DEPARTMENT OF THE NAVY
BUREAU OF MEDICINE AND SURGERY
7700 ARLINGTON BOULEVARD
FALLS CHURCH VA 22042

IN REPLY REFER TO
BUMEDINST 6320.82B
BUMED-M3
23 Jan 2018

BUMED INSTRUCTION 6320.82B

From: Chief, Bureau of Medicine and Surgery

Subj: STANDARDS OF ORAL HEALTH CARE

Ref: (a) BUMEDINST 6600.16A

Encl: (1) Standards of Oral Health Care

1. Purpose. Establish policy and guidelines for standards of oral health care.

2. Cancellation. BUMEDINST 6320.82A.

3. Scope. This instruction applies to all providers of oral health care in naval medical treatment facilities and dental treatment facilities ashore and afloat.

4. Policy. All Navy dental health care personnel assigned to duties providing direct or indirect patient care, either diagnostic or therapeutic, must follow the standards of care as outlined within this instruction, per reference (a), and the standards of care as detailed by the American Dental Association. Failure to do so may result in the review or revocation of privileges and credentials, or punishment under the Uniformed Code of Military Justice.

5. Action

a. Assistant Deputy Chief, Healthcare Operations (BUMED-M3) must:

(1) Ensure all aspects of this instruction are implemented and followed throughout the Navy Military Health System following reference (a) and enclosure (1).

(2) Ensure the Navy Medicine (NAVMED) specialty leaders in all dental specialty areas maintain cognizance over Department of the Navy Standards of Oral Health Care.

b. Regional Commanders. Must ensure commands within each Navy Medical Region follow all aspects of this instruction and enclosure (1).

c. Commanding Officers of Medical Treatment Facilities and Fleet Dental Officer. Must ensure all providers of oral health services maintain the standards of oral health care provided in enclosure (1) to ensure the excellence of oral health care to all beneficiaries.

6. Records Management. Records created as a result of this instruction, regardless of media and format, must be managed per SECNAV Manual 5210.1 of January 2012.

7. Information Collection Management. The reports required in enclosure (1), chapter 6, paragraph 5, are exempt from reports control per SECNAV M-5214.1 of December 2005, part IV, paragraph 7h.

8. Forms

a. SF 515 Medical Record - Tissue Examination is available electronically at: http://www.gsa.gov/portal/forms/type/SF.

b. DD 2322 Dental Laboratory Work Authorization is available electronically at: http://www.dtic.mil/whs/directives/forms/index.htm.

c. NAVMED 6600/3 Dental Health Questionnaire is available electronically from the "NAVMED Forms" tab at http://www.med.navy.mil/directives/Pages/NAVMEDForms.aspx.

d. NAVMED 6600/13 Dental Examination is a specialty form and is not authorized for local reproduction. It can be ordered using the listed stock number (SN) from Naval Forms Online at: https://navalforms.documentservices.dla.mil/web/public/forms.

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Releasability and distribution:
This instruction is cleared for public release and is available electronically only via the Navy Medicine Web site: http://www.med.navy.mil/directives/Pages/BUMEDInstructions.aspx.

STANDARDS OF ORAL HEALTH CARE

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CHAPTER 1
INTRODUCTION

1. The Navy Dental Corps is responsible for providing high quality oral health care to active duty members of the Navy and Marine Corps, to assure a healthy, disease-free oral cavity throughout the span of each active duty member's career. All other eligible beneficiaries will receive the same quality of dental care on a space-available basis. One process for the assurance of this high quality of care is to ensure by self-evaluation and peer review that the care provided con-forms to established standards of care.

2. These standards of oral health care establish specific objectives and anticipated levels of performance for specific dental procedures that must be met by direct oral health care providers. These standards are guidelines for clinical care, are not all inclusive, and are not intended to be inflexible legal tenets. These standards must be periodically revised to meet patient needs, changes in operational readiness requirements, and changes in the profession as a whole. Following current directives that have an impact on quality of care issues, these standards are intended to judge the quality of oral health care provided by the general practitioner or the specialist. Because patients are treated in a wide variety of environments and the circumstances of delivery may fluctuate, individual performance evaluations must ensure sufficient latitude for professional judgment. In addition, because standards of care may change over time due to advances in technology, discoveries through research, and changes in evidence-based care, it is the practitioner’s responsibility to keep abreast of these changes and ensure all care meets the current standard, even when rendering such care deviates from these guidelines. They should also notify Bureau of Medicine and Surgery (BUMED) of any conflicts that exist between any potential future changes to standard of care and those that are prescribed within this instruction.

3. The standards of care are presented by specialty areas. All treatment procedures performed should be of such a level of quality that favorable, predictable results will routinely occur. Patients should be advised that any treatment modality, however acceptable, may not be successful in every case. Extrinsic and intrinsic factors, both biological and psychological, may preclude success for any particular treatment. The major risks and complications should be discussed with the patient and appropriately documented in the record. In understanding standards of care, the provider and the evaluator must appreciate the differences between goals, criteria, and standards.

a. Goal. The result or achievement toward which effort is directed. Although a funda-mental and comprehensive statement of quality, it may not be attainable for all patients or for each procedure on every occasion.

b. Criterion. A standard on which a judgment is based.

c. Objective. A goal that the planned, undertaken, or discussed procedure is intended to achieve.

d. Standard. An accepted level of care. Meeting the standard of a procedure ensures adequate acceptable quality of care.

4. In establishing a standard, the relative importance of meeting a criterion or a series of criteria is established and evaluated as being in one of the following categories:

a. Category 1. A criterion or criteria that should be attained in the majority of cases.

b. Category 2. A criterion or criteria that are satisfied in most cases.

c. Category 3. A criterion or criteria that are satisfied in a few cases.

CHAPTER 2
ENDODONTICS

1. Introduction

a. Definition of Endodontics. Endodontics is the branch of dentistry that is concerned with the morphology, physiology, and pathology of the human dental pulp and periradicular tissues. Its study and practice encompass the basic clinical sciences including biology of the normal pulp; the etiology, diagnosis, prevention, and treatment of diseases and injuries of the pulp; and associated periradicular conditions.

b. Scope of Care. The scope of endodontics is defined by the educational requirements for the training of a specialist in this discipline. The scope of endodontics includes, but is not limited to:

(1) The differential diagnosis and treatment of oral pain of pulpal or periradicular origin;

(2) Vital pulp therapy such as, pulp capping, pulpotomy, regenerative endodontics, and any procedure relating to the apexogenesis or continued root development;

(3) Root canal therapy such as pulpectomy, non-surgical treatment of root canal systems with or without periradicular pathosis of pulpal origin, and the obturation of these root canal systems;

(4) Selective surgical removal of pathological tissues resulting from pulpal pathosis;

(5) Intentional replantation and replantation of avulsed teeth;

(6) Surgical removal of tooth structure such as in root-end resection, hemisection, and root resection;

(7) Endodontic implants;

(8) Bleaching of discolored dentin and enamel;

(9) Retreatment of teeth previously treated endodontically;

(10) Treatment procedures related to coronal restorations by means of post and/or cores involving the root canal space.

c. Considerations. Dental practitioners must perform endodontic therapy consistent with their educational training and clinical experience. Keeping in mind that dentistry's main goal is for the public to maintain a healthy, natural dentition, and every dental practitioner is expected to be able to recognize and effectively treat pulpal injuries and diseases that are commonplace and

within the skills acquired by graduates of dental schools in the United States. Endodontic cases that are beyond the training, experience, and expertise of individual practitioners should be referred to practitioners who can more appropriately provide for their care. All endodontic treatment procedures that are undertaken should be of such quality that predictable and favorable results will routinely be achieved per published, evidence-based data.

d. Endodontic Examination and Diagnosis. Many features of evaluation in endodontics are common to all dental practice:

(1) An adequate medical and dental history with contemporaneous visual and radiographic examination provides basic information. Some indicated tests such as thermal, electrical, percussion, palpation, and mobility should be accomplished. Additional periodontal images taken using cone beam computed tomography (CBCT) should be done so using a limited field of view CBCT, and used when indicated and when available, to assist in diagnosis and treatment planning. Digital radiography should be used when available in an effort to reduce radiation exposure to the patient and to reduce the creation of solid and chemical waste.

(2) Follow-up of all possible patients at applicable periodic intervals to compare some of the examination data from one time interval to another for an accurate diagnosis, assessment of pulpal and periradicular health, and post-operative healing outcomes. At times it is advisable to secure radiographic and CBCT images from previous practitioners or the existing dental record to better assess the progression of healing or disease as it presents to the clinician at a given point in time.

e. Endodontic Treatment Planning, Records, and Recalls

(1) Appropriate treatment is predicated on an accurate analysis of all diagnostic data. Treatment planning should include the determination of strategic importance of the tooth or teeth considered for treatment, the expectations of the patient, the prognosis, and other factors such as excessively curved canals, periodontal disease, occlusion, tooth fractures, calcified or occluded canals, and teeth with unusual or abnormal canal morphology.

(2) Treatment records should include the chief complaint or patient comment, pain level (scale of 0-10 pain level, 10 being the worst), clinical impression, results of diagnostic tests and clinical examination, diagnosis and treatment, required pre-operative, inter-operative, and post-operative radiographs, and follow-up radiographs. Records should also include patient commentaries or complaints before and during treatment, or at any subsequent post-operative examination.

(3) Endodontic care includes the evaluation of the patient's post-operative response to the clinical procedures. Endodontic providers should encourage patients to return at intervals appropriate for the procedures undertaken to allow clinical evaluation.

2. Vital Pulp Treatment Procedures. Vital pulp treatments attempt to preserve the integrity and function of the pulpal tissue in whole or in part as dictated by the degree of pulpal injury. Compounds used in vital pulp therapy, such as mineral trioxide aggregate and calcium hydroxide, should meet the guidelines of the American Dental Association's (ADA) Council on Dental Therapeutics. The permanent filling should be inserted as soon as it is advisable.

a. Protective Base

(1) Procedure. A protective filling material is placed at the base of a deep preparation to act as a protective barrier to minimize further injury and permit possible healing and repair of the pulp.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) Location of a radiopaque base between the permanent restoration and the dentin (category 1).

(c) Normal responsiveness to electrical and thermal vitality test (category 2).

(d) No breakdown of the periradicular supporting tissues (category 1).

b. Indirect Pulp Capping

(1) Procedure. A material is placed on a thin partition of remaining carious dentin that, if removed, might expose the pulp in immature permanent teeth.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) Radiopaque base should be adjacent to but not in contact with the pulpal tissue (category 1).

(c) Normal responsiveness to electrical and thermal vitality tests (category 2).

(d) No breakdown of the periradicular supporting tissues (category 1).

(e) No resorption or abnormal canal calcification as determined by periodic radiographic evaluation (category 1).

c. Direct Pulp Capping

(1) Procedure. A biocompatible dental material is placed directly on a mechanical or traumatic vital pulp exposure.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) Radiopaque base should be adjacent to and in contact with the pulpal tissue (category 1).

(c) Normal responsiveness to electrical and thermal vitality tests (category 2).

(d) No breakdown of the periradicular supporting tissue (category 1).

(e) No resorption or abnormal canal calcification as determined by periodic radiographic evaluation (category 1).

d. Pulpotomy (Pulp Amputation)

(1) Procedure. The surgical removal of the coronal portion of a vital pulp as a means of preserving the vitality of the remaining radicular portion; may be performed as an emergency procedure for temporary relief of symptoms or therapeutic measure, as in the instance of a Cvek pulpotomy.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) For permanent teeth radiographic evidence of canal and root apex closure sometimes accompanied by an increase in root length (category 2).

(c) No breakdown of the periradicular supporting tissues (category 1).

(d) No resorption or abnormal canal calcification as determined by periodic radiographic evaluation (category 1).

e. Regenerative Endodontics (Pulp Revascularization)

(1) Procedure. The non-surgical debridement of a canal with an open apex for removal of necrotic tissue and debris, placement of an antimicrobial medicament, creation of a blood clot within the canal and placement of a biocompatible material in the coronal portion to allow continued root development.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) For permanent teeth radiographic evidence of canal and root apex closure sometimes accompanied by an increase in root length (category 2).

(c) No breakdown of the periradicular supporting tissues (category 1).

(d) No resorption or abnormal canal calcification as determined by periodic radiographic evaluation (category 1).

3. Non-surgical Endodontic Procedures

a. Primary Teeth

(1) Procedure

(a) Endodontic therapy for primary teeth with pulpal involvement involves chemical and mechanical treatment, on a biologic basis, of the root canal system to eliminate pulpal and periradicular disease and to promote healing and repair of the periradicular tissues. When a permanent successor tooth is evident, the debridement and shaping of the canal system is followed by obturation with an absorbable filling material. When no permanent successor tooth is present, the canals of the deciduous tooth are obturated with an acceptable endodontic filling material. Except for the following situations, all primary teeth with pulpal involvement that have spread beyond the coronal pulp are candidates for root canal fillings whether they are vital or non-vital:

1. A non-restorable tooth.

2. Internal resorption in the roots visible on radiographs.

3. Teeth with mechanical or carious perforations of the floor of the pulp chamber.

4. Excessive pathologic root resorption involving more than 1/3 of the root.

5. Excessive pathologic loss of bone support with loss of the normal periodontal attachment.

6. The presence of a dentigerous or follicular cyst.

7. A periapical or interradicular lesion involving the crypt of the developing permanent successor.

(b) All canals are shaped, cleansed, and disinfected using aseptic technique. Proper access is dictated by the size and shape of the pulp chamber as well as by the tooth position in the arch. In all cases, the entire roof of the pulp chamber must be removed. Debridement, enlargement, and disinfection of all canals are accomplished under rubber dam isolation, and with microbial culture and sensitivity determinations when indicated. An absorbable material, which has been demonstrated to be biologically acceptable, is used to obturate the root canal system in three dimensions.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) Radiographic appearance of a dense, three-dimensional filling that is not excessively overextended or underextended in a patent canal. No ledges or perforations are created (category 1).

(c) No further breakdown of supporting tissues (category 1).

(d) Resorption of root structures and absorption of filling material occur at the appropriate age when a permanent successor tooth is present (category 2).

b. Permanent Teeth

(1) Procedure

(a) Endodontic therapy for permanent teeth involves chemical and mechanical treatment, on a biologic basis, of the root canal system to eliminate pulpal and periradicular disease and to promote healing and repair of periradicular tissues. The debridement and shaping of the canal system is followed by obturation with a biologically acceptable non-absorbable semi-solid or solid core root canal filling material.

(b) All canals are shaped, cleansed, and disinfected using an aseptic technique. Proper access is dictated by the size and shape of the pulp chamber as well as by the tooth position in the arch. In all cases, the entire roof of the chamber must be removed. Debridement, enlargement, and disinfection of all canals and obturation are accomplished under rubber dam isolation. When indicated, microbial culture and sensitivity determinations are used. Obturation is the method used to fill in all three dimensions and seal a cleaned and shaped root canal using a root canal sealer and core filling material. Sealers are frequently used as the sole obturating material in deciduous teeth. There are a variety of techniques used to obturate the canal space.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) Radiographic appearance of a dense, three-dimensional filling which extends as close as possible to the cemento-dentinal junction, i.e., without gross overextension or under filling in the presence of a patent canal. No ledges or perforations are created (category 1).

(c) No further breakdown of supporting tissues

1. If a tooth had a periradicular radiolucency indicative of periradicular disease of pulpal origin at the time of obturation, then recall radiographs taken 12 months or later.

Postobturation radiographs should demonstrate a reduction in the size of the radiolucency or an intact lamina dura and a normal periodontal ligament space around the entire root or roots under observation (category 1).

2. If a tooth had a normal periodontal ligament space and an intact lamina dura around the root or roots at the time of obturation, then recall radiographs taken 12 months or later postobturation should demonstrate a similar appearance (category 1).

c. Apexification

(1) Procedure. Apexification is a method to induce a calcified barrier in a root with an open apex or placement of a biocompatible material to create a barrier to obturate on. It may involve several treatments over an extended period of time. Mineral trioxide aggregate (Portland cement containing mixtures) and calcium hydroxide compounds are most commonly used for this purpose. When an apical barrier is achieved or closure of the root apex is clinically assessed to be satisfactory by the clinician, endodontic therapy must be finished to include obturation of the root canal.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) Radiographic evidence of apical closure (category 2).

(c) No breakdown of the supporting tissues (category 1).

(d) No lateral root surface pathosis (category 1).

4. Surgical Endodontic Procedures

a. Incision and Drainage - Soft Tissue

(1) Procedure. Incision and drainage is a surgical opening created in soft tissue for the purpose of releasing exudate.

(2) Criteria

(a) No adverse signs or symptoms (category 1).

(b) Relief of acute symptoms (category 1).

(c) Reduction of localized swelling that is usually fluctuant (category 1).

(d) Return of soft tissue architecture to normal (category 1).

b. Trephination (Incision and Drainage - Hard Tissue)

(1) Procedure. The surgical perforation of the alveolar cortical plate or apical foramen to release accumulated exudate.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 1).

(b) Relief of acute symptoms (category 1).

(c) No damage to root structure because of the procedure (category 1).

(d) Soft tissue closure over the surgical site without fenestration (category 1).

