Parameters of Care:
Clinical Practice Guidelines
for Oral and Maxillofacial Surgery
(AAOMS ParCare 2017)

DIAGNOSIS AND MANAGEMENT OF
PATHOLOGICAL CONDITIONS

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THIS SECTION IS 1 OF 11 CLINICAL SECTIONS INCLUDED IN AAOMS
PARCARE 2017, WHICH IS VIEWED AS A LIVING DOCUMENT APPLICABLE
TO THE PRACTICE OF ORAL AND MAXILLOFACIAL SURGERY. IT WILL BE UPDATED
AT DESIGNATED INTERVALS TO REFLECT NEW INFORMATION CONCERNING THE
PRACTICE OF ORAL AND MAXILLOFACIAL SURGERY.
INTRODUCTION

Diagnosis and Management of Pathological Conditions addresses the diagnosis and treatment of diseases of the oral and maxillofacial region, including diseases of bone, soft tissue, and salivary glands. Cysts, benign and malignant tumors, infections, and diseases of metabolism and function are discussed. Treatment of these diseases involves ablation, functional alteration, nonsurgical management, and supportive care. Odontogenic infections, including deep neck infections, are addressed in the Dentoalveolar Surgery chapter.

The parameters of care for pathological conditions have their foundation in knowledge that is continuing to expand. Increased understanding of the nature of these diseases, their biologic behavior, and their response to therapy form the basis for practice parameters. Evidence-based medicine demonstrates that treatment decisions and their outcomes should be based on a definitive pathologic diagnosis obtained either by preoperative biopsy or posttreatment submission of surgical specimens. When reasonable, submission of specimens to oral and maxillofacial pathologists is encouraged because this increases the likelihood of diagnostic accuracy and, therefore, appropriate management. This document does not replace existing biomedical knowledge; it merely provides the basis for defining indications for therapy, parameters of therapy, goals of therapy, and the range of outcomes.

This section will refer only to diagnostic and therapeutic surgical procedures for the management of the lesions mentioned. Other areas of pathology, including temporomandibular disorders and congenital defects, are covered in other sections.

GENERAL CRITERIA, PARAMETERS, AND CONSIDERATIONS FOR DIAGNOSIS AND MANAGEMENT OF PATHOLOGICAL CONDITIONS

INFORMED CONSENT: All surgery must be preceded by the patient's or legal guardian's consent, unless an emergent situation dictates otherwise. These circumstances should be documented in the patient's record. Informed consent is obtained after the patient or the legal guardian has been informed of the indications for the procedure(s), the goals of treatment, the known benefits, and risks of the procedure(s), the factors that may affect the risk, the treatment options, the outcomes if left untreated, and the favorable outcomes.

PERIOPERATIVE ANTIBIOTIC THERAPY: In certain circumstances, the use of antimicrobial rinses and systemic antibiotics may be indicated to prevent infections related to surgery. The decision to employ prophylactic perioperative antibiotics is at the discretion of the treating surgeon and should be based on well researched treatment regimens including the patient's clinical condition as well as other comorbidities which may be present.

DEALING WITH NEUROLOGIC DEFICITS: Injuries to the terminal branches of the trigeminal nerve (e.g., lingual, inferior alveolar, long buccal nerves), as well as the facial nerve, are known risks of oral and maxillofacial surgery. It should be noted that the presence of a pathologic craniomaxillofacial condition, dentoskeletal or craniofacial abnormality, or traumatic craniomaxillofacial injury may result in nerve injury prior to surgical management. In addition, the use of local anesthesia (e.g., mandibular block) may increase the risk of nerve injury. Most nerve injuries resolve spontaneously, but some do not, and these may require consideration for non-surgical and/or surgical intervention. Microneurosurgical repair should be considered when the disability is of concern to the patient, and there is clinical evidence of moderate, severe, or complete neurosensory impairment of various areas of the orofacial region (e.g., lips, chin, tongue); paresis or paralysis of facial muscles; loss, decreased, or abnormal taste sensation; or neuropathic pain of peripheral origin. Surgical repair should incorporate specialized microsurgical techniques (e.g., operating magnification, nerve grafting), when indicated. Also see the Reconstructive Surgery chapter.

USE OF IMAGING MODALITIES: Imaging modalities may include panoramic radiograph, periapical and/or occlusal radiographs, maxillary and/or mandibular radiographs, computed tomography, cone beam computed tomography, positron emission tomography, positron emission tomography/computed tomography, nuclear
isotope bone scans and magnetic resonance imaging. In determining studies to be performed for imaging purposes, principles of ALARA (as low as reasonably achievable) should be followed.

