil Rights, the fee may not include costs associated with searching for and retrieving the requested information. Individual state laws often specify the maximum fee that providers can charge for copying records.

*If a patient has insurance through two jobs, which plan is primary?*

Occasionally you will have a patient with a parent who has two dental plans because he/she is working two jobs. Some are working two full-time jobs and others are working a full-time job and a part-time job (over 20 hours). Since the patient is the employee/subscriber on both plans, how do you know which plan is primary?

The plan that has been in effect the longest is typically primary. Even if there has been a break in employment, the original effective date is still considered in determining primacy.

*The dentist performed a frenectomy on a child that was diagnosed with ankyloglossia. What code should we use?*

Ankyloglossia is more commonly referred to as tongue tied, a condition when the lingual frenum is short and attached to the tongue, making speech difficult.

Use code D7960 frenulectomy (frenectomy or frenotomy) – separate procedure

*What code do we use when reducing mesial and distal surfaces of primary teeth for space management?*

D9971: Odontoplasty

Odontoplasty: Adjustment of tooth length, size, and/or shape; includes removal of enamel projections. (CDT 2007)
Is the patient’s dental plan fully-insured or self-insured?

Over the past twenty years, the dental industry has experienced a significant shift from fully-insured dental plans to self-insured dental plans. This shift is significant because it impacts how quickly dental claims are paid, whose processing policies are used to process claims, who has the authority to override a denial, and where complaints should be directed. That being said, you may be wondering just what the difference is between a fully-insured dental plan and a self-insured dental plan.

A fully-insured dental plan is the traditional indemnity insurance plan that comes to mind when one thinks of insurance. With fully-insured dental plans, the carrier accepts the financial risk of paying dental claims in exchange for a predetermined premium paid by the employer and/or employee. The carrier typically offers several “stock” plan designs to the purchaser. The employer/employee can usually choose to purchase a plan with a $1,000, $1,500, or $2,000 maximum and a $25, $50, $75, or $100 deductible. The purchaser also often has the option to purchase an orthodontic rider, TMJ rider, night guard rider, and/or implant rider. The more services that are covered, the higher the premium. Because fully-insured dental plans are true insurance products, they are typically regulated by the insurance laws of the state(s) where they are sold and licensed. As such, fully-insured dental plans are also subject to that state’s prompt payment laws and refund laws. If a properly completed claim has not been paid within the timeframe established by state law, the patient can file a complaint with that state’s Department of Insurance and the dental plan may be required to pay a penalty for the late payment.

With self-insured plans, however, the employer pays claims using its own pool of money. The employer typically hires a company (such as Aetna, MetLife, Guardian, Delta, Blue Cross, etc.) to provide administrative services only (ASO). The administrator is paid a small percentage of each claim it processes according to the terms of the employer’s dental plan. The employer determines which dental services will be covered and which will be excluded, what percentile of UCR will be paid, how coordination of benefits will be handled, etc. If the administrator processes the claim but the employer has not adequately funded its dental plan, there may be a delay between the time the claim is processed and when the dental office actually receives the check. If you call to inquire about the delay, the carrier will probably not tell you that the employer hasn’t adequately funded its dental plan because the carrier does not want to negatively portray its customer. As a result, you may be frustrated with the carrier, not realizing that the employer is actually the problem. Because self-insured dental plans are not true insurance products, they are not regulated by state insurance laws. Rather, most self-insured dental plans are regulated by the U.S. Department of Labor under ERISA (the Employee Retirement Income Security Act of 1974).

Why is this important to determine?

If you are having problems with a claim, it is important to know whether you are dealing with a fully-insured dental plan that is regulated by state insurance laws or a self-insured ASO plan that is governed by ERISA. It does no good to call the Department of Insurance to complain about a delayed payment if you are dealing with a self-insured dental plan that is regulated by ERISA. While your state insurance laws may have a prompt payment provision requiring properly completed claims to be paid within 15, 30, or 45 days, ERISA does not set a specific time limit for payment of dental benefits. ERISA only requires self-insured dental plans to provide an initial response to a written claim within a reasonable period of time, which the Department of Labor considers to be 90 days. This explains why some dental plans are reliably prompt with payment while others are notoriously late.

How can we tell if a dental plan is regulated by ERISA?

ERISA often governs dental plans provided by large private employers, unions, and trusts. If the patient’s dental card indicates that the plan is “administered by” Aetna, Guardian, MetLife, etc., then you are likely dealing with a self-insured plan. Similarly, if the company where claims are sent has “administrator,” “management,” or “TPA” in the name, you are likely dealing with a self-insured plan. Many carriers estimate that 70-80 percent of the plans they process are governed by ERISA rather than state insurance laws.

How should our office handle a delayed claim if a plan is regulated by ERISA?

If a self-insured plan has not paid a claim in a timely manner, it is best to have the patient contact his/her Employee Benefits Manager to inquire about the delay. If the dental plan is not adequately funded, the Employee Benefits Manager will know who needs to rectify the problem. Likewise, if the patient is frustrated that certain dental services have not been paid, have him/her take the concern to the Employee Benefits Manager since it is the employer that determines the coverage available under the plan. If enough employees complain that posterior composites, implants, night guards, locally administered antimicrobials, and/or TMJ orthotics are not covered, the employer may decide to add these benefits in the future. Many patients do not understand that their employer typically determines which dental services are covered and which are excluded. By encouraging patients to take their concerns to their Employee Benefits Manager, patients will begin to understand that necessary services are not always covered because dental plans are designed to only assist patients with certain dental services; not all dental services.
**How should our office handle a refund request if the plan is regulated by ERISA?**

According to the U.S. Department of Labor, there are no set guidelines for when a dental plan can require a refund, and a dispute would need to be settled through the court system. This means that a self-insured dental plan would need to take a provider to court to obtain payment if there is no contractual relationship between the provider and the carrier. As long as a non-contracted dentist has not received more than he/she charged for the services rendered, he/she has the right to appeal a refund request and ask the carrier to pursue the refund from the patient or provide a copy of the law that obligates the dentist to refund the money.

**Is Medical Coding Appropriate?**

The AAPD receives calls regarding medical claims filing on a daily basis. Most medical coding questions fall into one of two classifications: how to file an accident related claim and common information about how to file a claim.

**What claim form is used to file a medical claim? Where can I find it?**

The current medical claim form is the Healthcare Finance Administration CMS 1500 (02-12). These forms are available at many office supply stores. However, you may be able to generate a medical claim form through your dental practice management software. Complete instructions on how to complete this form can be found at www.nucc.org or in the 2015 AAPD Coding and Insurance Manual.

**Can I report dental codes on a medical claim form?**

Some medical plans will allow dental codes to be submitted on a medical claim form. This is typically limited to procedures without a clear corresponding medical code. For example, there is currently no medical code to report a restoration, so the medical payer may allow a dental code to be reported.

Medical procedures are described by either Current Procedural Terminology (CPT) or Healthcare Common Procedure Coding System (HCPCS) codes. A CPT or HCPCS code is always required if there is one available to clearly describe the procedure performed. Note that some medical payers do not allow dental codes to be submitted at all. In that case, an unlisted or nonspecific CPT or HCPCS code should be assigned.

**I understand I need a diagnosis code. What is that and how do I find it?**

ICD-9-CM is the medical diagnosis code. The implementation of ICD-10-CM, is scheduled for Oct. 1, 2015.

All claims submitted on a medical claim form require at least one diagnosis code. This is true whether you are submitting a dental procedure code (CDT) or a medical procedure code (CPT). The procedure code tells what procedure was performed and the diagnosis code completes the claim by telling why that procedure is necessary. Medical practices have been required to link diagnosis and procedure codes for many years, but it is still a new process for most dental practices.

Diagnosis codes can be found through online sources. There are many publications that list the entire ICD-10-CM code set. Refer to http://www.aapd.org/resources/dental_coding/ for AAPD listings.

**Accident Related Claims (Trauma)**

**Does medical insurance cover a procedure for a broken tooth?**

Most medical insurance plans provide coverage for traumatic (accident related) damage to teeth. This includes fillings, root canals, crowns, extractions, bridges, and sometimes implants. Interdental wiring to stabilize an avulsed or loosened tooth is typically covered by the patient’s medical plan as well.

**My patient broke a tooth while biting into a piece of hard candy, and she wants the claim filed to her medical insurance. Will this be reimbursed?**

Processing policies of major insurance payers, including BlueCross/BlueShield and Aetna, state that dental services may be considered medically necessary for the reconstruction of natural, sound teeth following accidental, external trauma. This would include sports accidents, falls, automobile accidents, blows to the mouth, and other incidents resulting in damage to the mouth, teeth and gums.

Teeth fractured by biting or eating do not meet the criteria listed above, and restorations on those teeth are not typically reimbursed by medical insurance. Sometimes, if the patient is adamant, it is best to file the medical claim anyway. This can go a long way in creating goodwill with the patient. Even if the claim is denied, some patients may choose to submit an appeal to the medical plan.

**Our patient fell while running alongside the pool and slipped, hit his mouth on the edge of the pool and fractured an anterior crown. Will this be covered?**

As previously noted, medical carriers will consider benefits for restorations to natural, sound teeth. If a tooth restoration is damaged, whether it is a crown, bridge, denture, or filling, it will generally not be considered for reimbursement. Again, it may be best to file the claim if the patient requests.
The procedures we performed are not covered by medical codes. What procedure codes can I use?

Remember, some medical payers recognize dental codes. Ask a representative from the patient’s medical plan if it allows the reporting of dental codes on the claim form. If not, all procedures (e.g., extractions, root canals, crowns, etc.) should be filed using the unlisted code 41899 (unlisted procedure on a dentoalveolar structure). Because this is a non-specific code, include a brief description on the claim form and attach a narrative.

Is there a diagnosis code to report a injured tooth?

Yes, a diagnosis code may be assigned to describe a injured tooth. Some commonly used diagnosis codes include the following:

- 873.62 Open wound of gum (alveolar process) uncomplicated
- 873.63 Tooth (broken) (fractured) (due to trauma) without mention of complication
- 521.81 Cracked tooth
- 525.63 Fractured dental restorative material without loss of material
- 525.64 Fractured dental restorative material with loss of material

An external cause code, or “E” code, is often assigned as a secondary code to describe an accident. A couple of examples are:

- E886.0 Accidental fall on same level from collision pushing or shoving by or with other person in sports
- E888.1 Accidental fall resulting in striking against other object

Our practice is not in-network with any medical plans. Will we receive reimbursement for our claims?

When possible, always contact the patient’s medical plan prior to treatment to determine if benefits are available. Some medical plans waive deductibles (including out-of-network deductibles), copays, and coinsurance for accident related treatment. This does not apply to all plans and the patient may need to file a request and/or appeal to the payer for this benefit, especially if the service was provided out-of-network. Pathology (Biopsies and Excision of Lesions)

I filed a claim for a biopsy to my patient’s dental insurance, but it was denied stating it should be filed to medical. Will medical insurance cover this?

All medical plans, including Medicare, provide coverage for the removal of suspicious lesions. A biopsy is probably the most common medically necessary procedure performed in dental practices.

What procedure code(s) do I use to report a biopsy?

Biopsies and the removal of lesions are filed to medical plans using CPT codes. The correct procedure code is determined by the lesion’s location. Some of the more commonly used procedure codes for biopsies and excisions are:

- 40808 Biopsy, vestibule of mouth
- 40810 Excision of lesion of mucosa and submucosa, vestibule of mouth, without repair
- 40812 Excision of lesion of mucosa and submucosa, vestibule of mouth, with simple repair
- 40814 Excision of lesion of mucosa and submucosa, vestibule of mouth, with complex repair
- 41100 Biopsy of tongue, anterior two-thirds
- 41105 Biopsy of tongue, posterior one-third

How do I find the correct diagnosis code to report?

Typically, a biopsy is submitted to a pathology laboratory for examination. Do not submit a claim until the pathologist’s report is received. The report will indicate whether the lesion is benign or malignant and will include the diagnosis. Often, the report will actually list the appropriate diagnosis code; that code can then be entered on the medical claim form. Always include a copy of the pathologist’s report with the medical claim submission.

What if no specimen was sent for pathology examination?

Occasionally, an obviously benign lesion is removed in its entirety and no pathology report is available. In this situation, report the procedure with the appropriate benign lesion code. The diagnosis code must be selected to describe the nature of the lesion. For example, an excision of a mucocele with a simple repair would be assigned the procedure code 40812 (excision of lesion of mucosa and submucosa, vestibule of mouth, with simple repair) and the diagnosis code 527.6 (mucocele of salivary gland).

When and what medical CPT procedure codes and Diagnostic codes should I report when performing a frenectomy on an infant?

Ankyloglossia, or tongue-tie, exists when the inferior lingual frenulum attaches to the bottom of the tongue and restricts its movement. This condition can impair the normal mobility of the tongue and interfere with speech or newborn feeding.

If the tongue can touch the anterior dentition, mobility is adequate for the development of normal speech. However, in situations where the inferior lingual frenulum significantly impedes tongue excursion, a frenulectomy (frenectomy) might be performed in order to free the tongue.

CPT Codes / HCPCS Codes / ICD-9 Codes:

CPT codes covered if selection criteria are met:

- 41010 Incision of lingual frenum (frenotomy)
- 41115 Excision of lingual frenum (frenectomy)

ICD-9 code covered if selection criteria are met:

- 750.0 Tongue tie
- 315.39 Other developmental speech or language disorder
- 779.31 Feeding problems in newborn
VIGNETTES

D0190 screening of a patient

Vicky, a licensed dental hygienist, acting under the general supervision of Dr. Swift, conducts oral health screenings at a local WIC center. When she notices several suspicious areas that might indicate Early Childhood Caries in Sara, 20 months of age, she makes the recommendation that Sara should be seen by a dentist for diagnosis.

D0191 assessment of a patient

California law requires that a child entering public school for the first time in either kindergarten or first grade obtain an oral health assessment by a dental health professional acting within the scope of his or her license. For children without a dental home, Dr. Goodheart provides these assessments in his office without charge to the patient. Ralph, who is eager to enter kindergarten, is meeting Dr. Goodheart today for this reason. Dr. Goodheart concludes his limited clinical inspection of Ralph and completes the state’s Oral Health Assessment Form, noting that visible dental decay is present and early dental care is recommended.

D0601 caries risk assessment and documentation, with a finding of low risk

Gloria, eight years of age, has recently transferred to Dr. Wells’ office and is being seen for the first time. As part of a new patient encounter, Dr. Wells performs a caries-risk assessment using the AAPD Caries-risk Assessment Form for > 6 Year Olds. After the collection of intake information and recording of clinical findings, Dr. Wells determines that the preponderance of factors indicate Gloria is at low risk for dental caries. This is recorded on the form, which becomes part of her patient record.

D0602 caries risk assessment and documentation, with a finding of moderate risk

Gloria’s brother Edgar, three years of age, is also seen that day. The information from Edgar’s intake survey with his parents and the findings of his clinical examination, all of which are recorded on the AAPD Caries-risk Assessment Form for 0-5 Year Olds, indicate a moderate caries risk because of Edgar’s special health care needs. Based on this assessment, Dr. Wells recommends more intensive fluoride interventions than he suggested for Gloria.

D0603 caries risk assessment and documentation, with a finding of high risk

Dr. Wells’ third patient of the morning, Frankie, 24 months of age, is being seen by a dentist for the first time. The caries associated intake information from his parents is noted on the AAPD Caries-risk Assessment Form for 0-5 Year Olds, as are the clinical findings. Dr. Wells notes that Frankie’s mother has active caries, there is high snacking frequency, and active white spot lesions of enamel are present. Dr. Wells concludes, and records on the form, that Frankie is at high risk of dental caries and designs a caries management protocol appropriate to Frankie’s age and parental engagement.

D2990 resin infiltration of incipient smooth surface lesions

Philip has completed orthodontic care and, in spite of the efforts of the dental team and his parents to encourage effective oral hygiene, use of a fluoride rinse, and avoidance of a highly cariogenic diet, he exhibits enamel demineralization, white spot lesions, and dark stains on the labial surfaces of the maxillary incisors which are extremely unsightly. To remove these lesions and restore enamel integrity, his orthodontist uses a resin infiltration product (Icon® from DMG America) and technique as an alternative to microabrasion or dental restorations.

D2990 resin infiltration of incipient smooth surface lesions

Sara is seven years old. Six months ago you detected on interproximal radiographs areas suggestive of enamel demineralization on several primary molars without indication of the formation of cavitated lesions. On Sara’s recare visit today, you see increasing indication of enamel porosity just broaching the dentoenamel junction. Both Sara and her mother want to know if there is anything you can do about these lesions without “drilling and filling.” You offer them an alternative treatment approach using a caries infiltrant (Icon® from DMG America) that arrests the caries progress without removal of tooth structure.

D2929 prefabricated porcelain / ceramic crown – primary tooth

Caries progression necessitates a therapeutic pulpotomy for tooth #S. You explain to Katrina’s mother that a full coverage restoration will be necessary to ensure the integrity of the tooth following the pulpotomy. That is fine with Mrs. Hodges, “as long as it’s a tooth colored crown.” After consideration of the esthetic full coverage restorations offered for primary molars, and the advantages and disadvantages of each, you obtain her informed consent to place one of commercially-available prefabricated ceramic (zirconia) crowns.

D0145 oral evaluation for a patient under three years of age and counseling with primary caregiver

Justin, 12 months of age, is referred to your office by his pediatrician for his initial dental visit. After reviewing his health and family history, you complete an
oral examination, which reveals no hard or soft tissue pathology. From your interview with his parents, you assess his dietary habits, home oral health care procedures and fluoride exposure, after which you provide oral hygiene instruction and demonstration, nutritional recommendations, and age-appropriate anticipatory guidance. Based on your assessment of caries risk, you recommend follow-up (recall) visit in six months.

D1206 topical application of fluoride varnish

As part of the caries management protocol for Frankie, 24 months of age, Dr. Wells provides a 5% sodium fluoride varnish application. The code for this procedure may correctly coded as either.

D1208 topical application of fluoride – excluding varnish

Fran, 12 years of age, is seeing Dr. Wells for a routine preventive care visit. Fran recently completed orthodontic care and is wearing a daytime retainer. Because a fluoride varnish would create a sticky surface on the retainer that would be hard to remove, Dr. Wells elects to provide an acidulated phosphate fluoride gel application by tray delivery. Dr. Wells advises his staff that this procedure must be coded D1208.

D1555 removal of a fixed space maintainer

Jenna, age 10, has recently moved to your community and presents for routine oral examination and preventive care. You discover a band-and-loop fixed space maintainer placed on tooth #1 at five years of age by her previous dentist. Tooth #28 is now partially-erupted and, after consultation with parents, you remove the no longer needed appliance. Although appropriate to this scenario, the code cannot be used when an appliance is removed by the same provider who placed the appliance or by another provider in the same practice. When this is the case, removal of the appliance is considered part of the appliance fee.

D2140 amalgam – one surface, primary or permanent

Tooth #K exhibits dentinal caries in a buccal pit and on the occlusal surface which are not contiguous. You place two separate amalgam restorations to restore this tooth. You use this code to report each of the two one-surface restorations.

The dentist and patient should be aware, in a case like this, that the insurance carrier may process the two procedures as a single two-surface restoration (something commonly called “bundling” of the claim). If this is permitted by contract between the provider and carrier, the provider would be prohibited from collecting the difference from the patient. If, however, it is a only a processing provision of an insurance policy to which the dentist is not a party, the patient may be billed for the balance between the two charged fees and the amount paid by the plan.

D2390 resin-based composite crown, anterior edge or cusp.

After Lilly presented with early childhood caries involving gross carious involvement of the crowns of the maxillary primary incisors, Dr. Gordon performed multiple therapeutic pupotomies and restored the teeth with full-coverage direct resin restorations using a “strip form” technique. His staff is surprised when Lilly’s dental benefit carrier denies payment for procedure D2930, claiming Dr. Gordon has performed procedure D2335 (resin based composite – four or more surfaces or involving the incisal angle) because he removed the celluloid crown form. Dr. Gordon investigates the matter and determines that a crown is, by definition, a dental restoration which completely caps or encircles a tooth. A full coverage composite resin restoration constructed with a strip form technique meets this definition. A resin-based composite restoration of four or more surfaces or involving the incisal angle is an intracoronal restoration – that is, involving four or more surfaces but not completely encapsulating the tooth. Dr. Gordon successfully appeals the decision.

D2921 reattachment of tooth fragment, incisal edge or cusp.

Harold wasn’t wearing an athletic mouthguard when he was shoved to the wooden floor during basketball practice and fractured the crown of his maxillary right central incisor. He retrieves the broken tooth fragment and an hour later is seen in the office of Johnson. After determining there is no pulp exposure or other contraindication to direct bonding, she prepares and reattaches the tooth fragment to the remaining crown, restoring esthetics, function and comfort.

D2941 interim therapeutic restoration – primary dentition

In spite of efforts to manage a high caries-risk infant, isolated white spot lesions of enamel on the labial surfaces of the maxillary right central and lateral incisors have progressed into cavitated lesion of dentin. Ricky, 32 months of age, is by now used to dental examinations in his mother’s lap. Positioning Ricky in the knee-to-knee position and foregoing anesthetic injection, Dr. Green gently removes carious enamel and dentin with hand instruments, being careful to avoid pulp exposure. He then restores the teeth with a resin-modified glass ionomer cement.
D3220 **therapeutic pulpotomy (excluding final restoration) – removal of pulp coronal to the dentinocemental junction and application of medicament**

Martin, age 7, presents to your office with a deep cavity approaching the pulp of tooth #7. He is not exhibiting clinical signs of irreversible pulpitis or pulp necrosis. You explain the restorative options to his father, including the possibility of necessary pulp treatment. After establishing effective local anesthesia by mandibular block and placement of a rubber dam, you begin caries debridement with rotary instrumentation. Removal of carious dentin eventually requires surgical pulp exposure and you proceed with amputation of the coronal pulp. No signs of pulp hyperemia or necrosis are present. After pressure hemostasis is obtained, an appropriate medicament (such as formocresol, MTA or ferric sulfate) is placed over the remaining pulp stumps and a zinc oxide eugenol (ZOE) paste is placed in the chamber.

You then restore the tooth with a stainless steel crown, which is billed as separate procedure D2930 – prefabricated stainless crown – primary tooth.

D3222 **partial pulpotomy for apexogenesis – permanent tooth with incomplete root development.**

Eight-year-old Susanna presents to your office with a history of traumatic coronal fracture of tooth #8 with significant pulp exposure. The injury occurred two days ago while she was on vacation with her parents. Your assessment is that pulp healing will not occur spontaneously and endodontic therapy is indicated.

Due to root immaturity and an open apex, a complete root canal procedure cannot be performed. In addition, you believe that if you can control the inflammatory process and preserve pulp vitality, root formation will continue. You therefore remove only the inflamed portion of the pulp adjacent to the fracture site (Cvek technique) and place a calcium hydroxide or mineral trioxide aggregate (MTA) medicament. Exposed dentin and the access site are then protected with a bonded composite "band aid." The tooth will be monitored at regular intervals to assess root end closure and a definitive restoration will be placed after success of the partial pulpotomy is determined. Should pulp necrosis occur, apexification would be the next approach.

D9310 **consultation – diagnostic service provided by dentist or physician other than requesting dentist or physician**

Lisa, 30 months of age, is referred to your office by her pediatrician who is concerned about “rotting teeth.” Your clinical evaluation indicates Early Childhood Caries involving the four maxillary incisors and the four maxillary and mandibular first primary molars, for which definitive dental restorative care and pulp therapy is indicated. After consultation with her parents regarding the risks/benefits/alternatives of available venues of age-related pharmacologic anxiety management, the decision is reached to provide care under general anesthesia in an accredited outpatient surgical facility. You provide an estimate of treatment needs, a tentative treatment plan, and letter of medical necessity requesting authorization of general anesthesia and related facility fees to her medical healthcare plan.

Diagnostic radiographs will be obtained and a comprehensive oral examination performed at the time of care under general anesthesia and billed on that date.

D9920 **behavior management, by report**

An autistic 11-year-old presents for a periodic evaluation. You and your staff spend a lot of time coaxing the patient to allow you to examine the patient. The patient is combative and very difficult to examine. He kicks and thrashes. The parent has to assist you in restraining the child to complete the examination and prophylaxis.

Marsha, 5 years of age, is extremely apprehensive and uncooperative in a dental treatment setting. She requires an occlusal restoration on tooth #A. Her medical history reveals a diagnosed anxiety and attention deficit disorder treated with prescription medication. You believe that with additional treatment time for extensive “tell-show-do,” distraction, and constant reinforcement you can accomplish care without sedation or other pharmacologic management, which her parents have asked to avoid.

Your visit lasts 30 minutes, the first ten of which are spent in coaxing her into the chair and cooperating in the administration of local anesthesia. Over the next twenty minutes, you are successful in caries debridement and the placement of a composite resin restoration under rubber dam isolation.

Your billing reflects two procedures #D9920, as this service is reported in 15-minute increments in addition to the treatment provided. The parent and dentist should be aware that the procedure may not be a covered benefit under the patient’s dental reimbursement plan.

D9985 **sales tax**

The state in which Dr. Wilson practices imposes a sales/service tax on dental services. Dr. Wilson reports her services using CDT dental procedure codes and the sales/service tax using this CDT adjunctive general services code.
Medically necessary care (MNC) is the reasonable and essential diagnostic, preventive, and treatment services (including supplies, appliances, and devices) and follow-up care as determined by qualified health care providers in treating any condition, disease, injury, or congenital or developmental malformation to promote optimal health, growth, and development. MNC includes all supportive health care services that, in the judgment of the attending dentist, are necessary for the provision of optimal quality therapeutic and preventive oral care. These services include, but are not limited to, sedation, general anesthesia, and utilization of surgical facilities. MNC must take into account the patient’s age, developmental status, and psychosocial well-being, in addition to the setting appropriate to meet the needs of the patient and family.

Dental care is medically necessary to prevent and eliminate orofacial disease, infection, and pain, to restore the form and function of the dentition, and to correct facial disfiguration or dysfunction.
Purpose
The American Academy of Pediatric Dentistry (AAPD) recognizes that dental care is medically necessary for the purpose of preventing and eliminating orofacial disease, infection, and pain, restoring the form and function of the dentition, and correcting facial disfigurement or dysfunction.

Methods
This policy is an update of the document adopted in 2007. It includes an electronic search with Scopus® and PubMed® using the following parameters: Terms such as medically necessary care, systemic disease and oral disease, dentistry as medically necessary care, periodontal disease and cardiovascular disease, oral health and pregnancy, oral health and respiratory illness, pediatric dentistry general anesthesia, and nutritional deficiency cognitive development; Fields: all; Limits: within the last 15 years, human, English. The reviewers agreed upon the inclusion of 59 articles that met the defined criteria. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

Background
The AAPD defines medically necessary care (MNC) as “the reasonable and essential diagnostic, preventive, and treatment services (including supplies, appliances, and devices) and follow-up care as determined by qualified health care providers in treating any condition, disease, injury, or congenital or developmental malformation to promote optimal health, growth, and development. MNC includes all supportive health care services that, in the judgment of the attending dentist, are necessary for the provision of optimal quality therapeutic and preventive oral care. These services include, but are not limited to, sedation, general anesthesia, and utilization of surgical facilities. MNC must take into account the patient’s age, developmental status, and psychosocial well-being, in addition to the clinical setting appropriate to meet the needs of the patient and family.”