(e) No damage to alveolar bone, roots of adjacent teeth, or other anatomical structures (category 1).

c. Periradicular Curettage

(1) Procedure. Periradicular curettage (apical curettage, periapical curettage) is a surgical procedure to remove diseased or reactive tissue and/or foreign material from the periradicular bone surrounding the root of an endodontically treated tooth. By definition, the root end is not resected. It may be indicated for the treatment of:

(a) A marked apical or lateral overextension of filling materials into the periradicular tissues.

(b) A periradicular lesion that is enlarging after root canal treatment as noted on follow-up radiographs.

(c) A periradicular lesion that has not decreased in size, 4 to 5 years after the completion of root canal treatment.

(d) A persistent sinus tract or periradicular inflammation.

(e) Cases where a biopsy or surgical exploration of the area is deemed necessary.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 1).

(b) Alveolar bone around the treated roots has a normal appearance with the establishment of a normal periodontal ligament space and lamina dura (category 2).

(c) No damage to adjacent teeth or anatomical structures (category 1).

(d) No sinus tract present (category 1).

d. Root-End Resection (Apicoectomy)

(1) Procedure. The surgical removal of some or all of a root and adherent soft tissues leaving the crown of the tooth intact; may be performed in advance of root-end preparation for a root-end filling or as a definitive treatment alone as in the instance of root amputation. It may be performed to evaluate or improve the apical seal of the root canal filling; to facilitate the access for creation of a root-end preparation for retrofilling; to allow for curettage behind the root; or to remove a portion of the root which cannot be obturated with a root canal filling material because of severe curvature of the root, calcification of the root canal space, etc. This procedure may be done in conjunction with curettage of the apical tissue. It may be indicated for the treatment of:

(a) A marked apical or lateral overextension of filling materials into the periradicular tissues.

(b) A periradicular lesion that is enlarging after root canal treatment follow-up radiographs.

(c) A periradicular lesion that has not decreased in size, 4 to 5 years after the completion of root canal treatment.

(d) Any persistent sign or symptom indicative of periapical disease, including pain or sinus tract.

(e) Cases where apical curettage revealed an inadequate seal of a previously obturated root.

(f) An unfilled apical portion of the root canal system not accessible from a coronal approach.

(g) Roots that cannot be retreated non-surgically because of an obstruction such as a post or a separated instrument.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 1).

(b) Alveolar bone at the apex of the surgically altered roots should have a normal appearance with reestablishment of a normal periodontal ligament space and lamina dura (category 2).

(c) Resolution of signs and symptoms of periapical disease. Absence of pain and resolution of sinus tract, if previously present (category 1).

(d) No damage to adjacent teeth or anatomical structures (category 1).

e. Root-End Preparation (formerly referred to as retrofilling) and Root-End Filling (dental material used to fill the root-end cavity)

(1) Procedure. A cavity created to receive a root-end filling during periradicular surgery or intentional replantation; preferably accomplished using ultrasonic instrumentation. It can be used for:

(a) Correction of resorptive defects of the root.

(b) Cases where the dentist is unable to negotiate a canal non-surgically because of iatrogenic problems or anatomic complications of the canal system.

(c) Previously treated teeth where an inadequate apical seal is indicated by a periradicular lesion that is enlarging or has not decreased in size over a 4- to 5-year period after completion of non-surgical root canal filling.

(d) A tooth that has signs or symptoms suggestive of periapical pathology and has a post and/or crown which will not be removed, as determined by the treatment plan.

(e) Treatment of root perforations.

(f) Persistent or recurrent signs or symptoms of periradicular pathosis which cannot be treated non-surgically.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 1).

(b) Alveolar bone at the site of repair of the treated roots should have normal appearance with the reestablishment of a normal periodontal ligament space and lamina dura (category 2).

(c) Root-end filling material should be within confines of the root and of adequate depth to provide the best seal. The ideal thickness of the root-end filling is determined by the chosen material (category 1).

(d) Amalgam as a root-end filling material is no longer recommended, therefore scatter of the root-end filling material into the surrounding bone should be non-existent or at best, minimal (category 1).

(e) No damage to adjacent teeth or anatomical structures (category 1).

f. Biopsy

(1) Procedure. The removal of tissue for histologic examination and diagnosis. Three types of biopsy are defined:

(a) Aspiration Biopsy. Removal of fluid by suction through a needle for the purpose of establishing a diagnosis.

(b) Excisional Biopsy. Removal of an entire lesion including a margin of contiguous, normal-appearing tissue for microscopic examination and diagnosis.

(c) Incisional Biopsy. Removal of selected portion of a lesion for microscopic examination and diagnosis.

(2) Indication for biopsy includes cases where:

(a) Tissue or foreign material is removed at or near the surgical site.

(b) Unusual tissues are noted on clinical or radiographic examination.

(c) A medical history indicates the merits of obtaining a biopsy of all tissues removed.

(3) Criteria. A diagnosis is established or confirmed by microscopic examination of tissues or foreign materials (category 1).

g. Hemisection and Bicuspidization

(1) Procedure. Hemisection is the surgical separation of a multirooted tooth through the furcation in such a way that a root and the associated portion of the crown may be removed. Bicuspidization (premolarization) is the hemisection of a mandibular molar where both sections are retained and each is restored as a premolar. Both procedures are most commonly performed on mandibular molars. Hemisections may be performed, however, on maxillary molars or maxillary bicuspids. In all cases the separated segments may be removed or restored. Hemi-section necessitates root canal treatment on all roots to be retained. Bicuspidization necessitates root canal treatment on all canals in each root. In each case it is preferable to complete the root canal treatment before the surgery. Hemisections and bisections may be indicated for:

(a) "Through and through" periodontal furcation defects.

(b) An untreatable infrabony defect of one root of a multirooted tooth.

(c) Fracture of a crown extending into the furcation.

(d) Teeth where non-surgical endodontic treatment is not possible or unsuccessful for at least one root, and periradicular surgery is not possible.

(e) Teeth where a vertical root fracture exists and is confined to the root that is to be separated and extracted.

(f) Cases where secondary periodontal involvement is present.

(g) Cases of persistent sinus tract, recurrent periradicular pathosis, or periradicular inflammation where non-surgical retreatment or periradicular surgery is not possible.

(h) Inoperative or uncorrectable resorptive defects or perforations of the root or furcation.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 1).

(b) Elimination of furcation and periodontal pockets: Total amputation of the coronal portion of the tooth that is associated with the root that will be removed (category 1).

(c) Adequate supporting structure surrounding the remaining roots to maintain the function of the tooth (category 1).

(d) Remaining root in satisfactory condition (category 1).

(e) Adequate root canal fillings in the remaining roots (category 1).

h. Root Resection (Root Amputation)

(1) Procedure. Root amputation involves the removal of a root of a multirooted tooth without the removal of the corresponding portion of the crown when insufficient periodontal supporting tissue warrants the removal of this section of the tooth. Root canal treatment should be performed on all roots not being amputated, preferably before the surgical procedure. Root amputation is indicated for:

(a) "Through and through" periodontal furcation defects.

(b) An untreatable infrabony defect of one root of a multirooted tooth.

(c) Fractures extending into the furcation.

(d) Teeth where non-surgical endodontic treatment is not possible or unsuccessful for at least one root, and periradicular surgery is not possible.

(e) Teeth where a vertical root fracture exists and is confined to the root that is to be separated and extracted.

(f) Cases where secondary periodontal involvement is present.

(g) Cases of persistent sinus tract, periradicular inflammation, or periradicular pathosis where non-surgical root canal therapy or periradicular surgery is not possible.

(h) Inoperative or uncorrectable resorptive or perforation defects of the root.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 1).

(b) Elimination of the furcation and periodontal pockets (category 2).

(c) Adequate supporting structure surrounding the remaining roots to maintain the function of the tooth (category 1).

(d) Adequate root canal fillings in the remaining roots (category 1).

(e) All external openings into the pulp chamber are sealed (category 1).

(f) Elimination of pre-operative signs and symptoms of pathosis (category 1).

i. Replantation of Avulsed Teeth

(1) Procedure. Replantation of the avulsed tooth involves the replacement of a tooth into its natural socket. The goal is reattachment of the periodontal ligament and the return of normal function for the tooth. Success depends upon immediate replantation or, at least within 1 hour if the tooth is stored in an acceptable physiologic storage medium. Periodontal ligament cells must be kept viable during the extraoral period. Management and treatment planning of the avulsed tooth is dependent upon the development of the root apex, extraoral time (less than or greater than 60 minutes), and the type of storage medium used. At the time of this instruction, the 2012 International Association of Dental Traumatology and the 2013 American Association of Endodontists (AAE) had published guidelines for managing dental trauma, including avulsions. The clinician is expected to carefully follow the most recent consensus, evidence-based guidelines published by either the AAE or the International Association of Dental Traumatology. One can expect that as new research is considered, the recommendations for management and follow-up may change.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) Proper anatomic placement of tooth back into the socket (category 1).

(c) Absence of inflammatory resorption or replacement resorption (ankylosis) (category 2).

(d) No breakdown of periradicular supporting tissues (category 2).

(e) Maintenance of the tooth as a firm, functional member of the dentition (category 2).

j. Intentional Replantation (Extraction/Replantation) and Transplantation

(1) Procedure. Intentional replantation is insertion of a tooth into its alveolus after the tooth has been extracted for the purpose of performing treatment, such as root-end filling(s) or perforation repair. It is indicated when non-surgical root canal therapy is not possible, has not been successful or when conventional root-end surgery is not advisable. Intentional transplantation involves the same principles as replantation except the tooth is transplanted into the socket of an extracted tooth. It is indicated when the extracted tooth's position is more important to the dentition than the transplant tooth position. For example, replacing a non-restorable, extracted first molar with a third molar. Unless the root apices of the transplanted tooth are incompletely formed, root canal therapy is indicated before transplantation. Intentionally replanted and transplanted teeth should be routinely followed according to the most recent guidelines for management of avulsed teeth.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) Proper anatomic orientation of tooth in the socket (category 1).

(c) Elimination or absence of periradicular pathosis (category 2).

(d) No periodontal pathosis (category 2).

(e) Resulting root length of acceptable crown to root ratio (category 1).

(f) Proper placement of the root-end filling material (category 1).

(g) Maintenance of the tooth as a firm, functional member of the dentition (category 2).

k. Endodontic Implant (Endosseous Implant)

(1) Procedure. A metallic rod placed in the canal of the root of a tooth and extending into osseous tissues to stabilize the tooth in the dental arch. Endodontic implants may be indicated when:

(a) A tooth has strategic importance.

(b) The apical one-third of the supporting unit, consisting of tooth root and periodontal ligament, is stable.

(c) Adjacent anatomical structures are not compromised.

(d) The root canal system is negotiable.

(e) An unsatisfactory root-to-crown ratio is present that will jeopardize the success of conventional root canal treatment.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) Anatomical structures such as maxillary sinus, nasal fossa, mandibular canal, mental foramen, etc., are not compromised (category 1).

(c) Evidence that the implant material is placed within the cancellous alveolar bone (category 1).

(d) Implant does not penetrate the cortical plate of bone (category 1).

(e) Enhanced stability of the treated tooth (category 1).

(f) No communication of endodontic and periodontic lesions through the sulcus (category 1).

(g) All interfaces between the implant and the tooth are sealed (category 2).

5. Bleaching Procedures. The use of a chemical agent to remove tooth discoloration.

a. Intracoronal Bleaching

(1) Procedure. The use of chemical oxidizing agents within the coronal portion of an endodontically treated tooth to remove tooth discoloration; most frequently used agents are sodium perborate and hydrogen peroxide or sodium perborate and saline.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 1).

(b) Reduction in degree of discoloration (category 2).

(c) Improvement in degree of translucency (category 2).

(d) No cervical external root resorption (category 1).

b. Extracoronal Bleaching

(1) Procedure. The use of a chemical agent on the outside of a tooth to remove discoloration from tooth structures with vital pulps; most frequently used agents are hydrogen peroxide and urea (carbamide) peroxide.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 1).

(b) Reduction in the degree of discoloration (category 2).

(c) No cervical external root resorption (category 1).

6. Dowel (Post) and Core Restorations. See chapter 12, page 12-11, paragraph 4e.

7. Post or Post and Core Removal

a. Procedure. Post and cores are removed for various reasons, including the following:

(1) Loss of adequate retention.

(2) Loss of the underlying root canal seal.

(3) Recurrent caries.

(4) Fracture of the post, core, or both.

b. Criteria

(1) No adverse clinical signs or symptoms (category 1).

(2) Minimal adverse effects on the involved tooth (category 1).

(3) No damage to any other tooth or adjacent tissue (category 1).

8. Non-Surgical Endodontic Retreatment

a. Procedure

(1) A procedure to remove root canal filling materials from the tooth, followed by cleaning, shaping, and obturating the canals.

(2) Retreatment cases may vary greatly in complexity, requiring greater effort, time, skill, and equipment. It should be undertaken with due regard to the ability and experience of the practitioner.

b. Indications for Non-Surgical Endodontic Retreatment

(1) Cases of unresolved pulpal or periradicular pathosis. Deficiency in the quality of the root canal filling may be noted radiographically.

(2) Cases where removal of preexisting obturation materials is dictated by anticipated restorative or prosthetic procedures.

c. Criteria

(1) No adverse clinical signs or symptoms (category 2).

(2) Radiographic appearance of a dense, three-dimensional filling which extends as close as possible to the cemento-dentinal junction, i.e., without gross overextension or under filling in the presence of a patent canal. No additional ledges or perforations are created (category 1).

(3) No further breakdown of supporting tissues

(a) If a tooth had a periradicular radiolucency indicative of periradicular disease of endodontic origin at the time of obturation, then recall radiographs taken annually for 1-4 years after retreatment should demonstrate a reduction in the size of the radiolucency or an intact lamina dura and a normal periodontal ligament space around the entire root or roots under observation (category 1).

(b) If a tooth had a normal periodontal ligament space and an intact lamina dura around the root or roots at the time of retreatment, then recall radiographs taken 6 months or later after retreatment should demonstrate a similar appearance (category 1).

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CHAPTER 3
OPERATIVE DENTISTRY

1. Introduction

a. Definition of Operative Dentistry. Operative dentistry is the art and science that relates to the diagnosis, treatment, and prognosis of those defects of teeth which do not require full coverage for correction; the restoration of proper tooth form, function, and esthetics; and the maintenance of the physiological integrity of the teeth in harmonious relationship with the adjacent hard and soft tissues. Its study and practice encompass the basic clinical sciences including; biology (which includes the etiology, diagnosis, prevention, and treatment of disease and injuries of the tooth); and the protection and preservation of the dental pulp and supporting tissues.

b. Scope of Care

(1) Dental practitioners are encouraged to perform operative dentistry procedures consistent with their educational training and clinical experience. Keeping in mind that dentistry's main goal is for the public to maintain a healthy, natural dentition, every dental practitioner is expected to be able to recognize and effectively treat dental diseases that are commonplace and within the skills acquired by graduates of dental schools in the United States and Canada. Operative dentistry cases that are beyond the training, experience, and expertise of individual practitioners should be referred to practitioners who can more appropriately provide for their care.

(2) The Navy Dental Corps endorses the certification and acceptance programs of the ADA's Council on Dental Therapeutics and Dental Materials, Instruments, and Equipment. These programs, as well as compliance with standards for operative dentistry instruments and materials developed by the American National Standards Institute, are voluntary in nature. Whenever feasible, instruments, materials, and therapeutic agents used by the practitioner should be those whose manufacturers or distributors have enrolled in these programs and whose products comply with the programs' minimum requirements for safety and efficacy.

c. Examination and Diagnosis. Many features of evaluation in operative dentistry are common to all dental practice. These elements are herein abbreviated yet included for purposes of completeness. An adequate medical and dental history with simultaneous visual and radiographic examination provides basic information. Some indicated tests such as thermal, percussion, palpation, periodontal probing, and mobility, should be accomplished. Additional periodontal examination, transillumination, and bacteriologic testing may be indicated. Bitewing radiographs, occlusal plane films, and radiographs of the contralateral and opposing teeth may be necessary. Recall of some patients at periodic intervals to compare some of the examination data from one time interval to another to make an accurate diagnosis may also be necessary.

d. Treatment Planning and Records

(1) Appropriate treatment is predicated on an accurate analysis of all diagnostic data. Treatment planning should include the determination of strategic importance of the tooth or teeth considered for treatment, the prognosis, and other factors.

(2) Treatment records should include the chief complaints or patient comments (Subjective), the results of diagnostic tests, clinical examination, and clinical impression (Objective findings), assessment of the examination process (Assessment), and a treatment plan to correct the patient's chief complaint and subsequent findings (Plans).

(3) Operative dentistry care includes the evaluation of the patient's post-operative response to the clinical procedures. Operative dentistry providers should encourage patients to return at intervals appropriate for their age and disease activity levels.

2. Operative Dentistry Procedures

a. Isolation of the Operative Field

(1) Procedure. The principles of operative dentistry cannot be properly practiced without adequate control of the operative field. Removal of moisture, unobstructed vision, access to the site, and room for instrumentation are requisite to the preparation of biologically and mechanically sound cavities. Such an environment further allows the proper manipulation and insertion of the restorative materials. Inconvenience resulting from a lack of control is unwarranted. A number of methods may be employed, either singly or in combination, to obtain and preserve an adequate operating field.