**DOCUMENTATION:** The AAOMS ParCare 2017 includes documentation of objective findings, diagnoses, and patient management interventions. The ultimate judgment regarding the appropriateness of any specific procedure must be made by the individual surgeon in light of the circumstances presented by each patient. Understandably, there may be good clinical reasons to deviate from these parameters. When a surgeon chooses to deviate from an applicable parameter based on the circumstances of a particular patient, he/she is well advised to note in the patient's record the reason for the procedure followed. Moreover, it should be understood that adherence to the parameters does not guarantee a favorable outcome.

**GENERAL THERAPEUTIC GOALS FOR DIAGNOSIS AND MANAGEMENT OF PATHOLOGICAL CONDITIONS:**

- A. Provision of medical and/or surgical palliation or cure of the disease process
- B. Restoration of function
- C. Restoration of form
- D. Preservation of vital structures
- E. Prevention of recurrence
- F. Limited period of disability
- G. Appropriate understanding by patient (family) of treatment options and acceptance of treatment plan
- H. Appropriate understanding and acceptance by patient (family) of favorable outcomes and known risks and complications
- I. Palliation of patient’s disease in the event of disseminated disease

**GENERAL FACTORS AFFECTING RISK DURING DIAGNOSIS AND MANAGEMENT OF PATHOLOGICAL CONDITIONS:**

- A. Degree of patient’s and/or family’s understanding of the origin and natural course of the condition or disorder and therapeutic goals and acceptance of proposed treatment
- B. Presence of coexisting major systemic disease (eg, disease that increases a patient's American Society of Anesthesiologists classification to II, III, or IV), as detailed in the Patient Assessment chapter
- C. Age of patient
- D. Presence of acute and/or preexisting infection
- E. Accuracy and quality of pathologic diagnosis
- F. Presence of local or systemic conditions that may interfere with the normal healing process and subsequent tissue homeostasis (eg, previously irradiated tissue, diabetes mellitus, chronic renal disease, liver disease, blood disorder, steroid therapy, contraceptive medication, immunosuppression, malnutrition)
- G. Presence of behavioral, psychological, neurologic, and/or psychiatric disorders, including habits (eg, substance abuse, including tobacco and alcohol), seizure disorders, self-mutilation, or dementia, which may affect surgery, healing, and/or response to therapy
- H. Degree of patient's and/or family’s cooperation and/or compliance
- I. Regulatory and/or third-party decisions concerning access to care, indicated therapy, drugs, devices, and/or materials
- J. Potential for risk to adjacent vital structures
- K. Existing drug or alcohol intoxication

**GENERAL FAVORABLE THERAPEUTIC OUTCOMES FOR DIAGNOSIS AND MANAGEMENT OF PATHOLOGICAL CONDITIONS:**

- A. Cure or palliation of disease
- B. Restored form
- C. Restored function
- D. Presence of intact adjacent structures (eg, no unanticipated loss or damage)
E. Limited period of disability
F. Patient (family) acceptance of procedure and understanding of outcomes

GENERAL KNOWN RISKS AND COMPLICATIONS OF DIAGNOSIS AND MANAGEMENT OF PATHOLOGICAL CONDITIONS:

A. Unplanned admission to intensive care unit after elective surgery
B. Unplanned intubation for longer than 24 hours after surgery
C. Unplanned reintubation or tracheostomy after surgery
D. Use of parenteral drugs and/or fluids for longer than 72 hours after elective surgery
E. Failure to ambulate within an acceptable period (depending upon procedure) after surgery
F. Facial and/or trigeminal nerve dysfunction after surgery
G. Facial fracture during or after surgery (eg, pathologic fracture of mandible after marginal resection)
H. Unplanned Caldwell-Luc, bronchoscopy, or other exploratory procedures associated with surgery
I. Dental injury during surgery
J. Ocular injury during surgery (caused by surgery, anesthesia, or by the patient)
K. Postoperative radiograph indicating presence of foreign body
L. Readmission of cancer patient for repeat ablative surgery within 12 months of primary surgery
M. Unplanned transfusion(s) of blood or blood components during or after surgery
N. Readmission for complications or incomplete management of problems on previous hospitalization
O. Respiratory and/or cardiac arrest
P. Unanticipated residual functional deformity
Q. Unanticipated residual structural deformity
R. Loss of or damage to adjacent vital structures (eg, neurosensory, dentition)
S. Local sequelae, with damage to or loss of vital structures
T. Loss of function
U. Loss of form
V. Death from tumor extension or as a result of tumor therapy