MNC is based upon current preventive and therapeutic practice guidelines formulated by professional organizations with recognized clinical expertise. Such recommendations ideally are evidence based but, in the absence of conclusive evidence, may rely on expert opinion and clinical observations. Expected benefits of care should outweigh potential risks. MNC increases the probability of good health and well-being and decreases the likelihood of an unfavorable outcome. Value of services is an important consideration, and all stakeholders should recognize that cost-effective care is not necessarily the least expensive treatment.

Dental care is medically necessary to prevent and eliminate orofacial disease, infection, and pain, to restore the form and function of the dentition, and to correct facial disfigurement or dysfunction. Following the US Surgeon General’s report emphasizing that oral health is integral to general health, the US Department of Health and Human Services recommended changing perceptions of the public, policy makers, and healthcare providers so that oral health becomes an accepted component of general health. Oral diseases can have a direct and devastating impact on overall health, especially for those with certain systemic health problems or conditions.

Caries is the most common chronic disease of childhood. Approximately 60 percent of children experience caries in their primary teeth by age five. Between 1988-1994 and 1999-2004, prevalence of caries in primary teeth increased for youths aged two to 11 years, with a significant increase noted for those in the two to five year age range. By 17 years of age, 78 percent of children in the US have experienced caries. As much as 90 percent of all caries in school-aged children occurs in pits and fissures. Caries, periodontal diseases, and other oral conditions, if left untreated, can lead to pain, infection, and loss of function. These undesirable outcomes can adversely affect learning, communication, nutrition, and other activities necessary for normal growth and development.

Rampant caries is associated with insufficient development in children who have no other medical problems. Children with early childhood caries (ECC) may be severely underweight because of the associated pain and disinclination to eat. Nutritional deficiencies during childhood can impact cognitive development.
Other oral conditions also can impact general health and well-being. Gingivitis is nearly universal in children and adolescents, and children can develop severe forms of periodontitis. There exists a relationship between periodontal disease and cardiovascular disease as well as periodontal disease and adverse pregnancy outcomes. An association between oral health and respiratory diseases has been recognized. Oral health, oral microflora, and bacterial pneumonia, especially in populations at high risk for respiratory disease, have been linked. The mouth can harbor respiratory pathogens that may be aspirated, resulting in airway infections. Problems of esthetics, form, and function can affect the developing psyche of children, with life-long consequences in social, educational, and occupational environments. Self-image, self-esteem, and self-confidence are unavoidable issues in society, and an acceptable orofacial presentation is a necessary component of these psychological concepts.

Congenital or acquired orofacial anomalies (eg, ectodermal dysplasia, cleft defects, cysts, tumors) and malformed or missing teeth can have significant negative functional, esthetic, and psychological effects on individuals and their families. Patients with craniofacial anomalies often require specialized oral health care as a direct result of their craniofacial condition. These services are an integral part of the rehabilitative process. Young children benefit from esthetic and functional restorative or surgical techniques and readily adapt to appliances that replace missing teeth and improve function, appearance, and self-image. During the period of facial and oral growth, appliances require frequent adjustment and have to be remade as the individual grows.

Professional care is necessary to maintain oral health, and risk assessment is an integral element of contemporary preventive care for infants, children, adolescents, and persons with special health care needs. The goal of caries risk assessment is to prevent disease by identifying and minimizing causative factors (eg, microbial burden, dietary habits, dental morphology) and optimizing protective factors (eg, fluoride exposure, personal oral hygiene, sealants). Ideally, risk assessment and implementation of preventive strategies would occur before the disease process has been initiated.

Infants and young children have unique caries-risk factors such as ongoing establishment of oral flora and host defense systems, susceptibility of newly erupted teeth, and development of dietary habits and childhood food preferences. Children are most likely to develop caries if mutans streptococci is acquired at an early age. High-risk dietary practices appear to be established early, probably by 12 months of age, and are maintained throughout early childhood. Adolescence can be a time of heightened caries activity and periodontal disease due to an increased intake of cariogenic substances and attention to oral hygiene procedures.

An analysis of caries risk includes determination of protective factors, such as fluoride exposure. More than one-third of the US population does not benefit from community water fluoridation. Fluoride contributes to the prevention, inhibition, and reversal of caries. Therefore, early determination of a child’s systemic and topical fluoride exposure is important. Children experiencing caries as infants and toddlers have a much greater probability of subsequent caries in both the primary and permanent dentitions. An individualized preventive plan based on a caries risk assessment is the key component of caries prevention. Because any risk assessment tool may fail to identify all infants at risk for developing ECC, early establishment of the dental home is the ideal approach for disease prevention. Early diagnosis and timely intervention, including necessary referrals, can prevent the need for more extensive and expensive care often required when problems have gone unrecognized and/or untreated.

When very young children have not been the beneficiaries of adequate preventive care and subsequently develop ECC, therapeutic intervention should be provided by a practitioner with the training, experience, and expertise to manage both the child and the disease process. Because of the aggressive nature of ECC, restorative treatment should be definitive yet specific for each individual patient. Conventional restorative approaches may not arrest the disease. Areas of demineralization and hypoplasia can cavitate rapidly. The placement of stainless steel crowns may be necessary to decrease the number of tooth surfaces at risk for new or secondary caries. Stainless steel crowns are less likely than other restorations to require retreatment. Low levels of compliance with follow-up care and a high recidivism rate of children requiring additional treatment also can influence a practitioner’s decisions for management of ECC.

Sealants are particularly effective in preventing pit and fissure caries and providing cost savings if placed on the teeth of patients during periods of greatest risk. Children with multiple risk factors and tooth morphology predisposed to plaque retention (ie, developmental defects, pits and fissures) benefit from having such teeth sealed prophylactically. A child who receives sealants is 72 percent less likely to receive restorative services over the next three years than children who do not. Sealants placement on primary molars in young children is a cost-effective strategy for children at risk for caries, including those insured by state Medicaid programs. Although sealant retention rates initially are high, sealant loss does occur. It is in the patient’s interest to receive periodic evaluation of sealants. With follow-up care, the success rate of sealants may be 80 to 90 percent, even after a decade.

Sealants are safe and effective, yet their use continues to be low. Initial insurance coverage for sealants often is denied, and insurance coverage for repair and/or replacement may be limited. While all Medicaid programs reimburse dentists for placement of sealants on permanent teeth, only one in three reimburses for primary molar sealants. While some third party carriers restrict reimbursement for sealants to patients of certain ages, it is important to consider that timing of dental eruption can vary widely. Furthermore, caries risk may increase at any time during a patient’s life due to changes in habits (eg, dietary, home care), oral microflora, or physical condition, and previously unsealed teeth subsequently might benefit from sealant application.
The extent of the disease process, as well as the patient’s developmental level and comprehension skills, affect the practitioner’s behavior guidance approaches. The success of restorations may be influenced by the child’s response to the chosen behavior guidance technique. To perform treatment safely, effectively, and efficiently, the practitioner caring for a pediatric patient may employ advanced behavior guidance techniques such as protective stabilization and/or sedation or general anesthesia. The patient’s age, dental needs, disabilities, medical conditions, and/or acute situational anxiety may preclude the patient’s being treated safely in a traditional outpatient setting. For some infants, children, adolescents, and persons with special health care needs, treatment under sedation or general anesthesia in a hospital, outpatient facility, or dental office or clinic represents the only appropriate method to deliver necessary oral health care. The impact of chronic conditions (CC) status and CC severity increases the odds of receiving dental treatment under general anesthesia. Although general anesthesia may provide optimal conditions to perform restorative procedures, it can add significantly to the cost of care. General anesthesia, under certain circumstances, may offer a cost-saving alternative to sedation for children with ECC.

Reimbursement issues defined by the concept of MNC have been a complicated topic for dentistry. Pediatric dental patients may be denied access to oral health care when insurance companies refuse to provide reimbursement for sedation/general anesthesia and related facility services. Most denials cite the procedure as “not medically necessary”. This determination appears to be based on arbitrary and inconsistent criteria. For instance, medical policies often provide reimbursement for sedation/general anesthesia or facility fees related to myringotomy for a three-year-old child, but deny these benefits when related to treatment of dental disease and/or dental infection for the same patient. American Dental Association Resolution 1989-546 states that insurance companies should not deny benefits that would otherwise be payable “solely on the basis of the professional degree and licensure of the dentist or physician providing treatment, if that treatment is provided by a legally qualified dentist or physician operating within the scope of his or her training and licensure.”

Patients with craniofacial anomalies often are denied third party coverage for initial appliance construction and, more frequently, replacement of appliances as the child grows. The distinction between congenital anomalies involving the orofacial complex and those involving other parts of the body is often arbitrary and unfair. For instance, health care policies may provide reimbursement for the prosthesis required for a congenitally missing extremity and its replacement as the individual grows, but deny benefits for the initial prosthesis and necessary periodic replacement for congenitally missing teeth. Third-party payers frequently will refuse to pay for oral health care services even when they clearly are associated with the complete rehabilitation of the craniofacial condition.

### Policy statement

Dental care is medically necessary to prevent and eliminate orofacial disease, infection, and pain, to restore the form and function of the dentition, and to correct facial disfigurement or dysfunction. MNC is based upon current preventive and therapeutic practice guidelines formulated by professional organizations with recognized clinical expertise. Expected benefits of MNC outweigh potential risks of treatment or no treatment. Early detection and management of oral conditions can improve a child’s oral health, general health and well-being, school readiness, and self-esteem. Early recognition, prevention, and intervention could result in savings of health care dollars for individuals, community health care programs, and third party payors. Because a child’s risk for developing dental disease can change over time, continual professional reevaluation and preventive maintenance are essential for good oral health. Value of services is an important consideration, and all stakeholders should recognize that cost-effective care is not necessarily the least expensive treatment.

The AAPD encourages:

1. Oral health care to be included in the design and provision of individual and community-based health care programs to achieve comprehensive health care.
2. Establishment of a dental home for all children by 12 months of age in order to institute an individualized preventive oral health program based upon each patient’s unique dental health. Value of services is an important consideration, and all stakeholders should recognize that cost-effective care is not necessarily the least expensive treatment.
3. Healthcare providers who diagnose oral disease to either provide therapy or refer the patient to a primary care dentist or dental/medical specialist as dictated by the nature and complexity of the condition. Immediate intervention is necessary to prevent further dental destruction, as well as more widespread health problems.
4. Evaluation and care provided for an infant, child, or adolescent by a cleft lip/palate, orofacial, or craniofacial deformities team as the optimal way to coordinate and deliver such complex services.
5. The dentist providing oral health care for a patient to determine the medical indication and justification for treatment. The dental care provider must assess the patient’s developmental level and comprehension skills, as well as the extent of the disease process, to determine the need for advanced behavior guidance techniques such as sedation or general anesthesia.

Furthermore, the AAPD encourages third party payors to:

1. Recognize malformed and missing teeth are resultant anomalies of facial development seen in orofacial anomalies and may be from congenital defects. Just as the congenital absence of other body parts requires care over the lifetime of the patient, so will these.
2. Include oral health care services related to these facial and dental anomalies as benefits of health insurance without discrimination between the medical and dental nature of the congenital defect. These services, optimally...
provided by the craniofacial team, include, but are not limited to, initial appliance construction, periodic examinations, and replacement of appliances.

3. End arbitrary and unfair refusal of compensation for oral health care services related to orofacial and dental anomalies.

4. Recognize the oral health benefits of dental sealants and not base coverage for sealants on permanent and primary teeth on a patient’s age.

5. Ensure that all children have access to the full range of oral health delivery systems. If sedation or general anesthesia and related facility fees are payable benefits of a health care plan, these same benefits shall apply for the delivery of oral health services.

6. Regularly consult the AAPD with respect to the development of benefit plans that best serve the oral health interests of infants, children, adolescents, and persons with special health care needs, especially those with craniofacial or acquired orofacial anomalies.

References


Policy on School Absences for Dental Appointments

Originating Council
Council on Clinical Affairs

Review Council
Council on Clinical Affairs

Adopted
2010

Revised
2015

Purpose
The American Academy of Pediatric Dentistry (AAPD) recognizes dental care is medically necessary and that poor oral health can negatively affect a child's ability to learn. This policy is intended to assist public health and school education administrators in developing enlightened policies on school absence for dental appointments and support parents in seeking medically necessary care for their children.

Methods
This policy is an update of the previous policy adopted in 2010. An electronic database search was conducted using the search parameters: Terms: school absences for dental appointments, excused school absences, and department of education. Papers for review were chosen from this list and from references within selected articles. When data did not appear sufficient or were inconclusive, recommendations were based on expert and/or consensus opinion by experienced researchers and clinicians. It is beyond the scope of this document to review every state statute and regulation on absences from school for dental appointments.

Background
Oral health is integral to general health. Many systemic diseases and conditions have oral manifestations. These oral manifestations may be the initial sign of clinical disease and indicate the need for further assessment. Oral conditions can interfere with eating and adequate nutritional intake, speaking, self-esteem, daily activities, and quality of life. Dental care is medically necessary to prevent and eliminate orofacial disease, infection, and pain. It is also important to restore the form and function of the dentition and correct facial disfiguration or dysfunction. The public's lack of awareness of the importance of oral health is a major barrier to dental care. Unrecognized disease and postponed care result in exacerbated problems, which lead to more extensive and costly treatment needs.

The National Association of State Boards of Education recognizes, “Health and success in schools are interrelated. Schools cannot achieve their primary mission of education if students and staff are not healthy and fit physically, mentally, and socially”. Children and adolescents with poorer oral health status are more likely to experience oral pain, miss school, and perform poorly in school compared with their counterparts with better oral health status. Children with dental pain may be irritable, withdrawn, or unable to concentrate. Pain can affect test performance as well as school attendance. Left untreated, the pain and infection caused by tooth decay can lead to problems in eating, speaking, and learning.

The social impact of oral disease in children is substantial. More than 51 million school hours are lost each year to dental related illness. On average, children and adolescents with oral health problems are absent one school day per year more than other children or adolescents. When these problems are treated and children no longer are experiencing pain, their learning and school attendance improve.

According to the US Surgeon General, “a national public health plan for oral health does not exist”. This corresponds with the fact that there is no national policy on excused absences from school for dental appointments. Some states (eg, California, Texas) have very specific laws excusing students for dental appointments. Other state laws are more general and recognize absences due to doctor’s appointments or illness.

Policy statement
Dental care is medically necessary and oral health is integral to general health. Undiagnosed and untreated oral conditions may interfere with a child's ability to eat, sleep, or function well at home or at school due to discomfort or pain. The unesthetic nature of caries and dental malocclusion may compromise a child's self-esteem and social development. Schools' policies that prevent or discourage legitimate school absence for the purpose of delivery of vital health care services may cause harm to their students.
Children who have their dental conditions corrected improve learning and attendance in school. State laws and local school district policies are not uniform on absences from school for dental appointments. A uniform policy that recognizes the negative effect of chronic truancy on academic performance would be useful. Such policies should not restrict necessary health care delivery.

The AAPD supports state law or school policy that allows the absence for legitimate health care delivery, including that of oral health services, and encourages parents, school administrators, and dentists to work together to ensure that children receive dental care while minimizing school absences.

References
Policy on Hospitalization and Operating Room Access for Oral Care of Infants, Children, Adolescents, and Persons with Special Health Care Needs

Originating Committee
Dental Care Committee

Review Council
Council on Clinical Affairs

Adopted
1989

Reaffirmed
1993

Revised

Purpose
The American Academy of Pediatric Dentistry (AAPD) advocates, when indicated, hospitalization and equal access to operating room facilities for oral care of infants, children, adolescents, and persons with special health care needs. The AAPD recognizes that barriers to hospital oral care for patients who require treatment in that setting need to be addressed.

Method
This policy is an update of the previous document revised in 2010. A PubMed® search was performed using the parameters: Terms: access for dental/oral care in hospitals, operating room access for dental/oral care, and access to hospital dentistry; Fields: all; Limits: within the last 10 years, humans, English, birth through age 18. Additionally, websites for the American Medical Association, American Dental Association (ADA), AAPD, American Dental Association Commission on Dental Accreditation, and Centers for Disease Control and Prevention were reviewed. Expert opinions and best current practices were relied upon when clinical evidence was not available.

Background
Pediatric dentists treat patients who present special challenges related to their age, behavior, medical status, developmental disabilities, or special needs. Caries, periodontal diseases, and other oral conditions, if left untreated, can lead to pain, infection, and loss of function.1-4 These undesirable outcomes can adversely affect learning, communication, nutrition, and other activities necessary for normal growth and development.5-7 Many medical conditions (e.g., hematological, oncological) are exacerbated by the presence of oral maladies and disease. To address these challenges and to provide the treatment needs effectively, pediatric dentists have developed and employ a variety of management techniques, including accessing anesthesia services and/or the provision of oral care in a hospital setting with or without general anesthesia.8 Some children with particular compromising medical conditions may only be able to receive their dental treatment safely in a hospital setting. Hospital dentistry is an integral part of the curriculum of all accredited advanced pediatric dental training programs. Pediatric dentists are, by virtue of training and experience, qualified to recognize the indications for such an approach and to render such care.9,10

Pediatric dentists occasionally have experienced difficulty in gaining an equal opportunity to schedule operating room time, postponement/delay of non-emergency oral care, and economic credentialing. Economic credentialing (i.e., the use of economic criteria not related to quality of care or professional competency) to determine qualifications for granting/renewing an individual’s clinical staff membership or privileges should be opposed.11 The AAPD and the ADA urge hospital insurance carriers to include hospitalization benefits for dental treatment in both private and public insurance programs so that the resources of a hospital are available to patients whose condition, in the judgment of the dentist, warrants treatment in the operating room.12

Hospital governing boards and medical staffs are interested in improving the quality and efficiency of patient care. Decisions regarding hospital privileges should be based upon the training, experience, and demonstrated competence of candidates, taking into consideration the availability of facilities and the overall medical needs of the community, the hospital, and especially the patients. Privileges should not be based on numbers of patients admitted to the facility or the patient’s economic or insurance status.13
Policy statement
The AAPD shall work with all concerned medical and dental colleagues and organizations to remove barriers to hospital and operating room access for oral care for patients best treated in those settings. The AAPD affirms that hospitals or outpatient settings providing surgical treatment should not discriminate against pediatric dental patients requiring care under general anesthesia. Such patients and their care providers need access to these facilities. The dental patient, as with any other patient, should have the right to be seen in a timely manner. Evidence has demonstrated dental treatment under general anesthesia in the operating room is a necessity, as well as an important component of comprehensive care, to assure optimal health for many, especially those considered high-risk.14-16

References
Policy on Model Dental Benefits for Infants, Children, Adolescents, and Individuals with Special Health Care Needs

Originating Councils
Council on Dental Benefit Programs/Council on Clinical Affairs

Review Council
Council on Clinical Affairs

Adopted
2008
Revised
2013

Purpose
The American Academy of Pediatric Dentistry (AAPD) believes that all infants, children, adolescents, and individuals with special health care needs must have access to comprehensive preventive and therapeutic oral health care benefits that contribute to their optimal health and well-being. This policy is intended to assist policy makers, third-party payors, and consumer groups/benefits purchasers to make informed decisions about the appropriateness of oral health care services for these patient populations.

Methods
This policy is based upon a review of AAPD’s systematically-developed oral health policies and clinical practice guidelines as well as clinical practice guidelines that have been developed by other professional organizations and endorsed by the AAPD.

Background
The AAPD, in accordance with its vision and mission, advocates optimal oral health and health care for all infants, children, adolescents, and individuals with special health care needs. Oral diseases are progressive and cumulative; ignoring oral health problems can lead to needless pain and suffering, infection, loss of function, increased health care costs, and life-long consequences in educational, social, and occupational environments. When oral health care is not accessible, the health implications, effects on quality of life, and societal costs are enormous.¹ The AAPD’s oral health policies and clinical guidelines² encourage the highest possible level of care to children and patients with special health care needs. The AAPD also sponsors a national consensus conference or symposium each year on pediatric oral health care and publishes those proceedings in a special issue of Pediatric Dentistry. Those documents,²⁻⁸ as well as clinical practice guidelines from other organizations with recognized professional expertise and stature,²⁻⁸ serve as the basis for the recommendations below. Such recommendations ideally are evidence based but, in the absence of conclusive evidence, may rely on expert opinion and clinical observations.

Policy statement
The AAPD encourages all policy makers and third party payors to consult the AAPD in the development of benefit plans that best serve the oral health interests of infants, children, adolescents, and individuals with special health care needs. These model services are predicated on establishment of a dental home, defined as the ongoing relationship between the dentist (i.e., the primary oral health care provider) and the patient, inclusive of all aspects of oral health care, starting no later than 12 months of age.² A dental benefit plan should be actuarially sound and fiscally capable of delivering plan benefits without suppressing utilization rates or the delivery of services. When a benefits plan, whether for a commercial or government program, is not actuarially sound and adequately underwritten, access and appropriate care under the plan are placed at risk.

Value of services is an important consideration, and all stakeholders should recognize that a least expensive treatment is not necessarily the most beneficial or cost effective plan in the long term for the patient’s oral health.

The following services are essential components in health benefit plans.

A. Preventive services:
1. Initial and periodic examinations of the dentition and oral cavity, including medical and dental histories, furnished in accordance with the attached periodicity schedule⁹ or when oral screenings by other health care providers indicate a risk of caries or other dental or oral disease.
2. Education for the patient and the patient’s family on measures that promote oral health as part of initial and periodic well-child assessment.
3. Age-appropriate anticipatory guidance and counseling on non-nutritive habits, injury prevention, and tobacco use/substance abuse.
4. Application of topical fluoride at a frequency based upon caries risk factors.
5. Prescription of dietary fluoride supplement based upon a child’s age and caries risk as well as fluoride level of the water supply or supplies and other sources of dietary fluoride.

6. Application of pit and fissure sealants based on caries risk factors, not patient age.

7. Dental prophylactic services at a frequency based on caries and periodontal risk factors.

B. Diagnostic procedures consistent with guidelines developed by organizations with recognized professional expertise and stature, including radiographs in accordance with recommendations by the US Food and Drug Administration and the American Dental Association.

C. Restorative and endodontic services to relieve pain, resolve infection, restore teeth, and maintain dental function and oral health. This would include interim therapeutic restorations, a beneficial provisional technique in contemporary pediatric restorative dentistry.

D. Orthodontic services including space maintenance and services to diagnose, prevent, intercept, and treat malocclusions, including management of children with cleft lip or palate and/or congenital or developmental defects. These services include, but are not limited to, initial appliance construction and replacement of appliances as the child grows.

E. Dental and oral surgery including sedation/general anesthesia and related medical services performed in an office, hospital, or ambulatory surgical care setting.

F. Periodontal services to resolve gingivitis, periodontitis, and other periodontal diseases or conditions in children.

G. Prosthodontic services, including implants with restorations to restore oral function.

H. Diagnostic and therapeutic services related to the management of orofacial trauma. When the injury involves a primary tooth, benefits should cover complications for the developing succedaneous tooth.

I. Drug prescription for preventive services, relief of pain, or treatment of infection.

J. Medically necessary services for preventive and therapeutic care in patients with medical, physical, or behavioral conditions. These services include, but are not limited to, the care of hospitalized patients, sedation, and general anesthesia in outpatient or inpatient hospital facilities.

K. Behavior guidance services necessary for the provision of optimal therapeutic and preventive oral care to patients with medical, physical, or behavioral conditions. These services may include both pharmacologic and non-pharmacologic management techniques.

L. Consultative services provided by a pediatric dentist when the dental home has been established with a general practitioner or when requested by another dental specialist or medical care provider.

References


Recommendations for Pediatric Oral Health Assessment, Preventive Services, and Anticipatory Guidance/Counseling

Since each child is unique, these recommendations are designed for the care of children who have no contributing medical conditions and are developing normally. These recommendations will need to be modified for children with special health care needs or if disease or trauma manifests variations from normal. The American Academy of Pediatric Dentistry (AAPD) emphasizes the importance of very early professional intervention and the continuity of care based on the individualized needs of the child.

Refer to the text in the Guideline on Periodicity of Examination, Preventive Dental Services, Anticipatory Guidance, and Oral Treatment for Infants, Children, and Adolescents (http://www.aapd.org/media/Policies_Guidelines/G_Periodicity.pdf) for supporting information and references.

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<th>AGE</th>
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1. First examination at the eruption of the first tooth and no later than 12 months. Repeat every six months or as indicated by child’s risk status/susceptibility to disease. Includes assessment of pathology and injuries.

2. By clinical examination.

3. Must be repeated regularly and frequently to maximize effectiveness.

4. Timing, selection, and frequency determined by child’s history, clinical findings, and susceptibility to oral disease.

5. Consider when systemic fluoride exposure is suboptimal. Up to at least 16 years.

6. Appropriate discussion and counseling should be an integral part of each visit for care.

7. Initially, responsibility of parent; as child matures, jointly with parent; then, when indicated, only child.

8. At every appointment; initially discuss appropriate feeding practices, then the role of refined carbohydrates and frequency of snacking in caries development and childhood obesity.

9. Initially play objects, pacifiers, car seats; when learning to walk; then with sports and routine playing, including the importance of mouthguards.

10. At first, discuss the need for additional sucking: digits vs pacifiers; then the need to wean from the habit before malocclusion or skeletal dysplasia occurs. For school-aged children and adolescent patients, counsel regarding any existing habits such as fingernail biting, clenching, or bruxism.

11. For caries-susceptible primary molars, permanent molars, premolars, and anterior teeth with deep pits and fissures; placed as soon as possible after eruption.
Purpose
The American Academy of Pediatric Dentistry (AAPD) recognizes that second opinions are one avenue for additional information regarding health care issues. Parents frequently seek additional information and/or other opinions in order to address their child’s health care needs and make informed decisions. This policy is intended to provide guidance regarding what should be obtained and documented when providing a second opinion, as well as ethical and legal obligations involved in the process.

Methods
This policy is based on a review of the current dental and medical literature related to the concept of second opinion in dentistry and medicine. Electronic searches were conducted using the search terms: second opinion, medical second opinion, and dental second opinion. Documents relating to principles of ethics of dental and medical organizations also were reviewed.

Background
Patients today are more informed about their medical and dental problems and treatment options and are playing an active role in decision making with their doctors. Medical and dental knowledge and available treatment options are evolving at a rapid pace. As a result, patients and health care providers are seeking second opinions so that more informed decisions based on the risks and benefits can be made regarding the patient’s health care.

For minor health problems, second opinions usually are unnecessary. However, a second opinion is recommended if the patient disagrees with or questions the diagnosis or the treatment plan of the health care provider, has multiple medical problems, or is diagnosed with a life-threatening disease such as cancer. Second opinions also are recommended when there is no improvement in the patient’s condition, when there is a communication barrier between the patient and the provider, and when extensive oral care needs or high cost may make treatment prohibitive. For health care practitioners, a second opinion or referral may be warranted if they are unsure of the diagnosis or the diagnosis/treatment is beyond the scope of their expertise. Furthermore, a second opinion may be necessary when required by a third party payor.

There is a debate among health care providers about whether to provide a patient with a blind second opinion (i.e., when medical/dental records, test results, and first provider’s opinion are not made available to the second provider) or if the patient’s diagnostic information and diagnosis should be shared with the provider giving the second opinion. The advantage of the blind second opinion is that it cannot be influenced by previous information. The provider will develop his/her own unbiased opinion. The disadvantage is that the provider performing the second opinion may have to repeat diagnostic tests and the patient will incur additional costs. The second provider may not be able to explain to the patient why his/her opinion is different without knowing the patient’s previous history and the basis of the first provider’s opinion. A third option would be to provide test results, radiographs, and other information without the first doctor’s written diagnosis and treatment recommendations. This would allow for an unbiased opinion without having the patient incur unnecessary charges or radiation exposure from repeated radiographs.