(2) Rubber Dam Rubber Isolation Criteria

(a) A sufficient number of teeth are exposed (category 2).

(b) The rubber dam is smooth and does not trap and strangle interdental papilla (category 2).

(c) The operation site is unobstructed by frame, napkin, or saliva ejector (category 2).

(d) No seepage of oral fluids is evident and the dam is inverted (category 2).

(e) The rubber dam retainer (clamp) is stable and not causing damage to the tooth or contiguous tissues (category 1).

(f) The rubber dam frame does not impinge on the face (category 1).

(3) Alternate Isolation Mechanisms Criteria

(a) A sufficient number of teeth are exposed (category 2).

(b) The operation site is unobstructed and remains dry (category 1).

(c) No damage is caused to the tooth or contiguous tissues (category 2).

b. Vital Pulp Treatments Standards of Care. See chapter 2, Endodontics, page 2-2. paragraph 2.

c. Amalgam Restoration

(1) Procedure. An amalgam restoration replaces natural tooth surfaces that have been destroyed due to disease or trauma. The tooth being restored should be properly isolated. In preparing the cavity, the enamel walls and margins should be smooth with a well-defined cavity and the enamel walls parallel to enamel rod direction; the cavity retentive features should be conspicuous visually and tactilly (sufficient to retain the amalgam). The external cavity outline should be extended for convenience and removal of contiguous decalcification; the outline form should also be established with straight lines and smooth curves consistent with tooth form and conservation; the internal outline of the cavity should be extended into dentin and caries removal should be completed with no excess loss of tooth structure. Following preparation, appropriate bases or liners should be used where indicated. Evidence supports the use of amalgam bonding adhesive in large restorations for which adequate conventional retention and resistance is not feasible or would require the removal of excessive healthy tooth structure. Properly placed retention pins also offer auxiliary retention and resistance to larger restorations, when needed. A matrix should be placed when filling all complex restorations.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) No damage to adjacent teeth or anatomical structures (category 1).

(c) Surface of the restoration is uniformly smooth (category 1).

(d) The junction of the tooth and restoration is not detectable or scarcely detectable with an explorer (category 2).

(e) Axial contour is continuous with existing tooth form and proximal embrasures and contacts have been restored when indicated (category 2).

(f) Cusp planes, grooves, and marginal ridges are continuous with existing tooth form and functional contact and anatomy have been restored (category 2).

d. Resin Restoration

(1) Procedure. A resin restoration replaces natural tooth structure that has been destroyed due to disease or trauma. In addition, resin restorations may be placed to supplant an unacceptable esthetic situation, (i.e., masking significant discoloration or to alter contour). A posterior resin restoration may also be placed where indicated. The tooth being restored should be properly isolated. In preparing the cavity, the enamel walls and margins should be smooth with a well-defined cavity and the enamel walls parallel to enamel rod direction. If a bevel is appropriate to expose rod ends, a minimal bevel should be placed on the previously defined cavity form. Retention will be micromechanical in nature and can be accomplished with either etch-and-rinse, self-etch, or selective enamel etch approaches. The strongest and most durable bonds to enamel are accomplished by etching with 35-40 percent phosphoric acid. Effective bonding to dentin can be accomplished with either phosphoric acid etching or using a self-etching dentin bonding agent. The external cavity outline should be extended for convenience and removal of contiguous decalcification; the outline form should also be established with straight lines and smooth curves consistent with tooth form and conservation; the internal outline of the cavity should be extended into dentin and caries removal should be completed with no excess loss of tooth structure. Following preparation, appropriate liners/bases should be used where indicated. Dentine bonding agents should also be placed using meticulous technique and paying close attention to the manufacturer's directions. Highly filled composites (60-70 percent volume) should be utilized in all stress-bearing areas. Flowable composites with lower filler content (40-50 percent volume) should only be used in very conservative preparations, non-loadbearing areas or as a preventive resin restoration. A matrix should be placed when filling all complex restorations.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) No damage to adjacent teeth or anatomical structures (category 1).

(c) Surface of restoration is uniformly smooth (category 1).

(d) The junction of the tooth and restoration is not detectable or scarcely detectable with an explorer (category 2).

(e) Axial contour is continuous with existing tooth form and proximal embrasures and contact have been restored when indicated (category 2).

(f) Cusp planes, grooves, and marginal ridges are continuous with existing tooth form and functional contact and anatomy has been restored (category 2).

(g) Color/shade match and translucency are adequate (category 2).

e. Inlay and Onlay Restorations

(1) Procedure. A cast gold and/or indirect porcelain/resin restoration replaces natural tooth structure that has been destroyed due to disease or trauma. The tooth being restored should be properly isolated. In preparing the cavity, the enamel walls and margins should be smooth with a well-defined cavity and the enamel walls parallel to enamel rod direction. If a bevel is appropriate, the bevel should be placed on the previously defined cavity form. The cavity retention should be mechanical in nature with an appropriate line of draw. The external cavity outline should be extended for convenience and removal of contiguous decalcification while accomplishing straight lines and smooth curves consistent with tooth form and conservation. The internal outline of the cavity should be extended into dentin and caries removal should be complete with no excess loss of tooth structure. Internal line angles for the porcelain/resin indirect restorations should be well rounded to avoid concentration of stresses in the final restoration. Following preparation, appropriate bases, liners, may be used. An acceptable interim restoration should be placed during the period of restoration fabrication and should meet the guidelines established in the finished restoration standards of care listed below.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) No damage to adjacent teeth or anatomical structures (category 1).

(c) Surface of the restoration is uniformly smooth (category 1).

(d) The junction of the tooth and restoration is not detectable or scarcely detectable with an explorer (category 2).

(e) Axial contour is continuous with existing tooth form and proximal embrasures and contacts have been restored when indicated (category 2).

(f) Cusp planes, grooves, and marginal ridges are continuous with existing tooth form and functional contact and anatomy have been restored (category 2).

f. Direct Gold Restoration

(1) Procedure. A direct gold restoration replaces natural tooth structure that has been destroyed due to disease or trauma. The tooth being restored must be properly isolated. In preparing the cavity, the enamel walls and margins should be smooth with a well-defined cavity and the enamel walls parallel to enamel rod direction. If a bevel is appropriate, the bevel should be placed on the previously defined cavity form. The cavity retention should be mechanical in nature. The external cavity outline should be extended for convenience and removal of contiguous decalcification while accomplishing straight lines and smooth curves consistent with

tooth form and conservation. The internal outline of the cavity should be extended into dentin and caries removal should be complete with no excess loss of tooth structure. Following preparation, appropriate bases, liners, or varnishes may be used.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) No damage to adjacent teeth or anatomical structures (category 1).

(c) Surface of the restoration is uniformly smooth (category 1).

(d) The junction of the tooth and restoration is not detectable or scarcely detectable with an explorer (category 2).

(e) Axial contour is continuous with existing tooth form and proximal embrasures and contacts have been restored when indicated (category 2).

(f) Cusp planes, grooves, and marginal ridges are continuous with existing tooth form and functional contact and anatomy have been restored (category 2).

g. Restoration of Endodontically-Treated Teeth. Endodontically-treated teeth are often weakened due to the significant loss of tooth structure. To help prevent fracture of these teeth, restorations should be designed redistribute the functional forces which might fracture the treated tooth. Cusps of posterior endodontically-treated teeth should be covered with adequate amalgam, cast metal or high-strength ceramic restorations. Cuspal coverage with direct composite restorations is typically not recommended as the material lacks the strength and durability to withstand high masticatory stresses. In low stress areas or when esthetics are the primary concern, direct composite may be indicated if a ceramic restoration is not possible.

h. Pit and Fissure Sealants. See chapter 11, Preventive Dentistry, page 11-2, paragraph 2c for standards of care.

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CHAPTER 4
ORAL DIAGNOSIS, ORAL MEDICINE, AND ORAL AND MAXILLOFACIAL RADIOLOGY

1. Introduction

a. Oral diagnosis is part of the dental practice which deals with the skills essential to collect problem-oriented diagnostic data in a systematized and logical fashion. It encompasses the synthesis of the data obtained, the establishment of a differential diagnosis for the patient's chief complaint, and the formulation of a problem-oriented treatment plan.

b. Oral medicine is part of the dental practice which deals with the skills essential to collect patient-oriented diagnostic data and the chemotherapeutic management of oral disease. It encompasses the assessment of the functional state of the various organ systems, recognition of the reciprocal influences of oral and systemic disease, and the formulation of a patient-oriented treatment plan based on an accurate determination of the patient's physical and emotional capacity to tolerate and respond to dental treatment.

c. Oral and maxillofacial radiology is part of the dental practice which deals with the use of ionizing radiation in the diagnosis of the oral and maxillofacial structures. It encompasses an understanding of radiation physics, radiation biology, radiation protection, radiographic technique, and radiographic interpretation.

2. Clinical Oral and Head and Neck Examination

a. Procedure. The purpose of the clinical examination is to observe and record pertinent information regarding the physical condition of the patient preliminary to development of a rational diagnosis and effective treatment plan. The standards for the clinical examination are the same regardless of the dental service to be performed. The clinical examination includes evaluation of the patient's general health, appearance of the head, neck, exposed skin surfaces, lips, gingiva, oral mucosal membranes, tongue, pharynx, and teeth. Dental examination should include evaluation of missing teeth, impacted teeth, caries, fractures, condition of existing restorations and prostheses, periodontal and pulpal status, occlusion, attrition, erosion, and harmful habits. Abnormal oral and perioral masses, growths, ulcers, vesiculobullous lesions, discolorations, sinus tracts, fistulae, radiolucencies, and radiopacities should receive special attention. To perform a complete clinical examination the dentist should have access to such equipment as oral mirror, explorer, periodontal probe, electric, and thermal pulp testers, transilluminator, blood pressure cuff, and sphygmomanometer, and radiographic equipment. All significant findings should be properly documented in the patient's dental record.

b. Criteria

(1) The morbidity of the presenting problem should not be increased by the clinical examination (category 2).

(2) A thorough clinical examination must be conducted and fully documented in the dental record at least annually. The periodontal portion of the examination will be completed using the periodontal screening and recording (PSR) method (category 1).

(3) Each patient's blood pressure must be checked and recorded at least annually (category 1).

(4) A visual examination of each patient's perioral and oral tissues should be made at every treatment opportunity. This must be recorded in the dental record (category 1).

(5) Any potentially serious systemic problems discovered in the clinical examination must be recorded in the dental record and the appropriate follow-up evaluation and consults initiated (category 1).

3. Medical and Dental History

a. Procedure. The medical and dental history is a vital part of any patient evaluation. It consists of gathering and recording significant information concerning the chief complaint; history of the present illness; previous treatment; past medical and dental problems; allergies; systemic diseases such as bleeding problems, cardiac disease, history of rheumatic fever, hepatitis or human immunodeficiency virus, hospitalizations, x-ray, and drug treatment. A complete history lists familial diseases, significant social habits, and a review of the major body organ systems. The history also records such information as the patient's name, age, sex, ethnic background, occupation, residence, and contact information. The history should allow a thorough evaluation of the patient's physical and emotional ability to tolerate dental procedures safely. The history should also identify potential systemic problems that require further evaluation before regular dental treatment.

b. Criteria

(1) At least annually, the medical and dental history should be completed and recorded concisely on NAVMED 6600/3 Dental Health Questionnaire (category 1).

(2) The NAVMED 6600/3 should be updated and recorded whenever significant new findings are discovered (category 1).

(3) Drug allergies and sensitivities must be recorded on the NAVMED 6600/3 and the NAVMED 6600/13 (category 1).

(4) Any potentially serious systemic conditions must be recorded on the NAVMED 6600/3 (category 1).

(5) Every time a patient is seen for dental treatment, the history must be reviewed. This review must be recorded on the back side of the NAVMED 6600/13 (category 1).

4. Dental and Maxillofacial Radiographs

a. Procedure. Dental and maxillofacial radiographs are diagnostic tools used for the examination of oral, head, and neck hard tissue pathology. Radiographs provide dental practitioners with vital information on bone and tooth pathology, but the radiographic process itself is a source of low-level x-radiation exposure to the patient. Radiographs should be ordered to establish baseline health, for forensic purposes, and in the evaluation of tooth or bony disease. Radiographs should not be used as a standard disease screening tool on any kind of arbitrary periodic basis particularly when there is no evidence of pathology. Radiographs should be ordered by the dentist based on the individual needs of the patient, presenting problem, and review of the patient's medical and dental history. Use of published guidelines and consensus recommendations on periodicity from the ADA is appropriate if used in consideration of individualized patient status and needs. The appropriate radiographs might include such views as: periapical, bitewing, occlusal, panoramic, cephalometric, cone beam CT, or skull series. All radiographs should be kept in the patient's dental record for future review and evaluation. All radiographic procedures must be performed with the strictest concern for minimizing radiation exposure to the patient and clinical personnel. When possible, all reusable x-ray positioning devices placed in the patient's mouth should be sterilized. Dental x-ray technicians should wear gloves while handling intraoral films. The radiographs produced should be of satisfactory quality to provide the necessary information for diagnostic purposes.

b. Criteria

(1) All attempts should be made to obtain any previous radiographic series from other facilities (category 2).

(2) All radiographs should be ordered based on the individual needs of the patient (category 1).

(3) A lead apron should be used for all radiographic procedures and a thyroid collar should be used for all radiographic procedures except the panoramic radiograph (category 1).

(4) The radiograph should be undistorted and show all desired crowns, roots, open contact areas, alveolar, and other bone clearly under standard illumination (category 2).

(5) All radiographs ordered by the dentist must be interpreted for any pathological changes, and this interpretation must be documented in the dental record (category 1).

5. Oral Diagnosis

a. Procedure. Diagnosis consists of the determination of the cause of the patient's dental or oral problem and its classification into a category of disease or dysfunction. The diagnosis is based on the findings of the history and clinical examination. Diagnostic aids may include: radiographs; electrical or thermal pulp testers; percussion; palpation; transillumination; analysis

of saliva, blood, or urine; biopsy and study casts, as necessary. Medical laboratory screening tests are used when suggested by the dental and medical history or physical examination. The diagnostic findings must be appropriately documented in the patient's record and the patient should be consulted for a physician's evaluation when the patient's physical or mental status is fragile.

b. Criteria

(1) Complete written diagnostic notations should be made in the dental record including symbolic tooth charting (category 1).

(2) Consultations and referrals should be initiated when necessary to complete the diagnosis. All consults and their results must be documented in the patient's record (category 1).

(3) Proper adjunctive diagnostic tests should be used including fully diagnostic radiographs. The results of the tests and the radiographs used must be documented in the dental record (category 1).

6. Treatment Plan

a. Procedure. A treatment plan is a statement of the services needed by the patient and must be performed by the clinician. Based on the history, clinical examination, and diagnosis, the dentist arrives at a logical plan to eliminate or alleviate the patient's dental symptoms and to prevent future degenerative changes. The treatment plan should follow a logical sequence: first relieving pain; then eliminating or controlling infection or trauma; providing prophylaxis and establishing a routine hygiene program; removing hopeless teeth; providing operative, endodontic, periodontal, and prosthetic treatment; and finally establishing a recall schedule. The decision to restore, and how to restore, one or more teeth is based on the overall treatment plan, long-term prognosis of the teeth, and requirement for a functional dentition. The treatment plan should schedule an optimal amount of treatment at any single appointment based on the patient's physical and emotional status. Outpatient management is preferred unless severity of systemic disease, complexity of dental treatment, or health of the patient warrants hospitalization. The treatment plan should include consultation to the patient's physician when the health of the patient is in question and referral to a dental specialist when advanced dental treatment is indicated. Finally, the patient must be fully informed of the proposed treatment. It is the patient's final decision whether to accept or refuse all or part of the treatment plan. The dentist should inform the patient of the diagnosis and proposed treatment plan, prognosis, complications, any alternative treatment plans, and possible results if no treatment is undertaken.

b. Criteria

(1) A logical treatment plan based on recorded history, examination, tests, and consultations is documented in the dental record before treatment is started (category 1).

(2) The patient has been informed of the diagnosis and proposed treatment plan and understands and agrees to the treatment plan. This is indicated on the dental record by writing "patient informed" at the end of the treatment plan for implied consent or having the patient sign the necessary consent form(s) issued by the command for procedures that require written informed consent. These forms should be placed in the dental record (category 1).

(3) If the patient refuses part of the treatment plan or the entire treatment plan this should also be documented in the dental record.

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CHAPTER 5
ORAL AND MAXILLOFACIAL SURGERY

1. Introduction

a. Definition of Specialty Area Oral and Maxillofacial Surgery. Oral and maxillofacial surgery deals with the diagnosis and the surgical and adjunctive treatment of diseases, injuries, and defects of the oral and maxillofacial regions.

b. Scope of Care. Oral and maxillofacial surgical procedures are performed in both the inpatient hospital setting and outpatient ambulatory treatment facilities. The scope of care includes, but is not limited to, the following categories:

(1) Anesthesia in Outpatient Facilities. Administration of local anesthesia, ambulatory intravenous (IV) sedation (moderate and deep), inhalation anesthesia, and general anesthesia.