SPECIAL CONSIDERATIONS FOR DIAGNOSIS AND MANAGEMENT OF PEDIATRIC PATHOLOGICAL CONDITIONS

The principles of management of pathological conditions in children and adults are similar. The differences are in the types of pathologic entities encountered and their frequencies. The congenital epulis, for example, is by definition a tumor found exclusively in neonates and newborns, and another example is the neuroectodermal tumor of infancy found in infants and children. Lesions may also vary in rapidity of growth, aggressiveness, and predictability with regard to biologic behavior when compared with those in adults. The biologic behavior of a lesion (eg, rapid growth, effacement of the dental crypts, root destruction) must be considered in deciding the therapeutic course. We assume for most pathologic entities and processes that the biologic behavior will mimic that seen in adult patients; however, this may not always be the case. Lesions that more frequently occur in adults, when found in children, may exhibit more aggressive behavior than seen in the adult equivalent. New therapies and management protocols are evolving for some lesions previously managed primarily with surgery. Examples are hemangiomas which respond and involute under the influence of beta blocker therapy, and some mesenchymal tumors that respond to anti-angiogenesis and other treatments. The example of central giant cell granulomas responding to interferon, or intra-lesional steroid injection, or calcitonin therapies, and even newer monoclonal antibody therapy (denosumab) are current topics. Very likely more such examples will arise as medical and targeted genetic treatments continue to be developed.

When managing tumors, the patient’s developmental stage must be considered. Radiation therapy for head and neck malignant tumors may have devastating growth consequences, and the potential for secondary tumors occurring years after the initial treatment is a concern. Although these and other concerns should be weighed in the management of young patients, they may not always alter the recommended therapy for life-threatening or
aggressively destructive lesions. Anatomical variances from the adult, along with growth implications, present significant considerations to surgical management and reconstruction in the growing child in whom abnormalities of the face or jaws are to be removed. A condyle that is resected during surgical treatment, for example, should be replaced with a graft that is responsive to growth. Dental development must be considered when planning implant replacement for missing teeth.

A thorough physical evaluation, appropriate imaging studies, and vigilant monitoring of the clinical course are required for management of infections in children. Airway and hydration status are paramount in the management of severe pediatric infections because the margin of safety is less for the young patient. Also in children, it may be difficult to differentiate infection from a rapidly expanding neoplasm. Decisions regarding hospital admission must of necessity include consideration of the socioeconomic environment and the expected reliability of the child’s support system.

**CYSTS OF BONE**

This section includes all odontogenic and nonodontogenic cysts, including those lesions not thought to be true cysts (eg, idiopathic bone cavity, traumatic bone cyst).

### I. Indications for Therapy for Cysts of Bone

*May include one or more of the following:*

**A. Clinical indications**

1. Pain
2. Deformity (eg, swelling, expansion)
3. Altered sensation
4. Altered function
5. Drainage
6. Structures damaged or displaced from their normal position (eg, nerves, teeth, sinuses)
7. Altered hue
8. Crepitus
9. Clinical evidence of fracture
10. Secondary infection
11. Bony structural stability is questionable

**B. Imaging indications (based on clinical and plain film assessment)**

1. Change in bone density (eg, radiolucency)
2. Displacement of adjacent anatomical structures
3. Assessment of proximity to/invasion of adjacent structures
4. Evidence of pathologic fracture

**C. Results of differential diagnosis**

**D. Results of additional studies, as indicated**

1. Aspiration (eg, straw-colored fluid)
2. Fine-needle aspiration (eg, cytologic confirmation of cyst)
3. Core needle biopsy (self-directed or in association with an imaging study, eg, CT)
4. Biopsy: incisional or excisional, depending on lesion size, extent, character, and differential diagnosis (eg, microscopic confirmation of cyst)
5. Enucleation and curettage
   a. Simple, mandible
   b. Complex, mandible
   c. Maxilla
6. Decompression/Marsupialization
   a. Mandible
   b. Maxilla
7. Resection (eg, recurrent cyst)
E. Additional presurgical studies may include:
   1. Imaging
      a. Office-based scans (panoramic and/or cone beam computed tomography)
      b. Conventional plain films or computed tomography (CT) (depending on size and character)
   2. Evaluation for nevoid basal cell carcinoma syndrome in patients with multiple keratocystic odontogenic tumors (eg, complete cutaneous examination, imaging studies as indicated)

II. Specific Therapeutic Goals for Cysts of Bone

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
B. Eradication of cyst

III. Specific Factors Affecting Risk in the Treatment of Cysts of Bone

Severity factors that increase risk and the potential for known complications:

A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
B. Associated teeth
C. Proximity to/invasion of adjacent structures
D. Type of cyst, recurrence-prone cysts (eg, keratocystic odontogenic tumor, botryoid odontogenic cyst, glandular odontogenic cyst)
E. Fracture or weakening of bone due to cyst expansion
F. Status post removal of prior cyst or tumor in same area of bone

IV. Indicated Therapeutic Parameters for Cysts of Bone

The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, and an imaging evaluation. Also see the Patient Assessment chapter.