When presented with requests for second opinions, practitioners should consider the legal implications of such requests. Health care providers rendering second opinions unwarily could be involved in litigation, either on behalf of the patient or in defending themselves against other practitioners, as a result of the consult. The fact that one is the second or third professional consulted does not mean that the provider is exempt from liability. A dissatisfied patient could file a lawsuit naming not only the treating doctor, but also the doctor rendering the second opinion as defendants. In addition, a colleague who believes his or her professional reputation has been damaged by statements made to a patient during a consultation could file a lawsuit for defamation of character. Patients should be advised of their health status without disparaging comments about their prior treatment or previous provider.
Policy statement

The AAPD recognizes that:

- A patient has a right to a second opinion. A provider who is trained and experienced in diagnosing and treating the condition should provide the second opinion. Internet sites or a telephone conversation cannot be relied upon and should not constitute a second opinion.²
- A health care practitioner has the right to request a second opinion from one or multiple practitioners/specialists as deemed necessary to facilitate the optimal clinical outcome.³
- Educating the patient regarding the diagnosis and available treatment options, including their risks and benefits, should be the goal of a second opinion consultation. Health care providers may disagree on the best treatment for an individual patient. Any opinion should be rendered only on careful consideration of all the facts and with due attention given to current and previous states of the patient. Instances of gross or continual faulty diagnosis or treatment by other providers may require that the provider be reported to an appropriate reviewing agency as determined by the local component or constituent dental society.³
- A provider has the ethical obligation on request of either the patient or the patient’s new provider to furnish records, including radiographs or copies of them. These may be beneficial for the future treatment of that patient.³ Health Insurance Portability and Accountability Act (HIPAA) privacy rules⁴ and state laws apply to all exchanges of health care information.
- Second opinions may be mandatory by third party payors. The provider should be independent and the opinion should be based on best outcomes for the patient and not financial incentives.
- Most second opinions are voluntary. It is the responsibility of the patient to check with his/her insurance carrier for specific policies and benefits regarding coverage of second opinions.
- When presented with requests for second opinions, practitioners should consider the legal implications of such requests. Patients should be fully advised of their health status without disparaging comments about their prior treatment or previous provider.

References

Policy on Third-party Reimbursement of Medical Fees Related to Sedation/General Anesthesia for Delivery of Oral Health Services

Originating Committee
Dental Care Committee

Review Council
Council on Clinical Affairs

Adopted
1989

Reaffirmed
1993

Revised

Purpose
The American Academy of Pediatric Dentistry (AAPD), to ensure that all children have access to the full range of oral health delivery systems, advocates that if sedation or general anesthesia and related facility fees are payable benefits of a health care plan, these same benefits shall apply for the delivery of oral health services.

Methods
This document is an update of the previous policy, revised in 2006, and is based on a review of the current dental literature related to guidelines for sedation and general anesthesia, as well as issues pertaining to medically-necessary oral health care. The update included a PubMed® electronic search of the terms general anesthesia/sedation costs, general anesthesia/sedation reimbursement, general anesthesia/sedation insurance coverage, and general anesthesia/oral health-related quality of life and relevant articles from dental and medical literature. The search returned 733 articles. The reviewers agreed upon the inclusion of 22 articles that met the defined criteria. Relevant policies and guidelines of the AAPD and the American Dental Association (ADA) are included.

Background
For some infants, children, adolescents, and persons with special health care needs, treatment under sedation/general anesthesia in a hospital, outpatient facility, or dental office or clinic represents the only viable method to deliver necessary oral health care. The patient's age, dental needs, disabilities, medical conditions, and/or acute situational anxiety may preclude the patient's being treated safely in a traditional outpatient setting. These patients may be denied access to oral health care when insurance companies refuse to provide reimbursement for sedation/general anesthesia and related facility services. Most denials cite the procedure as not medically necessary. This determination appears to be based on arbitrary and inconsistent criteria. For instance, medical policies often provide reimbursement for sedation/general anesthesia or facility fees related to myringotomy for a three-year-old child, but deny these benefits when related to treatment of dental disease and/or infection for the same patient.

Dental rehabilitation of early childhood caries (ECC) has shown a significant improvement in oral health-related quality of life (QOL) in children. Children undergoing comprehensive dental treatment under general anesthesia exhibited improvement in several areas such as sleeping, eating, and pain. Parents reported their children to have a better perceived QOL one to four weeks following dental rehabilitation under general anesthesia.

ADA Resolution 1989-546 states that insurance companies should not deny benefits that otherwise would be payable "solely on the basis of the professional degree and licensure of the dentist or physician providing treatment, if that treatment is provided by a legally qualified dentist or physician operating within the scope of his or her training and licensure".

Many states have enacted legislation requiring medical insurers to reimburse for hospital charges associated with provision of dental care for children in the operating room. Such legislation has resulted in increased access to care, with more children receiving services in an operating room setting after enactment of legislation. General anesthesia, under certain circumstances, may offer a cost saving alternative to sedation for children with ECC.
Policy statement

The AAPD strongly believes that the dentist providing the oral health care for the patient determines the medical necessity of sedation/general anesthesia consistent with accepted guidelines on sedation and general anesthesia.1,7

The AAPD encourages third-party payors to:
1. Recognize that sedation and/or general anesthesia is necessary to deliver compassionate, quality oral health care to some infants, children, adolescents, and persons with special health care needs.
2. Include sedation, general anesthesia, and related facility services as benefits of health insurance without discrimination between the medical or dental nature of the procedure.
3. End arbitrary and unfair refusal of reimbursement for sedation, general anesthesia, and facility costs related to the delivery of oral health care.
4. Regularly consult the AAPD and the ADA with respect to the development of benefit plans that best serve the oral health interests of infants, children, adolescents, and patients with special care needs.21,22

The AAPD encourages all states to enact general anesthesia legislation that requires third party payors to reimburse for facility and/or anesthesia costs associated with providing oral health care for children.

References
Purpose
The American Academy of Pediatric Dentistry (AAPD), recognizing that patients with craniofacial anomalies require oral health care as a direct result of their craniofacial condition and that these services are an integral part of the rehabilitative process, advocates compensation for provision of comprehensive oral health care services throughout life.

Methods
This policy is an update of the document previously revised in 2006. It is based on review of current dental and medical literature, including a systematic literature search of the PubMed® electronic database with the following search parameters: Terms: orofacial anomalies OR cleft OR anodontia OR oligodontia OR ectodermal dysplasia AND insurance OR third party OR reimbursement; Fields: all; Limits: within the last 10 years, human, English. Twenty-six articles matched these criteria. Papers for review were chosen from this list and from the references within selected articles. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

Background
Congenital orofacial anomalies that result in malformed or missing teeth, such as but not limited to ectodermal dysplasia and cleft defects, can have significant negative functional, esthetic, and psychological effects on individuals and their families. Patients with craniofacial anomalies often require specialized oral health care as a direct result of their condition. These services are medically necessary and an integral part of the rehabilitative process. Young children benefit from esthetic and functional restorative techniques and readily adapt to appliances that replace missing teeth and improve function, appearance, and self-image. During the period of facial and oral growth, appliances require frequent adjustment and have to be remade as the individual grows.

These patients often are denied coverage for initial appliance construction and, more frequently, replacement of appliances as the child grows. Third-party payors legally may control the coverage of these services by limiting contractual benefits. The distinction between congenital anomalies involving the orofacial complex and those involving other parts of the body is often arbitrary and unfair. For instance, health care policies may provide reimbursement for the necessary prosthesis required for congenitally missing extremities and its replacement as the individual grows, but deny benefits for the initial prosthesis and the necessary periodic replacement for congenitally missing teeth. Third-party payors frequently will refuse to pay for oral health care services even when they clearly are associated with the complete rehabilitation of the craniofacial condition.

Furthermore, clerical personnel and professional consultants employed by third-party payors often make benefit determinations based on arbitrary distinction between medical versus dental anomalies, ignoring important functional and medical relationships. Evaluation and care provided for an infant, child, or adolescent by a cleft lip/palate, orofacial, or craniofacial deformities team have been described as the optimal way to coordinate and deliver complex services. This approach may provide additional documentation to facilitate medical necessity of dental rehabilitation.

Policy statement
The AAPD strongly believes that the dentist providing the oral health care for the patient determines the medical indication and justification for treatment in these cases.
The AAPD encourages third party payors to:

• Recognize that malformed and missing teeth and resultant anomalies of facial development seen in orofacial anomalies are congenital defects, just as the congenital absence of other body parts, requiring care over the life-time of the patient.

• Include oral health care services related to these facial and dental anomalies as benefits of health insurance without discrimination between the medical and dental nature of the congenital defect. These services, optimally provided by the craniofacial team, include, but are not limited to, initial appliance construction, periodic examinations, and replacement of appliances.

• End arbitrary and unfair refusal of compensation for oral health care services related to these facial and dental anomalies.

• Regularly consult the AAPD with respect to the development of benefit plans that best serve the oral health interests of infants, children, and adolescents with craniofacial anomalies.

References


Policy on Third-party Reimbursement of Fees Related to Dental Sealants

Originating Committee
Clinical Affairs Committee

Review Council
Council on Clinical Affairs

Adopted
1999

Revised

Purpose
The American Academy of Pediatric Dentistry (AAPD) recognizes that the placement of sealants and their continued maintenance are scientifically-sound and cost-effective techniques for prevention of pit and fissure caries.

Methods
This policy is an update of the previous document, revised in 2006, and is based upon a review of current dental literature related to dental sealants, including a systematic literature search. A PubMed® search was conducted using the following parameters: Terms: dental sealants AND insurance; Fields: all; Limits: within the last 10 years, humans, English. Thirty articles matched these criteria. Papers for review were chosen from this list and from the references within selected articles. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

Background
According to national estimates, by 17 years of age, 68 percent of children in the United States have experienced caries.1 As much as 90 percent of all caries in school-aged children occurs in pits and fissures. The teeth at highest risk by far are permanent first and second molars where fluoride has its least preventive effect on the pits and fissures. Any tooth, including primary teeth and permanent teeth other than molars, may benefit from sealant application due to fissure anatomy and caries risk factors.2,3 Caries risk may increase due to changes in patient habits, oral microflora, or physical condition, and unsealed teeth subsequently might benefit from sealant application.2,3

Current data show that, although initial sealant retention rates are high, sealant loss does occur.2 It is in the patient's interest to receive periodic evaluation of sealants for maintenance or replacement. Without recall and maintenance, sealant failure will compound over time, leaving previously sealed surfaces with a caries susceptibility equal to that of surfaces that never were sealed. With appropriate follow-up care, the success rate of sealants may be 80 to 90 percent, even after a decade.2

Although sealants are safe and effective, their use continues to be low.4 Sealants are particularly effective in preventing pit and fissure caries and provide cost savings if placed on patients during periods of greatest risk by delaying or avoiding invasive treatment and the destructive cycle of dental caries.5-7 However, initial insurance coverage for sealants often is denied, and insurance coverage for repair and/or replacement may be limited.4

Recommendations
The dentition should be evaluated periodically for developmental defects and deep pits and fissures that may contribute to caries risk. Dental sealants should be placed on susceptible teeth and should be evaluated for repair or replacement as part of a periodic dental examination.

Third party coverage for sealants should not be based upon a patient's age. Timing of the eruption of teeth can vary widely. Furthermore, caries risk may increase at any time during a patient's life.

The AAPD shall work with other dental organizations, the insurance industry, and consumer groups to make the advantages of dental sealants understood and to seek reimbursement for fees associated with their placement, maintenance, and repair.

References
**Policy on Third Party Fee Capping of Non-Covered Services**

*Originating Council*
Council on Dental Benefit Programs

*Adopted*
2012

**Purpose**
The American Academy of Pediatric Dentistry (AAPD) supports dental benefit plan provisions designed to meet the oral health needs of patients by facilitating, beginning at birth, the delivery of diagnostic, preventive, and therapeutic services in a comprehensive, continuously accessible, coordinated and family-centered manner. A well-constructed dental benefit plan respects and meets the needs of the plan purchaser, plan subscriber/patient, and plan provider.

**Methods**
This policy is based upon a comprehensive review and analysis of state laws and pending legislation prohibiting the capping of non-covered services by third party providers, the American Dental Association's Policy on Maximum Fees for Non-Covered Services, and proposed federal legislation.

**Background**
The American Dental Association (ADA) defines ‘covered service’ as “any service for which reimbursement is actually provided on a given claim” and noncovered service as “any service for which the third party provides no reimbursement”. Capping of non-covered services occurs when an insurance carrier sets a maximum allowable fee for a service ineligible for third-party reimbursement. While most contractual matters between insurers and providers are those of a private business relationship, this particular business practice is contrary to the public interest for the following reasons:

- It is unreasonable to allow plans to set fees for services in which they have no financial liability, and which may not cover the overhead expense of the services being provided. When this provision precludes dentist participation in a reimbursement plan, subscribers realize less choice in their selection of available providers. In many cases, especially in rural or other areas with limited general or specialty practitioners, this adversely affects access to care. This is particularly true for vulnerable populations, including children with special health care needs.

- Legislation to prohibit a dental insurer or dental service plan from limiting fees for services not covered under the plan, as contrary to public policy, was the law in over half of the states in 2011 and has been introduced in most other states, where eventual passage of most is generally assumed. The House of Delegates of the ADA in 2009 adopted Resolution 59H which opposed third party contract provisions that establish fee limits for non-covered services and called for state and federal legislation to prohibit such practices.

- Federal legislation prohibiting all group health plans (including stand-alone dental plans and medical plans with dental benefits) from applying the plan’s fee schedule to services for which no benefit or reimbursement is provided was introduced in 2010.

**Policy statement**
The AAPD believes that dental benefit plan provisions which establish fee limitations for non-covered services are not in the public’s interest and should not be imposed through provider contracts.
References
Guideline on Periodicity of Examination, Preventive Dental Services, Anticipatory Guidance/Counseling, and Oral Treatment for Infants, Children, and Adolescents

Originating Committee
Clinical Affairs Committee

Review Council
Council on Clinical Affairs

Adopted
1991

Revised

Purpose
The American Academy of Pediatric Dentistry (AAPD) intends this guideline to help practitioners make clinical decisions concerning preventive oral health interventions, including anticipatory guidance and preventive counseling, for infants, children, and adolescents.

Methods
This guideline is an update of a document previously revised in 2009. The update used electronic database and hand searches of articles in the medical and dental literature using the following parameters: Terms: periodicity of dental examinations, dental recall intervals, preventive dental services, anticipatory guidance and dentistry, caries risk assessment, early childhood caries, dental caries prediction, dental care cost effectiveness children, periodontal disease and children and adolescents US, pit and fissure sealants, dental sealants, fluoride supplementation and topical fluoride, dental trauma, dental fracture and tooth, nonnutritive oral habits, treatment of developing malocclusion, removal of wisdom teeth, removal of third molars; Fields: all; Limits: within the last 10 years, humans, English, and clinical trials; birth through age 18. From this search, 3,418 articles matched these criteria and were evaluated by title and/or abstract. Information from 113 articles was chosen for review to update this document. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

Background
Professional dental care is necessary to maintain oral health. The AAPD emphasizes the importance of initiating professional oral health intervention in infancy and continuing through adolescence and beyond. The periodicity of professional oral health intervention and services is based on a patient's individual needs and risk indicators. Each age group, as well as each individual child, has distinct developmental needs to be addressed at specific intervals as part of a comprehensive evaluation. Continuity of care is based on the assessed needs of the individual patient and assures appropriate management of all oral conditions, dental disease, and injuries. The early dental visit to establish a dental home provides a foundation upon which a lifetime of preventive education and oral health care can be built. Anticipatory guidance and counseling are essential components of the dental visit.

Recommendations
This guideline addresses periodicity and general principles of examination, preventive dental services, anticipatory guidance/counseling, and oral treatment for children who have no contributory medical conditions and are developing normally. An accurate, comprehensive, and up-to-date medical history is necessary for correct diagnosis and effective treatment planning. Recommendations may be modified to meet the unique requirements of patients with special health care needs.

Clinical oral examination
The first examination is recommended at the time of the eruption of the first tooth and no later than 12 months of age. The developing dentition and occlusion should be monitored throughout eruption at regular clinical examinations. Early detection and management of oral conditions can improve a child's oral health, general health and well-being, and school readiness. Delayed diagnosis of dental disease can result in exacerbated problems which lead to more extensive and costly care. Early diagnosis of developing malocclusions may allow for timely therapeutic intervention.
Components of a comprehensive oral examination include assessment of:

- General health/growth.
- Pain.
- Extraoral soft tissue.
- Temporomandibular joint.
- Intraoral soft tissue.
- Oral hygiene and periodontal health.
- Intraoral hard tissue.
- Developing occlusion.
- Caries risk.
- Behavior of child.

Based upon the visual examination, the dentist may employ additional diagnostic aids (eg, radiographs, photographs, pulp vitality testing, laboratory tests, study casts).756

The most common interval of examination is six months; however, some patients may require examination and preventive services at more or less frequent intervals, based upon historical, clinical, and radiographic findings.5,7,16-18,37-42 Caries and its sequelae are among the most prevalent health problems facing infants, children, and adolescents in America.1,43 Carious lesions are cumulative and progressive and, in the primary dentition, are highly predictive of caries occurring in the permanent dentition.6,64-66 Reevaluation and reinforcement of preventive activities contribute to improved instruction for the caregiver of the child or adolescent, continuity of evaluation of the patient’s health status, and repetitive exposure to dental procedures, potentially allaying anxiety and fear for the apprehensive child or adolescent.61

**Caries-risk assessment**

Risk assessment is a key element of contemporary preventive care for infants, children, adolescents, and persons with special health care needs. Its goal is to prevent disease by identifying and minimizing causative factors (eg, microbial burden, dietary habits, plaque accumulation) and optimizing protective factors (eg, fluoride exposure, oral hygiene, sealants).48 Caries risk assessment forms and management protocols simplify and clarify the process.25,49,50

Sufficient evidence demonstrates certain groups of children at greater risk for development of early childhood caries (ECC) would benefit from infant oral health care.22,28,51-53 Infants and young children have unique caries-risk factors such as ongoing establishment of oral flora and host defense systems, susceptibility of newly erupted teeth, and development of dietary habits. Children are most likely to develop caries if mutans streptococci are acquired at an early age.51,54 The characteristics of ECC and the availability of preventive approaches support age-based strategies in addressing this significant pediatric health problem.34 ECC can be a costly, devastating disease with lasting detrimental effects on the dentition and systemic health.22,28-35

Adolescence can be a time of heightened caries activity due to an increased intake of cariogenic substances and inattention to oral hygiene procedures.3,55,56 Risk assessment can assure preventive care is tailored to each individual’s needs and direct resources to those for whom preventive interventions provide the greatest benefit. Because a child’s risk for developing dental disease can change over time due to changes in habits (eg, diet, home care), oral microbiota, or physical condition, risk assessment must be documented and repeated regularly and frequently to maximize effectiveness.11,23

**Prophylaxis and topical fluoride treatment**

The interval for frequency of professional preventive services is based upon assessed risk for caries and periodontal disease.4,5,7,11,23,37,49-51 Gingivitis is nearly universal in children and adolescents51; it usually responds to thorough removal of bacterial deposits and improved oral hygiene.41,57,58 Hormonal fluctuations, including those occurring during the onset of puberty, can modify the gingival inflammatory response to dental plaque.41,42 Children can develop any of the several forms of periodontitis, with aggressive periodontitis occurring more commonly in children and adolescents than adults.54,42,58

Caries risk may change quickly during active dental eruption phases. Newly erupted teeth may be at higher risk of developing caries, especially during the post-eruption maturation process. Children who exhibit higher risk of developing caries would benefit from recall appointments at greater frequency than every six months.4,5,7,11,23,50,51 This allows increased professional fluoride therapy application, microbial monitoring, antimicrobial therapy reappraisal, and reevaluating behavioral changes for effectiveness.50,59,60 An individualized preventive plan increases the probability of good oral health by demonstrating proper oral hygiene methods/techniques and removing plaque, stain, and calculus.4,42,61

Professional topical fluoride treatments should be based on caries risk assessment.23,24,62-64 Plaque and pellicle are not a barrier to fluoride uptake in enamel.65-67 Consequently, there is no evidence of a difference in caries rates or fluoride uptake in patients who receive rubber cup prophylaxis or a toothbrush prophylaxis before fluoride treatment.65,66 Precautionary measures should be taken to prevent swallowing of any professionally-applied topical fluoride. Children at moderate caries risk should receive a professional fluoride treatment at least every six months; those with high caries risk should receive greater frequency of professional fluoride applications (eg, every three to six months).60,67,72 Ideally, this would occur as part of a comprehensive preventive program in a dental home.19

**Fluoride supplementation**

Fluoride contributes to the prevention, inhibition, and reversal of caries.64,72-74 The AAPD encourages optimal fluoride exposure for every child, recognizing fluoride in the community water supplies as the most beneficial and cost-effective preventive intervention. Fluoride supplementation should be considered for children at moderate to high caries risk when fluoride exposure is not optimal.72 Supplementation should be in accordance with the guidelines recommended by the AAPD72 and the American Dental Association (ADA)73.
Anticipatory guidance/counseling

Anticipatory guidance is the process of providing practical, developmentally-appropriate information about children's health to prepare parents for the significant physical, emotional, and psychological milestones. Initial discussion and counseling should be an integral part of each visit. Topics to be included are oral hygiene and dietary habits, injury prevention, nonnutritive habits, substance abuse, intraoral/perioral piercing, and speech/language development.

Oral hygiene counseling involves the parent and patient. Initially, oral hygiene is the responsibility of the parent. As the child develops, home care is performed jointly by parent and child. When a child demonstrates the understanding and ability to perform personal hygiene techniques, the health care professional should counsel the child. The effectiveness of home care should be monitored at every visit and includes a discussion on the consistency of daily preventive activities.

Caries-conducive dietary practices appear to be established early, probably by 12 months of age, and are maintained throughout early childhood. Dietary practices, including prolonged and/or frequent bottle or training cup with sugar-containing drinks and frequent between-meal consumption of sugar-containing snacks or drinks (eg, juice, formula, soda), increase the risk of caries. The role of carbohydrates in caries initiation is unequivocal. Acids in carbonated beverages and sports drinks can have a deleterious effect (ie, erosion) on enamel. Excess consumption of carbohydrates, fats, and sodium contribute to poor systemic health.

Dietary analysis and the role of dietary choices on oral health, malnutrition, and obesity should be addressed through nutritional and preventive oral health counseling at periodic visits. The US Department of Agriculture's Food Plate and Center for Disease Control and Prevention/National Center for Health Statistics' Growth Charts provide guidance for parents and their children and promote better understanding of the relationship between healthy diet and development.

Facial trauma that results in fractured, displaced, or lost teeth can have significant negative functional, esthetic, and psychological effects on children. Practitioners should provide age-appropriate injury prevention counseling for orofacial trauma. Initially, discussions would include advice regarding play objects, pacifiers, car seats, and electrical cords. As motor coordination develops, the parent/patient should be counseled on additional safety and preventive measures, including use of athletic mouthguards for sporting activities. The greatest incidence of trauma to the primary dentition occurs at two to three years of age, a time of increased mobility and developing coordination. The most common injuries to permanent teeth occur secondary to falls, followed by traffic accidents, violence, and sports. Dental injuries could have improved outcomes if the public were aware of first-aid measures and the need to seek immediate treatment.

Nonnutritive oral habits (eg, digital and pacifier habits, bruxism, abnormal tongue thrusts) may apply forces to teeth and dentoalveolar structures. Although early use of pacifiers and digit sucking are considered normal, habits of sufficient frequency, intensity, and duration can contribute to deleterious changes in occlusion and facial development. It is important to discuss the need for early pacifier and digit sucking, then the need to wean from the habits before malocclusion or skeletal dysplasias occur. Early dental visits provide an opportunity to encourage parents to help their children stop sucking habits by age three years or younger. For school-aged children and adolescent patients, counseling regarding any existing habits (eg, fingernail biting, clenching, bruxism) is appropriate.

Speech and language are integral components of a child's early development. Deficiencies and abnormal delays in speech and language production can be recognized early and referral made to address these concerns. Communication and coordination of appliance therapy with a speech and language professional can assist in the timely treatment of speech disorders.

Smoking and smokeless tobacco use almost always are initiated and established in adolescence. During this time period, children may be exposed to opportunities to experiment with other substances that negatively impact their health and well-being. Practitioners should provide education regarding the serious health consequences of tobacco use and exposure to second hand smoke. The practitioner may need to obtain information regarding tobacco use and alcohol/drug abuse confidentially from an adolescent patient. When substance abuse has been identified, referral for appropriate intervention is indicated.

Complications from intraoral/perioral piercings can range from pain, infection, and tooth fracture to life-threatening conditions of bleeding, edema, and airway obstruction. Although piercings most commonly are observed in the teen-aged pediatric dental patient, education regarding pathologic conditions and sequelae associated with these piercings should be initiated for the preteen child/parent and reinforced during subsequent periodic visits.

Radiographic assessment

Appropriate radiographs are a valuable adjunct in the oral health care of infants, children, and adolescents. Timing of initial radiographic examination should not be based on the patient's age. Rather, after review of an individual's history and clinical findings, judicious determination of radiographic needs and examination can optimize patient care while minimizing radiation exposure. The US Food and Drug Administration/ADA guidelines were developed to assist the dentist in deciding under what circumstances specific radiographs are indicated.