(2) Dentoalveolar Surgery. Exodontia of erupted and impacted teeth, treatment of odontogenic infections, surgical contouring, and alteration of soft and/or hard tissues to aid prosthodontic rehabilitation.

(3) Trauma Surgery. Luxated and avulsed teeth, alveolar process injuries, open and closed treatment of mandibular, maxillary, zygomatic, orbital, nasal bone, naso-orbital-ethmoid complex, frontal bone, and frontal sinus injuries. Repair of facial, oral, and scalp soft tissue injuries. Establishment of surgical airways, elective, and emergent.

(4) Diagnosis and Management of Pathological Conditions. Diagnosis and treatment of diseases of the oral and maxillofacial region to include bone, soft tissue, and salivary glands including cysts, benign and malignant tumors, infections, and diseases of metabolism.

(5) Dental and Craniomaxillofacial Implant Surgery. Surgical placement of implants to rehabilitate and restore form and function due to loss of teeth. Surgical placement of implants to aid in the retention of maxillofacial prostheses. Placement of alloplastic implants to restore facial contour.

(6) Surgical Correction of Maxillofacial Skeletal Deformities. Correction of craniofacial and occlusal disharmonies by surgical repositioning of the maxilla, mandible, and other facial bones. Surgical treatment of obstructive sleep apnea.

(7) Temporomandibular Joint (TMJ) Surgery. Surgical and non-surgical management of developmental and acquired deformities, internal derangements, arthritis, ankylosis, and infection of the TMJ.

(8) Maxillofacial Reconstruction. Including but not limited to local and regional tissue transfer, microvascular free tissue transfer, bone harvesting from various sites of the body, ridge and sinus augmentation, and soft and hard tissue reconstruction.

(9) Facial Cosmetics. Including but not limited to rhytidectomy, blepharoplasty, otoplasty, lipectomy, rhinoplasty, brow lift, skin resurfacing, soft and hard tissue augmentation or recontouring, and chemical denervation of facial musculature.

(10) Cleft and Craniofacial Surgery. Surgical management of cleft and craniofacial deformities including cleft lip, palate, and maxillary alveolar cleft deformities as part of a multi-disciplinary team.

c. General Standards Applicable to All Criteria Sets. Following are general criteria or "givens" which are applicable to all surgical cases.

(1) Applicable History. See standards of care for oral diagnosis beginning on chapter 4, page 4-1. Exception: In case of imminent life-threatening emergency, emergency treatment of the patient may preclude obtaining the applicable history, performing a complete examination, or obtaining informed consent.

(2) Examination. The purpose of the clinical examination is to observe and record pertinent information regarding the physical condition of the patient preliminary to development of a rational diagnosis and effective treatment plan. The standards for the clinical examination are the same regardless of the dental service to be performed. The clinical examination includes evaluation of the patient's general health, appearance of the head, neck, exposed skin surfaces, lips, gingiva, oral mucosal membranes, tongue, pharynx, and teeth. Dental examination should include evaluation of missing teeth, impacted teeth, caries, fractures, condition of existing restorations and prostheses, periodontal and pulpal status, occlusion, attrition, erosion, and harmful habits. Abnormal oral and perioral masses, growths, ulcers, vesiculobullous lesions, discolorations, sinus tracts, fistulae, radiolucencies, and radiopacities should receive special attention. To perform a complete clinical examination the dentist should have access to such equipment as oral mirror, explorer, periodontal probe, electric and thermal pulp testers, trans-illuminator, blood pressure cuff and sphygmomanometer, and radiographic equipment. All significant findings should be properly documented on the patient's NAVMED 6600/13. Hospital inpatients will have a complete history and physical examination with results documented in the inpatient hospital chart (category 2).

(3) Diagnosis. The diagnosis must be documented on the patient’s NAVMED 6600/13 (category 2).

(4) Treatment Plan. A comprehensive treatment plan must be completed at the time of examination for all patients who require treatment and must be recorded on the NAVMED 6600/13 (category 2).

(5) Infection Control. Appropriate level of asepsis, including autoclaving of all surgical instruments, use of single-use injection needles, cleanliness of treatment areas, aseptic surgical techniques, and surgical scrub of the hands which includes the use of sterile gloves and drapes must be attained (category 2).

(6) Pathology Evaluation. All tissue removed should be identified macroscopically or microscopically. Immediate definitive care is mandated by suspected malignancy or other life-threatening conditions (category 2).

(7) Antibiotic Prophylaxis. Appropriate antibiotic prophylaxis must be prescribed when indicated for prevention of bacterial endocarditis (category 1).

d. Level of Care Required. Oral and maxillofacial surgical procedures should be accomplished in the inpatient hospital setting rather than in an ambulatory outpatient facility as indicated when:

(1) Historical evidence of concomitant systemic disease requiring medical management is evident.

(2) Control of pain and apprehension in the unduly fearful patient (i.e., patient under psychiatric care, previous attempt made to treat in ambulatory setting, non-responsive to ambulatory outpatient management) is needed.

(3) Cervico-facial infection is present (may require extraoral drainage and medical consultation for infection).

(4) A patient requires inpatient anesthesia management.

(5) Complexity of surgical procedure or the patient requires special diagnostic and therapeutic equipment only available in the hospital.

(6) Post-operative supportive nursing care will be required.

2. Oral and Maxillofacial Surgical Procedures

a. Tooth Extraction – Forceps

(1) Procedure. The non-surgical removal of an erupted tooth using forceps. Indications for the procedure are derived from an evaluation which includes one or more of the following:

(a) History or evidence of oral functional impairment, pain, swelling, etc.

(b) Radiologic evidence of decay, coronal, periapical or periodontal pathosis, and bone destruction.

(c) Clinical evidence of decay, swelling, tooth fracture, abnormal pulp tests, missing crown, and excessive morbidity.

(d) Insufficient tooth structure for operative restoration or root canal treatment.

(e) Refusal or failure of root canal treatment.

(f) Part of an orthodontic treatment.

(g) Non-functional teeth.

(h) Prevention of future expected problems (planned radiation therapy, initiation of therapy with drugs known to cause medication-related osteonecrosis of the jaw, or other chemotherapeutic agents that may suppress normal healing).

(2) Post-Operative Criteria

(a) No sepsis (e.g., wound infection, abscess, bacteremia, and septic phlebitis) (category 2).

(b) No hemorrhage (category 2).

(c) No alveolar osteitis (category 2).

(d) No anesthesia, paresthesia, dysesthesia, of mandibular, mental, or other nerve distribution (category 2).

(e) No extraction of the wrong tooth (category 1).

(f) No fracture of the jaw (category 2).

(g) No oral-antral perforation or fistula (category 2).

(h) No damage to adjacent teeth (category 2).

(i) No airway problem (category 2).

(j) Should not require IV fluid administration to maintain appropriate hydration level (category 2).

(k) No portion of tooth or root unremoved without informing patient and noted in record (category 1).

b. Surgical Removal of Teeth

(1) Procedure. Surgical removal of teeth is a method for extracting complicated erupted teeth and impacted teeth. The procedure requires reflection of mucoperiosteal flaps for access or bone removal or sectioning of teeth with surgical drills or chisel technique. Indications for the surgical procedure are derived from an evaluation which includes one or more of the following:

(a) History or evidence of oral functional impairment, pain, swelling, etc.

(b) Radiologic evidence of decay, coronal, periapical or periodontal pathosis, bone destruction, or impaction.

(c) Clinical evidence of decay, swelling, tooth fracture, abnormal pulp tests, or malocclusion.

(d) Unerupted tooth inaccessible to operative repair or root canal treatment.

(e) Refusal or failure of root canal treatment.

(f) Part of an orthodontic treatment plan.

(g) Clinically indicated removal of non-functional teeth.

(h) Prevention of future expected problems (planned radiation therapy, initiation of therapy with drugs known to cause medication-related osteonecrosis of the jaw, or other chemotherapeutic agents that may suppress normal healing).

(i) Prophylactic treatment when access to care is expected to be limited in the future.

(2) Post-Operative Criteria

(a) No sepsis (e.g., wound infection, abscess, bacteremia, or septic phlebitis) (category 2).

(b) No hemorrhage (category 2).

(c) No alveolar osteitis (category 2).

(d) No anesthesia, paresthesia, dysesthesia, of mandibular, mental, or other nerve distribution (category 2).

(e) No extraction of the wrong tooth (category 1).

(f) No fracture of the jaw (category 2).

(g) No oral-antral perforation/fistula (category 2).

(h) No damage to adjacent teeth (category 2).

(i) No airway problem (category 2).

(j) Should not require IV fluid administration to maintain appropriate hydration level (category 2).

(k) No portion of tooth or root unremoved without informing patient and noted in record (category 1).

c. Alveoloplasty

(1) Procedure. Alveoloplasty is the surgical recontouring of the bony alveolar ridge using surgical drills, rongeurs, chisels, and bone files. Indications for the procedure include:

(a) Bony exostosis of an alveolar ridge.

(b) Clinical evidence or oral functional impairment (inability to tolerate prosthesis, masticatory problems).

(c) Post tooth extraction - alveolar bone projections or defects requiring alveolar ridge smoothing and modification.

(d) Radiologic and clinical evidence of defective alveolar ridge.

(2) Post-Operative Criteria

(a) No sepsis (e.g., wound infection, abscess, bacteremia, or septic phlebitis) (category 2).

(b) No hemorrhage (category 2).

(c) No anesthesia, paresthesia, dysesthesia, of mandibular, mental, or other nerve distribution (category 2).

(d) No fracture of the jaw (category 2).

(e) No oral-antral perforation/fistula (category 2).

(f) No airway problem (category 2).

(g) Should not require IV fluid administration to maintain appropriate hydration level (category 2).

d. Oral Biopsy-Procedure. Incisional or excisional biopsy of lesions of the oral tissues including mucosa, gingiva, lips, cheeks, tongue, maxilla and mandible, hard and soft palate, and floor of mouth.

(1) Indications for Surgical Procedure

(a) Lesions of oral tissue with question of malignancy (e.g., white lesions of mucosa, leukoplakia, red lesions, speckled lesions, deeply pigmented, or melanotic lesions).

(b) Lesions of oral tissue to establish histologic diagnosis.

(c) Lesions of oral tissue subject to malignant change through chronic irritation.

(2) Post-Operative Criteria

(a) No sepsis (e.g., wound infection, abscess, bacteremia, or septic phlebitis) (category 2).

(b) No hemorrhage (category 2).

(c) No neurosensory deficit (category 2).

(d) See standards of care for oral and maxillofacial pathology beginning on chapter 6, page 6-1.

e. Open or Closed Reduction of Facial Fracture

(1) Procedure. Closed reduction of facial fractures is used in management of maxillary and mandibular fractures using intermaxillary fixation, splints, and various arch-bar or dental wiring techniques. Open reduction of facial fractures is a procedure which may use the above, plus surgical exposure of the fracture with placement of internal fixation. Indications for the operation are derived from the following suggested evaluation:

(a) Physical evidence of facial bone fracture with instability or displacement.

(b) Radiologic evidence of facial bone fracture with displacement.

(2) Post-Operative Criteria

(a) No sepsis (e.g., wound infection, abscess, bacteremia, or septic phlebitis) (category 2).

(b) No hemorrhage (category 2).

(c) No airway obstruction (category 2).

(d) No cranial nerve deficit related to treatment (category 2).

(e) No instability, malunion, or non-union (category 2).

(f) No malocclusion (category 2).

(g) No visual disturbance (category 2).

(h) No cosmetic deformity (category 2).

(i) No cerebrospinal fluid leak (category 2).

f. Excision of Salivary Glands, Partial or Total

(1) Procedure. Surgical excision of minor or major salivary glands via the oral cavity or extraoral approach. The indications for the procedure include:

(a) Mucous retention phenomenon (mucocele or ranula).

(b) Tumor of salivary gland.

(c) Persistent or recurrent sialadenitis, with or without calculus.

(2) Post-Operative Criteria

(a) No sepsis (e.g., wound infection, abscess, bacteremia, or septic phlebitis) (category 2).

(b) No hemorrhage (category 2).

(c) No cranial nerve deficit (category 2).

(d) No salivary cutaneous fistula (category 2).

g. Other Procedures. The standards of care for surgical procedures usually performed within a hospital (i.e., orthognathic surgery, TMJ surgery, cleft and craniofacial surgery, reconstructive surgery, facial cosmetic surgery, implant surgery, and ambulatory anesthesia) should conform to the standards of care accepted and when published by the American Association of Oral and Maxillofacial Surgeons.

CHAPTER 6
ORAL AND MAXILLOFACIAL PATHOLOGY

1. Introduction

a. Definition. Oral and maxillofacial pathology is the specialty of dentistry and pathology which deals with the nature, identification, and management of diseases affecting the oral and maxillofacial regions. It is a science that investigates the causes, processes, and effects of these diseases. The practice of oral and maxillofacial pathology includes research, diagnosis of diseases using clinical, radiographic, microscopic, biochemical, or other examinations, and management of patients.

b. Scope of Care. The practice of pathology is essential to patient care. The oral and maxillofacial pathologist provides services including, but not limited to, the examination of patient related oral and maxillofacial hard and soft tissue specimens, clinical interpretation and consultation, scientific investigation, and education to be effective in prevention, recognition, diagnosis, management, and prognosis of diseases affecting the oral and maxillofacial regions.

2. Biopsy Specimen

a. Procedures. The dental clinician's decision to obtain a tissue specimen for examination, usually microscopic examination, by an oral and maxillofacial pathology service is indicated when signs and symptoms of an observed tissue change do not provide sufficient information to establish a diagnosis. In obtaining a biopsy specimen, the clinician must take care to evaluate the site for potential complications. Care must also be taken to ensure representative sampling of the lesion if it is not totally excised. Good surgical technique, sharp instruments, proper placement of anesthetic solution, and careful delivery of the tissue sample are essential to avoid mutilation of the specimen. Once obtained, the specimen must be placed immediately into an appropriate fixative, usually 10 percent neutral buffered formalin. The specimen container must be properly identified and delivered to the assigned pathology service together with an SF 515 Medical Record - Tissue Examination form (Composite Healthcare System (CHCS)) that contains all necessary information. Radiographs or a compact disc (CD)/digital versatile disc (DVD) containing the radiographic images should be included whenever the specimen is taken from an intrabony lesion.

b. Criteria

(1) Specimen container is properly identified (category 1).

(2) Specimen container has sufficient quantity of appropriate fixative (category 1).

(3) SF 515 is included and contains all necessary information (category 1).

(4) Radiographs accompany intrabony lesion (category 2).

(5) Specimen is free of obvious mutilation (category 2).

(6) Surgical margins are identified (category 3).

3. Cytologic Smear

a. Procedure. In special situations, exfoliative cytologic smear is a valuable and useful diagnostic procedure. The tissue site from which the cells are obtained must be cleansed and then effectively scraped with an appropriate instrument. The harvested cells are evenly spread on a microscopic glass slide, preferably one that has a frosted end for writing, and immediately sprayed with or immersed in a fixative composed of 95 percent ethyl alcohol. Prepare two or more slides so that two or more staining methods can be performed if required. The microscopic glass slides must be properly identified, carefully packaged, and delivered to an oral and maxillo-facial pathology service together with an SF 515, that includes all necessary information.

b. Criteria

(1) Microscopic slides are properly identified (category 1).

(2) Harvested cells are evenly distributed (category 2).

(3) Appropriate fixative has been applied (category 1).

(4) SF 515 is submitted with all pertinent data (category 1).

4. Microscopic Slide with Sections from Patient's Specimen

a. Procedure. Upon delivery of a tissue specimen or cytologic smear to the pathology service, the specimen must be carefully handled to ensure accurate identification during receipt, accessioning, and all other laboratory processes. The oral and maxillofacial pathologist will perform macroscopic examination of the specimen as well as determine the processes and staining procedures required. Prepared microslides must be diagnostic in quality.

b. Criteria

(1) Accurate identification of specimens and their accompanying examination forms is maintained throughout all laboratory processes (category 1).

(2) Tissue sections are well stained, of proper thickness, cover slides without trapped air bubbles, and free of folds (category 2).

(3) Microslides are diagnostic in quality (category 1).

(4) Microslides are accurately labeled (category 1).

5. Tissue Examination Report

a. Procedure. Prepared tissue sections from patient's specimen will be examined microscopically by the oral and maxillofacial pathologist who renders a written and signed report of findings. The electronic report (SF 515) is included in the patient record and the contributing clinician is notified of report finalization by e-mail. The report is forwarded or faxed for inclusion in the patient record for clinicians not connected to the electronic system. A copy of the report is maintained in the laboratory's file. Diagnoses of a serious nature are reported to the contributing clinician by the most expeditious manner, usually by telephone, with a written and signed report to follow. When appropriate, microslides are submitted for review by peers or by consultants. When differences of interpretation occur, a method of resolving differences has been established and is effectively used.

b. Criteria

(1) Macroscopic or microscopic findings are clearly and concisely rendered in a written and signed report (category 1).

(2) A copy of each report is maintained in the laboratory's file and the original forwarded for inclusion in the patient record (category 2).