The following procedures for the management of cysts of bone are not listed in order of preference:

A. Diagnosis by aspiration or biopsy
B. Primary treatment
   1. Observation, including clinical examination and serial radiographs (eg, presumptive diagnosis of idiopathic bone cavity, traumatic bone cyst unicameral bone cavity, Stafne cyst, and periapical radiolucency in the endodontically treated tooth)
   2. Marsupialization and/or decompression for patients with large cysts or those unable to undergo enucleation or extirpation or for those in whom the potential for damage to adjacent vital structures is high
   3. Enucleation for lesions not prone to recurrence
   4. Enucleation and curettage for lesions in which complete removal by enucleation alone is known to be inadequate (curettage can be mechanical, physical, chemical, or a combination of each)
   5. Marginal or segmental resection for aggressive or recurrent cysts

All specimens must be submitted for pathologic assessment.

C. Adjunctive treatment (Also see the Reconstructive Surgery chapter)
   1. Fixation to reduce the potential for fracture and/or preserve function (eg, maxillomandibular, bone plates)
   2. Management of bone defect for defects likely to persist or break down (eg, packing; autogenous, allogeneic, or alloplastic grafting)
3. Secondary reconstruction for cases with potential for infection or recurrence, if primarily reconstructed, or those with systemic or local contraindications

D. Posttreatment follow-up
   1. Baseline imaging in the initial postoperative period
   2. Determination of restoration of form and function and absence of recurrence
      a. Clinical and imaging examination for non-recurrence-prone cysts (dentigerous) until form and/or function are restored
      b. Clinical and imaging examination for recurrence-prone cysts (odontogenic keratocyst) for the patient's lifetime, annually for 5 years, then biannually if no recurrence
   3. Instructions to return if signs or symptoms recur before regularly scheduled follow-up appointment

E. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Cysts of Bone

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Patient remains free of disease

B. Known risks and complications associated with therapy
   1. Presence of a general known risk and/or complication, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Recurrence of cyst

MALIGNANT TUMORS OF BONE

This section includes primary and metastatic lesions.

I. Indications for Therapy for Malignant Tumors of Bone

May include one or more of the following:

A. Clinical indications
   1. Pain
   2. Deformity (eg, swelling, expansion)
   3. Altered sensation
   4. Altered function
   5. Drainage
   6. Structures damaged or displaced from their normal position (eg, nerves, teeth, sinuses)
   7. Altered hue
   8. Crepitus
   9. Clinical evidence of fracture
   10. Secondary infection
   11. Pulsation, bruit, or thrill
   12. Ulceration
   13. Hemorrhage
   14. Evidence of local tumor extension, regional lymphadenopathy, or metastasis
   15. Bony structural stability is questionable

B. Imaging indications (based on clinical and plain radiograph assessment)
   1. Change in bone architecture and/or density
   2. Displacement of adjacent anatomical structures
   3. Assessment of proximity to/invasion of adjacent structures
II. Specific Therapeutic Goals for Malignant Tumors of Bone

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Eradication of tumor

III. Specific Factors Affecting Risk in the Treatment of Malignant Tumors of Bone

Severity factors that increase risk and the potential for known complications:

A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Associated teeth

C. Proximity to/invasion of adjacent structures

D. Extent of primary tumor

E. Presence and extent of regional and/or distant metastasis

F. Fracture or weakening of mandible or maxilla due to presence of tumor

G. Compromised airway

IV. Indicated Therapeutic Parameters for Malignant Tumors of Bone

The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, and an imaging evaluation. Also see the Patient Assessment chapter.

The following procedures for the management of malignant tumors of bone are not listed in order of preference:

A. Diagnosis by aspiration or biopsy

B. Primary treatment
   1. Observation (eg, unresectable tumors, indolent lesions in compromised patients, patients or families unwilling to give consent informed or otherwise)
   2. Marginal resection when a margin of normal bone can be removed without creating a segmental defect
3. Segmental resection of bone with adjacent structures
4. Composite resection of bone, including surrounding soft tissues and regional lymph nodes for squamous cell carcinoma or similar malignant tumors
5. Radiation therapy and/or neoadjuvant chemotherapy

All specimens must be submitted for pathologic assessment.

C. Adjuvant therapy and reconstruction
   1. Radiation therapy and/or chemotherapy
   2. Reconstruction bone plates to bridge segmental defects or prevent pathologic fractures in extensive marginal resections
   3. Primary reconstruction to restore form and/or function for defects likely to persist, for weakened underlying structures with low potential for infection, or for recurrence in the absence of systemic or local contraindications
      a. Bone grafts
      b. Skin grafts and soft tissue flaps (eg, local, pedicled, free)
      c. Composite grafts
      d. Alloplasts (bone plates)
      e. Implant reconstruction (rarely primary in malignancies)
   4. Secondary reconstruction to restore form and/or function for cases with high potential for infection or recurrence or with systemic or local contraindications to primary reconstruction
      a. Bone grafts
      b. Skin grafts and soft tissue flaps (eg, local, pedicled, free)
      c. Composite grafts
      d. Alloplasts (bone plates)
      e. Implant reconstruction