Treatment of dental disease/injury

Health care providers who diagnose oral disease or trauma should either provide therapy or refer the patient to an appropriately-trained individual for treatment.
intervention is necessary to prevent further dental destruction, as well as more widespread health problems. Postponed treatment can result in exacerbated problems that may lead to the need for more extensive care.\textsuperscript{21,29,30,34} Early intervention could result in savings of healthcare dollars for individuals, community health care programs, and third party payors.\textsuperscript{21,29,30,34}

Treatment of developing malocclusion
Guidance of eruption and development of the primary, mixed, and permanent dentitions is an integral component of comprehensive oral health care for all pediatric dental patients.\textsuperscript{26} Early diagnosis and successful treatment of developing malocclusions can have both short-term and long-term benefits, while achieving the goals of occlusal harmony and function and dentofacial esthetics.\textsuperscript{104-108} Early treatment is beneficial for many patients, but is not indicated for every patient. When there is a reasonable indication that an oral habit will result in unfavorable sequelae in the developing permanent dentition, any treatment must be appropriate for the child’s development, comprehension, and ability to cooperate. Use of an appliance is indicated only when the child wants to stop the habit and would benefit from a reminder.\textsuperscript{26} At each stage of occlusal development, the objectives of intervention/treatment include: (1) reversing adverse growth, (2) preventing dental and skeletal disharmonies, (3) improving esthetics of the smile, (4) improving self-image, and (5) improving the occlusion.\textsuperscript{26}

Sealants
Sealants reduce the risk of pit and fissure caries in susceptible teeth and are cost-effective when maintained.\textsuperscript{109-113} They are indicated for primary and permanent teeth with pits and fissures that are predisposed to plaque retention.\textsuperscript{112} At-risk pits and fissures should be sealed as soon as possible. Because caries risk may increase at any time during a patient’s life due to changes in habits (eg, dietary, home care), oral microflora, or physical condition, unsealed teeth subsequently might benefit from sealant application.\textsuperscript{109,114} The need for sealant placement should be reassessed at periodic preventive care appointments. Sealants should be monitored and repaired or replaced as needed.\textsuperscript{111,112,114}

Third molars
Panoramic or periapical radiographic assessment is indicated during late adolescence to assess the presence, position, and development of third molars.\textsuperscript{38,39} A decision to remove or retain third molars should be made before the middle of the third decade.\textsuperscript{115} Impacted third molars are potentially pathologic. Pathologic conditions generally are more common with an increase in age. Evaluation and treatment may require removal, exposure, and/or repositioning. In selected cases, long-term monitoring may be needed. Treatment should be provided before pathologic conditions adversely affect the patient’s oral and/or systemic health.\textsuperscript{108,115,116} Consideration should be given to removal when there is a high probability of disease or pathology and/or the risks associated with early removal are less than the risks of later removal.\textsuperscript{14,108,116} Postoperative complications for removal of impacted third molars are low when performed at an early age. A Cochrane review in 2012 reported there was no difference in late lower incisor crowding with removal or retention of asymptomatic impacted third molars.\textsuperscript{117}

Referral for regular and periodic dental care
As adolescent patients approach the age of majority, it is important to educate the patient and parent on the value of transitioning to a dentist who is knowledgeable in adult oral health care. At the time agreed upon by the patient, parent, and pediatric dentist, the patient should be referred to a specific practitioner in an environment sensitive to the adolescent’s individual needs.\textsuperscript{9,27} Until the new dental home is established, the patient should maintain a relationship with the current care provider and have access to emergency services. Proper communication and records transfer allow for consistent and continuous care for the patient.\textsuperscript{36}

Recommendations by age
6 to 12 months
1. Complete the clinical oral examination with adjunctive diagnostic tools (eg, radiographs as determined by child’s history, clinical findings, and susceptibility to oral disease) to assess oral growth and development, pathology, and/or injuries; provide diagnosis.
2. Provide oral hygiene counseling for parents, including the implications of the oral health of the caregiver.
3. Remove supragingival and subgingival stains or deposits as indicated.
4. Assess the child’s systemic and topical fluoride status (including type of infant formula used, if any, and exposure to fluoridated toothpaste) and provide counseling regarding fluoride. Prescribe systemic fluoride supplements, if indicated, following assessment of total fluoride intake from drinking water, diet, and oral hygiene products.
5. Assess appropriateness of feeding practices, including bottle and breast-feeding, and provide counseling as indicated.
6. Provide dietary counseling related to oral health.
7. Provide age-appropriate injury prevention counseling for orofacial trauma.
8. Provide counseling for nonnutritive oral habits (eg, digit, pacifiers).
9. Provide required treatment and/or appropriate referral for any oral diseases or injuries.
11. Consult with the child’s physician as needed.
13. Determine the interval for periodic reevaluation.

12 to 24 months
1. Repeat the procedures for ages six to 12 months every six months or as indicated by individual patient’s risk status/susceptibility to disease.
2. Assess appropriateness of feeding practices (including bottle, breast-feeding, and no-spill training cups) and provide counseling as indicated.
3. Review patient’s fluoride status (including any childcare arrangements which may impact systemic fluoride intake) and provide parental counseling.
4. Provide topical fluoride treatments every six months or as indicated by the individual patient’s needs.

2 to 6 years
1. Repeat the procedures for 12 to 24 months every six months or as indicated by individual patient’s risk status/susceptibility to disease. Provide age-appropriate oral hygiene instructions.
2. Scale and clean the teeth every six months or as indicated by individual patient’s needs.
3. Provide pit and fissure sealants for caries-susceptible primary molars and permanent molars, premolars, and anterior teeth.
4. Provide counseling and services (eg, mouthguards) as needed for orofacial trauma prevention.
5. Provide assessment/treatment or referral of developing malocclusion as indicated by individual patient’s needs.
6. Provide required treatment and/or appropriate referral for any oral diseases, habits, or injuries as indicated.
7. Assess speech and language development and provide appropriate referral as indicated.

6 to 12 years
1. Repeat the procedures for ages two to six years every six months or as indicated by individual patient’s risk status/susceptibility to disease.
2. Provide substance abuse counseling (eg, smoking, smokeless tobacco).
3. Provide counseling on intraoral/perioral piercing.

12 years and older
1. Repeat the procedures for ages six to 12 years every six months or as indicated by individual patient’s risk status/susceptibility to disease.
2. During late adolescence, assess the presence, position, and development of third molars, giving consideration to removal when there is a high probability of disease or pathology and/or the risks associated with early removal are less than the risks of later removal.
3. At an age determined by patient, parent, and pediatric dentist, refer the patient to a general dentist for continuing oral care.

References
73. CDC. Recommendations for using fluoride to prevent and control dental caries in the United States. MMWR 2001;50(RR14):1-42.


## Recommendations for Pediatric Oral Health Assessment, Preventive Services, and Anticipatory Guidance/Counseling

Since each child is unique, these recommendations are designed for the care of children who have no contributing medical conditions and are developing normally. These recommendations will need to be modified for children with special health care needs or if disease or trauma manifests variations from normal. The American Academy of Pediatric Dentistry (AAPD) emphasizes the importance of very early professional intervention and the continuity of care based on the individualized needs of the child. Refer to the text of this guideline for supporting information and references. Refer to the text in the Guideline on Periodicity of Examination, Preventive Dental Services, Anticipatory Guidance, and Oral Treatment for Infants, Children, and Adolescents (www.aapd.org/media/Policies_Guidelines/G_Periodicity.pdf) for supporting information and references.

### Age Groups

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<tr>
<td>Assessment and/or removal of third molars</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transition to adult dental care</td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

1. First examination at the eruption of the first tooth and no later than 12 months. Repeat every 6 months or as indicated by child’s risk status/susceptibility to disease. Includes assessment of pathology and injuries.
2. By clinical examination.
3. Must be repeated regularly and frequently to maximize effectiveness.
4. Timing, selection, and frequency determined by child’s history, clinical findings, and susceptibility to oral disease.
5. Consider when systemic fluoride exposure is suboptimal. Up to at least 16 years.
6. Appropriate discussion and counseling should be an integral part of each visit for care.
7. Initially, responsibility of parent; as child matures, jointly with parent; then, when indicated, only child.
8. At every appointment; initially discuss appropriate feeding practices, then the role of refined carbohydrates and frequency of snacking in caries development and childhood obesity.
9. Initially play objects, pacifiers, car seats; when learning to walk; then with sports and routine playing, including the importance of mouthguards.
10. At first, discuss the need for additional sucking: digits vs pacifiers; then the need to wean from the habit before malocclusion or skeletal dysplasia occurs. For school-aged children and adolescents patients, counsel regarding any existing habits such as fingernail biting, clenching, or bruxism.
11. For caries-susceptible primary molars, permanent molars, premolars, and anterior teeth with deep pits and fissures; placed as soon as possible after eruption.
Guideline on Caries-risk Assessment and Management for Infants, Children, and Adolescents

Originating Council
Council on Clinical Affairs

Review Council
Council on Clinical Affairs

Adopted
2002

Revised *

Purpose
The American Academy of Pediatric Dentistry (AAPD) recognizes that caries-risk assessment and management protocols can assist clinicians with decisions regarding treatment based upon caries risk and patient compliance and are essential elements of contemporary clinical care for infants, children, and adolescents. This guideline is intended to educate health care providers and other interested parties on the assessment of caries risk in contemporary pediatric dentistry and aid in clinical decision making regarding diagnostic, fluoride, dietary, and restorative protocols.

Methods
This guideline is an update of AAPD’s Policy on Use of a Caries-risk Assessment Tool (CAT) for Infants, Children, and Adolescents, Revised 2006 that includes the additional concepts of dental caries management protocols. The update used electronic and hand searches of English written articles in the medical and dental literature within the last 10 years using the search terms caries risk assessment, caries management, and caries clinical protocols. From this search, 1,909 articles were evaluated by title or by abstract. Information from 75 articles was used to update this document. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

Background
Caries-risk assessment
Risk assessment procedures used in medical practice normally have sufficient data to accurately quantitate a person’s disease susceptibility and allow for preventive measures.1 Even though caries-risk data in dentistry still are not sufficient to quantitate the models, the process of determining risk should be a component in the clinical decision-making process:2 Risk assessment:

1. Fosters the treatment of the disease process instead of treating the outcome of the disease.
2. Gives an understanding of the disease factors for a specific patient and aids in individualizing preventive discussions.
3. Individualizes, selects, and determines frequency of preventive and restorative treatment for a patient.
4. Anticipates caries progression or stabilization.

Caries-risk assessment models currently involve a combination of factors including diet, fluoride exposure, a susceptible host, and microflora that interplay with a variety of social, cultural, and behavioral factors.3-6 Caries risk assessment is the determination of the likelihood of the incidence of caries (ie, the number of new cavitated or incipient lesions) during a certain time period7 or the likelihood that there will be a change in the size or activity of lesions already present. With the ability to detect caries in its earliest stages (ie, white spot lesions), health care providers can help prevent cavitation.8-10

Caries-risk indicators are variables that are thought to cause the disease directly (eg, microflora) or have been shown useful in predicting it (eg, socioeconomic status) and include those variables that may be considered protective factors. Currently, there are no caries-risk factors or combinations of factors that have achieved high levels of both positive and negative predictive values.2 Although the best tool to predict future caries is past caries experience, it is not particularly useful in young children due to the importance of determining caries risk before the disease is manifest. Children with white spot lesions should be considered at high risk for caries since these are precavitated lesions that are indicative of caries activity.11 Plaque accumulation also is strongly associated with caries development in young children.12,13 As a corollary to the presence of plaque,14 a child’s Mutans Streptococci (MS) levels5 and the age at which a child becomes colonized with cariogenic flora15,16 are valuable in assessing risk, especially in preschool children.

* The 2013 revision was limited to modification of Table 1. Caries-risk Assessment Form for 0-3 Year Olds (For Physicians and Other Non-Dental Health Care Providers). The 2014 revision was limited to use of toothpaste in young children.
While there is no question that fermentable carbohydrates are a necessary link in the causal chain for dental caries, a systematic study of sugar consumption and caries risk has concluded that the relationship between sugar consumption and caries is much weaker in the modern age of fluoride exposure than previously thought. However, there is evidence that night-time use of the bottle, especially when it is prolonged, may be associated with early childhood caries. Despite the fact that normal salivary flow is an extremely important intrinsic host factor providing protection against caries, there is little data about the prevalence of low salivary flow in children.

Sociodemographic factors have been studied extensively to determine their effect on caries risk. Children with immigrant backgrounds have three times higher caries rates than non-immigrants. Most consistently, an inverse relationship between socioeconomic status and caries prevalence is found in studies of children less than six years of age. Perhaps another type of sociodemographic variable is the parents’ history of cavities and abscessed teeth; this has been found to be a predictor of treatment for early childhood caries.

The most studied factors that are protective of dental caries include systemic and topical fluoride, sugar substitutes, and tooth brushing with fluoridated toothpaste. Teeth of children who reside in a fluoridated community have been shown to have higher fluoride content than those of children who reside in suboptimal fluoridated communities. Additionally, both pre- and post-eruption fluoride exposure maximize the caries-preventive effects. For individuals residing in non-fluoridated communities, fluoride supplements have shown a significant caries reduction in primary and permanent teeth. With regard to fluoridated toothpaste, studies have shown consistent reduction in caries experience. Professional topical fluoride applications performed semiannually also reduce caries, and fluoride varnishes generally are equal to that of other professional topical fluoride vehicles.

The effect of sugar substitutes on caries rates have been evaluated in several populations with high caries prevalence. Studies indicate that xylitol can decrease MS levels in plaque and saliva and can reduce dental caries in young children and adults, including children via their mothers. With regard to toothbrushing, there only is a weak relationship between frequency of brushing and decreased dental caries, which is confounded because it is difficult to distinguish whether the effect is actually a measure of fluoride application or whether it is a result of mechanical removal of plaque. The dental home or regular periodic care by the same practitioner is included in many caries-risk assessment models because of its known benefit for dental health.

Risk assessment tools can aid in the identification of reliable predictors and allow dental practitioners, physicians, and other nondental health care providers to become more actively involved in identifying and referring high-risk children. Tables 1, 2, and 3 incorporate available evidence into practical tools to assist dental practitioners, physicians, and

<table>
<thead>
<tr>
<th>Factors</th>
<th>High Risk</th>
<th>Low Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biological</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother/primary caregiver has active cavities</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Parent/caregiver has low socioeconomic status</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Child has &gt;3 between meal sugar-containing snacks or beverages per day</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Child is put to bed with a bottle containing natural or added sugar</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Child has special health care needs</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Child is a recent immigrant</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Protective</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child receives optimally-fluoridated drinking water or fluoride supplements</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Child has teeth brushed daily with fluoridated toothpaste</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Child receives topical fluoride from health professional</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Child has dental home/regular dental care</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Clinical Findings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child has white spot lesions or enamel defects</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Child has visible cavities or fillings</td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Child has plaque on teeth</td>
<td>Yes</td>
<td></td>
</tr>
</tbody>
</table>

Circling those conditions that apply to a specific patient helps the health care worker and parent understand the factors that contribute to or protect from caries. Risk assessment categorization of low or high is based on preponderance of factors for the individual. However, clinical judgment may justify the use of one factor (eg, frequent exposure to sugar containing snacks or beverages, visible cavities) in determining overall risk.

Overall assessment of the child’s dental caries risk: High □ Low □
### Table 2. Caries-risk Assessment Form for 0-5 Year Olds\(^{59,60}\)  
(For Dental Providers)

<table>
<thead>
<tr>
<th>Factors</th>
<th>High Risk</th>
<th>Moderate Risk</th>
<th>Low Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biological</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mother/primary caregiver has active caries</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parent/caregiver has low socioeconomic status</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child has &gt;3 between meal sugar-containing snacks or beverages per day</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child is put to bed with a bottle containing natural or added sugar</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child has special health care needs</td>
<td></td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Child is a recent immigrant</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Protective</strong></td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Child receives optimally-fluoridated drinking water or fluoride supplements</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child has teeth brushed daily with fluoridated toothpaste</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child receives topical fluoride from health professional</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child has dental home/regular dental care</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Clinical Findings</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child has &gt;1 decayed/missing/filled surfaces</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child has active white spot lesions or enamel defects</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child has elevated mutans streptococci levels</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Child has plaque on teeth</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Circling those conditions that apply to a specific patient helps the practitioner and parent understand the factors that contribute to or protect from caries. Risk assessment categorization of low, moderate, or high is based on preponderance of factors for the individual. However, clinical judgment may justify the use of one factor (eg, frequent exposure to sugar-containing snacks or beverages, more than one dmfs) in determining overall risk.

Overall assessment of the child’s dental caries risk:  

- High □  
- Moderate □  
- Low □

### Table 3. Caries-risk Assessment Form for ≥6 Years Olds\(^{60-62}\)  
(For Dental Providers)

<table>
<thead>
<tr>
<th>Factors</th>
<th>High Risk</th>
<th>Moderate Risk</th>
<th>Low Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Biological</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient is of low socioeconomic status</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient has &gt;3 between meal sugar-containing snacks or beverages per day</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient has special health care needs</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient is a recent immigrant</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Protective</strong></td>
<td></td>
<td>Yes</td>
<td></td>
</tr>
<tr>
<td>Patient receives optimally-fluoridated drinking water</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient brushes teeth daily with fluoridated toothpaste</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient receives topical fluoride from health professional</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional home measures (eg, xylitol, MI paste, antimicrobial)</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient has dental home/regular dental care</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Clinical Findings</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient has ≥1 interproximal lesions</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient has active white spot lesions or enamel defects</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient has low salivary flow</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient has defective restorations</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient wearing an intraoral appliance</td>
<td>Yes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Circling those conditions that apply to a specific patient helps the practitioner and patient/parent understand the factors that contribute to or protect from caries. Risk assessment categorization of low, moderate, or high is based on preponderance of factors for the individual. However, clinical judgment may justify the use of one factor (eg, ≥1 interproximal lesions, low salivary flow) in determining overall risk.

Overall assessment of the dental caries risk:  

- High □  
- Moderate □  
- Low □
other non-dental health care providers in assessing levels of risk for caries development in infants, children, and adolescents. As new evidence emerges, these tools can be refined to provide greater predictably of caries in children prior to disease initiation. Furthermore, the evolution of caries-risk assessment tools and protocols can assist in providing evidence for and justifying periodicity of services, modification of third-party involvement in the delivery of dental services, and quality of care with outcomes assessment to address limited resources and work-force issues.

### Table 4. Example of a Caries Management Protocol for 1-2 Year Olds

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Diagnostics</th>
<th>Interventions</th>
<th>Restorative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low risk</td>
<td>– Recall every six to 12 months  &lt;br&gt;– Baseline MS&lt;sup&gt;a&lt;/sup&gt;</td>
<td>– Twice daily brushing  &lt;br&gt;– Fluoride Diet  &lt;br&gt;– Counseling  &lt;br&gt;– Surveillance&lt;sup&gt;x&lt;/sup&gt;</td>
<td>– Surveillance&lt;sup&gt;x&lt;/sup&gt;</td>
</tr>
<tr>
<td>Moderate risk</td>
<td>– Recall every six months  &lt;br&gt;– Baseline MS&lt;sup&gt;a&lt;/sup&gt;</td>
<td>– Twice daily brushing with fluoridated toothpaste  &lt;br&gt;– Fluoride supplements  &lt;br&gt;– Professional topical treatment every six months  &lt;br&gt;– Counseling</td>
<td>– Active surveillance&lt;sup&gt;y&lt;/sup&gt; of incipient lesions</td>
</tr>
<tr>
<td>Moderate risk</td>
<td>– Recall every six months  &lt;br&gt;– Baseline MS&lt;sup&gt;a&lt;/sup&gt;</td>
<td>– Twice daily brushing with fluoridated toothpaste  &lt;br&gt;– Fluoride supplements  &lt;br&gt;– Professional topical treatment every six months  &lt;br&gt;– Counseling, with limited expectations</td>
<td>– Active surveillance&lt;sup&gt;y&lt;/sup&gt; of incipient lesions</td>
</tr>
<tr>
<td>High risk</td>
<td>– Recall every three months  &lt;br&gt;– Baseline and follow up MS&lt;sup&gt;a&lt;/sup&gt;</td>
<td>– Twice daily brushing with fluoridated toothpaste  &lt;br&gt;– Fluoride supplements  &lt;br&gt;– Professional topical treatment every three months  &lt;br&gt;– Counseling</td>
<td>– Active surveillance&lt;sup&gt;y&lt;/sup&gt; of incipient lesions  &lt;br&gt;– Restore cavitated lesions with ITR&lt;sup&gt;f&lt;/sup&gt; or definitive restorations</td>
</tr>
<tr>
<td>High risk</td>
<td>– Recall every three months  &lt;br&gt;– Baseline and follow up MS&lt;sup&gt;a&lt;/sup&gt;</td>
<td>– Twice daily brushing with fluoridated toothpaste  &lt;br&gt;– Fluoride supplements  &lt;br&gt;– Professional topical treatment every three months  &lt;br&gt;– Counseling, with limited expectations</td>
<td>– Active surveillance&lt;sup&gt;y&lt;/sup&gt; of incipient lesions  &lt;br&gt;– Restore cavitated lesions with ITR&lt;sup&gt;f&lt;/sup&gt; or definitive restorations</td>
</tr>
</tbody>
</table>

### Table 5. Example of a Caries Management Protocol for 3-5 Year Olds

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Diagnostics</th>
<th>Interventions</th>
<th>Restorative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low risk</td>
<td>– Recall every six to 12 months  &lt;br&gt;– Radiographs every 12 to 24 months  &lt;br&gt;– Baseline MS&lt;sup&gt;a&lt;/sup&gt;</td>
<td>– Twice daily brushing with fluoridated toothpaste  &lt;br&gt;– Fluoride Diet  &lt;br&gt;– No</td>
<td>– Surveillance&lt;sup&gt;x&lt;/sup&gt;</td>
</tr>
<tr>
<td>Moderate risk</td>
<td>– Recall every six months  &lt;br&gt;– Radiographs every six to 12 months  &lt;br&gt;– Baseline MS&lt;sup&gt;a&lt;/sup&gt;</td>
<td>– Twice daily brushing with fluoridated toothpaste  &lt;br&gt;– Fluoride supplements  &lt;br&gt;– Professional topical treatment every six months  &lt;br&gt;– Counseling</td>
<td>– Active surveillance&lt;sup&gt;y&lt;/sup&gt; of incipient lesions  &lt;br&gt;– Restoration of cavitated or enlarging lesions</td>
</tr>
<tr>
<td>Moderate risk</td>
<td>– Recall every six months  &lt;br&gt;– Radiographs every six to 12 months  &lt;br&gt;– Baseline MS&lt;sup&gt;a&lt;/sup&gt;</td>
<td>– Twice daily brushing with fluoridated toothpaste  &lt;br&gt;– Fluoride supplements  &lt;br&gt;– Professional topical treatment every six months  &lt;br&gt;– Counseling, with limited expectations</td>
<td>– Active surveillance&lt;sup&gt;y&lt;/sup&gt; of incipient lesions  &lt;br&gt;– Restoration of cavitated or enlarging lesions</td>
</tr>
<tr>
<td>High risk</td>
<td>– Recall every three months  &lt;br&gt;– Radiographs every six months  &lt;br&gt;– Baseline and follow up MS&lt;sup&gt;a&lt;/sup&gt;</td>
<td>– Brushing with 0.5 percent fluoride (with caution)  &lt;br&gt;– Fluoride supplements  &lt;br&gt;– Professional topical treatment every three months  &lt;br&gt;– Counseling</td>
<td>– Active surveillance&lt;sup&gt;y&lt;/sup&gt; of incipient lesions  &lt;br&gt;– Restoration of cavitated or enlarging lesions</td>
</tr>
<tr>
<td>High risk</td>
<td>– Recall every three months  &lt;br&gt;– Radiographs every six months  &lt;br&gt;– Baseline and follow up MS&lt;sup&gt;a&lt;/sup&gt;</td>
<td>– Brushing with 0.5 percent fluoride (with caution)  &lt;br&gt;– Professional topical treatment every three months  &lt;br&gt;– Counseling, with limited expectations</td>
<td>– Restore incipient, cavitated, or enlarging lesions</td>
</tr>
</tbody>
</table>
It is now known that surgical intervention of dental caries destroy the tooth unless there was surgical/restorative intervention. Decisions for intervention often were learned from unstandardized dental school instruction, and then refined by clinicians over years of practice. Little is known about the criteria dentists use when making decisions involving restoration of carious lesions.36

It is now known that surgical intervention of dental caries alone does not stop the disease process. Additionally, many lesions do not progress, and tooth restorations have a finite longevity. Therefore, modern management of dental caries should be more conservative and includes early detection of noncavitated lesions, identification of an individual’s risk for caries progression, understanding of the disease process for that individual, and active surveillance to apply preventive measures and monitor carefully for signs of arrestment or progression.

Caries management protocols

Clinical management protocols are documents designed to assist in clinical decision-making; they provide criteria regarding diagnosis and treatment and lead to recommended courses of action. The protocols are based on evidence from current peer-reviewed literature and the considered judgment of expert panels, as well as clinical experience of practitioners. The protocols should be updated frequently as new technologies and evidence develop.

Historically, the management of dental caries was based on the notion that it was a progressive disease that eventually destroyed the tooth unless there was surgical/restorative intervention. Decisions for intervention were often learned from unstandardized dental school instruction, and then refined by clinicians over years of practice. Little is known about the criteria dentists use when making decisions involving restoration of carious lesions.36

<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Diagnostics</th>
<th>Interventions</th>
<th>Restorative</th>
</tr>
</thead>
</table>
| Low risk      | – Recall every six to 12 months  
– Radiographs every 12 to 24 months | – Twice daily brushing with fluoridated toothpasteβ  
– Fluoride supplements b  
– Professional topical treatment every six months | – Surveillance γ |
| Moderate risk patient/patient engaged | – Recall every six months  
– Radiographs every six to 12 months | – Twice daily brushing with fluoridated toothpasteβ  
– Fluoride supplements b  
– Professional topical treatment every six months | – Counseling  
– Active surveillance γ of incipient lesions  
– Restoration of cavitated or enlarging lesions |
| Moderate risk patient/patient not engaged | – Recall every six months  
– Radiographs every six to 12 months | – Twice daily brushing with toothpasteβ  
– Fluoride supplements b  
– Professional topical treatment every six months | – Counseling  
– Restorative, with limited expectations  
– Active surveillance γ of incipient lesions  
– Restoration of cavitated or enlarging lesions |
| High risk patient/patient engaged | – Recall every three months  
– Radiographs every six months | – Brushing with 0.5 percent fluoride  
– Fluoride supplements b  
– Professional topical treatment every three months | – Counseling  
– Xylitol  
– Active surveillance γ of incipient lesions  
– Restoration of cavitated or enlarging lesions |
| High risk patient/patient not engaged | – Recall every three months  
– Radiographs every six months | – Brushing with 0.5 percent fluoride  
– Professional topical treatment every three months | – Counseling  
– Restorative, with limited expectations  
– Xylitol  
– Restore incipient, cavitated, or enlarging lesions |

Legends for Tables 4-6

- α Salivary mutans streptococci bacterial levels.
- γ Periodic monitoring for signs of caries progression.
- β Parental supervision of a "smear" amount of toothpaste.
- δ Need to consider fluoride levels in drinking water.
- ε Careful monitoring of caries progression and prevention program.
- ψ Interim therapeutic restoration.65
- γ Parental supervision of a "pea sized" amount of toothpaste.
- λ Indicated for teeth with deep fissure anatomy or developmental defects.
- μ Less concern about the quantity of toothpaste.
on the latest guidelines from the American Dental Association (ADA). Systemic fluoride protocols are based on the Centers for Disease Control and Prevention’s (CDC) recommendations for using fluoride. Guidelines for the use of topical fluoride treatment are based on the ADA’s Council on Scientific Affairs’ recommendations for use of fluoride toothpaste in young children and professionally applied and prescription strength home-use topical fluoride, and the CDC’s fluoride guidelines. Guidelines for pit and fissure sealants are based on the ADA’s Council on Scientific Affairs recommendations for the use of pit-and-fissure sealants. Guidelines on diet counseling to prevent caries are based on two review papers. Guidelines for the use of xylitol are based on the AAPD’s oral health policy on use of xylitol in caries prevention, a well-executed clinical trial on high caries-risk infants and toddlers, and two evidence-based reviews. Active surveillance (prevention therapies and close monitoring) of enamel lesions is based on the concept that treatment of disease may only be necessary if there is disease progression, that caries progression has diminished over recent decades, and that the majority of proximal lesions, even in dentin, are not cavitated. Other approaches to the assessment and treatment of dental caries will emerge with time and, with evidence of effectiveness, may be included in future guidelines on caries-risk assessment and management protocols. For example, there are emerging trends to use calcium and phosphate remineralizing solution to reverse dental caries. Other fluoride compounds, such as silver diamine fluoride and stannous fluoride, may be more effective than sodium fluoride for topical applications. There has been interest in antimicrobials to affect the caries rates, but evidence from caries trials is still inconclusive. However, some other proven methods, such as prescription fluoride drops and tablets, may be removed from this protocol in the future due to attitudes, risks, or compliance.

**Recommendations**

1. Dental caries-risk assessment, based on a child’s age, biological factors, protective factors, and clinical findings, should be a routine component of new and periodic examinations by oral health and medical providers.

2. While there is not enough information at present to have quantitative caries-risk assessment analyses, estimating children at low, moderate, and high caries risk by a preponderance of risk and protective factors will enable a more evidence-based approach to medical provider referrals, as well as establish periodicity and intensity of diagnostic, preventive, and restorative services.