(3) Peer review or consultant opinions are obtained (category 3).

(4) A method of resolving differences of opinion has been established and is effectively used (category 1).

(5) Diagnoses of a serious nature are reported to the contributor in the most expeditious manner (category 1).

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CHAPTER 7
OROFACIAL PAIN

1. Introduction

a. Definition of Specialty. Orofacial pain (OFP) as defined by the American Academy of Orofacial Pain (AAOP) 2013 Guidelines is pain associated with the hard and soft tissues of the head, face, and neck. Previously this area of practice was referred to as temporomandibular disorders (TMD); however, current evidence indicates that many patients have signs and symptoms outside of the masticatory system that directly affect their OFP complaints.

b. Scope of Care. Musculoskeletal, neurogenic, headache, traumatic, autoimmune, and psychosocial pathosis captures the diagnoses of the majority of OFP cases. Sleep disturbance is a major barrier to chronic pain improvement. The OFP specialist will often treat insomnia, poor sleep hygiene, and sleep study confirmed obstructive sleep apnea (OSA) by mandibular advancement device. At the general dentistry level, identification of pain and dysfunction are the main goals. The dental officer should be able to identify a differential diagnosis for dental, oral, and pre-auricular pain sources such as the TMJ and/or masticatory muscles.

2. Clinical Evaluation

a. History. The purpose of the clinical evaluation is to observe and record pertinent information regarding the physical condition of the patient preliminary to development of a rational diagnosis and effective treatment plan. Currently the AAOP recommends an emphasis on history and a pertinent clinical examination, outlined below, as the gold standard for an OFP evaluation. The chief complaint location should be annotated as well as the history of the present illness. Pain intensity, frequency, duration as well as initiating, aggravating, alleviating factors, and associated symptoms should be recorded. The interview should also ascertain problems with jaw function, nutrition, sleep, parafunctional habits, personal stressors, and other body pains.

b. Examination. The clinical examination includes evaluation of the patient's general health, appearance of the head, neck, and exposed skin surfaces. The OFP exam should include a cranial nerve screening, assessment of head and neck posture and range of motion (ROM); assessment of TMJ ROM, joint sounds, deviations/deflections, bite test and joint loading; palpation of masticatory and cervical muscles, the TMJ and when appropriate, the salivary glands, lymph nodes, carotid and temporal arteries. The oral examination should include evaluation of the lips, gingiva, oral mucosal membranes, tongue, pharynx, tonsils, and teeth. Dental examination should include evaluation of the teeth, missing teeth, impacted teeth, caries, fractures, condition of existing restorations and prostheses, periodontal and pulpal status, occlusion, attrition, erosion, and harmful habits. Abnormal oral and perioral masses, growths, ulcers, vesiculobullous lesions, discolorations, sinus tracts, fistulae, radiolucencies, and radiopacities should receive special attention. To perform a complete clinical examination the

dentist should have access to such equipment as oral mirror, explorer, periodontal probe, electric and thermal pulp testers, transilluminator, blood pressure cuff, and radiographic equipment. All significant findings should be properly documented in the patient's dental record.

c. Diagnostic Tools and Tests. Appropriate radiographs may be taken if the chief complaint is newer than the most recent radiograph of the affected location. A panoramic radiograph is a low cost, efficient way to screen for gross TMJ anatomic abnormalities. Costlier studies of the TMJ by magnetic resonance imaging (MRI), computed tomography (CT) or CBCT is only warranted on a case by case basis. Other diagnostic tools to consider are diagnostic local anesthetic blocks, topical anesthetics, and blood chemistry. There are also validated clinical survey instruments to assess pain such as the multi-dimensional pain inventory (MPI); to assess headaches such as the migraine disability assessment (MIDAS); to assess sleep such as the insomnia severity index (ISI) or Epworth sleepiness scale (ESS).

d. Differential Diagnosis. The diagnoses should be supported by findings from the history and examination. As an example, common OFP diagnoses listed in order from most frequent to less frequent include, but is not limited to:

(1) Muscle. Myalgia of masticatory and/or cervical muscles; myofascial pain disorder (MPD) and trismus.

(2) Intracapsular/TMJ. Disc-condyle discrepancies, osteoarthrosis/osteoarthritis, closed lock, open lock, and subluxation.

(3) Headache. Tension headache, chronic daily headache, and migraine.

(4) Sleep. Bruxism, insomnia, and OSA.

(5) Nerve. Neuropathic pain, or neuralgia.

(6) Other. Behavioral health findings.

e. Management Plan. OFP cases are usually best managed by conservative, non-surgical treatments such as habit reversal therapy, biofeedback, diet modification, splint therapy, and medication. For mild to moderate OSA that is confirmed by sleep study, a mandibular advancement device may be fabricated. Chronic OFP cases are best managed by a multi-disciplinary approach that may include referral to a sleep physician, a behavioral health specialist, or a neurologist depending on the working diagnoses. Cases involving macrotrauma or pathosis of the maxillofacial region may be referred to an oral maxillofacial surgeon.

CHAPTER 8
ORTHODONTICS

1. Introduction

a. Definition of Orthodontics. The area of dentistry concerned with the supervision, guidance, and correction of the growing and mature dental facial structures. This area involves the movement of teeth or jaws, through application of forces, to correct irregularities and malformations of the orofacial complex.

b. Scope of Care. Orthodontics includes space maintenance, tooth guidance, minor tooth movement, interceptive procedures, and comprehensive orthodontic treatment to influence growth and tooth position in conjunction with or without orthognathic surgical procedures. Removable or fixed appliances may be used to accomplish these goals. Candidates for orthodontic treatment should be in good general health and excellent oral health maintenance.

c. General Considerations

(1) Many of the features of evaluation in orthodontics are common to all dental practice and will not be discussed in this section; only those aspects of specific importance to orthodontics will be included.

(2) The timing of treatment is of particular importance in orthodontic correction. A condition may be better treated in the deciduous dentition, mixed dentition, or the permanent dentition. Appropriate treatment may require one or more phases of active treatment. The demands of treatment timing may conflict with patient or orthodontic care availability in the military environment; when such a conflict arises, the decision must be to stay within military guidance.

(3) The principles of preventive dentistry should be employed during the diagnosis and treatment of orthodontic problems, including counseling of the patient on dietary concerns, plaque control, and the need for the continuance of routine dental examination and treatment. Topical fluoride should be applied after placement of orthodontic appliances and throughout treatment for the patient at risk for caries.

(4) Orthodontic treatment should be directed toward the attainment of an optimal result for each patient in regard to dentition, supporting bone, occlusion, overbite, and overjet to achieve aesthetic improvement and stability of the correction. Active treatment should be followed with appropriate retention.

(5) A satisfactory result in orthodontics is dependent upon the combination of professional skill, patient cooperation, the age of the patient, severity of the presenting malocclusion, treatment objectives, and individual growth and development patterns occurring during treatment and retention.

(6) Because the transfer of patients already in active orthodontic appliances applied through civilian sources constitutes many of the cases seen in the military setting, the Navy orthodontist may be called on to treat cases with a treatment plan that he or she would not have elected at the initiation of the case. The orthodontist should either accept the transfer case with the goal of achieving the best possible outcome under the pre-chosen treatment plan, or inform the patient and responsible adult that the case cannot be accepted under the current treatment plan and then outline proposed treatment changes or alternatives open to the patient or guardian.

(7) Following Navy directives, orthodontic treatment should not be initiated if completion of the active phase of treatment cannot reasonably be expected to be completed before the separation or reassignment of the patient or sponsor.

(8) Cases not completed due to unexpected early rotation or treatment delays should be accompanied by transfer records following American Association of Orthodontists protocol.

2. Orthodontic Procedures

a. Space Maintenance Devices

(1) Procedure. Space maintenance devices are used to conserve space for the eruption of the permanent tooth or teeth when deciduous teeth are lost prematurely. The devices may be either removable or fixed.

(2) Criteria

(a) Appropriate diagnostic criteria used (category 1).

(b) Maintenance of available space when appliance is worn appropriately (category 1).

(c) Appliance monitored at appropriate intervals (category 1).

(3) Appliance is removed once its purpose has been served (category 1).

(4) Transfer notes are provided to the responsible adult if transfer notice is given before completion of treatment (category 1).

b. Habit Breaking Device

(1) Procedure. Habit breaking devices are used to modify digital, tongue, or breathing habits so that adverse forces to the developing dentition and skeletal components of the craniofacial complex are minimized or reversed. Habit breakers may be either removable or fixed.

(2) Criteria

(a) Appropriate diagnostic criteria are used (category 1).

(b) A psychological profile assessment of the patient is considered (category 1).

(c) No permanent damage to the teeth or soft tissues results from treatment (category 1).

(d) Appliance and results of treatment are monitored at appropriate intervals (category 1).

(e) Appliance is removed once its purpose has been served (category 1).

(f) Transfer notes are provided to the responsible adult if transfer notice is given before the completion of treatment (category 1).

c. Interceptive Device

(1) Procedure. Interceptive appliances are used to prevent or correct malalignment or malocclusion problems of both individual teeth and tooth segments. The interceptive device may be fixed or removable.

(2) Criteria

(a) Appropriate diagnostic criteria have been used (category 1).

(b) Growth assessment or forecast as appropriate (category 1).

(c) No damage to the teeth or soft tissue resulted from treatment (category 1).

(d) Appliance is monitored and adjusted at appropriate intervals (category 1).

(e) Active appliance therapy is discontinued once the treatment goals have been met (category 1).

(f) Retention demands are considered (category 1).

(g) Transfer notes are provided to the responsible adult if transfer notice is given before completion of active treatment (category 1).

d. Comprehensive Orthodontics

(1) Procedure. Orthodontic therapy is directed toward the correction or minimization of problems caused within the occlusion, growth of the craniofacial complex, and function of the neuromusculature bordering the dental complex. A variety of appliances, both removable and fixed, can be used.

(2) Criteria

(a) Adequate medical, familiar, and dental histories are obtained (category 1).

(b) Adequate diagnostic data is obtained for the complexity of the presenting problem (category 1).

(c) Growth assessment or forecast as appropriate (category 1).

(d) Patient availability exceeds the predicted treatment time (category 1).

(e) No adverse clinical signs or symptoms are experienced during therapy (category 2).

(f) No damage to the teeth results from treatment (category 2).

(g) The teeth are placed in a physiologically functional position at the end of treatment (category 1).

(h) The best aesthetics for the individual patient is achieved at the end of treatment (category 1).

(i) The active appliance is removed at the end of active treatment (category 1).

(j) Retention needs are assessed and provided (category 1).

(k) Transfer notes and materials are provided following American Association of Orthodontists protocol when transfer notice is given by the patient or parent before the completion of active appliance treatment (category 1).

3. For further guidance, please refer to BUMEDINST 6670.2 series and its related forms.

CHAPTER 9
PEDIATRIC DENTISTRY

1. Introduction

a. Definition. Pediatric dentistry is an age-defined specialty that provides both primary and comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs.

b. Scope of Care. Pediatric dentistry encompasses a variety of disciplines, techniques, procedures, and skills that share a common basis with other specialties, but are modified and adapted to the unique requirements of infants, children, adolescents, and those with special health care needs. By being an age-specific specialty, pediatric dentistry encompasses the following disciplines:

(1) Behavior guidance

(2) Care of the medically and developmentally compromised and disabled patient

(3) Supervision of orofacial growth and development

(4) Caries prevention

(5) Sedation

(6) Pharmacological management

(7) Hospital dentistry

(8) Traditional field of dentistry

Any practitioner who performs pediatric dental procedures should be proficient in behavior management and be well acquainted with the various pharmacological and non-pharmacological adjuncts to patient management. Note that some pediatric dental cases are beyond the training, experience, and expertise of individual general practitioners. These children should be referred to practitioners who can more appropriately provide their care.

c. Clinical Examination, Diagnosis, and Treatment Planning

(1) Components of comprehensive oral examination include assessment of:

(a) General health and growth

(b) Pain

(c) Extraoral and intraoral soft and hard tissue

(d) TMJ

(e) Oral hygiene and periodontal health

(f) Developing occlusion

(g) Caries risk assessment

(h) Behavior of child

(2) The first examination is recommended at the time of the eruption of the first tooth and no later than 12 months of age.

(3) Timing of 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 minimize radiation exposure.

(4) Caries-risk assessment is to prevent disease by identifying and minimizing causative factors (e.g., microbial burden, dietary habits, plaque accumulation), and optimizing protective factor (e.g., fluoride exposure, oral hygiene, and sealants).

(5) Anticipatory guidance/counseling provides practical, developmentally-appropriate information about children's health to prepare parents for the significant physical, emotional, and psychological milestones. Topics include:

(a) Oral development/eruption sequence

(b) Oral hygiene and dietary habits

(c) Injury prevention

(d) Non-nutritive habits (thumb sucking or nail biting)

(e) Fluoride adequacy

(6) The interval for frequency of professional preventive services (prophylaxis and topic fluoride treatment) is based upon assessed risk for caries and periodontal disease. Children with high caries risk would benefit from recall appointments at every 3 to 6 months. This allows increased professional fluoride therapy application, microbial monitoring, and reevaluating behavior changes for effectiveness. Children with moderate caries risk should receive a professional fluoride treatment at least every 6 months.

(7) Management of dental caries includes identify individual's risk for caries progression, understand the disease process for that individual, and "active surveillance" to assess disease progression and manage with appropriate preventive services, supplement by restorative therapy when indicated. Decision for when to restore carious lesions should include the clinical criteria of visual detection of enamel cavitation, visual identification of shadowing of the enamel, and radiographic recognition of enlargement of lesions over time.

d. Pediatric Dental Records

(1) The dental record must include the following components:

(a) Medical history

(b) Dental history

(c) Clinical assessment

(d) Diagnosis

(e) Treatment recommendation

(f) Progress notes

(g) Radiographic assessment; if applicable

(h) Caries risk assessment

(i) Informed consent documentation

(j) Sedation/general anesthesia, trauma, orthodontics records; if applicable.

(k) Consultation/referrals

(2) Progress notes which accurately and objectively summarizes each visit must contain the following:

(a) Date of visit

(b) Reason for visit/chief complaint

(c) Adult accompanying child

(d) Treatment rendered, including the type and dosage of anesthetic agents, medications, nitrous oxide/oxygen, type/duration of protective stabilization.

(e) Patient behavior guidance

(f) Anticipated follow-up visit

2. Specific Pediatric Dental Procedures

a. Deep Caries Excavation and Restoration

(1) Evidence from randomized controlled trials and systemic reviews show that incomplete caries excavation in primary and permanent teeth with normal pulp or reversible pulpitis results in fewer pulp exposures, fewer signs and symptoms of pulpal disease, and no higher restoration failure than complete excavation.

(2) Partial or one-step excavation followed by placement of final restoration leads to higher success in maintaining pulp vitality in permanent teeth than two-step stepwise excavation.

b. Amalgam Restorations

(1) See chapter 3, page 3-3, paragraph 2c for operative dentistry standards of care.

(2) Dental amalgam is efficacious in the restoration of Class I and Class II cavity restorations in primary and permanent teeth.

c. Resin Restorations

(1) See chapter 3, page 3-4, paragraph 2d for operative dentistry standards of care.

(2) In primary molars, composite resins are successful when used in Class I restorations, and can be successful in Class II restorations for 2 years.

(3) In permanent molars, composite resins can be used successful for Class I and II restorations.

d. Anterior Esthetic Restorations in Primary Teeth

(1) Procedure

(a) Expert opinion suggests the use of resin-based composites as a treatment option for Class III and Class V restorations in the primary and permanent dentition. Resin-modified glass ionomer cement is also a treatment option, particularly in circumstances where adequate isolation of the tooth is difficult.

(b) Strip crowns, pre-veneered stainless steel crowns are a treatment option for full coronal coverage restorations in primary anterior teeth.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) No damage to adjacent teeth or anatomical structures (category 1).

(c) Functional contacts and anatomy have been restored (category 1).

(d) The resin-tooth interface is very smooth, only slightly detectable with an explorer and ideally should be slightly subgingival (category 2).

e. Stainless Steel Crown

(1) Procedure. A stainless steel crown is placed on a primary tooth to replace natural tooth surfaces that have been destroyed due to disease or trauma or to strengthen a tooth that has had a pulpotomy or pulpectomy. The tooth being restored should be properly isolated. The preparation should include adequate interproximal and occlusal reduction, rounded line and point angles as well as complete removal of caries with no excessive tissue loss. The proper stainless steel crown should be selected then carefully trimmed, contoured, and polished. The finished crown should be cemented with an appropriate luting agent.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) No damage to adjacent teeth or anatomical structures (category 1).

(c) Functional contacts and anatomy have been restored (category 1).

(d) Restoration should fit snugly around cervical area of tooth, crown-tooth interface should be subgingival and only slightly detectable with an explorer (category 1).

(e) No cement or other debris remains in the gingival cuff area (category 1).

f. Space Maintaining Appliances

(1) Procedure. Space maintaining appliances are placed after the premature loss of a primary tooth to prevent the drifting and space loss that can occur following such a loss. There are many different types of space maintaining devices; unilateral or bilateral, fixed or removable, anterior or posterior. The following are important issues to consider when deciding which type of appliance to employ: time elapsed since loss, dental age of the patient, sequence and timing of eruption, which primary tooth or teeth have been lost, the patient's cooperative ability. Fixed space maintainers should be evaluated at normal recall intervals; at least once yearly. If loose, or dislodged, the abutment tooth or teeth should then be polished and inspected and a topical fluoride treatment applied. The space maintainer can then be recemented.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 1).