D. Posttreatment follow-up
   1. Baseline plain radiography in the initial postoperative period
   2. Plain film radiographs of the chest at regularly scheduled intervals
   3. Special imaging studies (CT, magnetic resonance imaging, bone scans, PET or PET/CT, according to tumor type and location and the clinician’s level of suspicion for recurrent and metastatic disease)
   4. Clinical and imaging examination for malignant tumors for the patient’s lifetime, depending on tumor type, likely site of metastasis, and likely length of time to recurrence
   5. Instructions to return if signs or symptoms recur before regularly scheduled follow-up appointment

E. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Malignant Tumors of Bone

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Patient remains free of disease

B. Known risks and complications associated with therapy
   1. Presence of a general known risk and/or complication, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Local recurrence of tumor or regional and/or distant metastasis
   3. Death from regional extension of tumor, metastasis, or as a result of therapy
   4. Excess morbidity from radiation and/or chemotherapy (eg, tissue necrosis, radiation caries)

BENIGN TUMORS OF BONE
I. Indications for Therapy for Benign Tumors of Bone

May include one or more of the following:

A. Clinical indications
   1. Pain
   2. Deformity (eg, swelling, expansion)
   3. Altered sensation
   4. Altered function
   5. Drainage
   6. Structures damaged or displaced from their normal position (eg, nerves, teeth, sinuses)
   7. Altered hue
   8. Crepitus
   9. Clinical evidence of fracture
   10. Secondary infection
   11. Pulsation, bruit, or thrill
   12. Ulceration
   13. Hemorrhage
   14. Incidence of local tumor extension
   15. Bone structural stability is questionable

B. Imaging indications (based on clinical and plain film radiograph assessment)
   1. Change in bone architecture and/or density
   2. Displacement of adjacent anatomical structures
   3. Assessment of proximity to/invasion of adjacent structures
   4. Evidence of pathologic or impending pathologic fracture
   5. Abnormal bone scan
   6. Altered vascularity

C. Results of differential diagnosis

D. Results of additional studies, as indicated
   1. Aspiration to rule out vascular lesions
   2. Biopsy (incisional or excisional, depending on lesion size, extent, character, and differential diagnosis)
   3. Fine-needle aspiration biopsy
   4. Core needle biopsy (self-directed or associated with imaging, eg, CT)

E. Additional presurgical studies may include
   1. Imaging
      a. Office-based scans (panoramic and/or cone beam computed tomography)
      b. Conventional tomography or medical-grade CT (depending on size and character)
      c. Magnetic resonance imaging
      d. Nuclear medicine scan
      e. Angiography including CTA or MRA for presumptive arteriovenous malformation
      f. Plain radiographs of the jaws
   2. Laboratory studies (eg, complete blood cell count)

II. Specific Therapeutic Goals for Benign Tumors of Bone

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Eradication of tumor

III. Specific Factors Affecting Risk in the Treatment of Benign Tumors of Bone

Severity factors that increase risk and the potential for known complications:
A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Associated teeth

C. Proximity to/invasion of adjacent structures

D. Extent of primary tumor

E. Fracture or weakening of mandible due to presence of tumor

F. Compromised airway

G. Histologic type and character of tumor

IV. Indicated Therapeutic Parameters for Benign Tumors of Bone

The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, an imaging evaluation, and a histologic analysis (if indicated). Also see the Patient Assessment chapter.

The following procedures for the management of benign tumors of bone are not listed in order of preference:

A. Diagnosis by aspiration or biopsy

B. Primary treatment (management modified by local or systemic factors)
   1. Observation (eg, unresectable tumors, indolent lesions in compromised patients, patients or families unwilling to give consent informed or otherwise)
   2. Therapeutic injection or systemic therapy (eg, steroid injection, calcitonin or interferon therapy for central giant cell lesions)
   3. Enucleation for well-demarcated lesion with low potential for recurrence (eg, adenomatoid odontogenic tumor, odontoma, ossifying fibroma)
   4. Enucleation and curettage for lesions in which complete removal by enucleation alone is known to be inadequate (curettage can be mechanical, physical, or chemical)
   5. Marginal resection for tumor with propensity for recurrence (eg, ameloblastoma) and when a margin of normal bone can be removed without creating segmental defect
   6. Segmental resection of bone with adjacent structures for benign tumors with propensity for involvement, extension to adjacent structures, or when size or location mitigates a marginal resection
   7. Embolization and/or vessel ligation for vascular lesions with the possibility of secondary surgical removal

All specimens must be submitted for pathologic assessment.