3. Clinical management protocols, based on a child’s age, caries risk, and level of patient/parent cooperation, provide health providers with criteria and protocols for determining the types and frequency of diagnostic, preventive, and restorative care for patient specific management of dental caries.

**References**

Guideline on Pulp Therapy for Primary and Immature Permanent Teeth

Originating Committee
Clinical Affairs Committee – Pulp Therapy Subcommittee

Review Council
Council on Clinical Affairs

Adopted
1991

Revised

Purpose
The American Academy of Pediatric Dentistry (AAPD) intends this guideline to aid in the diagnosis of pulp health versus pathosis and to set forth the indications, objectives, and therapeutic interventions for pulp therapy in primary and immature permanent teeth.

Methods
This revision included a new systematic literature search of the PubMed® electronic data base using the following parameters: Terms: pulpotomy, pulpectomy, indirect pulp treatment, stepwise excavation, pulp therapy, pulp capping, pulp exposure, bases, liners, calcium hydroxide, formocresol, ferric sulfate, glass ionomer, mineral trioxide aggregate (MTA), bacterial microleakage under restorations, dentin bonding agents, resin modified glass ionomers, and endodontic irrigants; Fields: all. Papers for review were chosen from the resultant lists and from hand searches. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion including those from the 2007 joint symposium of the AAPD and the American Association of Endodontists (AAE) titled “Emerging Science in Pulp Therapy: New Insights into Dilemmas and Controversies” (Chicago, Ill.)

Background
The primary objective of pulp therapy is to maintain the integrity and health of the teeth and their supporting tissues. It is a treatment objective to maintain the vitality of the pulp of a tooth affected by caries, traumatic injury, or other causes. Especially in young permanent teeth with immature roots, the pulp is integral to continue apexogenesis. Long term retention of a permanent tooth requires a root with a favorable crown/root ratio and dentinal walls that are thick enough to withstand normal function. Therefore, pulp preservation is a primary goal for treatment of the young permanent dentition. A tooth without a vital pulp, however, can remain clinically functional. The indications, objectives, and type of pulpal therapy depend on whether the pulp is vital or nonvital, based on the clinical diagnosis of normal pulp (symptom free and normally responsive to vitality testing), reversible pulpitis (pulp is capable of healing), symptomatic or asymptomatic irreversible pulpitis (vital inflamed pulp is incapable of healing), or necrotic pulp. The clinical diagnosis is derived from:

1. A comprehensive medical history.
2. A review of past and present dental history and treatment, including current symptoms and chief complaint.
3. A subjective evaluation of the area associated with the current symptoms/chief complaint by questioning the child and parent on the location, intensity, duration, stimulus, relief, and spontaneity.
4. An objective extraoral examination as well as examination of the intraoral soft and hard tissues.
5. If obtainable, radiograph(s) to diagnose pulpitis or necrosis showing the involved tooth, furcation, periapical area, and the surrounding bone.
6. Clinical tests such as palpation, percussion, and mobility.

In permanent teeth, electric pulp tests and thermal tests may be helpful. Teeth exhibiting signs and/or symptoms such as a history of spontaneous unprovoked toothache, a sinus tract, soft tissue inflammation not resulting from gingivitis or periodontitis, excessive mobility not associated with trauma or exfoliation, furcation/apical radiolucency, or radiographic evidence of internal/external resorption have a clinical diagnosis of irreversible pulpitis or necrosis. These teeth are candidates for nonvital pulp treatment.

Teeth exhibiting provoked pain of short duration relieved with over-the-counter analgesics, by brushing, or upon the removal of the stimulus and without signs or symptoms of irreversible pulpitis, have a clinical diagnosis of reversible pulpitis and are candidates for vital pulp therapy. Teeth diagnosed with a normal pulp requiring pulp therapy or with reversible pulpitis should be treated with vital pulp procedures.
Recommendations

All relevant diagnostic information, treatment, and treatment follow-up shall be documented in the patient's record.

Any planned treatment should include consideration of:
1. The patient's medical history.
2. The value of each involved tooth in relation to the child's overall development.
3. Alternatives to pulp treatment.
4. Restorability of the tooth.

When the infectious process cannot be arrested by the treatment methods included in this section, bony support cannot be regained, inadequate tooth structure remains for a restoration, or excessive pathologic root resorption exists, extraction should be considered.1,5,6

It is recommended that all pulp therapy be performed with rubber-dam or other equally effective isolation to minimize bacterial contamination of the treatment site.

This guideline is intended to recommend the best currently-available clinical care for pulp treatment, but the AAPD encourages additional research for consistently successful and predictable techniques using biologically-compatible medicaments for vital and nonvital primary and immature permanent teeth. Pulp therapy requires periodic clinical and radiographic assessment of the treated tooth and the supporting structures. Post-operative clinical assessment generally should be performed every six months and could occur as part of a patient's periodic comprehensive oral examinations. Patients treated for an acute dental infection initially may require more frequent clinical reevaluation. A radiograph of a primary tooth pulpectomy should be obtained immediately following the procedure to document the quality of the fill and to help determine the tooth's prognosis. This image also would serve as a comparative baseline for future films (the type and frequency of which are at the clinician's discretion).

Radiographic evaluation of primary tooth pulpotomies should periodically at the discretion of the clinician.13,14

- Indications: In a tooth with a normal pulp, when all caries is removed for a restoration, a protective liner may be placed in the deep areas of the preparation to minimize injury to the pulp, promote pulp tissue healing, and/or minimize post-operative sensitivity.13,16
- Objectives: The placement of a liner in a deep area of the preparation is utilized to preserve the tooth's vitality, promote pulp tissue healing and tertiary dentin formation, and minimize bacterial microleakage.17,18 Adverse post-treatment clinical signs or symptoms such as sensitivity, pain, or swelling should not occur.

Indirect pulp treatment. Indirect pulp treatment is a procedure performed in a tooth with a deep carious lesion approximating the pulp but without signs or symptoms of pulp degeneration.1 The caries surrounding the pulp is left in place to avoid pulp exposure and is covered with a biocompatible material.19 A radiopaque liner such as a dentin bonding agent,20 resin modified glass ionomer,21,22 calcium hydroxide,23,24 zinc oxide/eugenol,25 or glass ionomer cement7,9,25-27 is placed over the remaining carious dentin to stimulate healing and repair. If calcium hydroxide is used, a glass ionomer or reinforced zinc oxide/eugenol material should be placed over it to provide a seal against microleakage since calcium hydroxide has a high solubility, poor seal, and low compressive strength.28-31 The use of glass ionomer cements or reinforced zinc oxide/eugenol restorative materials has the additional advantage of inhibitory activity against cariogenic bacteria.32,33 The tooth then is restored with a material that seals the tooth from microleakage. Interim therapeutic restorations (ITR) with glass ionomers may be used for caries control in teeth with carious lesions that exhibit signs of reversible pulpitis. The ITR can be removed once the pulp's vitality is determined and, if the pulp is vital, an indirect pulp cap can be performed.34,35 Current literature indicates that there is no conclusive evidence that it is necessary to reenter the tooth to remove the residual caries.36,37 As long as the tooth remains sealed from bacterial contamination, the prognosis is good for caries to arrest and reparative dentin to form to protect the pulp.32,33,36-40 Indirect pulp capping has been shown to have a higher success rate than pulpotomy in long term studies.7,9,20,22,27,35 It also allows for a normal exfoliation time. Therefore, indirect pulp treatment is preferable to a pulpotomy when the pulp is normal or has a diagnosis of reversible pulpitis.

Primary teeth

Vital pulp therapy for primary teeth diagnosed with a normal pulp or reversible pulpitis

Protective liner. A protective liner is a thinly-applied liquid placed on the pulpal surface of a deep cavity preparation, covering exposed dentin tubules, to act as a protective barrier between the restorative material or cement and the pulp. Placement of a thin protective liner such as calcium hydroxide, dentin bonding agent, or glass ionomer cement is at the discretion of the clinician.13,14

-• Indications: In a tooth with a normal pulp, when all caries is removed for a restoration, a protective liner may be placed in the deep areas of the preparation to minimize injury to the pulp, promote pulp tissue healing, and/or minimize post-operative sensitivity.13,16
-• Objectives: The placement of a liner in a deep area of the preparation is utilized to preserve the tooth's vitality, promote pulp tissue healing and tertiary dentin formation, and minimize bacterial microleakage.17,18 Adverse post-treatment clinical signs or symptoms such as sensitivity, pain, or swelling should not occur.

-• Objectives: The placement of a liner in a deep area of the preparation is utilized to preserve the tooth's vitality, promote pulp tissue healing and tertiary dentin formation, and minimize bacterial microleakage.17,18 Adverse post-treatment clinical signs or symptoms such as sensitivity, pain, or swelling should not occur.

Primary teeth

Vital pulp therapy for primary teeth diagnosed with a normal pulp or reversible pulpitis

Protective liner. A protective liner is a thinly-applied liquid placed on the pulpal surface of a deep cavity preparation, covering exposed dentin tubules, to act as a protective barrier between the restorative material or cement and the pulp. Placement of a thin protective liner such as calcium hydroxide, dentin bonding agent, or glass ionomer cement is at the discretion of the clinician.13,14

- • Indications: In a tooth with a normal pulp, when all caries is removed for a restoration, a protective liner may be placed in the deep areas of the preparation to minimize injury to the pulp, promote pulp tissue healing, and/or minimize post-operative sensitivity.13,16
- • Objectives: The placement of a liner in a deep area of the preparation is utilized to preserve the tooth's vitality, promote pulp tissue healing and tertiary dentin formation, and minimize bacterial microleakage.17,18 Adverse post-treatment clinical signs or symptoms such as sensitivity, pain, or swelling should not occur.

Indirect pulp treatment. Indirect pulp treatment is a procedure performed in a tooth with a deep carious lesion approximating the pulp but without signs or symptoms of pulp degeneration. The caries surrounding the pulp is left in place to avoid pulp exposure and is covered with a biocompatible material. A radiopaque liner such as a dentin bonding agent, resin modified glass ionomer, calcium hydroxide, zinc oxide/eugenol, or glass ionomer cement is placed over the remaining carious dentin to stimulate healing and repair. If calcium hydroxide is used, a glass ionomer or reinforced zinc oxide/eugenol material should be placed over it to provide a seal against microleakage since calcium hydroxide has a high solubility, poor seal, and low compressive strength. The use of glass ionomer cements or reinforced zinc oxide/eugenol restorative materials has the additional advantage of inhibitory activity against cariogenic bacteria. The tooth then is restored with a material that seals the tooth from microleakage. Interim therapeutic restorations (ITR) with glass ionomers may be used for caries control in teeth with carious lesions that exhibit signs of reversible pulpitis. The ITR can be removed once the pulp's vitality is determined and, if the pulp is vital, an indirect pulp cap can be performed. Current literature indicates that there is no conclusive evidence that it is necessary to reenter the tooth to remove the residual caries. As long as the tooth remains sealed from bacterial contamination, the prognosis is good for caries to arrest and reparative dentin to form to protect the pulp. Indirect pulp capping has been shown to have a higher success rate than pulpotomy in long term studies. It also allows for a normal exfoliation time. Therefore, indirect pulp treatment is preferable to a pulpotomy when the pulp is normal or has a diagnosis of reversible pulpitis.
• Indications: Indirect pulp treatment is indicated in a primary tooth with no pulpitis or with reversible pulpitis when the deepest carious dentin is not removed to avoid a pulp exposure. The pulp is judged by clinical and radiographic criteria to be vital and able to heal from the carious insult.

• Objectives: The restorative material should seal completely the involved dentin from the oral environment. The tooth’s vitality should be preserved. No post-treatment signs or symptoms such as sensitivity, pain, or swelling should be evident. There should be no radiographic evidence of pathologic external or internal root resorption or other pathologic changes. There should be no harm to the succedaneous tooth.

Direct pulp cap. When a pinpoint mechanical exposure of the pulp is encountered during cavity preparation or following a traumatic injury, a biocompatible radiopaque base such as MTA or calcium hydroxide may be placed in contact with the exposed pulp tissue. The tooth is restored with a material that seals the tooth from microleakage.

• Indications: This procedure is indicated in a primary tooth with a normal pulp following a small mechanical or traumatic exposure when conditions for a favorable response are optimal. Direct pulp capping of a carious pulp exposure in a primary tooth is not recommended.

• Objectives: The tooth’s vitality should be maintained. No post-treatment signs or symptoms such as sensitivity, pain, or swelling should be evident. Pulp healing and reparative dentin formation should result. There should be no radiographic signs of pathologic external or progressive internal root resorption or furcation/apical radiolucency. There should be no harm to the succedaneous tooth.

Pulpotomy. A pulpotomy is performed in a primary tooth with extensive caries but without evidence of radicular pathology when caries removal results in a carious or mechanical pulp exposure. The coronal pulp is amputated, and the remaining vital radicular pulp tissue surface is treated with a long-term clinically-successful medicament such as Buckley’s Solution of formocresol or ferric sulfate. Several studies have utilized sodium hypochlorite with comparable results to formocresol and ferric sulfate. Calcium hydroxide has been used, but with less long term success. MTA is a more recent material used for pulpotomies with a high rate of success. Clinical trials show that MTA performs equal to or better than formocresol or ferric sulfate and may be the preferred pulpotomy agent in the future. Electrosurgery also has demonstrated success.

After the coronal pulp chamber is filled with zinc/oxide eugenol or other suitable base, the tooth is restored with a restoration that seals the tooth from microleakage. The most effective long-term restoration has been shown to be a stainless steel crown. However, if there is sufficient supporting enamel remaining, amalgam or composite resin can provide a functional alternative when the primary tooth has a life span of two years or less.

• Indications: The pulpotomy procedure is indicated when carries removal results in pulp exposure in a primary tooth with a normal pulp or reversible pulpitis or after a traumatic pulp exposure. The coronal tissue is amputated, and the remaining radicular tissue is judged to be vital without suppuration, purulence, necrosis, or excessive hemorrhage that cannot be controlled by a damp cotton pellet after several minutes, and there are no radiographic signs of infection or pathologic resorption.

• Objectives: The radicular pulp should remain asymptomatic without adverse clinical signs or symptoms such as sensitivity, pain, or swelling. There should be no postoperative radiographic evidence of pathologic external root resorption. Internal root resorption may be self-limiting and stable. The clinician should monitor the internal resorption, removing the affected tooth if perforation causes loss of supportive bone and/or clinical signs of infection and inflammation. There should be no harm to the succedaneous tooth.

Nonvital pulp treatment for primary teeth diagnosed with irreversible pulpitis or necrotic pulp

Pulpectomy. Pulpectomy is a root canal procedure for pulp tissue that is irreversibly infected or necrotic due to caries or trauma. The root canals are debrided and shaped with hand or rotary files. Since instrumentation and irrigation with an inert solution alone cannot adequately reduce the microbial population in a root canal system, disinfection with irrigants such as one percent sodium hypochlorite and/or chlorhexidine is an important step in assuring optimal bacterial decontamination of the canals. Because it is a potent tissue irritant, sodium hypochlorite must not be extruded beyond the apex. After the canals are dried, a resorbable material such as nonreinforced zinc/oxide eugenol, iodoform-based paste (KRI), or a combination paste of iodoform and calcium hydroxide (Vitapex®, Endoflax®) is used to fill the canals. The tooth is restored with a restoration that seals the tooth from microleakage.

• Indications: A pulpectomy is indicated in a primary tooth with irreversible pulpitis or necrosis or a tooth treatment planned for pulpotomy in which the radicular pulp exhibits clinical signs of irreversible pulpitis (eg, excessive hemorrhage that is not controlled with a damp cotton pellet applied for several minutes) or pulp necrosis (eg, suppuration, purulence). The roots should exhibit minimal or no resorption.

• Objectives: Following treatment, the radiographic infectious process should resolve in six months, as evidenced by bone deposition in the pretreatment radiolucent areas, and pretreatment clinical signs and symptoms should resolve within a few weeks. There should be radiographic evidence of successful filling without gross overextension or underfilling. The treatment should permit resorption of the primary tooth root and filling material to permit normal eruption of the succedaneous tooth. There should be no pathologic root resorption or furcation/apical radiolucency.
Young permanent teeth

Vital pulp therapy for teeth diagnosed with a normal pulp or reversible pulpitis

Protective liner. A protective liner is a thinly-applied liquid placed on the pulpal surface of a deep cavity preparation, covering exposed dentin tubules, to act as a protective barrier between the restorative material or cement and the pulp. Placement of a thin protective liner such as calcium hydroxide, dentin bonding agent, or glass ionomer cement is at the discretion of the clinician.\(^1\)\(^2\) The liner must be followed by a well-sealed restoration to minimize bacterial leakage from the restoration-dentin interface.\(^1\)\(^7\)\(^8\)

- Objectives: In a tooth with a normal pulp, when caries is removed for a restoration, a protective liner may be placed in the deep areas of the preparation to minimize pulp injury, promote pulp tissue healing, and/or minimize postoperative sensitivity.
- Objectives: The placement of a liner in a deep area of the preparation is utilized to preserve the tooth’s vitality, promote pulp tissue healing, and facilitate tertiary dentin formation. This liner must be followed by a well-sealed restoration to minimize bacterial leakage from the restoration-dentin interface.\(^7\)\(^7\)\(^8\) Adverse post-treatment signs or symptoms such as sensitivity, pain, or swelling should not occur.

Apexogenesis (root formation). Apexogenesis is a histological term used to describe the continued physiologic development and formation of the root’s apex. Formation of the apex in vital, young, permanent teeth can be accomplished by implementing the appropriate vital pulp therapy described in this section (i.e., indirect pulp treatment, direct pulp capping, partial pulpotomy for carious exposures and traumatic exposures).

Indirect pulp treatment. Indirect pulp treatment is a procedure performed in a tooth with a diagnosis of reversible pulpitis and deep caries that might otherwise need endodontic therapy if the decay was completely removed.\(^6\)

In recent years, rather than complete the caries removal in two appointments, the focus has been to excavate as close as possible to the pulp, place a protective liner, and restore the tooth without a subsequent reentry to remove any remaining affected dentin.\(^7\)\(^9\)\(^-\)\(^8\)\(^3\) The risk of this approach is either an unintentional pulp exposure or irreversible pulpitis.\(^8\)\(^0\) More recently, the step-wise excavation of deep caries has been revisited\(^7\)\(^2\)\(^-\)\(^8\)\(^4\) and shown to be successful in managing reversible pulpitis without pulp perforation and/or endodontic therapy.\(^8\)\(^5\) This approach involves a two-step process. The first step is the removal of carious dentin along the dentin-enamel junction (DEJ) and excavation of only the outermost infected dentin, leaving a carious mass over the pulp. The objective is to change the cariogenic environment in order to decrease the number of bacteria, close the remaining caries from the biofilm of the oral cavity, and slow or arrest the caries development.\(^8\)\(^5\)\(^,\)\(^8\)\(^7\) The second step is the removal of the remaining caries and placement of a final restoration. The most common recommendation for the interval between steps is three to six months, allowing sufficient time for the formation of tertiary dentin and a definitive pulpal diagnosis. Critical to both steps of excavation is the placement of a well-sealed restoration.\(^1\)\(^7\)\(^,\)\(^1\)\(^8\)

The decision to use a one-appointment caries excavation or a step-wise technique should be based on the individual patient circumstances since the research available is inconclusive on which approach is the most successful over time.\(^3\)\(^6\)\(^,\)\(^8\)\(^7\)

- Indications: Indirect pulp treatment is indicated in a permanent tooth diagnosed with a normal pulp with no symptoms of pulpitis or with a diagnosis of reversible pulpitis. The pulp is judged by clinical and radiographic criteria to be vital and able to heal from the carious insult.
- Objectives: The intermediate and/or final restoration should seal completely the involved dentin from the oral environment. The vitality of the tooth should be preserved. No post-treatment signs or symptoms such as sensitivity, pain, or swelling should be evident. There should be no radiographic evidence of internal or external root resorption or other pathologic changes. Teeth with immature roots should show continued root development and apexogenesis.

Direct pulp cap. When a small exposure of the pulp is encountered during cavity preparation and after hemorrhage control is obtained, the exposed pulp is capped with a material such as calcium hydroxide\(^8\)\(^6\)\(^-\)\(^9\)\(^2\) or MTA\(^9\)\(^2\) prior to placing a restoration that seals the tooth from microleakage.\(^1\)\(^7\)\(^,\)\(^1\)\(^8\)

- Indications: Direct pulp capping is indicated for a permanent tooth that has a small carious or mechanical exposure in a tooth with a normal pulp.\(^7\)
- Objectives: The tooth’s vitality should be maintained. No post-treatment clinical signs or symptoms of sensitivity, pain, or swelling should be evident. Pulp healing and reparative dentin formation should occur. There should be no radiographic evidence of internal or external root resorption, periapical radiolucency, abnormal calcification, or other pathologic changes. Teeth with immature roots should show continued root development and apexogenesis.

Partial pulpotomy for carious exposures. The partial pulpotomy for carious exposures is a procedure in which the inflamed pulp tissue beneath an exposure is removed to a depth of one to three millimeters or deeper to reach healthy pulp tissue. Pulpal bleeding must be controlled by irrigation with a bacteriocidal agent such as sodium hypochlorite or chlorhexidine\(^7\)\(^0\)\(^-\)\(^7\)\(^2\) before the site is covered with calcium hydroxide\(^8\)\(^6\)\(^,\)\(^9\)\(^3\)\(^,\)\(^9\)\(^4\) or MTA.\(^9\)\(^5\)\(^-\)\(^9\)\(^7\) While calcium hydroxide has been demonstrated to have long-term success, MTA results in more predictable dentin bridging and pulp health.\(^9\)\(^8\) MTA (at least 1.5 mm thick) should cover the exposure and surrounding dentin followed by a layer of light cured resin-modified glass ionomer.\(^9\)\(^2\) A restoration that seals the tooth from microleakage is placed.
• Indications: A partial pulpotomy is indicated in a young permanent tooth for a carious pulp exposure in which the pulpal bleeding is controlled within several minutes. The tooth must be vital, with a diagnosis of normal pulp or reversible pulpitis.6

• Objectives: The remaining pulp should continue to be vital after partial pulpotomy. There should be no adverse clinical signs or symptoms such as sensitivity, pain, or swelling. There should be no radiographic sign of internal or external resorption, abnormal canal calcification, or periapical radiolucency postoperatively. Teeth having immature roots should continue normal root development and apexogenesis.

Partial pulpotomy for traumatic exposures (Cvek pulpotomy). The partial pulpotomy for traumatic exposures is a procedure in which the inflamed pulp tissue beneath an exposure is removed to a depth of one to three millimeters or more to reach the deeper healthy tissue. Pulpal bleeding is controlled using bacteriocidal irrigants such as sodium hypochlorite or chlorhexidine,71,72 and the site then is covered with calcium hydroxide89-102 or MTA.6,103 White, rather than gray, MTA is recommended in anterior teeth to decrease the chance of discoloration. The two versions have been shown to have similar properties.104,105 While calcium hydroxide has been demonstrated to have long-term success, MTA results in more predictable dentin bridging and pulp health.98 MTA (at least 1.5 mm thick) should cover the exposure and surrounding dentin, followed by a layer of light-cured resin-modified glass ionomer.103 A restoration that seals the tooth from microleakage is placed.

• Indications: This pulpotomy is indicated for a vital, traumatically-exposed, young permanent tooth, especially one with an incompletely formed apex. Pulpal bleeding after removal of inflamed pulpal tissue must be controlled. Neither time between the accident and treatment nor size of exposure is critical if the inflamed superficial pulp tissue is amputated to healthy pulp.106

• Objectives: The remaining pulp should continue to be vital after partial pulpotomy. There should be no adverse clinical signs or symptoms of sensitivity, pain, or swelling. There should be no radiographic signs of internal or external resorption, abnormal canal calcification, or periapical radiolucency post-operatively. Teeth with immature roots should show continued normal root development and apexogenesis.

Nonvital pulp treatment

Pulpectomy (conventional root canal treatment). Pulpectomy in apexified permanent teeth is conventional root canal (endodontic) treatment for exposed, infected, and/or necrotic teeth to eliminate pulpal and periradicular infection. In all cases, the entire roof of the pulp chamber is removed to gain access to the canals and eliminate all coronal pulp tissue. Following debridement, disinfection, and shaping of the root canal system, obturation of the entire root canal is accomplished with a biologically-acceptable, nonresorbable filling material. Obturation as close as possible to the cementodental junction should be accomplished with gutta percha or other filling material acceptable as described in the AAE's Guide to Clinical Endodontics.14

• Indications: Pulpectomy or conventional root canal treatment is indicated for a restorable permanent tooth with irreversible pulpitis or a necrotic pulp in which the root is apexified. For root canal-treated teeth with unresolved periradicular lesions, root canals that are not accessible from the conventional coronal approach, or calcification of the root canal space, endodontic treatment of a more specialized nature may be indicated.

• Objectives: There should be evidence of a successful filling without gross overtension or underfilling in the presence of a patent canal. There should be no adverse post-treatment signs or symptoms such as prolonged sensitivity, pain, or swelling, and there should be evidence of resolution of pretreatment pathology with no further breakdown of periradicular supporting tissues clinically or radiographically.

Apexification (root end closure). Apexification is a method of inducing root end closure of an incompletely formed nonvital permanent tooth by removing the coronal and nonvital radicular tissue just short of the root end and placing a biocompatible agent such as calcium hydroxide in the canals for two to four weeks to disinfect the canal space. Root end closure is accomplished with an apical barrier such as MTA.107 In instances when complete closure cannot be accomplished by MTA, an absorbable collagen wound dressing (eg, Colla-Cote®108 can be placed at the root end to allow MTA to be packed within the confines of the canal space. Gutta percha is used to fill the remaining canal space. If the canal walls are thin, the canal space can be filled with MTA or composite resin instead of gutta percha to strengthen the tooth against fracture.109

• Indications: This procedure is indicated for nonvital permanent teeth with incompletely formed roots.

• Objectives: This procedure should induce root end closure (apexification) at the apices of immature roots or result in an apical barrier as confirmed by clinical and radiographic evaluation. Adverse post-treatment clinical signs or symptoms of sensitivity, pain, or swelling should not be evident. There should be no radiographic evidence of external root resorption, lateral root pathosis, root fracture, or breakdown of periradicular supporting tissues during or following therapy. The tooth should continue to erupt, and the alveolus should continue to grow in conjunction with the adjacent teeth.

References


Guideline on Restorative Dentistry

Originating Committee
Clinical Affairs Committee – Restorative Dentistry Subcommittee

Review Council
Council on Clinical Affairs

Adopted
1991

Revised

Purpose
The American Academy of Pediatric Dentistry (AAPD) intends this guideline to help practitioners make decisions regarding restorative dentistry, including when it is necessary to treat and what the appropriate materials and techniques are for restorative dentistry in children and adolescents.

Methods
A thorough review of the scientific literature in the English language pertaining to restorative dentistry in primary and permanent teeth was completed to revise the previous guideline. Electronic database and hand searches, for the most part between the years 1995-2013, were conducted using the terms: restorative treatment decisions, caries diagnosis, caries excavation, dental amalgam, glass ionomers, resin modified glass ionomers, conventional glass ionomers, atraumatic/alternative restorative technique (ART), interim therapeutic restoration (ITR), resin infiltration, dental composites, pit and fissure sealants, resin-based sealants, glass ionomer sealants, resin based composite, dental composites, composites, stainless steel crowns, primary molar, preformed metal crown, strip crowns, pre-veneered crowns, esthetic restorations, clinical trials, randomized control clinical trials.