(b) Space maintaining device does not impinge on soft tissue or interfere with eruption of occlusion (category 1).

(c) Sufficient space is maintained to allow eruption of succedaneous tooth when the appliance has been worn correctly (category 1).

(d) Space maintaining appliance is monitored at appropriate intervals and removed once its purpose has been served (category 1).

g. Atraumatic/Alternative Restorative Technique and Interim Therapeutic Restorations (ITR)

(1) Atraumatic/alternative restorative technique has been endorsed by the World Health Organization to restore and prevent caries in populations with little access to traditional dental care.

(2) ITR may be used to restore and prevent carious lesions in young or uncooperative patients, or patients with special health care needs.

(3) Both utilize similar techniques but have different therapeutic goals.

(4) ITR procedure involves removal of caries using hand or 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 glass ionomer or resin-modified glass ionomer cement. ITR has the greatest success when applied to single surface or small two 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.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) Surface of restoration is uniformly smooth (category 2).

(c) The junction of the tooth and restoration is scarcely detectable with an explorer (category 3).

(d) Color shade and translucency are adequate (category 3).

h. Periodontal Surgical Therapy. See chapter 10, page 10-5, paragraph 7 for standards of care.

i. Minor Tooth Movement

(1) See standards of care for orthodontics beginning on chapter 8, page 8-1.

(2) Early diagnosis and treatment of developing occlusion can have both short and long term benefits, while achieve goals of occlusal harmony and function and dentofacial esthetics. Early treatment is beneficial for some patients, but is not indicated for every patient.

j. Habit Breaking Device

(1) See chapter 8, page 8-2, paragraph 2b for standards of care for orthodontics.

(2) Use of an appliance to manage oral habits is indicated only when the child wants to stop the habit and would benefit from a reminder.

k. Pulp Therapy

(1) See chapter 2, Endodontics.

(2) The treatment objective to maintain pulp vitality of a tooth affected by caries, traumatic injury, or other causes is important especially in young permanent teeth with immature roots as pulp is integral to continue apexogenesis.

(3) Vital pulp therapy on primary teeth include:

(a) Application of protective liner in a deep area of the cavity preparation.

(b) Indirect pulp treatment in a tooth with deep carious lesion but without signs or symptoms of pulp degeneration.

(c) Direct pulp cap when pinpoint mechanical exposure of pulp is encountered.

(d) Pulpotomy when carious tooth shows no evidence of radicular pathology.

(4) Non-vital pulp treatment such as pulpectomy is indicated for tooth with irreversible pulpitis or necrosis and roots with minimal or no resorption.

l. Pit and Fissure Sealants

(1) See chapter 11, page 11-2, paragraph 2c for Standards of Care.

(2) Sealants are indicated for primary and permanent teeth with pits and fissures that are predisposed to plaque retention. At-risk pits and fissures should be sealed as soon as possible, and monitored, repaired or replaced as needed at periodic preventive care appointments.

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CHAPTER 10
PERIODONTICS

1. Introduction

a. Definition. Periodontics is that specialty of dentistry which encompasses the prevention, diagnosis, and treatment of diseases of the supporting and surrounding tissues of the teeth or their substitutes; the maintenance of the health, function, and esthetics of these structures and tissues; and the replacement of lost teeth and supporting structures by grafting or implantation of natural and synthetic devices and materials. The goal of periodontal therapy is the maintenance of health, comfort, function, and esthetics of the natural dentition and implanted tooth replacements.

b. Scope of Care

(1) The goals of periodontal therapy may be occasionally compromised, e.g., when a patient is unable or unwilling to act as an effective co-therapist, when a practitioner elects to temporarily retain a hopeless tooth that is serving as an abutment for a fixed or removable prosthesis or maintaining vertical dimension during active periodontal therapy. A patient who is unable or unwilling to undergo comprehensive periodontal therapy or a medically compromised patient serve as two examples of individuals who may best be treated with a limited therapeutic program equivalent to periodontal maintenance treatment.

(2) The currently accepted clinical signs of a healthy periodontium include the absence of inflammation, bleeding, and exudate. The genesis of pathologic changes in the periodontium is multifactorial and requires an understanding of the classification and etiology of periodontal diseases. Knowledge and training in the various modalities employed in periodontal therapy are also essential.

(3) The common forms of periodontal disease are gingivitis and periodontitis (chronic or aggressive). Periodontitis may be generalized or localized (i.e., affecting only isolated areas). In addition, these major diseases are chronic in nature and require complex therapy, maintenance, and observation by both the professional and the patient. Each patient's therapy is determined by evaluating the local and environmental factors as they interact with host-derived factors. The identification of those factors and the degree to which they participate in each patient's case is the basis for determining what periodontal therapeutic techniques will be used. In periodontics, a wide range of therapy exists. No one treatment approach can provide the only means to treating any one, or all, of the periodontal disease types. Further, one treatment may be appropriate for one section of the mouth, while another therapeutic approach is more suitable elsewhere.

(4) The maintenance of a healthy, functional periodontal attachment and peri-implant soft tissue is essential for long-term success.

2. Diagnosis

a. Procedure. Each patient should periodically receive a thorough, systematic periodontal examination to establish a periodontal diagnosis; for example, healthy, gingivitis (dental plaque induced, non-plaque induced), chronic periodontitis (slight, moderate, or severe), and aggressive periodontitis.

b. Criteria

(1) Presence or absence of gross periodontal pathosis has been noted after an evaluation of the topography of the gingiva and related structures (category 1).

(2) Periodontal probing has been performed to assess the attachment level, probing depth and to provide information on the health of the subgingival area, e.g., presence of bleeding, purulent exudate, periodontal pockets, furcation involvement, and mucogingival defects (category 1).

(3) Presence and distribution of bacterial plaque and calculus has been noted. The presence of plaque should be recorded, as necessary, to document oral hygiene effectiveness (category 1).

(4) Other factors related to disease progression and treatment, i.e., tooth proximal contact relationships, mobility, malocclusion, condition of existing restorations, etc., have been noted as applicable (category 1).

(5) A satisfactory number of diagnostic quality periapical and bitewing radiographs have been interpreted (category 1).

(6) For patients with osseointegrated dental implants, diagnosis should include the status of the peri-implant soft tissue; for example, healthy, peri-implant mucositis, or peri-implantitis (category 1).

(7) Periodontal, medical and behavioral risk factors/indicators should be evaluated and managed appropriately (category 2).

3. Prognosis. Prognosis is the prediction as to the progress, course, and outcome of a disease. Determination of prognosis will guide the treatment plan.

4. Treatment Plan

a. Procedure. The diagnosis is used to develop a logical plan of treatment to eliminate or alleviate the signs and symptoms of periodontal disease, and thereby prevent or slow further destructive changes. The treatment plan should be used to establish the methods and sequence of delivering appropriate periodontal treatment, and an estimate of both short- and long-term prognosis.

b. Criteria

(1) The treatment plan should include:

(a) The periodontal procedures to be performed (category 1).

(b) Treatment that may be performed by others, e.g., endodontic therapy (category 2).

(c) Provisions for reevaluation during and after active periodontal therapy (category 1).

(d) A consideration of adjunctive restorative treatment (category 2).

(e) Appropriate medical or dental consultation, as needed (category 2).

(f) A recall program of periodontal maintenance for moderate and severe periodontitis and for surgically implanted tooth replacements (category 1).

(2) The periodontal chart should be filled out before finalization of the periodontal treatment plan for all moderate and severe periodontitis cases (category 1).

(3) The patient should be given the following information:

(a) The diagnosis, proposed therapy, any reasonable alternative treatment, and the prognosis with and without proposed therapy (category 1).

(b) Recommendations for treatment to be performed by other dentists or physicians (category 2).

(c) The reasonably foreseeable inherent risks associated with treatment, including failure of therapy and the potential for loss of teeth in a small percentage of cases despite treatment (category 1).

(d) After active therapy, the need for periodontal maintenance treatment due to the episodic and recurrent nature of periodontal disease (category 1).

(4) Appropriate documentation of consent for treatment (category 1).

5. Non-surgical Periodontal Therapy

a. Procedure. Non-surgical periodontal therapy refers to oral hygiene instructions given to the patient and to scaling and root planing with or without the use of local chemotherapeutic agents and occlusal adjustments. Documentation of the patient's plaque level is necessary to periodically document plaque control effectiveness. Removal of supragingival and accessible

subgingival calculus is accomplished by periodontal scaling. Root surface irregularities and root surfaces altered by periodontal pathosis are treated by the comprehensive service of periodontal root planing. These procedures may be part of the hygienic phase of treatment or the only therapy the patient requires. In some instances, scaling and root planing may be incorporated in the surgical treatment since surgical access may be necessary to remove all root surface deposits. Defective or ill-fitting restorations serve as non-cleansable surfaces that retain bacterial plaque. Correction of these restorations is necessary to facilitate plaque removal and the maintenance of the periodontium in a state of health.

b. Criteria

(1) Instruction to the patient in daily personal dental hygiene and provisions for review and reinforcement of personal daily dental hygiene have been provided (category 1).

(2) Bacterial deposits (both hard and soft) have been removed (category 2).

(3) Appropriate referral to restorative dentist to replace defective restorations has been recommended (category 2).

6. Adjunctive Therapies

a. Procedure. This may include, but is not limited to, such procedures as delivery of local antimicrobial therapy, occlusal adjustment, minor tooth movement, and occlusal appliances as dictated by the complexities of the case. The major indications for an occlusal adjustment are learned from a history and examination that provide evidence of a functional masticatory disturbance, evidence of hyper-mobility that interferes with the patient's comfort, or evidence of increasing mobility. Orthodontic treatment may be desirable to achieve a more acceptable occlusal relationship. Occlusal appliances are most often used when patients present with signs of stomatognathic system breakdown caused by parafunctional habits.

b. Criteria

(1) Techniques of local anti-infective therapy with pharmacological agents can include oral rinses, oral irrigation devices and sustained-release vehicles. These agents can be employed in attempts to treat local bacterial infection associated with gingivitis and periodontitis (category 2).

(2) Following an occlusal adjustment, discomfort has been alleviated, function has been restored, and mobility has decreased (category 2).

(3) Minor tooth movement has reestablished a satisfactory occlusion, aesthetic condition, and function (category 2).

(4) The occlusal appliance has reduced occlusal traumatism or modified the adverse effects of parafunctional habits (category 2).

7. Periodontal Surgical Therapy

a. Procedure. Surgical procedures are performed to provide access for scaling and root planing, to provide for a tooth surface which is biologically acceptable to the soft tissue interface, to provide access for plaque control, to maximally reduce pathological gingival defects, to reduce or eliminate periodontal pockets, to establish a physiologic form, to correct deformities of the alveolar bone, to restore lost periodontal structures, and to implant tooth replacements. To accomplish these objectives a wide variety of surgical modalities have been developed. These include: gingivectomy and gingivoplasty, various flap procedures, ostectomy and osteoplasty, root resection, pedicle grafts, allogenic grafts, autogenous soft tissue gingival grafts, various types of osseous grafts, other regenerative procedures or augmentation procedures, and dental implants.

b. Criteria

(1) Gingiva is restored to appropriate physiologic form and deformities in the alveolar bone have been corrected in most instances. Areas of periodontal compromise may exist, but the patient can maintain the mouth in an acceptable state of health (category 2).

(2) The surgical procedure has eliminated or controlled the problem it was performed to correct and has not aggravated the periodontal condition (category 2).

(3) Dental implants have osseointegrated and have become functional tooth replacements (category 2).

8. Periodontal Maintenance Treatment

a. Procedure. Upon completion of active treatment, follow-up periodontal maintenance treatment is mandatory and should include:

(1) Update of medical and dental history.

(2) Evaluation of current periodontal health status.

(3) Assessment of the patient's bacterial plaque control effectiveness, and reinstruction where needed.

(4) Elimination or mitigation of new or persistent etiologic factors as needed.

(5) Where applicable, maintenance procedures performed for those tissues contiguous to surgically implanted tooth replacements.

(6) New or recurrent areas of periodontal pathosis are considered for treatment, or the regular interval schedule of periodontal maintenance treatment is continued.

b. Criteria

(1) Periodontal maintenance care, as appropriate, has been rendered (category 1).

(2) If periodontal maintenance care cannot be provided, it is mandatory that the patient be informed, before treatment, of the potential sequelae and documentation of same be made in the record (category 1).

9. Evaluation of Therapy

a. Procedure. The results of periodontal therapy are periodically reevaluated to ensure that therapeutic objectives have been achieved. The result of periodontal treatment may be adversely affected by circumstances beyond the control of the dentist. Examples include: smoking, genetics, certain medical diseases, inadequate plaque control by the patient, unknown or undeterminable etiologic factors which current therapy has not controlled, pulpal-periodontal problems, inability or failure of the patient to follow the suggested treatment or maintenance program, and uncorrectable anatomic or iatrogenic factors.

b. Criteria. Upon completion of the planned active treatment, records and a clinical assessment should reveal that:

(1) The patient has been counseled on why he or she should perform an effective daily personal treatment program and has been shown how to accomplish the necessary procedures (category 1).

(2) Procedures generally accepted as therapeutic have been performed to arrest or slow the progress of the periodontal disease (category 1).

(3) Periodontal scaling and root planing has left the subgingival root surface without clinically detectable calculus deposits (category 1).

(4) Physiologic gingival crevices are without bleeding or exudate upon light probing and, ideally, can be maintained in health by daily patient care and the periodic professional service of periodontal maintenance procedures. The morphology of periodontal defects and anatomic and cosmetic limitations may preclude achieving such optimal results (category 2).

(5) A recommendation has been made to the restorative dentist for the correction of any tooth form, restoration, or prosthesis considered contributing to the periodontal disease process (category 1).

(6) The patient has been informed that a recall maintenance program is essential to the future or long-term control of their periodontal disease (category 1).

(7) An appropriate recall program for periodontal maintenance has been recommended to the patient developed that is specific for his or her circumstances (category 1).

(8) A periodontal chart has been completed for moderate and severe periodontitis cases to document results of therapy (category 2).

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CHAPTER 11
PREVENTIVE DENTISTRY

1. Introduction. The goal of preventive dentistry services is to assist the patient in either establishing control of his or her dental disease or in continuing to maintain good oral health. Preventive dentistry includes all clinical tests, treatment procedures, and patient education activities that are provided to patients for the purpose of controlling oral diseases, primarily dental caries, periodontal diseases, and oral cancer. In general, the patient must receive a careful evaluation of his or her current oral health needs, as well as an assessment of his or her risk of future oral disease, and be provided with an individualized risk-based preventive dentistry treatment plan.

2. Dental Caries Risk Management

a. Procedure. Dental caries is a chronic, infectious disease process. Numerous clinical studies have associated caries lesions with elevated levels of cariogenic bacteria in dental plaque. The early infectious process and associated acid demineralization will progress, regress, or remain essentially unchanged, depending on a variety of preventive interventions. These interventions include, but are not limited to, dietary and oral health counseling, remineralization via fluoride therapy, pit and fissure sealants, managing reduced salivary function, and antimicrobial agents. Dental caries prevention is accomplished by means of a comprehensive effort by both the dental provider and the patient.

b. Criteria

(1) A written entry is made in the treatment record of the specific oral health recommendations made to the patient during oral health counseling (category 2).

(2) An individualized treatment plan is developed that reflects the unique oral health needs of the patient (category 1).

(3) All technical aspects of the Navy Oral Disease Risk Management Program will be accomplished as appropriate for all adult and child patients (category 2).

(4) Individual caries risk status will be assigned as follows:

(a) Low Caries Risk patients exhibit the following (must satisfy all criteria):

1. No new cavitated or active caries lesions.

2. No incipient pit and fissure or smooth surface lesions.

3. No caries experience (as evidenced by previous dental restorations) within the past 2 years.

4. No factors that may increase caries risk. These factors may include, but are not limited to: poor oral hygiene, cariogenic diet, exposed root surface or dentin, enamel defects, numerous multi-surface restorations, restoration overhangs or open margins, and active orthodontic treatment, etc.

(b) Moderate Caries Risk patients exhibit the following (demonstration of any single criterion necessitates an assessment of moderate caries risk):

1. One to two cavitated or active caries lesions.

2. Any incipient pit and fissure or smooth surface lesions (without cavitation).

3. Any caries experience within the past 2 years.

4. No incipient or cavitated lesions during examination, but presence of at least one factor that may increase caries risk as outlined in paragraph 2b(4)(a)4.