C. Adjunctive treatment
   1. Reconstruction bone plates to bridge segmental defects or prevent pathologic fractures in extensive marginal resections
   2. Adjunctive chemotherapy as with interferon or calcitonin for post-enucleation/resection adjuvant treatment of aggressive giant cell lesions
   3. Primary reconstruction to restore form and/or function for defects likely to persist, for weakened underlying structures with low potential for infection, or for recurrence in the absence of systemic or local contraindications
      a. Bone grafts
      b. Skin grafts and soft tissue flaps (eg, local, pedicled, free)
      c. Composite grafts
      d. Alloplasts (bone plates)
      e. Implant reconstruction (primary or secondary)
   4. Secondary reconstruction to restore form and/or function for cases with high potential for infection if primarily grafted, recurrence, or with systemic or local contraindications
      a. Bone grafts
      b. Skin grafts and soft tissue flaps (eg, local, pedicled, free)
      c. Composite grafts
      d. Alloplasts (bone plates)
      e. Implant reconstruction

D. Posttreatment follow-up
1. Baseline imaging in the initial postoperative period
2. Clinical and imaging examination until form and/or function is restored for non-recurrence-prone tumors
3. Clinical and imaging examination for recurrence-prone benign tumors for the patient's lifetime, annually for 5 years, then biennially (eg, ameloblastoma)
4. Instructions to return if signs or symptoms recur before regularly scheduled follow-up appointment

E. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Benign Tumors of Bone

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Patient remains free of disease

B. Known risks and complications associated with therapy
   1. Presence of a general known risk and/or complication, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Death from regional extension of tumor or as a result of therapy
   3. Local recurrence of tumor

OSTEOMYELITIS

I. Indications for Therapy for Osteomyelitis

May include one or more of the following:

A. Clinical indications
   1. Pain
   2. Swelling
   3. Altered sensation
   4. Altered function
   5. Diaphoresis
   6. Fever
   7. Trismus
   8. Chills
   9. General malaise
   10. Swelling
   11. Erythema
   12. Purulence
   13. Exposed bone
   14. Fetor oris
   15. Soft tissue induration
   16. Fluctuance
   17. Sinus tract (fistula)
   18. Malocclusion
   19. Tooth mobility
   20. Lymphadenitis
   21. Sequestration
   22. Evidence of fracture
   23. Skin Mottling
   24. Granulation tissue formation
B. Imaging indications (based on clinical and plain film radiograph assessment)

1. Destruction of bone (radiolucency or other evidence of osteolytic process)
2. Evidence of sequestrum and/or involucrum formation
3. Reactive hyperplasia (sclerosis) of bone
4. Abnormal bone scan
5. Abnormal location and extent of radiopacity or radiolucency
6. Antral or nasal wall destruction or thickening
7. Evidence of pathologic fracture
8. Evidence of boney expansion

C. Results of differential diagnosis

D. Results of additional studies, as indicated

1. Surgical procedures
   a. Biopsy
   b. Incision and drainage with productive result
   c. Removal of bone sequestrum
   d. Lateral decortication
   e. Resection

2. Laboratory evidence
   a. Gram stain
   b. Histopathology (special stains identifying organisms)
   c. Culture and sensitivities
   d. Complete blood cell count, differential count, and sedimentation rate

E. Additional presurgical studies may include:

1. Imaging
   a. Nuclear scans (eg, technetium, gallium, indium)
   b. Office-based scans (panoramic and/or cone beam computed tomography)
   c. CT (Computed Tomography)
   d. MRI (Magnetic Resonance Imaging)

II. Specific Therapeutic Goals for Osteomyelitis

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Elimination of infection

C. Prevention or treatment of pathologic fractures

III. Specific Factors Affecting Risk in the Treatment of Osteomyelitis

Severity factors that increase risk and the potential for known complications:

A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Associated nonvital teeth

C. Periodontal disease

D. Presence of impending airway obstruction

E. Extent of infection (eg, localized, diffuse)

F. Identification of organism (eg, known, classified)

G. Virulence of organism and/or responsiveness to antibiotics

H. Degree of vascularity in region (eg, prior injury or surgery)

I. Presence of associated fracture

J. Presence or absence of disseminated disease (eg, Chronic recurrent multifocal osteomyelitis (CRMO))

IV. Indicated Therapeutic Parameters for Osteomyelitis
The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, and an imaging evaluation. Also see the Patient Assessment chapter.

The following procedures for the management of osteomyelitis are not listed in order of preference:

A. Diagnosis by imaging, biopsy, and culture (if indicated)
B. Nonsurgical treatment
   1. Antibiotic or antifungal therapy
   2. Nutritional support
   3. Hydration
   4. Irrigation
   5. Control of systemic disease
   6. Consideration for hyperbaric oxygen therapy
C. Surgical treatment
   1. Incision and drainage
   2. Debridement and sequestrectomy
   3. Stabilization of fracture
   4. Removal of involved teeth
   5. Saucerization
   6. Lateral decortication of mandible
   7. Marginal resection of mandible
   8. Segmental resection of mandible
   9. Partial or complete maxillectomy

All specimens must be submitted for pathologic and microbiologic assessments.