Those papers that were used to evaluate clinical efficacy on specific restorative dentistry topics (e.g., amalgam, resin-based composite) initially were evaluated by abstract by two individuals. Criteria for evaluation included if the paper fulfilled the qualification of a controlled clinical trial, meta-analysis, or systematic review. Full evaluation and abstraction included examination of the research methods and potential for study bias (patient recruitment, randomization, blinding, subject loss, sample size estimates, conflicts of interest, and statistics). Research that was considered deficient or had high bias was eliminated. In those topic areas for which there were rigorous meta-analyses or systematic reviews available, only those clinical trial articles that were not covered by the reviews were subjected to full evaluation and abstraction. This strategy yielded 35 meta-analyses/systemic reviews and 62 randomized controlled clinical trials that primarily made up the evidence for this guideline.

The assessment of evidence for each topic was based on a modification of the American Dental Association’s grading of recommendations: strong evidence (based on well-executed randomized control trials, meta-analyses, or systematic reviews); evidence in favor (based on weaker evidence from clinical trials); and expert opinion (based on retrospective trials, case reports, in vitro studies, and opinions from clinical researchers).1

When to restore
Historically, the management of dental caries was based on the belief that caries was a progressive disease that eventually destroyed the tooth unless there was surgical and restorative intervention.2 It is now recognized that restorative treatment of dental caries alone does not stop the disease process3 and restorations have a finite lifespan. Conversely, some carious lesions may not progress and, therefore, may not need restoration. Consequently, contemporary management of dental caries includes identification of an individual’s risk for caries progression, understanding of the disease process for that individual, and active surveillance to assess disease progression and manage with appropriate preventive services, supplemented by restorative therapy when indicated.4

With the exception of reports of dental examiners in clinical trials, studies of reliability and reproducibility of detecting dental caries are not conclusive.5 There also is minimal information regarding validity of caries diagnosis in primary teeth,7 as primary teeth may require different criteria due to thinner enamel and dentin and broader proximal contacts.5 Furthermore, indications for restorative therapy only have been examined superficially because such decisions generally have been regarded as a function of clinical judgment.7 Decisions for when to restore carious lesions should include at least clinical criteria of visual detection of enamel cavitation, visual identification of shadowing of the enamel, and/or radiographic recognition of enlargement of lesions over time.5

The benefits of restorative therapy include: removing cavitations or defects to eliminate areas that are susceptible to caries; stopping the progression of tooth demineralization;
restoring the integrity of tooth structure; preventing the spread of infection into the dental pulp; and preventing the shifting of teeth due to loss of tooth structure. The risks of restorative therapy include lessening the longevity of teeth by making them more susceptible to fracture, recurrent lesions, restoration failure, pulp exposure during caries excavation, future pulpal complications, and iatrogenic damage to adjacent teeth.  

Primary teeth may be more susceptible to restoration failures than permanent teeth. Additionally, before restoration of primary teeth, one needs to consider the length of time remaining prior to tooth exfoliation.

**Recommendations**

1. Management of dental caries includes identification of an individual's risk for caries progression, understanding of the disease process for that individual, and active surveillance to assess disease progression and manage with appropriate preventive services, supplemented by restorative therapy when indicated.

2. Decisions for when to restore carious lesions should include at least clinical criteria of visual detection of enamel cavitation, visual identification of shadowing of the enamel, and/or radiographic recognition of enlargement of lesions over time.

**Deep caries excavation and restoration**

Among the objectives of restorative treatment are to repair or limit the damage from caries, protect and preserve the tooth structure, and maintain pulpal vitality whenever possible. The AAPD Guideline on Pulp Therapy for Primary and Immature Permanent Teeth states the treatment objective for a tooth affected by caries is to maintain pulpal vitality, especially in immature permanent teeth for continued apexogenesis.  

With regard to the treatment of deep caries, three methods of caries removal have been compared to complete excavation, where all carious dentin is removed. Stepwise excavation is a two-step caries removal process in which carious dentin is partially removed at the first appointment, leaving caries over the pulp, and subsequently places a base and final restoration. At the second appointment, all remaining carious dentin is removed and a final restoration placed. Partial, or one-step, caries excavation removes part of the carious dentin, but leaves caries over the pulp, and subsequently places a base and final restoration.  

No removal of caries before restoration of primary molars in children aged three to 10 years also has been reported.

Evidence from randomized controlled trials and a systematic review shows that pulp exposures in primary and permanent teeth are significantly reduced using incomplete caries excavation compared to complete excavation in teeth with a normal pulp or reversible pulpitis. Two trials and a Cochrane review found that partial excavation resulted in significantly fewer pulp exposures compared to complete excavation. Two trials of step-wise excavation showed that pulp exposure occurred more frequently from complete excavation compared to step-wise excavation. There is also evidence of a decrease in pulpal complications and post-operative pain after incomplete caries excavation compared to complete excavation in clinical trials, summarized in a meta-analysis.  

Additionally, a meta-analysis found the risk for permanent restoration failure was similar for incompletely and completely excavated teeth. With regard to the need to reopen a tooth with partial excavation of caries, one randomized controlled trial that compared partial (one-step) to stepwise (two-step) excavation, results in fewer pulp exposures and fewer signs and symptoms of pulpal disease than complete excavation.

1. There is evidence from randomized controlled trials and systematic reviews that incomplete caries excavation in primary and permanent teeth with normal pulps or reversible pulpitis, either partial (one-step) or stepwise (two-step) excavation, results in fewer pulp exposures and fewer signs and symptoms of pulpal disease than complete excavation.

2. There is evidence from two systematic reviews that the rate of restoration failure in permanent teeth is no higher after incomplete rather than complete caries excavation.

3. There is evidence that partial excavation (one-step) followed by placement of final restoration leads to higher success in maintaining pulp vitality in permanent teeth than stepwise (two-step) excavation.

**Pit and fissure sealants**

Pit and fissure caries account for approximately 80 to 90 percent of all caries in permanent posterior teeth and 44 percent in primary teeth. Pit and fissure sealant has been described as a material placed into the pits and fissures of caries-susceptible teeth that micromechanically bonds to the tooth preventing access by cariogenic bacteria to their source of nutrients, thus reducing the risk of caries in those susceptible pits and fissures.

With regard to evidence of effectiveness, a Cochrane review found that sealants placed on the occlusal surfaces of permanent molars in children and adolescents reduced caries up to 48 months when compared to no sealant. According to a meta-analysis of 24 studies, the overall effectiveness of auto-polymerised fissure sealants in preventing dental decay was 71 percent. Another Cochrane review calculated that placement of resin-based sealant in children and adolescent reduces caries incidence of 86 percent after one year and 57 percent at 48 to 54 months. Sealants must be retained on the tooth and should be monitored to be most effective. Studies incorporating recall and maintenance have reported sealant success levels of 80 to 90 percent after 10 or more years.  

There are many systematic reviews and clinical trials regarding optimizing the effectiveness of dental sealants. Sealants are more cost-effective in children with caries risk and generally are recommended to be placed only in those children at caries risk. The best evaluation of high caries risk is done by an
experienced clinician using indicators of low socio-economic status, high frequency of sugar consumption, prior caries, active white spot lesions and enamel defects, and low salivary flow.4

Pit and fissure sealants lower the number of viable bacteria, including Streptococcus mutans and lactobacilli, by at least 100-fold and reduced the number of lesions with any viable bacteria by about 50 percent.28 This evidence supports recommendations to seal sound surfaces and non-cavitated enamel lesions.33

Evidence-based reviews have found that cavities for sealed teeth that have lost some or all sealants does not exceed the cavity risk for never-sealed teeth. Therefore, it has been recommended to provide sealants to children even if follow-up cannot be ensured.35

Systematic reviews and clinical trials have evaluated techniques for placement of sealants. According to a systematic review, isolation of the tooth is an important aspect of sealant placement and use of rubber dam improves the retention rates of light-cured resin based sealants.34 Moisture control systems (Isolite TM, VacuEjector TM) produce sealant retention rates comparable to cotton roll isolation or rubber dam, while decreasing procedure time.35,36 Another systematic review has shown that four-handed technique has been associated with higher retention of resin based sealants.37 Two systematic reviews have shown that teeth cleaned prior to sealant application with a tooth brush prophylaxis exhibited similar or higher success rate compared to those sealed after hand piece prophylaxis.37,38 Additionally, there is limited and conflicting evidence to support mechanical preparation with a bur prior to sealant placement, and it is not recommended.9 There is evidence that mechanical preparation may make a tooth more prone to caries in case of resin-based sealant loss.39

With regard to primer placement before sealant application, there is one randomized clinical trial that suggests that acetone or ethanol solvent based primers, especially the single bottle system, enhanced the retention of sealants, whereas water-based primers were found to drastically reduce the retention of sealants.40 With regard to self-etch bonding agents that do not involve a separate step for etching, a systematic review found that self-etch bonding agents may not provide as good retention as acid etch technique;34 however, one recent randomized clinical trial reported similar retention rates of self-etch system compared to acid etch group.41

Based on a systematic review and clinical trials, there is substantial data regarding the use of resin-based and glass ionomer-based sealants. One meta-analysis and a Cochrane review show high retention rates of resin-based sealants compared to glass ionomer-based sealants.28,42 However, glass ionomer sealants exhibited good short term retention comparable with resin sealants at one year, and they may be used as an interim preventive agent when resin-based sealant cannot be placed as moisture control may compromise such placement.28 Another systematic review of the caries-preventive effects of glass ionomer and resin-based fissure sealants suggests no difference between these two products.43

There is insufficient data to support use of fissure sealants in primary teeth. One trial reported retention rate of 76.5 percent for light polymerized fissure sealants in the follow-up time of 2.8 years.44 Another randomized clinical trial studied effectiveness of glass ionomer sealants in primary molars and found retention rate as low as 18.7 percent in 1.38 years and no statistically significant caries reduction.35

Recommendations:
1. Based on a meta-analysis and Cochrane reviews, sealants should be placed on pit and fissure surfaces judged to be at risk for dental caries or surfaces that already exhibit incipient, non-cavitated carious lesions to inhibit lesion progression.
2. According to a systematic review and a randomized clinical trial, sealant placement methods should include careful cleaning of the pits and fissures without mechanical tooth preparation.
3. Based on a systematic review, resin-based sealants require placement in a moisture controlled environment, often facilitated by four-handed technique.
4. There is evidence from a randomized clinical trial that a low-viscosity hydrophilic material bonding layer, as part of or under the actual sealant, is better for long-term retention and effectiveness.
5. There is evidence from a Cochrane review and a systematic review that resin-based materials achieve better retention and, therefore, may be preferred as dental sealants, but glass ionomer sealants could be used as transitional sealants when moisture control is not possible.

Resin infiltration

Resin infiltration is an innovative approach primarily to arrest the progression of non-cavitated interproximal caries lesions.16,47 The aim of the resin infiltration technique is to allow penetration of a low viscosity resin into the porous lesion body of enamel caries.46

Most randomized clinical trials done on resin infiltration had industrial support with potential of conflict of interest. One such trial evaluated infiltration and sealants versus placebo and found significant differences between infiltration versus placebo with lesion progression 32 percent versus 70 percent respectively.48 Another randomized clinical trial reported significant difference between infiltration (7 percent) versus placebo (37 percent) in the percentage of progression in lesion depth.46 A systematic review on randomized clinical trials on resin infiltration rated the quality score to be low to moderate. The review concluded that resin infiltration has a potential consistent benefit in slowing the progression of non-cavitated carious lesions.49

An additional use of resin infiltration has been suggested to restore white spot lesions formed during orthodontic treatment. Based on a randomized clinical trial, resin infiltration significantly improved the clinical appearance of such white spot lesions and visually reduced their size.50
**Recommendation:**

1. From randomized controlled trials, there is evidence in favor of resin infiltration as a treatment option for small, non-cavitated interproximal carious lesions in permanent teeth.

**Dental amalgam**

Dental amalgam has been the most commonly used restorative material in posterior teeth for over 150 years and is still widely used throughout the world today. Amalgam contains a mixture of metals such as silver, copper, and tin, in addition to approximately 50 percent mercury. Dental amalgam has declined in use over the past decade, perhaps due to the controversy surrounding perceived health effects of mercury vapor, environmental concerns from its mercury content, and increased demand for esthetic alternatives.

With regard to safety of dental amalgam, a comprehensive literature review of dental studies published between 2004 and 2008 found insufficient evidence of associations between mercury release from dental amalgam and the various medical complaints. Two independent randomized controlled trials in children have examined the effects of mercury release from amalgam restorations and found no effect on the central and peripheral nervous systems and kidney function. However, on July 28, 2009, the Food and Drug Administration (FDA) issued a final rule that reclassified dental amalgam to a Class II device (having some risk) and designated guidance that included warning labels regarding: (1) possible harm of mercury vapors; (2) disclosure of mercury content; and (3) contraindications for persons with known mercury sensitivity. Also in this final rule, the FDA noted that there is limited information regarding dental amalgam and the long-term health outcomes in pregnant women, developing fetuses, and children under the age of six.

With regard to clinical efficacy of dental amalgam, results comparing longevity of amalgam to other restorative materials are inconsistent. The majority of meta-analyses, evidence-based reviews, and randomized controlled trials report comparable durability of dental amalgam to other restorative materials, while others show greater longevity for amalgam. The comparability appears to be especially true when the restorations are placed in controlled environments such as university settings.

Class I amalgam restorations in primary teeth have shown in a systematic review and two randomized controlled trials to have a success rate of 85 to 96 percent for up to seven years, with an average annual failure rate of 3.2 percent. Efficacy of Class I amalgam restorations in permanent teeth of children has been shown in two independent randomized controlled studies to range from 89.8 to 98.8 percent for up to seven years.

With regard to Class II restorations in primary molars, a 2007 systematic review concluded that amalgam should not be the restorative material of choice. Patient cooperation is in question, resin-based composite may achieve by cleaning filling surfaces with pumice, cotton roll, and rinsing. Additionally, potential exposure can be reduced by using a rubber dam. Considering the proven benefits of resin-based dental materials and minimal exposure to BPA and its derivatives, it is recommended to continue using these products while taking precautions to minimize exposure.

**Composites**

Resin-based composite restorations were introduced in dentistry about a half century ago as an esthetic restorative material, and composites are increasingly used in place of amalgam for the restoration of carious lesions. Composites consist of a resin matrix and chemically bonded fillers. They are classified according to their filler size, because filler size affects polishability/esthetics, polymerization depth, polymerization shrinkage, and physical properties. Hybrid resins combine a mixture of particle sizes for improved strength while retaining esthetics. The smaller filler particle size allows greater polishability and esthetics, while larger size provides strength. Flowable resins have a lower volumetric filler percentage than hybrid resins.

Several factors contribute to the longevity of resin composites, including operator experience, restoration size, and tooth position. Resins are more technique sensitive than amalgams and require longer placement time. In cases where isolation or patient cooperation is in question, resin-based composite may not be the restorative material of choice.

Bisphenol A (BPA) and its derivatives are components of resin-based dental sealants and composites. Trace amounts of BPA derivatives are released from dental resins through salivary enzymatic hydrolysis and may be detectable in saliva up to three hours after resin placement. Evidence is accumulating that certain BPA derivatives may pose health risks attributable to their estrogenic properties. BPA exposure reduction is achieved by cleaning filling surfaces with pumice, cotton roll, and rinsing. Additionally, potential exposure can be reduced by using a rubber dam. Considering the proven benefits of resin-based dental materials and minimal exposure to BPA and its derivatives, it is recommended to continue using these products while taking precautions to minimize exposure.
There is strong evidence from a meta-analysis of 59 randomized clinical trials of Class I and II composite and amalgam restorations showing an overall success rate about 90 percent after 10 years for both materials, with rubber dam use significantly increasing restoration longevity.74 Strong evidence from randomized controlled trials comparing composite restorations to amalgam restorations showed that the main reason for restoration failure in both materials was recurrent caries.60,77,80 Regarding different types of composites (packable, ing and bonding of enamel and dentin significantly decreases caries.60,77,80

In primary teeth, there is strong evidence that composite restorations for Class I restorations are successful.60,64 There is only one randomized controlled trial showing success in Class II composite restorations in primary teeth that were expected to exfoliate within two years.68 In permanent molars, composite replacement after 3.4 years was no different than amalgam,60 but after seven to 10 years the replacement rate was higher for composite.78 Secondary caries rate was reported as 3.5 times greater for composite versus amalgam.77

There is evidence from a meta-analysis showing that etching and bonding of enamel and dentin significantly decreases marginal staining and detectable margins in composite restorations.74 Regarding different types of composites (packable, hybrid, nano, macro, and micro filled) there is strong evidence showing similar overall clinical performance for these materials.81-84

Recommendations:

1. In primary molars, there is strong evidence from randomized controlled trials that composite resins are successful when used in Class I restorations. For Class II lesions in primary teeth, there is one randomized controlled trial showing success of composite resin restorations for two years.
2. In permanent molars, there is strong evidence from meta-analyses that composite resins can be used successfully for Class I and II restorations.
3. Evidence from a meta-analysis shows enamel and dentin bonding agents decrease marginal staining and detectable margins for the different types of composites.

Glass ionomer cements

Glass ionomers cements have been used in dentistry as restorative cements, cavity liner/base, and luting cement since the early 1970s.85 Originally, glass ionomer materials were difficult to handle, exhibited poor wear resistance, and were brittle. Advancements in conventional glass ionomer formulation led to better properties, including the formation of resin-modified glass ionomers. These products showed improvement in handling characteristics, decreased setting time, increased strength, and improved wear resistance.86,87 All glass ionomers have several properties that make them favorable for use in children including: chemical bonding to both enamel and dentin; thermal expansion similar to that of tooth structure; biocompatibility; uptake and release of fluoride; and decreased moisture sensitivity when compared to resins.

Fluoride is released from glass ionomer and taken up by the surrounding enamel and dentin, resulting in teeth that are less susceptible to acid challenge.88,89 One study has shown that fluoride release can occur for at least one year.90 Glass ionomers can act as a reservoir of fluoride, as uptake can occur from dentin/ENAMEL, PEDICLE, and topical fluoride applications.91,92 This fluoride protection, useful in patients at high risk for caries, has led to the use of glass ionomers as luting cement for stainless steel crowns, space maintainers, and orthodontic bands.93

Regarding use of conventional glass ionomers in primary teeth, one randomized clinical trial showed the overall median time from treatment to failure of glass ionomer restored teeth was 1.2 years.93 Based on findings of a systematic review and meta-analysis, conventional glass ionomers are not recommended for Class II restorations in primary molars.74,95 Conventional glass ionomer restorations have other drawbacks such as poor anatomical form and marginal integrity.96,97 Composite restorations were more successful than glass ionomer cements where moisture control was not a problem.95

Resin modified glass ionomer cements (RMGIC), with the acid-base polymerization supplemented by a second resin light cure polymerization, has been shown to be efficacious in primary teeth. Based on a meta-analysis, RMGIC is more successful than conventional glass ionomer as a restorative material.95 A systematic review supports the use of RMGIC in small to moderate sized Class II cavities.94 Class II RMGIC restorations are able to withstand occlusal forces on primary molars for at least one year.95 Because of fluoride release, RMGIC may be considered for Class I and Class II restorations of primary molars in a high caries risk population.97 There is also some evidence that conditioning dentin improves the success rate of RMGIC.98 According to one randomized clinical trial, cavosurface beveling leads to high marginal failure in RMGIC restorations and is not recommended.99

With regard to permanent teeth, a meta-analysis review reported significantly fewer carious lesions on single-surface glass ionomer restorations in permanent teeth after six years as compared to restorations with amalgam.77 Data from a meta-analysis shows that RMGIC is more caries preventive than composite resin with or without fluoride.98 Another meta-analysis showed that cervical restorations (Class V) with glass ionomers may have a good retention rate, but poor esthetics.99 For Class II restorations in permanent teeth, one randomized clinical trial showed unacceptable high failure rates of conventional glass ionomers, irrespective of cavity size. However, a high dropout rate was observed in this study limiting its significance.100 In general, there is insufficient evidence to support the use of RMGIC as long-term restorations in permanent teeth.

Other applications of glass ionomers where fluoride release has advantages are for interim therapeutic restorations (ITR) and the atraumatic/alternative restorative technique (ART). These procedures have similar techniques but different therapeutic goals. ITR may be used in very young patients,101 uncooperative
patients, or patients with special health care needs for whom traditional cavity preparation and/or placement of traditional dental restorations are not feasible or need to be postponed. Additionally, ITR may be used for caries control in children with multiple open carious lesions, prior to definitive restoration of the teeth. In-vitro caries-affected dentin does not jeopardize the bonding of glass ionomer cements to the primary tooth dentin. ART, endorsed by the World Health Organization and the International Association for Dental Research, is a means of restoring and preventing caries in populations that have little access to traditional dental care and functions as definitive treatment.

According to a meta-analysis, single surface ART restorations showed high survival rates in both primary and permanent teeth. One randomized clinical trial supported single surface restorations irrespective of the cavity size and also reported higher success in non-occlusal posterior ART compared to occlusal posterior ART. With regard to multi-surface ART restorations, there is conflicting evidence. Based on a meta-analysis, ART restorations presented similar survival rates to conventional approaches using composite or amalgam for Class II restorations in primary teeth. However, another meta-analysis showed that multi-surface ART restorations in primary teeth exhibited high failure rates.

**Recommendations:**

1. There is evidence in favor of glass ionomer cements for Class I restorations in primary teeth.
2. From a systematic review, there is strong evidence that resin-modified glass ionomer cements for Class I restorations are efficacious, and expert opinion supports Class II restorations in primary teeth.
3. There is insufficient evidence to support the use of conventional or resin-modified glass ionomer cements as long-term restorative material in permanent teeth.
4. From a meta-analysis, there is strong evidence that interim therapeutic restoration/atraumatic restorative technique (ITR/ART) using high viscosity glass ionomer cements has value as single surface temporary restoration for both primary and permanent teeth. Additionally, ITR may be used for caries control in children with multiple open carious lesions, prior to definitive restoration of the teeth.

**Compomers**

Polycid-modified resin-based composites, or compomers, were introduced into dentistry in the mid-1990s. They contain 72 percent (by weight) strontium fluorosilicate glass and the average particle size is 2.5 micrometers. Moisture is attracted to both acid functional monomer and basic ionomer-type in the material. This moisture can trigger a reaction that releases fluoride and buffers acidic environments. Considering the ability to release fluoride, esthetic value, and simple handling properties of compomer, it can be useful in pediatric dentistry.

Based on a recent randomized clinical trial, the longevity of Class I compomer restorations in primary teeth was not statistically different compared to amalgam, but compomers were found to need replacement more frequently due to recurrent caries. In Class II compomer restorations in primary teeth, the risk of developing secondary caries and failure did not increase over a two-year period in primary molars. Compomers also have reported comparable clinical performance to composite with respect to color matching, cavosurface discoloration, anatomical form, and marginal integrity and secondary caries. Most randomized clinical trials showed that compomer tends to have better physical properties compared to glass ionomer and resin modified glass ionomer cements and in primary teeth, but no significant difference was found in cariostatic effects of compomer compared to these materials.

**Preformed metal crowns**

Preformed metal crowns (also known as stainless steel crowns) are prefabricated metal crown forms that are adapted to individual teeth and cemented with a biocompatible luting agent. Preformed metal crowns have been indicated for the restoration of primary and permanent teeth with extensive caries, cervical decalcification, and/or developmental defects (eg, hypoplasia, hypocalcification), when failure of other available restorative materials is likely (eg, interproximal caries extending beyond line angles, patients with bruxism), following pulpotomy or pulpectomy, for restoring a primary tooth that is to be used as an abutment for a space maintainer, for the intermediate restoration of fractured teeth, for definitive restorative treatment for high caries-risk children, and used more frequently in patients whose treatment is performed under sedation or general anesthesia.

There are very few prospective randomized clinical trials comparing outcomes for preformed metal crowns to intracoronal restorations. A Cochrane review and two systematic reviews conclude that the majority of clinical evidence for the use of preformed metal crowns has come from nonrandomized and retrospective studies. However, this evidence suggests that preformed metal crowns showed greater longevity than amalgam restorations, despite possible study bias of placing stainless steel crowns on teeth more damaged by caries. Five studies which retrospectively compared Class II amalgam to preformed metal crowns showed an average five year failure rate of 26 percent for amalgam and seven percent for preformed metal crowns.

A two-year randomized control trial regarding restoration of primary teeth that had undergone a pulpotomy procedure found a non-significant difference in survival rate for teeth restored with preformed metal crowns (95 percent) versus resin modified glass ionomer/composite restoration (92.5 percent). In another prospective study, significantly less
restoration failure and improved calcium hydroxide pulpotomy success was found with preformed metal crowns (79.7 percent) versus amalgam restorations (60 percent) after one year. However, a systematic review did not show strong evidence that preformed metal crowns were superior over other restorations for pulpotomized teeth. With regards to gingival health adjacent to preformed metal crowns, a one year randomized controlled trial showed no difference in gingival inflammation between preformed metal crowns and composite restorations after pulpotomy. Yet, a two year randomized clinical study showed more gingival bleeding for preformed metal crowns vs. composite/glass ionomer restorations. Inadequately contoured crown and residues of set cement remaining in contact with the gingival sulcus are suggested as reasons for gingivitis associated with preformed metal crowns, and a preventive regime including oral hygiene instruction is recommended to be incorporated into the treatment plan.

There is one randomized control trial on preformed metal crowns versus cast crowns placed on permanent teeth, and this report found no difference between the two restoration types for quality and longevity after 24 months. The remaining evidence is case reports and expert opinion concerning indications for use of preformed metal crowns on permanent molars. The indications include teeth with severe genetic/developmental defects, grossly carious teeth, traumatized teeth, along with tooth developmental stage or financial considerations that require semi-permanent restoration instead of a permanent cast restoration. The main reasons for preformed metal crown failure reportedly are crown loss and perforation.

**Recommendations:**

1. There is evidence from retrospective studies showing greater longevity of preformed metal crown restorations compared to amalgam restorations for the treatment of carious lesions in primary teeth.
2. There is evidence from case reports and one randomized controlled trial supporting the use of preformed metal crowns in permanent teeth as a semi-permanent restoration for the treatment of severe enamel defects or grossly carious teeth.

**Anterior esthetic restorations in primary teeth**

Despite the continuing prevalence of dental caries in primary maxillary anterior teeth in children, the esthetic management of these teeth remains problematic. Esthetic restoration of primary anterior teeth can be especially challenging due to the small size of the teeth; close proximity of the pulp to the tooth surface; relatively thin enamel; lack of surface area for bonding; and issues related to child behavior.

There is little scientific support for any of the clinical techniques that clinicians have utilized for many years to restore primary anterior teeth, and most of the evidence is regarded as expert opinion. While a lack of strong clinical data does not preclude the use of these techniques, it points out the strong need for well designed, prospective clinical studies to validate the use of these techniques. Additionally, there is limited information on the potential psychosocial impact of anterior caries or unaesthetic restorations in primary teeth.

Class III (interproximal) restorations of primary incisors are often prepared with labial or lingual dovetails to incorporate a large surface area for bonding to enhance retention. Resin-based restorations are appropriate for anterior teeth that can be adequately isolated from saliva and blood. Resin-modified glass ionomer cements have been suggested for this category, especially when adequate isolation is not possible. It has been suggested that patients considered at high-risk for future caries may be better served with placement of full tooth coverage restorations.