(c) High Caries Risk patients exhibit the following (demonstration of any single criterion necessitates an assessment of high caries risk):

1. Three or more cavitated or active caries lesions.

2. A history of extensive caries (three or more lesions) within the past 2 years.

3. Presence of multiple factors that may increase caries risk as outlined in paragraph 2b(4)(a)4.

4. Xerostomia or salivary hypofunction due to medication, radiation, or disease.

c. Pit and Fissure Sealants

(1) Procedure. A pit and fissure sealant is placed to prevent occlusal caries in susceptible teeth. Sealants can change tooth morphology and thus eliminate the retention of food and debris and cause a decrease in the count of viable bacteria in the pit or fissure. Sealants are indicated for any surfaces judged at risk in moderate- and high-caries risk patients of any age (both children and adults). Utilize standard moisture control isolation methods to prepare the tooth. The tooth should be cleaned of gross debris using hand or rotary instrumentation. Etchant solution should then be applied, rinsed thoroughly, and sealant material applied. Occlusion should be checked. Fluoride treatment should be performed after sealant application.

(2) Criteria

(a) No adverse clinical signs or symptoms (category 2).

(b) Only sealant products accepted by the ADA should be used, and the sealant should be applied following the manufacturer's instructions (category 1).

(c) All susceptible pits and fissures are protected by sealant material (category 1).

(d) No excess sealant material exists on the gingiva or the surfaces of the teeth (category 1).

(e) Sealant exhibits proper retention and resistance to removal (category 1).

(f) No voids are apparent or detectable on the surface of the sealant (category 1).

(g) Surface of sealant is uniformly smooth (category 1).

(h) Sealant does not interfere with normal occlusion (category 1).

(i) The tooth-sealant junction is not detectable or scarcely detectable with an explorer (category 1).

d. Caries Remineralization Therapy

(1) Procedure. Remineralization should be considered for all non-cavitated smooth surface caries lesions. Remineralization can result in tooth structure which is less porous, mechanically stronger, and less susceptible to acid attack. Remineralization may prevent a lesion from progressing to a cavitated stage. Topical fluoride, to include in-office trays or varnish therapy at appropriate intervals combined with at-home therapy (custom trays, dentifrices, and rinses) will be the primary remineralization agent. Silver diamine fluoride (SDF) therapy may also be indicated in select cases.

(2) Criteria

(a) Remineralization is the standard-of-care treatment for all non-cavitated incipient interproximal caries lesions (i.e., all lesions confined to enamel), as well as all non-cavitated lesions extending into dentin.

(b) Per reference (a), patients undergoing remineralization therapy must receive at least four in-office topical fluoride applications over a 6-12 month period (category 2).

(c) Patients should be reevaluated at 6 month intervals, with bitewing radiographs as necessary, or more frequently at the provider’s discretion.

(d) Patients will remain on remineralization therapy until no caries progression is observed for a minimum of 2 years (category 2).

3. Risk Management for Periodontal Disease Prevention

a. Procedure. Periodontal disease prevention is accomplished by means of a comprehensive effort by both the dental provider and the patient. Of importance in this control effort are chemomechanical plaque control measures, effective oral health counseling, thorough calculus removal, good occlusal assessment, and the placement of high quality restorations where teeth are damaged or missing.

b. Criteria

(1) A written entry is made in the treatment record of the specific oral health recommendations made to the patient during oral health counseling (category 2).

(2) An individualized treatment plan is developed that reflects the unique oral health needs of the patient (category 1).

(3) All technical aspects of the Navy Oral Disease Risk Management Program will be accomplished as appropriate for all adult and child patients (category 2).

(4) The removal of calculus deposits and dental plaque as well as motivating patients to understand and combat periodontal diseases (category 1).

CHAPTER 12
PROSTHODONTICS

1. Introduction

a. Definition of Prosthodontics. Prosthodontics is that branch of dental art and science pertaining to the restoration and maintenance of oral function and related structures by the replacement of missing teeth and associated structures by artificial devices. The practice of prosthodontics includes complete removable dental prostheses, partial removable dental prostheses, crowns and fixed dental prostheses (FDP), maxillofacial prosthetics, and prosthodontic laboratory services.

b. General Considerations

(1) The area of prosthodontics involves the treating of patients with damaged or missing natural teeth and surrounding structures including the treatment of congenital, traumatic, and surgical defects of the head and neck. The treatment is usually undertaken for aesthetic and functional benefits. This can be accomplished by conservation and protection of the tissue which remains. The prosthodontist must render a comprehensive diagnosis of the partially or fully edentulous patient using all of the diagnostic aids available to assemble a treatment plan. The prosthodontist must either personally accomplish whatever mouth preparations are necessary or delegate to his colleagues such specialized services as surgical, periodontal, and endodontic treatment. The prosthodontist must undertake whatever impression procedures are necessary and must be primarily responsible for the accuracy of any casts of the mouth upon which work is to be fabricated. The prosthodontist must provide the laboratory technician with an adequate prescription in the form of diagrams and written instructions. The prosthodontist must be solely responsible for the accuracy and adequacy of any jaw relation records. Finally, the prosthodontist must be competent to judge the excellence of the finished restoration or recognize its inadequacies. The prosthodontist as the laboratory officer should reject inadequate work from the dentist and respectfully suggest whatever improvements are necessary for an acceptable prosthesis.

(2) The philosophy of prosthodontic treatment is based on the belief that it is a health service rather than mechanical procedures. The prosthodontist must focus on the correlation between the basic sciences, treatment planning, and clinical procedures. The selection of materials and style of occlusion must correlate to the existing oral conditions and meet the aesthetic and functional needs of the patient.

2. Complete Removable Dental Prostheses Procedures

a. Introduction. A complete removable dental prostheses substitutes for the loss of natural dentition and associated structures of the maxilla and mandible.

b. Complete Removable Dental Prostheses Procedures

(1) Procedure. A complete removable dental prostheses replaces all of the missing teeth in the maxilla, the mandible, or both arches. The soft tissues should be in a healthy or physiologic state before construction of prostheses is initiated. The prosthesis should:

(a) Be functional for mastication and phonetics.

(b) Be aesthetic to the patient and clinician.

(c) Demonstrate retention and stability consistent with anatomical limitations.

(d) Have a stable occlusion.

(e) Be comfortable within a short period of time following adequate post delivery adjustments.

(2) Criteria

(a) Aesthetic Appearance

1. The prosthesis harmonizes with the patient's facial appearance (category 2).

2. The positioning, shape, size, and the shade of the prosthetic teeth appears natural (category 2).

3. Occlusal vertical dimension is within acceptable range of normality (category 2).

4. The color and the shade of prosthetic base material appears natural (category 2).

(b) Stability and Retention. Must be evaluated relative to the supporting tissues as presented by the patient.

1. Prostheses do not loosen or displace as teeth are occluded (category 2).

2. Maxillary prosthesis remains seated in a passive state (category 2).

3. Mandibular prosthesis remains seated upon slight opening when tongue is resting against anterior lingual surface (category 2).

4. Prosthesis does not noticeably rock, as light occlusally directed pressure is applied side-to-side with fingers (category 2).

(c) Complete Removable Dental Prostheses Base

1. Prostheses exhibits peripheral seal and covers the primary and secondary support area (category 2).

2. Mandibular prosthetic base extends distally to include the retromolar pad (category 1).

3. The prosthetic base material adapts closely to the soft tissue, without evidence of inflammation or ulceration (category 1).

4. The prosthetic base is aesthetic in form, contour, color, or shade to conform to the anatomy of the patient's mouth (category 2).

5. The prosthetic base material is correctly processed and properly polished (category 1).

(d) Occlusion

1. Centric occlusion should be in harmony with centric jaw relation (category 1).

2. The prosthesis provides bilateral simultaneous contact, with no interferences during closure (category 1).

(e) Speech Criteria

1. Acceptable to the patient (category 2).

2. Adequate phonation (category 1).

3. Complete removable dental prostheses should be free of occlusal contact during speech (category 2).

(f) Occlusal Vertical Dimension

1. Provide adequate facial support (category 2).

2. Within physiologic tolerance of the patient (category 1).

3. Prostheses do not touch or click during speech (category 2).

(g) Soft Tissue Response to the Prosthesis

1. The prosthesis does not cause pathology of the oral tissues (category 1).

2. Patient is able to function with the prosthesis without discomfort (category 2).

(h) Post-insertion Care

1. Follow-up care must be provided (category 1).

2. Patient should be free of discomfort (category 2).

3. Patient is instructed in proper home care of oral cavity and prostheses (category 1).

c. Overdentures

(1) Procedure. Overdentures are complete removable dental prostheses placed over retained teeth, tooth roots, or dental implants (abutments). They should be stable and retentive under functional loading and present an acceptable aesthetic appearance. Generally indicated where four or fewer teeth remain.

(2) Criteria

(a) Prosthesis does not rock or pivot over abutments (category 1).

(b) Periodontal health of the retained abutment teeth is not compromised by trauma or impingement from the prosthesis (category 1).

(c) Selection of abutments is based upon sound physiological and mechanical principles (category 1).

(d) Retained teeth are restored to a well-contoured surface (category 1).

(e) There must be adequate strength of denture base material over abutments (category 1).

(f) Prosthetic base contacts retained root only on the top of the root, with no contact of the vertical walls (category 2).

d. Immediate Complete Removable Dental Prostheses

(1) Procedure. An immediate complete removable dental prostheses is a transitional complete prosthesis inserted at time of surgical removal of remaining teeth. Prosthesis may duplicate original dentition or it may be designed to position teeth for improved aesthetics and function. Prostheses serve as replacements for teeth during healing. Compromises may be acceptable. As healing progresses, prostheses will be relined, rebased, or remade. Close follow-up care is required.

(2) Criteria. Criteria will not differ from that used in all complete removable prosthesis therapy.

3. Partial Removable Dental Prostheses

a. Introduction. A partial removable dental prosthesis replaces some, but not all, of the remaining teeth in the maxilla, mandible, or both arches. The prosthesis is retained in the mouth by fixation to teeth through extracoronal clasping systems, intracoronal mechanical devices, and/or dental implants. Stability is an essential requirement partial removable dental prostheses. The fit of the prosthesis prevents movement in a horizontal direction in function. To achieve this, the prosthesis should not interfere with movable tissues, have positive support, and the occlusion does not interfere with natural tooth guidance. Two categories of partial removable dental prostheses are recognized: those whose support is derived solely from abutment teeth, and those whose support is derived from abutment teeth and from the residual soft tissues. The primary purpose of this prosthesis is to preserve soft tissue health and prevent shifting of remaining natural teeth. Additionally, they maintain or improve mastication, aesthetics, and phonetics.

b. Criteria

(1) Mouth Preparation

(a) Adequate space for rests is made in the abutment teeth (category 1).

(b) Parallel guide planes are made to ensure adequate retention and stability (category 2).

(c) Mouth preparations on natural teeth are in enamel or appropriate restorative materials (category 2).

(2) Framework

(a) Adequate number of rests are made in the teeth (category 1).

(b) The proximal plates are in contact with the teeth (category 1).

(c) All connectors are rigid (category 1).

(d) The bracing components are in contact with the teeth (category 1).

(e) Retention is adequate to resist reasonable dislodging forces (category 1).

(f) No surface porosity in the metal framework (category 2).

(3) Prosthetic Base

(a) No significant surface porosity in the material (category 1).

(b) Prosthetic base flanges are adequately extended to provide intimate tissue contact (category 1).

(c) Prosthetic bases are contoured to be compatible with soft tissues (category 1).

(4) Prosthesis

(a) The prosthesis does not cause patient discomfort during function (category 1).

(b) The patient can insert and remove the prosthesis without difficulty (category 2).

(c) The prosthetic teeth do not interfere with normal functional movements (category 1).

(d) The prosthesis does not cause tissue irritation (category 1).

(e) The metal and acrylic resin are properly contoured (category 1).

(5) Aesthetics and Phonetics

(a) Esthetics and phonetics have patient acceptance (category 2).

(b) The prosthesis supports the phonetic and the functional requirements of the patient (category 1).

(6) Occlusion. Simultaneous, bilateral contact occurs in centric closure with the natural and artificial teeth (category 2).

(7) Post-operative Treatment

(a) Favorable tooth and tissue response (category 1).

(b) Routine follow-up care is provided (category 1).

(c) Patient advised of proper home care (category 1).

4. Crowns and FDPs

a. Introduction. Fixed prosthodontics is the art and science of restoring one or more damaged or missing teeth with prostheses that cannot be readily removed by the patient or dentist. FDPs and crowns are permanently attached to natural teeth or dental implants which furnish the primary support.

b. Single Unit Prosthetic Restoration

(1) Procedure. A crown is a cemented veneer restoration which replaces the morphology, function, and contour of the damaged coronal portions of a single tooth.

(2) Criteria

(a) Margins

1. No discernible space exists between the restoration and the preparation (category 1).

2. An acceptable transition exists between tooth structure and the restoration (category 1).

(b) Occlusion

1. Prosthesis does not prevent contact of other dentition (category 1).

2. Contact of prosthesis with opposing occlusion (category 2).

3. Cross-tooth and cross-arch balancing contacts typically do not exist on the restoration (category 2).

4. Abnormal situations may alter some of the above.

(c) Proximal Contact

1. Proper anatomic location (category 1).

2. Demonstrated contact with adjacent tooth/teeth when appropriate (category 1).

(d) Contour

1. Anatomy in harmony with existing dentition and soft tissue (category 2).

2. Marginal ridges provide an acceptable transition to adjacent teeth (category 2).

(e) Aesthetics

1. Aesthetics of prosthesis has patient acceptance (category 2).

2. Harmony of size, shape, and surface texture when compared to the existing dentition (category 2).

3. Harmony of value, hue, chroma, and characterization when compared to the existing dentition (category 2).

c. FDP

(1) Procedure. An FDP is permanently attached to remaining teeth or dental implants to replace a missing tooth or teeth. A tooth or dental implant serving as support for a fixed dental prosthesis is called an abutment. The artificial tooth suspended between abutment teeth is the pontic. The pontic is connected to retainers which are restorations cemented to the prepared abutment teeth or dental implants.

(2) Criteria

(a) Margins of Retainers

1. No discernible space exists between the restoration and the preparation (category 1).

2. An acceptable transition exists between tooth structure and the restoration (category 1).

(b) Occlusion

1. Prosthesis does not prevent contact of other dentition (category 1).

2. There is adequate contact of prosthesis with opposing occlusion (category 2).

3. Balancing contacts typically do not exist on the restoration (category 2).

(c) Proximal Contact

1. Proper anatomic location (category 1).

2. Demonstrated contact with adjacent tooth/teeth when appropriate (category 1).

(d) Contour

1. Anatomy in harmony with existing dentition and soft tissue (category 2).

2. Marginal ridges provide an acceptable transition to adjacent teeth (category 2).

(e) Aesthetics

1. Aesthetics of prosthesis has patient acceptance (category 2).

2. Harmony of size, shape, and surface texture exists when compared to the existing dentition (category 2).

3. Harmony of value, hue, chroma, and characterization is evident when compared to the existing dentition (category 2).

(f) Pontics

1. Pontics cause no blanching or depression of the edentulous ridge (category 1).

2. Interproximal, facial, and lingual embrasures do not impinge on the natural form of the soft tissue (category 1).

3. Connector area is of adequate size to create rigidity of the prosthesis (category 1).

d. Acid Etched, Resin-Bonded, Fixed Dental Prosthesis. When accomplished properly, the acid etched, resin-bonded, fixed dental prosthesis is a useful treatment modality for replacing missing teeth, especially a single missing tooth. However, potential dangers associated with debonding indicate the need for strict adherence to protocol. Generally, acid etched, resin-bonded, fixed dental prosthesis are not recommended for personnel whose duties include flying, underwater diving, or the use of intraoral devices to receive breathable gases. However, each case is a separate entity and must be so evaluated. In select cases, the use of this prosthesis for flying and diving personnel may be accomplished within narrow diagnostic and clinical parameters.

(1) Procedure. An acid etched, resin-bonded, fixed dental prosthesis is permanently attached to the abutment teeth, which replaces a missing tooth. The prosthesis is attached to the abutment teeth by either an acid etch composite resin luting material or by an adhesive resin luting cement.

(2) Criteria

(a) Case Selection

1. Abutments have sufficient enamel for etching procedures (category 1).

2. Abutments that are non-carious, or have small carious lesions within the bonding area, still have sufficient enamel for etching procedures (category 1).

3. Abutments with adequate periodontal support (category 1).

4. Short edentulous spans (category 1).

5. Abutments are of sufficient length to provide tooth structure for adequate parallelism of proximal walls, groove length, etc., for resistance form in the preparation (category 1).

6. Anterior occlusion is at, or incisal to, the junction of the incisal and middle third of the lingual surface of the teeth (category 2).

(b) Occlusion

1. Pontic has only centric occlusal contacts (category 1).

2. Posterior pontics are restricted to vertical forces (category 1).

(c) Preparation (Anterior)

1. Adequate lingual reduction (0.3 - 0.5 mm) (category 1).

2. Distinct (one) path of insertion with guidance from proximal walls adjacent to edentulous area (category 1).

3. Distinct chamfer gingival finish line (category 1).

4. Definitive vertical stop (cingulum notch, rest, or shallow pothole) (category 1).

5. Definitive buccolingual lock (proximal wraparound, proximal grooves) for resistance form (category 1).

6. Maximum area coverage for bonding of retainers on abutment teeth (category 1).

(d) Preparation (Posterior)

1. Distinct (one) path of insertion on proximal and lingual walls of abutment teeth (category 1).

2. Definitive buccolingual lock (proximal wraparound, proximal grooves) for resistance form (category 1).

3. Maximum area coverage for bonding of retainers on abutment teeth (category 1).

4. Positive occlusal rest (category 1).

(e) Metal Preparation. Strict adherence to manufacturer's instructions if adhesive resin cements are used for cementation (category 1).