D. Posttreatment follow-up
   1. Baseline imaging in the initial postoperative period
   2. Antibiotic/antifungal therapy
   3. Posttreatment assessment (bone scan, eg, gallium, indium)
   4. Determination of adequate restoration of form and/or function
   5. Instructions to return if signs or symptoms recur before regularly scheduled follow-up appointment
E. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Osteomyelitis

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Complete absence of infection
B. Known risks and complications associated with therapy
   1. Presence of a general known risk and/or complication, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Persistent infection
   3. Pathologic fracture
   4. Airway impairment
   5. Draining fistulae

NON-ODONTOGENIC SOFT TISSUE INFECTIONS OF THE HEAD AND NECK
I. Indications for Therapy for Non-Odontogenic Soft Tissue Infections of the Head and Neck

May include one or more of the following:

A. Clinical or physical findings
   1. Pain
   2. Swelling
   3. Soft tissue induration
   4. Erythema
   5. Lymphadenitis
   6. Trismus
   7. Purulence
   8. Fistula
   9. Malaise
  10. Fever
  11. Chills
  12. Diaphoresis
  13. Dyspnea
  14. Dysphagia
  15. Altered function
  16. Altered sensation
  17. Soft tissue necrosis (eg, necrotizing fasciitis)
  18. Systemic sepsis
  19. Disseminated infection (eg, prosthetic cardiac valve)
  20. Skin ulceration
  21. Vesicular skin eruption
  22. Skin mottling

B. Diagnostic imaging findings
   1. Gas spaces in soft tissue
   2. Soft tissue mass, fluid loculation, and/or abscess cavity

C. Laboratory findings
   1. Abnormal complete blood cell count, differential count, sedimentation rate, serum electrolytes, glucose, arterial blood gas
   2. Positive microbiologic culture (eg, blood, purulence)
   3. Positive Gram stain
   4. Elevated temperature

II. Specific Therapeutic Goals for Non-Odontogenic Soft Tissue Infections of the Head and Neck

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Prevention of recurrence

III. Specific Factors Affecting Outcomes from Non-Odontogenic Soft Tissue Infections of the Head and Neck

Severity factors that increase risk and the potential for known complications:

A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Extent of infection (eg, localized, diffuse)

C. Direction and/or rate of extension of infection

D. Presence of impending airway obstruction

E. Susceptibility of organism to antibiotics
F. Virulence of organism
G. Proximity to contiguous structures
H. Presence of foreign bodies or implanted materials

IV. Indicated Therapeutic Parameters for Non-Odontogenic Soft Tissue Infections of the Head and Neck

The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, and an imaging evaluation. Also see the Patient Assessment chapter.

The following procedures for the management of non-odontogenic infections are not listed in order of preference:

A. Establishment of airway (intubation, emergency tracheostomy, cricothyroidotomy), if compromised
B. Elimination of infection source
C. Incision and drainage
D. Aspiration
E. Pain control
F. Irrigation and debridement
G. Fasciotomies (if indicated)
H. Identification of organism (eg, Gram stain, aerobic and anaerobic organism culture and sensitivity testing, culture acid-fast bacilli, methicillin-resistant Staphylococcus aureus [MRSA] and fungi) when indicated
I. Assessment and support of host defenses (eg, local measures, antipyretics, nutritional support, and hydration, hyperbaric oxygen treatment)
J. Antimicrobial therapeutic management, if indicated (systemic or local therapy)
K. Assessment and management of systemic involvement (eg, sepsis)
L. Assessment and management of coexisting systemic disease (eg, diabetes mellitus)
M. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Non-Odontogenic Soft Tissue Infections of the Head and Neck

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Absence of local or systemic signs and/or symptoms of infection
   3. Absence of unanticipated tissue loss
   4. Restored form and function
   5. Improved host defenses
   6. Limited period of disability

B. Known risks and complications associated with therapy
   1. Presence of a general known risk and/or complication, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Persistence or extension of infection (intracranial extension, eg, sinusitis, cavernous sinus thrombosis, osteomyelitis, mediastinitis)
   3. Airway impairment
   4. Tissue loss or damage to adjacent vital structures
   5. Adverse systemic sequelae (eg, septicemia, endocarditis), which could lead to organ failure and death
   6. Adverse drugs reactions or interaction with existing therapeutic drug regimens
   7. Facial, neck scarring, or keloid formation with need for secondary revision surgery
   8. Nerve injury secondary to the infection or the surgical intervention
   9. Injury to organ systems approximate to areas of prior infection (eg, salivary duct) that need secondary revision surgery
OSTEORADIONECROSIS