Class V (cervical) cavity preparations for primary incisors are similar to those in permanent teeth. Due to the young age of children treated and associated behavior management difficulty, it is sometimes impossible to isolate teeth for the placement of composite restorations. In these cases, glass ionomer cement or resin-modified glass ionomer cement is suggested.

Full coronal restoration of carious primary incisors may be indicated when: (1) caries is present on multiple surfaces, (2) the incisal edge is involved, (3) there is extensive cervical decalcification, (4) pulpal therapy is indicated, (5) caries may be minor, but oral hygiene is very poor, or (6) the child’s behavior makes moisture control very difficult. Successful full-coronal restorations of extensively decayed primary teeth have been reported; however, due to the lack of available clinical studies, it is difficult to determine whether certain techniques of restoring carious primary anterior teeth are effective. A retrospective study showed that 80 percent of strip crowns were completely retained after three years, and 20 percent were partially retained, with none being completely lost. Another retrospective study, with 24-74 months follow-up, reported 80 percent retention of strip crowns.

Pre-veneered stainless steel crowns also are among the options of restoring primary anterior teeth with full coronal coverage. Three retrospective studies report excellent clinical retention of these types of crowns, yet with a high incidence of partial or complete loss of the resin facings. Preformed stainless steel crowns and open-faced stainless steel crowns are other options; however, there appears to be no published data on the use of either crown on primary anterior teeth.

**Recommendations:**

1. There is expert opinion that suggests the use of resin-based composites as a treatment option for Class III and Class V restorations in the primary and permanent dentition.
2. There is expert opinion that suggests the use of resin-modified glass ionomer cement as a treatment option for Class III and Class V restorations for primary teeth, particularly in circumstances where adequate isolation of the tooth to be restored is difficult.
3. There is expert opinion that suggests that strip crowns, pre-veneered stainless steel crowns, preformed stainless steel crowns, and open-faced stainless steel crowns are a treatment option for full coronal coverage restorations in primary anterior teeth.

References


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**Table 1. EVIDENCE OF EFFICACY OF VARIOUS DENTAL MATERIALS/TECHNIQUES IN PRIMARY TEETH WITH REGARD TO CAVITY PREPARATION CLASSIFICATIONS**

<table>
<thead>
<tr>
<th>Material</th>
<th>Class I</th>
<th>Class II</th>
<th>Class III</th>
<th>Class IV</th>
<th>Class V</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amalgam</td>
<td>Strong evidence</td>
<td>Strong evidence</td>
<td>No data</td>
<td>No data</td>
<td>Expert opinion</td>
</tr>
<tr>
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<td>Expert opinion</td>
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<tr>
<td>Glass ionomer</td>
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<td>No data</td>
<td>Expert opinion γ</td>
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<td>Expert opinion ε</td>
<td>Expert opinion</td>
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<tr>
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</tr>
<tr>
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<td>N/A</td>
<td>Expert opinion</td>
<td>Expert opinion</td>
<td>Expert opinion</td>
</tr>
</tbody>
</table>

RMGIC = resin modified glass ionomer cement.
α: Evidence from ART trials.
β: Conflicting evidence for multisurface ART restorations.
ε: Small restorations; life span 1-2 years.

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**Table 2. EVIDENCE OF EFFICACY OF VARIOUS DENTAL MATERIALS/TECHNIQUES IN PERMANENT TEETH WITH REGARD TO CAVITY PREPARATION CLASSIFICATIONS**

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<td>Glass ionomer</td>
<td>Strong evidence α</td>
<td>Evidence against β</td>
<td>Evidence in favor β</td>
<td>No data</td>
<td>Expert opinion β</td>
</tr>
<tr>
<td>RMGIC</td>
<td>Strong evidence</td>
<td>No data</td>
<td>Expert opinion</td>
<td>No data</td>
<td>Evidence in favor</td>
</tr>
<tr>
<td>Compomers</td>
<td>Evidence in favor φ</td>
<td>No data</td>
<td>Expert opinion</td>
<td>No data</td>
<td>Expert opinion</td>
</tr>
<tr>
<td>SSC</td>
<td>Evidence in favor γ</td>
<td>Evidence in favor γ</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
<tr>
<td>Anterior δ crowns</td>
<td>N/A</td>
<td>N/A</td>
<td>No data</td>
<td>No data</td>
<td>No data</td>
</tr>
</tbody>
</table>

RMGIC = resin modified glass ionomer cement.
α: Evidence from ART trials.
β: Preference when moisture control is an issue.
φ: Strip crowns, stainless steel crowns with/without facings.
δ: Large lesions.
Guideline on Prescribing Dental Radiographs for Infants, Children, Adolescents, and Persons with Special Health Care Needs

Originating Committee
Ad Hoc Committee on Pedodontic Radiology

Review Council
Council on Clinical Affairs

Adopted
1981

Revised

Reaffirmed
1997, 2012

Purpose
The American Academy of Pediatric Dentistry (AAPD) intends this guideline to help practitioners make clinical decisions concerning appropriate selection of dental radiographs as part of an oral evaluation of infants, children, adolescents, and persons with special health care needs. The guideline can be used to optimize patient care, minimize radiation burden, and allocate health care resources responsibly.

Methods
The American Dental Association (ADA) initiated a review of “The Selection of Patients for X-ray Examinations: Dental Radiographic Examinations” in 2002. The AAPD, along with other dental specialty organizations, participated in the review and revision of these guidelines. The Food and Drug Administration (FDA) accepted them in November 2004. This review included a new systematic literature search of the MEDLINE/PubMed® electronic database using the following parameters: Terms: dental radiology, dental radiographs, dental radiography, cone beam computed tomography AND guidelines, recommendations; Fields: all; Limits: within the last 10 years, humans, and English. In 2006, the ADA Council on Scientific Affairs published an update to their recommendations for dental radiographs. The AAPD continues to endorse the ADA/FDA's recommendations.

Background
Radiographs are valuable aids in the oral health care of infants, children, adolescents, and persons with special health care needs. They are used to diagnose oral diseases and to monitor dentofacial development and the progress of therapy. The recommendations in the ADA/FDA guidelines were developed to serve as an adjunct to the dentist's professional judgment. The timing of the initial radiographic examination should not be based upon the patient's age, but upon each child's individual circumstances. Because each patient is unique, the need for dental radiographs can be determined only after reviewing the patient's medical and dental histories, completing a clinical examination, and assessing the patient's vulnerability to environmental factors that affect oral health.

Radiographs should be taken only when there is an expectation that the diagnostic yield will affect patient care. The AAPD recognizes that there may be clinical circumstances for which a radiograph is indicated, but a diagnostic image cannot be obtained. For example, the patient may be unable to cooperate or the dentist may have privileges in a health care facility lacking intraoral radiographic capabilities. If radiographs of diagnostic quality are unobtainable, the dentist should confer with the parent to determine appropriate management techniques (eg, preventive/restorative interventions, advanced behavior guidance modalities, deferral, referral), giving consideration to the relative risks and benefits of the various treatment options for the patient.

Because the effects of radiation exposure accumulate over time, every effort must be made to minimize the patient's exposure. Good radiological practices (eg, use of lead apron, thyroid collars, and high-speed film; beam collimation) are important. The dentist must weigh the benefits of obtaining radiographs against the patient's risk of radiation exposure.

New imaging technologies (ie, cone beam computed tomography [CBCT]) have added three-dimensional capabilities that have many applications in dentistry. Evidence-based guidelines and policies are under development by organizations such as the American Academy of Oral and Maxillofacial Radiology (AAOMR). The usefulness and future of CBCT have been reviewed with an introduction to issues
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Policy on Third Party Payor Audits, Abuse, and Fraud

Originating Council
Council on Clinical Affairs

Adopted
2014

Purpose
One of the aims of the Deficit Reduction Act\(^1\), approved by the US Congress in 2005, was to prevent Medicaid fraud and abuse through an audit process. Despite the good intentions of this law, experts predict health care providers will see more investigations, enforcement actions, and whistleblower cases, and will need to devote more resources toward compliance.\(^2\) Pediatric dentists play a critical role in the Medicaid program, and there will be negative impact on access to care if honest providers are burdened with regulations and audits. The American Academy of Pediatric Dentistry (AAPD) supports efforts to eliminate Medicaid abuse. The AAPD cautions, however, against ill-informed or misguided investigations that may discourage dental provider participation in the program.\(^2\) The AAPD is opposed to any of its dentist members committing abuse and fraud as it relates to their relationship with third party payors. Such behavior is unprofessional conduct and could result in loss of membership status in AAPD.\(^3\) This policy is intended to help AAPD members understand the audit process, both internal and external audits.

Methods
This policy is based upon a review of current dental and medical literature, including a literature search of the PubMed\(^\circ\) electronic database with the following parameters: Terms: dental audits, dental abuse and fraud, peer review, provider profiling, practice management, EPSDT; Field: all; Limits: within the last 10 years; human; English. Nineteen articles match these criteria. Papers for review were chosen from this list as well as references within the selected articles. When data did not appear sufficient or were inconclusive, recommendations were based upon expert and/or consensus opinion by experienced researchers and clinicians.

Background
External audits are increasingly common for a full range of health care providers. AAPD members are no exception, as some of our members have experienced. If a provider requests payment from third party payors, the claims may be subject to review by a recovery audit contractor (RAC), a private entity that reviews paid claims and, in some cases, earns contingency fees for improper payments it retrieves. Private and public third party payors use audits as a mechanism to recoup overpayments, inspect for potential improper behavior, and possibly guide health care providers to control utilization and costs.\(^4\) Notably, there can be serious financial and even criminal penalties associated with billing errors.\(^5\)

In 2012, an estimated $19 billion, or seven percent, of the federal Medicaid funds were absorbed by improper payments, which include fraud and abuse as well as unintentional mistakes such as paper errors.\(^6\) Improper payments totaled an estimated $11 billion, or nine percent of states’ Medicaid budgets in 2010, the most recent year for which data is available.\(^7\) Improper payments can occur when funds go to the wrong recipient, the recipient receives the incorrect amount of funds (either an underpayment or overpayment), documentation is not available to support a payment, or the recipient uses the funds in an improper manner.\(^6\)

The AAPD recognizes the concern its members have regarding these external audits. The AAPD encourages its members to develop internal self-audit programs to address these challenges. Internal audits are used in order to preemptively detect discrepancies before the external authorities can discover them and impose penalties.\(^4\) Given the heightened concern for compliance to avoid an external audit, internal audits have taken on importance. A compliance program generally will incorporate a credible internal audit system, which means that it must be prepared to respond to an external audit by various authorities. In addition, some pediatric dentists have discovered that an internal audit system can be developed so that it not only addresses the external audit, but also serves other quality of care and performance improvement purposes.\(^4\)

Definitions

*Abuse:* “provider practices that are inconsistent with sound fiscal, business, or medical practices, and result in an unnecessary cost to the Medicaid program, or reimbursement for services that are not medically necessary or that fail to meet the professionally recognized standards for healthcare. It also includes recipient practices that result in unnecessary cost to the Medicaid program.”\(^8\) The AAPD supports medically necessary care (MNC) and recognizes that dental care is medically necessary for the purpose of preventing and eliminating orofacial disease, infection, and pain, restoring the form and function of the dentition, and correcting facial disfiguration or dysfunction.\(^9\)
Audit: “planned and documented activity performed by qualified personnel to determine by investigation, examination, or evaluation of objective evidence, the adequacy and compliance with established procedures, or applicable documents, and the effectiveness of implementation”. After receiving a notice of an impending audit from a third party payor, the dentist should ascertain the type and scope of audit to be conducted.

Fraud: “an intentional deception or misrepresentation made by a person with the knowledge that the deception could result in some unauthorized benefit to him or some other person.”

Third party payor: “an organization other than the patient (which would be the first party) or health-care provider (also known as the second party) involved in the financing of health care services.”

Credentials of auditors. The Affordable Care Act required that each state Medicaid program use at least one RAC beginning in 2011. Some states have started employing the RACs to aid in recovery of improper payments. The AAPD strongly believes that, while audits are a part of third party payment contracts and are necessary to protect the integrity of these programs, such audits must be completed by those who have credentials on par with the dental provider being audited. For example, pediatric dentists must be audited by a dentist who specializes in pediatric dentistry and who understands the clinical guidelines and standards of care which have been adopted and followed by their specialty. The AAPD is adamantly opposed to auditors receiving financial incentives for any money recuperated through these audits. This represents a conflict of interest.

Provider profiling. The AAPD is opposed to “provider profiling” and believes that dentist providers selected for audits should be chosen randomly or with compelling evidence that makes them an outlier compared to peers practicing in similar geographic areas, on similar populations of patients, and within the same specialty. Claims-based data used for provider profiling are not collected exclusively for performance assessment and, as a result, may be irrelevant or inadequate for profiling. Claims data may be unable to properly and fully characterize an episode of care and may fail to reveal a patient’s baseline status. In addition, codes contained in claims data do not articulate “patients’ compliance, their desire for care, or their socioeconomic status.”

Peer review as part of audit outcomes. The AAPD supports peer review as a way to offer information and support to dentists who need to review best practices regarding chart documentation, coding, and billing practices related to third party payors. This should be offered in lieu of financial penalties when an audit shows that no intent to fraud was present, but that the dentists need education to improve their practice systems. It provides practicing dentists a means to preserve their reputation and good standing in the community. This model would be consistent with the peer review practices that occur when clinical decision making is in question. The intent of peer review is to resolve discrepancies between the dentists and third party payors expeditiously, fairly, and in a confidential manner.

Best practices for chart documenting, coding, and billing. The AAPD supports the education of pediatric dentistry residents, pediatric dentists, and their staff to ensure good understanding of appropriate coding and billing practices. The AAPD, therefore, supports the creation of educational resources and programs that promote best practices, which may include:

- Programming at the AAPD’s Annual Session or other AAPD-sponsored continuing education course.
- Programs offered to pediatric dentistry state unit and district organizations.
- The creation of a web-based tutorial for dentists and their staff, including frequently asked questions regarding Medicaid.
- Partnering with other public/private organizations and agencies to distribute ‘Medicaid Updates’ that can be received via e-mail, and building open Medicaid Compliance for the Dental Professional webinars offered jointly by AAPD and Centers for Medicare and Medicaid Services (CMS).
- The development of a third party payor submission compliance program.

Medicaid policies that conflict with AAPD clinical practice guidelines. The AAPD is opposed to Medicaid programs that have policies which are in direct conflict with AAPD clinical practice guidelines and are of detriment to patient care. In several states, children are not receiving appropriate dental treatment covered by Early and Periodic Screening, Diagnosis, and Treatment (EPSDT) because there is a refusal to reimburse providers for EPSDT-covered dental services. It is in the best interest of the public to have EPSDT dental periodicity schedules readily available on the Internet. Such availability would also improve compliance by health care professionals and EPSDT staff members with federal EPSDT requirements. In addition, according to CMS, “federal law also requires that states inform all families about EPSDT coverage.” The AAPD recommends that this requirement be followed to enable caregivers to seek necessary dental treatment for their children.

Policy statement
Dental care is medically necessary to prevent and eliminate orofacial disease, infection, and pain, to restore the form and function of the dentition, and to correct facial disfiguration or dysfunction. MNC is based upon current preventive and therapeutic practice guidelines formulated by professional organizations with recognized clinical expertise. Expected
benefits of MNC outweigh potential risks of treatment or no treatment. Early detection and management of oral conditions can improve a child’s oral health, general health and well-being, school readiness, and self-esteem. Early recognition, prevention, and intervention could result in savings of health care dollars for individuals, community health care programs, and third party payors. Because a child’s risk for developing dental disease can change over time, continual professional reevaluation and preventive maintenance are essential for good oral health. Value of services is an important consideration, and all stakeholders should recognize that cost-effective care is not necessarily the least expensive treatment.9

The AAPD:

• Encourages it members and all third party payors to support efforts to eliminate Medicaid abuse.
• Opposes any of its dentist members committing abuse and fraud as it relates to their relationship with third party payors.
• Recognizes the concern its members have regarding these external audits.
• Encourages its members to develop internal self-audit programs to address these challenges.
• Strongly believes that, while audits are a part of third party payment contracts and are necessary to protect the integrity of these programs, such audits must be completed by those who have credentials on par with the dental provider being audited.
• adamantly opposes auditors receiving financial incentives for any money recuperated through audits.
• Opposes provider profiling and believes that dentist providers selected for audits should be chosen randomly or with compelling evidence that makes them an outlier as compared to their peers who practice in similar geographic areas, on similar populations of patients, and within the same specialty.
• supports peer review in lieu of financial penalties when an audit shows that no intent to fraud was present, as a way to offer information and support to dentists who need to re-acquaint themselves on best practices regarding chart documentation, coding, and billing practices relating to third party payors.
• Supports the education of pediatric dentistry residents, pediatric dentists, and their staff to ensure a good understanding of appropriate coding and billing practices.
• Supports the creation of educational resources and programs that promote appropriate coding and billing practices.
• Opposes Medicaid programs that have policies in direct conflict with AAPD clinical practice guidelines and are of detriment to patient care.
• Endorses the enforcement of the “federal law that requires that states inform all families about EPSDT coverage”18 to enable caregivers to seek necessary dental treatment for their children.

References


CHAPTER 7
Contact Information

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Common Dental Terms

Chapter 8
Common Dental Terms

A

Abscess – acute or chronic, localized inflammation, with a
collection of pus, associated with tissue destruction and,
frequently, swelling, usually secondary to infection.

Periapical Abscess – acute or chronic inflammation and
pus formation at the end of a tooth root in the alveolar
bone, secondary to infection;

Periradicular Abscess – acute or chronic inflammation
around a tooth root in the alveolar bone, secondary
to infection;

Periodontal Abscess – abscess of the gingiva or periodontal
tissue secondary to periodontal infection, as contrasted to
periapical abscess or periradicular abscess.

Abutment – a tooth or implant used to support a prosthesis.

Abutment Crown – see crown.

Accession – addition of a test specimen, previously collected
by a health care provider, to a laboratory specimen collection;
recording of essential specimen identification data in a
laboratory-maintained file in chronological order of laboratory
specimen acquisition; assignment to the specimen of an
identification code.

Acid Etching – use of an acidic chemical substance to prepare
the tooth enamel and or dentin surface to provide retention for
bonding.

Adhesive – any substance that joins or creates close adherence
of two or more surfaces.

Air Abrasion – a mechanical technique used to remove tooth
structure.

Allogenic – see graft.

Alloplastic – refers to synthetic material often used for tissue
augmentation.

Alveolar – referring to the bone to which a tooth is attached.

Alveoloplasty – surgical procedure for recontouring alveolar
structures, usually in preparation for a prosthesis

Amalgam – an alloy used in direct dental restorations.

Analgesia – loss of pain sensations without loss of
consciousness.

Anatomical Crown – see crown.

Anesthesia

General Anesthesia – a controlled state of unconsciousness,
accompanied by a partial or complete loss of protective
reflexes, including loss of ability to independently maintain
airway and respond purposefully to physical stimulation
or verbal command, produced by a pharmacologic or
nonpharmacologic method or combination thereof;

Intravenous Sedation/Analgesia – a medically controlled
state of depressed consciousness while maintaining
the patient's airway, protective reflexes and the ability to
respond to stimulation or verbal commands. It includes
intravenous administration of sedative and/or analgesic
agent(s) and appropriate monitoring.

Local Anesthesia – The loss of pain sensation over a specific
area of the anatomy without loss of consciousness.

Non-Intravenous Conscious Sedation – A medically
controlled state of depressed consciousness while
maintaining the patient's airway, protective reflexes and
the ability to respond to stimulation or verbal commands.
It includes administration of sedative and/or analgesic
agent(s) by a route other than IV; (PO, PR, Intranasal, IM)
and appropriate monitoring.

Anterior – refers to the teeth and tissues located towards
the front of the mouth; maxillary and mandibular incisors and
canines.

Ankylosis – is a condition in which the cementum of a tooth's
root fuses directly to the surrounding bone. The periodontal
ligament is replaced with osseous tissue, rendering the tooth
immobile to eruptive change. Ankylosis can occur in the primary
and permanent dentitions, with the most common incidence
involving primary molars.

Ankyloglossia – partial immobilization of the tongue due to
shortness of the central fold of the mucous membrane that
attaches it to the floor of the mouth.

Anticipatory guidance – the proactive counseling of parents
and patients about developmental changes that will occur in
the interval between health supervision visits that includes
information about daily caretaking specific to that upcoming
interval.

Anxiolysis – reduction of anxiety utilizing a pharmacologic
agent such as a Benzodiazipine or nitrous oxide.

Apexification – the process of forming a hard calcified barrier
in an immature tooth.

Apexogenesis – a histological term that has been used to
describe the result of vital pulp procedures that allow the
continued physiologic development and formation of the
root's apex. Formation of the apex in vital, young, permanent
teeth can be accomplished by implementing the appropriate
vital pulp therapy previously described in the AAPD Reference
Manual (see http://www.aapd.org for the most current policies).

Apicoectomy – amputation of the apex of a tooth.

Apex – the tip or end of the root end of the tooth.

Arch, dental – the curved composite structure of the natural
dentition and the residual ridge, or the remains thereof, after the
loss of some or all of the natural teeth.
Artificial crown – see crown.

Autogenous – see graft.

Avulsion – complete displacement of tooth out of socket. The periodontal ligament is severed and fracture of the alveolus may occur (evulsion).

B

Bilateral Space Maintainer – a type of bilateral fixed or removable space maintainer designed to hold space created by the premature loss of a primary tooth or created through orthodontic tooth movement (for example – Nance appliance, transpalatal arch, passive lingual arch).

Behavior Management (Traditional, Aversive, Pharmacologic)

Benign – the mild character of an illness or the non-malignant character of a neoplasm.

Bicuspid – a premolar tooth; a tooth with two cusps.

Bilateral – occurring on, or pertaining to, both right and left sides.

Biopsy – process of removing tissue for histologic evaluation.

Bitewing Radiograph – interproximal view radiograph of the coronal portion of the tooth.

Bleaching, non-vital (internal bleaching) – The use of bleaching agents to lighten the color of dark non-vital teeth. The bleaching agent is placed inside the tooth through the endodontic access hole.

Bleaching, vital tooth – Peroxide-containing whiteners or bleaching agents are usually applied to the tooth’s external surface using a tray, gel or other delivery system.

Bonding – process by which two or more components are made integral by mechanical and/or chemical adhesion at their interface.

Bridge – see fixed partial denture and/or removable partial.

Bruxism – the habitual nonfunctional and forceful contact between occlusal surfaces, can occur while awake or asleep. The etiology is multifactorial and has been reported to include central factors (eg, emotional stress, parasomnias, traumatic brain injury, neurologic disabilities) and morphologic factors (eg, malocclusion, muscle recruitment). Reported complications include dental attrition, headaches, temporomandibular dysfunction, and soreness of the masticatory muscles. Preliminary evidence suggests that juvenile bruxism is a self-limiting condition that does not progress to adult bruxism. The spectrum of bruxism management ranges from patient/parent education, occlusal splints, and psychological techniques to medications.

Buccal – pertaining to or around the cheek (as in the buccal surface of a posterior tooth).

By Report – a narrative description used to report a service that does not have a procedure code or is specified in a code as “by report”; may be requested by a third-party payer to provide additional information for claims processing.

C

Calculus – hard deposit of mineralized material adhering to crowns and/or roots of teeth.

Canal – a relatively narrow tubular passage or channel;

Root Canal – space inside the root portion of a tooth containing pulp tissue;

Mandibular Canal – the passage which transmits vessels and nerves through the jaw to branches that distribute them to the teeth.

Cantilever Extension – part of a fixed prosthesis that is supported at only one end.

Caries – commonly used term for tooth decay.

Cast – see diagnostic cast or study model.

Caries-risk Assessment and Management for Infants, Children and Adolescents – AAPD’s systematic method for determining the likelihood of the incidence of new cavities for a patient during a certain period of time. This assessment takes into account a variety of social, cultural, and behavioral factors as well as physical, environmental, and general health factors as they contribute to an individual’s risk of tooth decay. For the most current guideline and materials, please refer to the AAPD Reference Manual (www.aapd.org).

Cavity – decay in tooth caused by caries; also referred to as carious lesion.

Cephalometric Radiograph – a radiographic head film utilized in the scientific study of the measurements of the head with relation to specific reference points.

Cement Base – material used under a filling to replace lost tooth structure.

Cementum – hard tissue covering the tooth root.

Cleft Palate – congenital deformity resulting in lack of fusion of the soft and/or hard palate, either partial or complete.

Clenching – the clamping and pressing of the jaws and teeth together in centric occlusion, frequently associated with psychological stress or physical effort.

Clinical Crown – see crown.

Closed Reduction – the re-approximation of segments of a fractured bone without open surgery.

Composites (white fillings) – are a group of restorative materials used in dentistry. As with other composite materials, a dental composite typically consists of a resin-based oligomer matrix, such as a bisphenol A-glycidyl methacrylate (BISMA) or urethane dimethacrylate (UDMA), and an inorganic filler such as silicon dioxide silica. Compositions vary widely, with proprietary mixes of resins forming the matrix, as well as engineered filler glasses and glass ceramics. The filler gives the composite wear resistance and translucency.

Compound Fracture – break in bone which is exposed to external contamination.

Comprehensive Oral Evaluation – see evaluation.

Concussion – injury to the tooth-supporting structures without abnormal loosening or displacement of the tooth.
Coping – a thin covering of the coronal portion of the tooth usually without anatomic conformity. It can be used as a definitive restoration or as part of a transfer procedure.

Coronal – refers to the clinical crown of a tooth.

Crown

Anatomical Crown – that portion of tooth normally covered by, and including, enamel;

Abutment Crown – artificial crown serving for the retention or support of a dental prosthesis;

Artificial Crown – restoration covering or replacing the major part, or the whole of the clinical crown of a tooth;

Clinical Crown – that portion of a tooth not covered by supporting tissues.

Crown Lengthening – a surgical procedure exposing more tooth for restorative purposes by apically positioning the gingival margin and/or removing supporting bone.

Curettage – scraping and cleaning the walls of a cavity or gingival pocket.

Cusp – pointed or rounded eminence on or near the masticating surface of a tooth.

Cyst – pathological cavity, usually lined with epithelium, containing fluid or soft matter;

Odontogenic Cyst – cyst derived from the epithelium of odontogenic tissue (developmental, primordial);

Periapical Cyst – cyst at the apex of a tooth with a non-vital pulp.

Crossbite – malocclusion which involves one or more teeth in which the maxillary teeth occlude lingually with the mandibular antagonistic teeth.

Crown Fracture, complicated – an enamel-dentin fracture with pulp exposure.

Crown Fracture, uncomplicated – an enamel fracture or an enamel-dentin fracture that does not involve the pulp

D

Debridement – removal of subgingival and/or supragingival plaque and calculus which obstructs the ability to perform an evaluation; removal of contused and devitalized tissue from a wound surface.

Decay – the lay term for carious lesions in a tooth; decomposition of tooth structure.

Deciduous – having the property of falling off or shedding; a name used for the primary teeth

Dental Prophylaxis – scaling and polishing procedure performed to remove coronal plaque, calculus, and stains.

Dentin – that part of the tooth that is beneath enamel and cementum.

Dentition – the teeth in the dental arch;

Permanent Dentition – refers to the permanent teeth in the dental arch;

Primary or Deciduous Dentition – refers to the deciduous or primary teeth in the dental arch.

Denture – an artificial substitute for natural teeth and adjacent tissues.

Denture Base – that part of a denture that makes contact with soft tissue and retains the artificial teeth.

Detailed and Extensive Evaluation – see evaluation.

Diagnostic Cast – plaster or stone model of teeth and adjoining tissues; also referred to as study model.