(f) Delivery

1. Rubber dam isolation (category 1).

2. Proper enamel etch (category 1).

3. Complete seating of restoration (category 1).

4. No movement during cementation (category 1).

5. Removal of all excess cement (category 1).

e. Dowel (Post) and Core Restorations. A dowel (post) is a root canal restoration placed into a prepared space coronal to a more apically located root canal filling. A dowel creates a retentive base for the construction of a core superstructure upon which the restorative dentist is able to construct a final restoration. Certain dowels may be used as a direct retainer for a final restoration when used without an additional core.

(1) Dowel (Post)

(a) Procedure. A dowel or post is indicated for additional retention in teeth where the remaining natural tooth structure is insufficient for construction of the final restoration. Dowels may be actively or passively retained, but are used in conjunction with an accepted cementing medium. The dowel is placed after an acceptable root canal filling material, which produces an acceptable apical seal, has been placed.

(b) Criteria

1. No adverse clinical signs or symptoms (category 1).

2. The dowel is confined to the root canal (category 1).

3. The dowel occupies at least 50 percent of the root length (category 2).

4. There are no perforations or root fractures (category 1).

5. There is an acceptable seal in the apical portion of the root canal (category 1).

(2) Core

(a) Procedure. A core is a constructed superstructure that provides needed resistance, retention, and geometric form to the compromised coronal aspect of a tooth. The core can be made with cast metals, amalgam, or composite materials. Cores may or may not be used in conjunction with dowels.

(b) Criteria

1. No adverse clinical signs or symptoms (category 1).

2. The core is adequately retained (category 1).

3. The core occupies the entire pulp chamber (category 1).

4. The core does not perforate the pulp chamber floor (category 1).

5. The occlusal aspect should allow for adequate occlusal thickness of the final restoration (category 1).

6. If a crown will cover the core, the final contour of the core is based on prosthodontic principles of preparation for retention of a crown and may require a diagnostic wax-up against an opposing occlusion (category 1).

7. If a pin-retained core is selected, the pins are located within the proposed core (category 1).

8. The margins of the crown or retainer extend beyond the margin of the core onto natural tooth or root structure (category 2).

5. Maxillofacial Prosthetics

a. Introduction. Maxillofacial prosthetics is a subspecialty or prosthodontics and is the art and science of anatomic, functional, or cosmetic reconstruction by means of non-living substitutes of those regions in the head or the body that are missing or defective because of surgical intervention, trauma, pathology, or developmental or congenital malformation.

b. Intraoral Prostheses. The intraoral prostheses for the maxillofacial patient that are delivered as fixed partial dentures or removable dentures (partial and complete) should be judged and evaluated with the same criteria used under the respective categories for each prosthesis. Specific modification of these procedures will follow with their criteria:

(1) Speech Aids

(a) Procedure. Palatopharyngeal deficits may result from congenital malformations such as cleft palate, from developmental aberrations such as a short hard or soft palate, from acquired neurological deficits, or following the surgical resection of neoplastic disease. The objective of a speech aid is to reestablish palatopharyngeal integrity to provide the potential for acceptable speech. A palatal lift and tongue prosthesis are examples.

(b) Criteria

1. The prosthesis improves speech (category 3).

2. The prosthesis should not cause pathology (category 1).

3. The prosthesis causes minimal interference with swallowing (category 2).

(2) Maxillary Obturator

(a) Procedure. The stability and retention standards for conventional removable partial dentures will not apply to this prosthesis due to the size, the location of the defect, and the lack of bony support. The occlusion over the defect should be minimal. The prosthesis will aid the patient in speech, deglutition, and decrease the amount of fluid leakage to the nose during use.

(b) Criteria

1. Assists the patient in speech and deglutition as residual anatomical structures dictate (category 2).

2. Fluid leakage into the nose decreases (category 1).

3. Prosthesis does not cause pathology (category 1).

4. Stability and retention as residual anatomical structures dictate (category 2).

5. Light contact in maximum closure occurs when occlusion is present over a defect (category 2).

6. Acceptable to patient (category 2).

(3) Partial Mandibulectomy Prosthesis

(a) Procedure. Disabilities resulting from resections of the mandible include impaired speech, articulation, difficulty in swallowing, deviation of the mandible during

functional movements, poor control of salivary secretions, and severe cosmetic disfigurement. Restoration of function is usually not possible and prolonged disfigurement is inevitable in patients following mandibular resection. The partial mandibulectomy prosthesis should aid or guide the remaining portion of the mandible to a fairly consistent relationship with the maxilla (as much as the surrounding tissues will allow).

(b) Criteria

1. Aids or guides the mandible to an acceptable relationship with the maxilla (category 2).

2. Maximum occlusal contacts as permitted by the movement of the remaining mandible (category 2).

3. Prosthesis does not cause pathology (category 1).

4. Acceptable to patient (category 2).

c. Extraoral Prostheses

(1) Procedure. Patients with facial defects that cannot be repaired with surgery for various reasons may require an extraoral prosthesis. Each facial defect is different in size and location, the postsurgical results, and the nature of the remaining soft and hard tissue and therefore can affect the results of each prosthesis differently. Under close scrutiny, a prosthesis will be seen because no material can replace natural tissue. The objective of the prosthesis is to provide enough concealment to render the defect inconspicuous or prevent undue attention when the patient goes out in public. Successful patient use of the restoration may also depend on psychological acceptance of the prosthesis.

(2) Criteria

(a) Materials

1. Must be compatible with the tissues (category 1).

2. Must have sufficient durability (category 2).

3. Must be compatible with adhesives when indicated (category 2).

(b) Aesthetics

1. Acceptable to patients (category 2).

2. Should restore the contour of the missing tissues as the remaining anatomical structures dictate (category 2).

3. Shade of prosthesis should be compatible with adjacent tissues (category 2).

(c) Margins of the Prosthesis

1. Should closely approximate the adjacent tissues as the remaining anatomical structures dictate (category 1).

2. Should allow for adequate adhesion, mechanical retention, and tissue movement as anatomical structures dictate (category 2).

d. Ocular Prostheses (Prosthetic Eye)

(1) Procedure. An ocular prosthesis provides a cosmetic replacement for ocular defects, either congenital or acquired. Depending upon the remaining anatomic structures, the ocular prosthesis should be positioned to allow for a compatible neutral gaze and for maximum physiologic movement. A prosthesis with little or no movement should not be considered less than adequate, but assessed according to function of residual tissue and implant bed.

(2) Criteria

(a) Location and Movement

1. Has a compatible neutral gaze (category 2).

2. Allows for maximum physiologic movement as anatomical structures dictate (category 2).

(b) Aesthetics

1. Acceptable to patients (category 2).

2. Should approximate the contralateral eye relative to sclera tint, pupil size (in normal indoor lighting), iris size, and color (category 2).

3. Lid contour and opening are compatible with contralateral eye as remaining structures dictate (category 2).

e. Craniofacial Implant

(1) Procedure. The objective of implants is to improve appearance or protection; hence the requirements of the material vary depending on the site and nature of the defect. The implant prosthesis should be made from a material that is tissue-compatible and lends itself to a means of sterilization.

(2) Criteria

(a) Must be compatible with the tissue (category 1).

(b) The prosthesis can be sterilized when indicated (category 1).

f. Post-operative Appointments

(1) Procedure. Postoperative care must be provided and the patient should have a reasonable number of postoperative appointments to have a satisfactory transitional time to become accustomed to the new prosthesis as well as to evaluate the tissue response.

(2) Criteria

(a) Patient is given the opportunity for postoperative care (category 1).

(b) Patient instructed in the use and care of the prosthesis (category 1).

6. Prosthodontic Laboratory Services

a. Introduction. The prosthodontic laboratory is a supporting facility which fabricates prostheses following a written prescription and/or input of digital files.

b. Cases Received

(1) Procedure. Cases received physically or digitally are those cases accepted from requesting dental facilities that conform to and are submitted following a written current laboratory instruction.

(2) Criteria

(a) The dental laboratory work authorization must be properly completed following the laboratory instruction and signed by the submitting dental officer (category 1).

(b) Physical and digital impressions should be accurate and free of positive or negative errors (i.e., bubbles or blebs) in critical areas (category 1).

(c) Crown and bridge impressions should display margins that are identifiable under visual examination (category 2).

(d) All master casts or digital files and designs must:

1. Be dense, accurate, bubble free replications or missing no data for digital files (category 1).

2. Be trimmed following laboratory guidelines (category 2).

3. Have tripod marks, survey lines, and retentive areas, indicated when submitted for partial removable dental prostheses (category 2).

4. Have a carved or functional palatal seal area before processing a maxillary prosthesis (category 2).

5. Have dies with identifiable margins and trimmed following the laboratory guidelines (category 2).

6. Have a positive and accurate means of being articulated (category 2).

(e) Diagnostic casts should:

1. Be dense, accurate originals or duplicates free of positive or negative errors (i.e. bubbles or blebs) (category 2).

2. Have a partial removable dental prosthesis design drawn on DD Form 2322 and associated partial removable dental prosthesis design sheet when submitted for fabrication of a partial removable dental prosthesis (category 2).

3. Have a placement index for prosthetic teeth following the laboratory guidelines (category 2).

c. Cases Fabricated

(1) Procedure. Cases fabricated are those cases completed by the laboratory technician in the laboratory facility that conforms to the work authorization and constructed following current laboratory guidelines.

(2) Criteria. The technician will follow all instructions as indicated on the DD Form 2322 (category 1).

(a) Stone casts and resin fabricated models must be:

1. Dense, accurate, and free of positive or negative errors (i.e., bubbles or blebs) (category 1).

2. Trimmed according to current laboratory guidelines (category 1).

3. Articulated in the provided or requested articulator or equivalent alternative per instruction on the work authorization.

(b) Dies must:

1. Have pins properly placed (category 1).

2. Be properly sectioned following current laboratory guidelines (category 2).

(c) Custom trays must accurately follow the work authorization and be smooth and devoid of sharp edges (category 1).

(d) All restorations should be fabricated following the work authorization and the laboratory guidelines (category 1).

(e) All restorations should be free of positive or negative errors (i.e., bubbles or blebs) on internal surfaces and be finished following the dictates of the work authorization and the laboratory guidelines (category 2).

(f) All restorations should fit the die or master cast when indicated for use per instruction with no visual discrepancies (category 1).

CHAPTER 13
DENTAL IMPLANTS

1. Introduction

a. Definition of Implantology. Implantology is that treatment modality which replaces missing oral structures with synthetic materials and devices which are surgically embedded in the soft or hard tissues of the oral cavity. These materials and devices are used to support and attach dental prostheses without compromise of health, function, comfort, or aesthetics of the hard or soft tissues or the patient.

b. General Considerations

(1) Dental implant procedures are categorized into three distinct groups as defined by the ADA.

(a) Endosseous Implants. Artificial abutments placed through the gingiva into bone. Includes osseointegrated implants and can be used singly or in multiples. Includes two general types: blades and cylinders. Blades are used along with natural teeth to support partial and complete arch fixed prostheses; they are not self-supporting and not used for single tooth replacements. Cylinders, if osseointegrated, can freestand and support individual, multiple, and full-arch replacements. Also used in conjunction with natural teeth for complete and partial fixed and removable restorations including overdentures.

(b) Subperiosteal Implants. A metal framework cast to fit a replica of the mandibular bony arch formed from a direct impression of the bone or a computer-generated model and placed beneath the periosteum in close apposition to the bone and may be attached to the bone with intraosseous screws. The prosthesis to restore function is totally supported by the subperiosteal implant which distributes occlusal forces throughout the alveolar ridge. The prosthesis may be a fixed or partial removable prosthesis or a complete removable prosthesis.

(c) Transosseous Implants. Submandibular stabilizing bone plate with retaining posts which pass through mandibular bone from inferior border to alveolar crest; stabilizes and retains a tissue-borne full arch prostheses, but is not in itself a loaded implant. Staple implant is the only transosseous device in common use.

(2) Implantology must be viewed relative to long-term success which is based on standard ADA criteria to include: inflammation, pocket formation, bone loss, mobility, and patient comfort.

(3) The implant must be biologically acceptable and compatible with the hard and soft tissues, which through healing and remodeling gradually adapt to their new function.

(4) Implant systems, techniques, and procedures must be selected based on documented research, published success rates, and training of the specialists.

(5) Implantology as a clinical discipline can only be performed in those sites authorized by the Assistant Chief for Dentistry, as implemented by the Chief, BUMED, and following the guidelines listed below:

(a) Performed by dentists who are privileged in implantology.

(b) Dentists who wish to be privileged in implantology must submit to their respective accrediting committee proof of residency training in implant techniques or attendance at comprehensive continuing education training courses in implant dentistry.

(c) An implantology protocol must be developed for each authorized training facility.

(d) All cases selected for treatment will be treatment planned by an implantology task force team.

(e) Prosthodontic rehabilitation of these cases must be performed by a privileged dentist who is a member of the task force team, but does not have to be assigned to the authorized teaching facility.

(f) Adequate documentation of all patients must be maintained by the teaching facility. Data on each system used must be submitted annually to the specialty advisor for implantology. Documentation of training must also be submitted to the specialty advisor.

(6) Implantology involves two distinct phases of treatment, a surgical phase and a prosthodontic rehabilitation phase.

2. Treatment Planning

a. Introduction. All cases selected for treatment will be treatment planned by an implantology task force team. The task force team will be composed of, at a minimum, the dentist privileged in the surgical placement of implant fixtures (i.e., periodontist, oral surgeon, prosthodontist, comprehensive dentist, or general dentist) and a dentist privileged in the restoration of dental implants. The biomechanical requirements demand that treatment be carried out with all team members working in close collaboration. For the implant to be successful, a combination of correct methodology, adequate instrumentation, and collaboration of specialists must be realized. This will require an effective basic organization and overall coordinated treatment plan.

b. Preliminary Examination

(1) Procedure. To determine if the patient is a suitable candidate for implants, review all health records, and complete oral and psychological examinations, including appropriate radiological examinations.

(2) Criteria. The patient's record should reveal a review of health records, a complete oral examination, radiographic examination, results of psychological evaluation, a treatment plan, and informed consent (category 2).

3. Surgical Phase

a. Procedure. Following appropriate pre-operative care of the patient, the mucoperiosteal tissue or alveolar bone is prepared to receive the implants. The implant device or material is placed using appropriate surgical care to avoid unnecessary insult to the tissues. Appropriate tissue closure is performed. Post-operative care is rendered as appropriate. Healing phase will vary with each implant system.

b. Criteria

(1) Surgical technique follows protocol established for this system (category 1).

(2) Surgery consistent with standards of care for oral surgery (category 2).

4. Healing Phase

a. Procedure. All post-operative care and maintenance must follow guidelines for each system employed relative to the interim prosthesis, and time delay before definitive prosthodontic therapy can be initiated.

b. Criteria

(1) Soft tissue should maintain physiologic contour and a healthy appearance without infection, inflammation, or swelling. Soft tissue should be asymptomatic (category 2).

(2) Diagnostic evaluation should include radiographs which are consistent with type of implant system employed. No radiolucencies around implant, no measurable bone loss or appearance of encapsulation (category 2).

(3) If implant is a subperiosteal type, implant should feel firm and stable to digital examination (category 2).

(4) If implant is an endosseus type of implant, implant should be stable without mobility and should be firmly attached to bone (category 2).

5. Prosthodontic Interim Treatment

a. Procedure. An appropriate interim prosthesis is provided for the patient during the healing phase. Timeframe for placement of the interim prosthesis and wear will be dependent upon implant system selected.

b. Criteria

(1) Interim prosthesis provides adequate function and comfort for the patient during healing (category 2).

(2) Interim prosthesis does not interfere with the healing phase as predicted for each system (category 2).

6. Prosthodontic Rehabilitation

a. Procedure. Prosthodontic rehabilitation must be in concert with that recommended for the type of implant system employed. Prosthodontic rehabilitation may be of the fixed or removable type of prosthesis.

b. Criteria

(1) Function and aesthetic of the dentition restored according to standards of care for prosthodontic therapy (category 1).

(2) Occlusal forces are evenly distributed and controlled so that implant/host tissue integrity is not compromised (category 2).

(3) The gingival tissue must not be adversely affected by the implant prosthodontic prosthesis (category 1).

(4) Prosthesis must permit adequate oral hygiene (category 1).

(5) Prosthesis must afford comfort for the patient (category 2).

7. Maintenance Therapy

a. Procedure. Follow-up care is given at periodic intervals to ensure that the implant and the prosthesis provide the patient with long-term health, function, and aesthetics.

b. Criteria

(1) Tissue complications such as gingivitis, a fistula, or a mobile or connective tissue encapsulated fixture, have been intercepted and corrected (category 1).

(2) Periodic radiographic examination has been performed to assess the condition of the bone and implant (category 1).

(3) Repair or replacement of the prosthesis to be accomplished as needed (category 1).