Diastema – a space, such as one between two adjacent teeth in the same dental arch.

Disectomy – excision of the intra-articular disc of a joint.

Direct Pulp Cap – procedure in which the exposed pulp is covered with a dressing or cement with the aim of maintaining pulp vitality.

Direct Restoration – a restoration fabricated inside the mouth

Displaced Tooth – a partial evulsion of a tooth—may be mesial or distal in relation to the antagonist.

Distal – toward the back of the dental arch (or away from the midline).

Distal shoe – A unilateral space maintainer attached to a primary tooth mesial or anterior to a prematurely lost primary tooth (e.g., second primary molar) to hold arch space.

Dry Socket – localized inflammation of the tooth socket following extraction due to infection or loss of blood clot; osteitis.

E

Early Childhood Caries – formerly termed “nursing bottle caries”, “baby bottle tooth decay”. Usually exhibits a characteristic pattern involving the maxillary anterior teeth and the first primary molars.

Early Childhood Caries (ECC) – the presence of 1 or more decayed (noncavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in any primary tooth in a child 71 months of age or younger.

Severe Early Childhood Caries (S-ECC) – the presence of 1 or more decayed (noncavitated or cavitated lesions), missing (due to caries), or filled tooth surfaces in any primary tooth in children younger than 3 years of age, or any sign of smooth-surface caries is indicative of severe early childhood caries (S-ECC). From ages 3 through 5, 1 or more cavitated, missing (due to caries), or filled smooth surfaces in primary maxillary anterior teeth or a decayed, missing, or filled score of ≥4 (age 3), ≥5 (age 4), or ≥6 (age 5) surfaces constitutes S-ECC.

Ectopic Eruption – Incorrect eruption path of a tooth into the dental arch. For example, the ectopic eruption of a permanent first molar occurs due to the molar’s abnormal mesioangular eruption path, resulting in an impaction at the distal prominence of the primary second molar’s crown.

Edentulous – without teeth.

Enameloplasty – see odontoplasty

Enamel – hard calcified tissue covering dentin of the crown of tooth.

Enamel Microabrasion – technique of enamel color modification to remove superficial enamel discolorations
Established Patient – patient who has a record of recent care.

Equilibration – reshaping of the occlusal surfaces of teeth to create harmonious contact relationships between the upper and lower teeth; also known as occlusal adjustment.

Endodontist – a dental specialist who limits his/her practice to treating disease and injuries of the pulp and associated periradicular conditions.

Evulsion – complete separation of the tooth from its socket due to trauma (avulsion).

Exarticulation (avulsion) – traumatic injury resulting in complete loss of the tooth possibly including an alveolar fracture.

Excision – surgical removal of bone or tissue.

Exostosis – overgrowth of bone (see torus).

Extraoral – outside the oral cavity

Extracoronal – outside the crown of a tooth.

Extrusion – partial displacement of the tooth axially from the socket; partial avulsion. The periodontal ligament usually is torn.

Extrusive luxation – traumatic injury of the tooth resulting in partial displacement out of the socket with hemorrhage, complete disruption of the neurovascular and PDL fibers.

Exudate – a material usually resulting from inflammation or necrosis that contains fluid, cells, and/or other debris.

Facial – the surface of a tooth directed toward the face (including the buccal and labial surfaces) and opposite the lingual surface. Facial surface equals buccal surface in the posterior or the labial in the anterior.

Filling – a lay term used for the restoring of lost tooth structure by using materials such as metal, alloy, plastic or porcelain.

Fistula – Solitary pinkish white or deep red nodule with purulent drainage through a sinus tract.

Fixed Partial Denture – a fixed partial denture is a prosthetic replacement of one or more missing teeth cemented or attached to the abutment teeth or implant abutments adjacent to the space.

Fluoridation – the adjustment of the fluoride level in community water supplies to optimal concentration or the use of systemic or topical fluoride in non-optimally fluoridated areas to prevent dental decay. Please refer to the AAPD Reference Manual for the most current fluoridation recommendations (www.aapd.org).

Fluoride – Fluorine, from which fluoride is derived, is the 13th most abundant element and is released into the environment naturally in both water and air.

Fluoride varnish – a thin coating of resin containing a high fluoride concentration that is applied to the tooth surface to protect it from decay. The purpose of applying fluoride varnish is to retard, arrest, and reverse the process of cavity formation.

Foramen – natural opening into or through bone.

Fracture – the breaking of a part, especially of a bony structure; breaking of a tooth.

Frenum – muscle fibers covered by a mucous membrane that attaches the cheek, lips and or tongue to associated dental mucosa.

Furcation – the anatomic area of a multirooted tooth where the roots diverge.
**G**

**General Anesthesia** – see anesthesia.

**Gingiva** – soft tissues overlying the crowns of unerupted teeth and encircling the necks of those that have erupted.

**Gingival hyperplasia** – overgrowth of the gingiva (gum tissue) characterized by firm, nonpainful swellings associated with the gingiva.

**Gingivitis** – inflammation of gingival tissue without loss of connective tissue.

**Gingivectomy** – the excision or removal of gingiva.

**Gingivoplasty** – surgical procedure to reshape gingiva.

**Glass Ionomer** – glass polyalkenoate cement – material in which the solid powdered phase is a fluoride-containing aluminosilicate glass powder. The material is translucent and can be used as a restoration, a liner and a luting agent

**Graft** – a piece of tissue or alloplastic material placed in contact with tissue to repair a defect or supplement a deficiency;

*Allogenic Graft* – having cell types that are antigenetically distinct from patient's cell type (usually freeze dried and/or irradiated);

*Autogenous Graft* – taken from one part of a patient’s body and transferred to another;

*Homologous Graft* – a graft transplanted from a donor of the same species.

**H**

**Hemisection** – surgical separation of a multi-rooted tooth.

**Heterologous** – made up of tissue not normal to the part.

**Histopathology** – the study of disease processes at the cellular level.

**Homologous** – see graft.

**Hypodontia** – the congenital absence of one or more permanent teeth.

**I**

**Imaging – Diagnostic** – this would include, but is not limited to CAT scans, MRIs, photographs, radiographs, etc.

**Immediate Denture** – prosthesis constructed for placement immediately after removal of remaining natural teeth.

**Impacted Tooth** – an unerupted or partially erupted tooth that is positioned against another tooth, bone, or soft tissue so that complete eruption is unlikely.

**Implant** – material inserted or grafted into tissue; dental implant – device specially designed to be placed surgically within or on the mandibular or maxillary bone as a means of providing for dental replacement; endosteal (endosseous); eposteal (superior osteal); tranosteal (transosseous)

**Implantation, Tooth** – placement of an artificial or natural tooth into an alveolus.

**Incisal** – pertaining to the biting edges of the incisor and cuspid teeth.

**Incisal Angle** – one of the angles formed by the junction of the incisal and the mesial or distal surfaces of an anterior tooth; called the mesioincisal and distoincisal angle respectfully.

**Indirect Pulp Treatment** – a procedure performed in a tooth with a deep carious lesion adjacent to the pulp. The caries near the pulp is left in place to avoid pulp tissue exposure and is covered with a biocompatible material. A radiopaque base such as calcium hydroxide, zinc oxide and eugenol, or glass ionomer cement is placed over the remaining affected dentin to stimulate healing and repair. The tooth then is restored with a material that seals the tooth from microleakage.

**Indirect Restoration** – a restoration fabricated outside the mouth.

**Informed Consent** – the process of providing the patient or, in the case of a minor or incompetent adult, the custodial parent or legal guardian with relevant information regarding diagnosis and treatment needs so that an educated decision regarding treatment can be made by the patient or custodial parent/legal guardian.

**Infraction** – incomplete fracture (crack) of the enamel without loss of tooth structure.

**Inlay** – an indirect intracoronal restoration; a dental restoration made outside of the oral cavity to correspond to the form of the prepared cavity, which is then luted into the tooth.

**Intentional Reimplantation** – the intentional removal, radicular repair and replacement of a tooth into its alveolus.

**Interceptive Orthodontics** – a treatment for procedures to lessen the severity or future effects of a malformation and to eliminate its cause. An extension of preventive orthodontics that may include localized tooth movement. Such treatment may occur in the primary or transitional dentition and may include such procedures as the redirection of ectopically erupting teeth, correction of isolated dental crossbite or recovery of recent minor space loss where overall space is adequate. The key to successful interception is intervention in the incipient stages of a developing problem to lessen the severity of the malformation and eliminate its cause. Complicating factors such as skeletal disharmonies, overall space deficiency, or other conditions may require future comprehensive therapy. Early phases of comprehensive therapy may utilize some procedures that might also be used interceptively, but such procedures are not considered interceptive in those applications.

**Interim Therapeutic Restorations (ITR)** – The ITR procedure involves removal of caries using hand or slow speed rotary instruments with caution not to expose the pulp. Leakage of the restoration can be minimized with maximum caries removal from the periphery of the lesion. Following preparation, the tooth is restored with an adhesive restorative material such as self-setting or resin-modified glass ionomer cement. ITR has the greatest success when applied to single surface or small 2 surface restorations. Inadequate cavity preparation with subsequent lack of retention and insufficient bulk can lead to failure. Follow-up care with topical fluorides and oral hygiene instruction may improve the treatment outcome in high caries-risk dental populations.

**Interproximal** – between the adjoining surfaces of adjacent teeth in the same arch.

**Intracoronal** – referring to “within” the crown of a tooth.
Intraoral – inside the mouth.
Intravenous, conscious sedation – see anesthesia.

Intrusion – apical displacement of tooth into the alveolar bone. The tooth is driven into the socket, compressing the periodontal ligament and commonly causes a crushing fracture of the alveolar socket

J
Jaw – a common name for either the maxilla or the mandible.

K
Keratin – a protein present in all cuticular structures of the body, such as hair, epidermis and nails.
Keratinized Gingiva – the oral surface of the gingiva extending from the mucogingival junction to the gingival margin. In gingival health, the coronal portion of the sulcular epithelium may also be keratinized.

L
Labial – pertaining to or around the lip.
Laser (different types – bleaching, soft and hard tissue cutting)
Lateral Luxation – displacement of the tooth in a direction other than axially. The periodontal ligament is torn and contusion or fracture of the supporting alveolar bone occurs.
Lesion – an injury or wound; area of diseased tissue.
Limited Oral Evaluation – see evaluation.
Line Angle – an angle formed by the junction of two planes; used to designate the junction of two surfaces of a tooth, or of two walls of a tooth cavity preparation.
Lingual – pertaining to or around the tongue; surface of the tooth directed toward the tongue; opposite of facial.
Local Anesthesia – see anesthesia.
Localized Gingival Recession (stripping) – see stripping
Locus – a site or location
Loss of attachment (LOA) – refers to the distance between the cementoenamel junction and the base of the sulcus. Typically measured with periodontal instruments. Includes both pocket depth and recession measurements, Also known as attachment loss.
Lower Lingual Holding Arch (Lingual arch) – A bilateral fixed space maintainer that requires banding of posterior permanent molars and the wire rests on the lingual portion of the four primary or permanent incisors.
Luxation Injuries
Intrusive luxation – traumatic injury of the tooth resulting in displacement in an apical direction deep into alveolar bone, fracture of the alveolus, a short tooth (sometimes not clinically visible), and no mobility.
Lateral luxation – traumatic injury of the tooth resulting in eccentric displacement (in buccal or lingual direction) with alveolus fracture and rupture of PDL fibres. There is little mobility with the apex locked. An increased PDL space is observed on radiographs.

Subluxation – traumatic injury to the tooth support structure with hemorrhage and loosening—no radiographic changes.

M
Maintenance, Periodontal – therapy for preserving the state of health of the periodontium.
Malar – pertaining to the cheek bone; see zygomatic bone.
Malignant – having the properties of dysplasia, invasion, and metastasis.
Malocclusion – improper alignment of biting or chewing surfaces of upper and lower teeth.
Class II malocclusion – malocclusion (distocclusion) may be unilateral or bilateral and involves a distal relationship of the mandible to the maxilla or the mandibular teeth to maxillary teeth. This relationship may result from dental (malposition of the teeth in the arches), skeletal (mandibular retrusion and/or maxillary protrusion), or a combination of dental and skeletal factors.
Class III malocclusion – General considerations and principles of management – Class III malocclusion (mesocclusion) may be unilateral or bilateral and involves a mesial relationship of the mandible to the maxilla or mandibular teeth to maxillary teeth. This relationship may result from dental factors (malposition of the teeth in the arches), skeletal factors (asymmetry, mandibular prognathism, and/or maxillary retrognathism), or a combination of these factors.
Maryland Bridge – fixed partial denture featuring conservative retainers which are resin bonded to abutments; see code D6545 and D6548.
Maxilla – the upper jaw.
Mesial – toward the midline of the dental arch; opposite of distal.
Mesiodens – a permanent supernumerary incisor located at the midline.

Metals, Classification of – the noble metal classification system has been adopted as a more precise method of reporting various alloys used in dentistry. The alloys are defined on the basis of the percentage of noble metal content – high noble – Gold (Au), Palladium (Pd), and/or Platinum (Pt) > 60% (with at least 40% Au); noble – Gold (Au), Palladium (Pd), and/or Platinum (Pt) > 25%; and predominantly base – Gold (Au), Palladium (Pd), and/or Platinum (Pt) < 25%.
Molar – teeth posterior to the premolars (bicuspids) on either side of the jaw; grinding teeth, having large crowns and broad chewing surfaces.
Moulage – a positive reproduction of a body part formed on a cast from a negative impression.
Mouthguard – thermoplastic in-office or laboratory fabricated appliance custom made to accurately fit the individual tooth and arch form affording maximal resistance to dislodgement. Worn by patient to prevent traumatic injury during participation in sporting activities.
Mucogingival defect – a clinical condition where no attached gingival tissue exists. The attached gingiva represents the keratinized gingiva coronal to the mucogingival junction.
Attached gingiva is determined by subtracting the sulcus depth from the distance from the mucogingival junction (apical border) to the free ginvial margin (coronal border). If the probe enters the sulcus and can descend up to or beyond the mucogingival junction, that area is said to represent a mucogingival defect. Without attached gingiva, the freely moveable alveolar mucosa, being more fragile, would suffer injury during eating and cleansing activities, such as brushing of the teeth. The width of attached tissue is critical, because the more there is available provides a greater sense of protection against the aforementioned insults to the tissue.

Mucous Membrane – lining of the oral cavity as well as other canals and cavities of the body; also called “mucosa.”

N

Nance – a type of fixed bilateral appliance used to hold arch space in the maxillary arch.

Non-autogenous – a graft from donor other than patient.

Non-nutritive sucking (NNS) – nonnutritive sucking behaviors are considered normal in infants and young children. Prolonged nonnutritive sucking habits have been associated with decreased maxillary arch width, increased overjet, decreased overbite, anterior open bite, and posterior crossbite. As preliminary evidence indicates that some changes resulting from sucking habits persist past the cessation of the habit, it has been suggested that early dental visits provide parents with anticipatory guidance to help their children stop sucking habits by age 36 months or younger.

Nutritional counseling – an ongoing process in which a health professional works with a patient to assess his/her usual dietary intake and identify areas where change is needed. The nutrition counselor provides information, educational materials, support, and follow-up to help the individual make and maintain the needed dietary changes.

O

Obturator – a disc or plate which closes an opening; a prosthesis that closes an opening in the palate.

Occlusal – pertaining to the biting surfaces of the premolar and molar teeth or contacting surfaces of opposing teeth or opposing occlusion rims.

Occlusal Radiograph – an intraoral radiograph made with the film being held between the occluded teeth.

Occlusion – any contact between biting or chewing surfaces of maxillary (upper) and mandibular (lower) teeth.

Odontogenic Cyst – see cyst.

Odontoplasty – adjustment of tooth length, size, and/or shape; includes removal of enamel projections.

Onlay – an indirect restoration made outside the oral cavity that overlays a cusp or cusps of the tooth, which is then luted to the tooth.

Open Reduction – re-approximation of fractured bony segments accomplished through cutting the adjacent soft tissues and bone to allow direct access.

Oперкультомия – removal of the operculum.

Oперкулном – the flap of tissue over an unerupted or partially erupted tooth.

Oral – pertaining to the mouth.

Oral and Maxillofacial Surgeon – a dental specialist whose practice is limited to the diagnosis, surgical and adjunctive treatment of diseases, injuries, deformities, defects and esthetic aspects of the oral and maxillofacial regions.

Oral Pathology – the specialty of dentistry and pathology concerned with recognition, diagnosis, investigation and management of diseases of the oral cavity, jaws, and adjacent structures.

Orthodontist – a dental specialist whose practice is limited to the interception and treatment of malocclusion of the teeth and their surrounding structures.

Orthognathic – functional relationship of maxilla and mandible.

Osteoplasty – surgical procedure that modifies the configuration of bone.

Osteotomy – surgical cutting of bone.

Overdenture – a removable prosthetic device that overlies and may be supported by retained tooth roots or implants.

P

Palate – the hard and soft tissues forming the roof of the mouth that separates the oral and nasal cavities.

Palliative – action that relieves pain but is not curative.

Panoramic Radiograph – an extraoral radiograph on which the maxilla and mandible are depicted on a single film.

Parafunctional – other than normal function or use

Partial Denture – usually refers to a prosthetic device that replaces missing teeth; (see fixed partial denture or removable partial denture).

Patient – an individual who has established a professional relationship with a dentist for the delivery of dental health care. For matters relating to communication of information and consent this term includes the patient’s parent, caretaker, guardian, or other individual as appropriate under state law and the circumstances of the case.

Parulis – an elevated nodule at the site of a fistula draining a chronic periapical abscess. These nodules occur most frequently in relation to pulpally-involved primary teeth.

Pediatric Dentist – a dental specialist whose practice is limited to treatment of children from birth through adolescence; formerly known as a pedodontist.

Pedodontist – see pediatric dentist.

Periapical – the area surrounding the end of the tooth root.

Periapical Abscess – see abscess.

Periapical Cyst – see cyst.

Periapical Radiograph – a radiograph made by the intraoral placement of film for disclosing the apices of the teeth.

Periodontal – pertains to the supporting and surrounding tissues of the teeth.

Periodontal – the area surrounding the end of the tooth root.

Periapical Abscess – see abscess.

Periapical Cyst – see cyst.

Periapical Radiograph – a radiograph made by the intraoral placement of film for disclosing the apices of the teeth.
Prophylaxis – the first set of teeth; see deciduous

Primary Dentition

Premolar – see bicuspid.

Periodontal Disease – inflammatory process of the gingival tissues and/or periodontal membrane of the teeth, resulting in an abnormally deep gingival sulcus, possibly producing periodontal pockets and loss of supporting alveolar bone.

Periodontal Pockets – pathologically deepened gingival sulcus; a feature of periodontal disease.

Periodontist – a dental specialist whose practice is limited to the treatment of diseases of the supporting and surrounding tissues of the teeth.

Periodontitis – inflammation and loss of the connective tissue of the supporting or surrounding structure of teeth with loss of attachment.

Periradicular – surrounding a portion of the root of the tooth.

Plaque – a soft sticky substance that accumulates on teeth composed largely of bacteria and bacterial derivatives.

Premedication – the use of medications prior to dental procedures.

Premolar – see bicuspid.

Primary Dentition – the first set of teeth; see deciduous

Prophylaxis – scaling and polishing procedure performed to remove coronal plaque, calculus and stains.

Prosthesis – artificial replacement of any part of the body

Dental Prosthesis – any device or appliance replacing one or more missing teeth and/or, if required, associated structures. (This is a broad term which includes abutment crowns and abutment inlays/onlays, bridges, dentures, obturators, gingival prostheses);

Definitive Prosthesis – a prosthesis to be used over an extended period of time;

Fixed Prosthesis – non-removable tooth or implant borne dental prosthesis which is solidly attached to abutment teeth or roots or implants;

Interim Prosthesis – a provisional prosthesis designed for use over a limited period of time, after which it is to be replaced by a more definitive restoration;

Removable Prosthesis – dental prosthesis designed to be removed and reinserted by the patient.

Prosthodontist – a dental specialist whose practice is limited to the restoration of the natural teeth and/or the replacement of missing teeth with artificial substitutes.

Provisional – formed or preformed for temporary purposes or used over a limited period; a temporary or interim solution; usually refers to a prosthesis or individual tooth restoration.

Pulp – connective tissue that contains blood vessels and nerve tissue which occupies the pulp cavity of a tooth.

Pulpal obliteration – extensive calcification of the pulp is a pathologic condition that occurs as an answer to various factors (trauma, caries, periodontal disease). The increase in the amount of calcification may lead to partial or complete radiographic, but not microscopic, obliteration of the pulp chamber and root canals.

Pulp Cavity – the space within a tooth which contains the pulp.

Pulpectomy – complete removal of vital and non vital pulp tissue from the root canal space.

Pulpitis – inflammation of the dental pulp.

Pulpotomy – a procedure performed in a tooth with a deep carious lesion adjacent to the pulp. The coronal pulp is amputated, and the remaining vital radicular pulp tissue surface should be treated with a medicament such as formocresol or ferric sulfate or with electrosurgery to preserve the radicular pulp’s health. The coronal pulp chamber is filled with a suitable base, and the tooth is restored with a restoration that seals the tooth from microleakage.

Q

Quadrant – one of the four equal sections into which the dental arches can be divided; begins at the midline of the arch and extends distally to the last tooth.

R

Radicular – pertaining to the root

Rampant Caries – A high rate of decay affecting most or all of the erupted teeth in a dental arch. Usually the result of poor diet (e.g., excess soda consumption).

Rebase – process of refitting a denture by replacing the base material.

Regional Block Anesthesia – see anesthesia.

Reline – process of resurfacing the tissue side of a denture with new base material.

Reimplantation, Tooth – the return of a tooth to its alveolus.

Removable Appliances – (eg, partial dentures, Hawley)

Removable Partial Denture – a removable partial denture (removable bridge) is a prosthetic replacement of one or more missing teeth that can be removed by the patient.

Resin-Based Composite – see composite.

Retainer

Orthodontic Retainer – appliance to stabilize teeth following orthodontic treatment;

Prosthodontic Retainer – a part of a fixed partial denture that attaches a pontic to the abutment tooth, implant abutment, or implant.
Retrograde Filling – a method of sealing the root canal by preparing and filling it from the root apex.

Risk assessment – see caries risk assessment tool.

Root – the anatomic portion of the tooth that is covered by cementum and is located in the alveolus (socket) where it is attached by the periodontal apparatus; radicular portion of tooth.;

Residual Root – remaining root structure following the loss of the major portion (over 75%) of the crown.

Root Canal – the portion of the pulp cavity inside the root of a tooth; the chamber within the root of the tooth that contains the pulp.

Root Canal Therapy – the treatment of disease and injuries of the pulp and associated periradicular conditions.

Root Planing – a procedure designed to remove microbial flora, bacterial toxins, calculus, and diseased cementum or dentin on the root surfaces and in the pocket.

S

Scaling – removal of plaque, calculus, and stain from teeth.

Sealant – a resinous material designed to be applied to the occlusal surfaces of posterior teeth to prevent occlusal caries.

Sextant – one of the six relatively equal sections into which a dental arch can be divided, for example – tooth numbers 1-5; 6-11; 12-16; 17-21; 22-27; 28-32. Sometimes used for recording periodontal charting.

Sialodochoplasty – surgical procedure for the repair of a defect and/or restoration of portion of a salivary gland duct.

Sialography – inspection of the salivary ducts and glands by radiograph after the injection of a radiopaque medium.

Sialolithotomy – surgical procedure by which a stone within a salivary gland or its duct is removed, either intraorally or extraorally

Site – a term used to describe a single area, position, or locus. A single site is an area of communication that may involve adjacent teeth. All non-communicating areas are single sites.

Space regaining appliance – an orthodontic appliance used to move teeth to recreate space lost in a dental arch due to the premature loss of a primary or permanent tooth or the ectopic eruption of a permanent tooth.

Splint – a device used to support, protect, or immobilize oral structures that have been loosened, replanted, fractured or traumatized. Also refers to devices used in the treatment of temporomandibular joint disorders.

Stomatitis – inflammation of the membranes of the mouth.

Stress Breaker – that part of a tooth-borne and/or tissue-borne prosthesis designed to relieve the abutment teeth and their supporting tissues from harmful stresses.

Stainless steel crown – preformed metal crowns made of an alloy containing iron, chromium, nickel, manganese, silicon and carbon. Crowns are available in pre-trimmed or pre-contoured varieties and can be used on primary and permanent teeth.

Stainless steel crown with resin window – preformed metal crown that is cemented to the tooth and then a window is cut into the facial aspect and a resin restoration is placed. Also known as chairside veneered crowns.

Strip crown – composite adhesive resin crown that is placed with the aid of a plastic crown form.

Stripping – loss of attachment and recession that occurs with a labially, malpositioned tooth

Study Model – plaster or stone model of teeth and adjoining tissues; also referred to as diagnostic cast.

Succedaneous tooth – a permanent tooth that replaces a primary tooth

Supernumerary tooth – extra erupted or un-erupted tooth that resembles tooth of normal shape

Suture – stitch used to repair incision or wound.

T

Temporary Removable Denture – an interim prosthesis designed for use over limited period of time.

Temporomandibular (TMJ) – the connecting hinge mechanism between the base of the skull (temporal bone) and the lower jaw (mandible).

Temporomandibular Joint Disfunction – abnormal functioning of temporomandibular joint; also refers to symptoms arising in other areas secondary to the disfunction.

Tissue Conditioning – material intended to be placed in contact with tissues, for a limited period, with the aim of assisting the return to a healthy condition.

Transitional – relating to a passage or change from one position, state, phase or concept to another.

Treatment Plan – a comprehensive plan to address a patients dental needs incorporating severity of decay, medical status, financial needs or limitations, and patient / guardian desires.

Torus – a bony elevation or protuberance of bone; see exostosis.

Transplantation of Tooth – transfer of a tooth from one socket to another, either in the same or a different person.

Transseptal – through or across a septum.

Triage – a process of prioritizing patients based on the severity of their condition so as to treat as many as possible when resources are insufficient for all to be treated immediately.

Trismus – restricted ability to open the mouth, usually due to inflammation or fibrosis of the muscles of mastication.

Tongue Thrusting – an abnormal tongue position and deviation from the normal swallowing pattern, may be associated with anterior open bite, abnormal speech, and anterior protrusion of the maxillary incisors.
U

Unerupted – tooth/teeth that have not penetrated into the oral cavity.

Unilateral – one-sided; pertaining to or affecting but one side

Unilateral space maintainer – a type of fixed appliance to hold space created by the premature loss of a primary tooth. Examples include a band and loop space maintainer, a crown and loop space maintainer, and a distal shoe space maintainer.

V

Veneer – in the construction of crowns or pontics, a layer of tooth-colored material, usually, but not limited to, composite, porcelain, ceramic or acrylic resin, attached to the surface by direct fusion, cementation, or mechanical retention; also refers to a restoration that is luted to the facial surface of a tooth.

Vestibuloplasty – any of a series of surgical procedures designed to increase relative alveolar ridge height.

W

Wax Pattern – a wax form that is the positive likeness of an object to be fabricated.

X

Xerostomia – decreased salivary secretion that produces a dry and sometimes burning sensation of the oral mucosa and/or cervical caries.

X-ray – radiograph.

Y

Yeast – a general term for a fungus occurring as a unicellular, nucleated organism that usually reproduces by budding, although some yeasts may reproduce by fission, many producing mycelia or pseudomycelia.

Z

Zygomatic Bone – quadrangular bone on either side of face that forms the cheek prominence (see malar).