I. Indications for Therapy for Osteoradionecrosis

May include one or more of the following:

A. Clinical indications
   1. History of radiotherapy
   2. Pain
   3. Exposed bone
   4. Sequestrum
   5. Orocutaneous fistula
   6. Oronasal fistula
   7. Oroantral fistula
   8. Tissue hypoxia (e.g., thin skin, beard loss, oximetry evidence)
   9. Soft tissue dehiscence
   10. Evidence of pathologic fracture
   11. Tooth mobility
   12. Altered sensation
   13. Swelling
   14. Induration
   15. Secondary infection
   16. Fetor oris

B. Imaging indications (based on clinical and plain radiograph assessment)
   1. Destruction of bone (radiolucency or other evidence of osteolytic process)
   2. Sequestrum formation
   3. Sclerosis of bone
   4. Evidence of pathologic fracture
   5. Altered uptake on bone scan

C. Results of differential diagnosis

D. Results of additional studies, as indicated
   1. Surgical
      a. Biopsy to rule out presence of tumor and confirm nonvital bone, as indicated

E. Additional presurgical studies may include:
   1. Imaging
      a. Office-based scans (panoramic and/or cone beam computed tomography)
      b. CT
      c. Nuclear scans
   2. Transcutaneous oxygen concentration measurements (optional)

II. Specific Therapeutic Goals for Osteoradionecrosis

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Pain control

C. Provision of full mucosal coverage of remaining, viable bone

D. Preparation of the patient for bony reconstruction, as necessary

E. Reconstruction of quantitatively deficient soft tissue bed as necessary

III. Specific Factors Affecting Risk in Treatment of Osteoradionecrosis

Severity factors that increase risk and the potential for known complications:

A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters,
and Considerations for Diagnosis and Management of Pathological Conditions

B. Associated teeth
C. Associated nonvital teeth
D. Periodontal disease
E. Potential for risk to adjacent structures
F. Extent of osteoradionecrosis clinically present (staging)
G. Dose, portals, fractionation, and tissue response of radiotherapy
H. Airway status

IV. Indicated Therapeutic Parameters for Osteoradionecrosis

The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, and an imaging evaluation. Also see the Patient Assessment chapter.

The following procedures for the management of osteoradionecrosis are not listed in order of preference:

A. Supportive, nonsurgical treatment
   1. Ruling out of recurrent tumor
   2. Local wound care
   3. Nutritional support
   4. Optimal therapy of concomitant systemic disease
   5. Antibiotic therapy for secondary infections
   6. Hyperbaric oxygen therapy before and after surgical treatment)
   7. Vitamin E and Trental®

B. Surgical treatment (with adjunctive hyperbaric oxygen therapy when appropriate)
   1. Removal of affected bone
      a. Sequestrectomy
      b. Saucerization to bleeding bone
      c. Partial or complete maxillectomy
      d. Marginal resection of mandible
      e. Segmental resection of mandible
      f. Removal of all exposed radiated bone
   2. Vascularized soft tissue flap with bone resection

All specimens must be submitted for pathologic assessment.

C. Primary or secondary bony reconstruction to restore form and/or function

D. Posttreatment follow-up
   1. Baseline imaging in the initial postoperative period
   2. Repeat biopsy, when indicated by clinical or radiographic changes
   3. Instructions to return if signs or symptoms recur before regularly scheduled follow-up appointment

E. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Osteoradionecrosis

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Elimination of clinically active osteoradionecrosis and associated signs and symptoms

B. Known risks and complications associated with therapy
   1. Presence of a general known risk and/or complication, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Clinically persistent osteoradionecrosis (eg, pain, fistula, exposed bone, pathologic fracture)
   3. Systemic sequelae (eg, septicemia, endocarditis)
MEDICATION-RELATED OSTEONECROSIS OF THE JAWS

I. Indications for Therapy for Medication-Related Osteonecrosis of the Jaws

May include one or more of the following:

A. Clinical indications
   1. History of exposure to antiresorptive or antiangiogenic medications
   2. Pain
   3. Exposed bone
   4. Sequestrum
   5. Orocutaneous fistula
   6. Oronasal fistula
   7. Oroantral fistula
   8. Soft tissue retraction
   9. Evidence of pathologic fracture
   10. Tooth mobility
   11. Altered sensation
   12. Swelling
   13. Induration
   14. Secondary infection
   15. Fetor oris

B. Imaging indications (based on clinical and plain radiograph assessment)
   1. Destruction of bone (radiolucency or other evidence of osteolytic process)
   2. Sequestrum formation
   3. Sclerosis of bone
   4. Evidence of pathologic fracture
   5. Altered uptake on bone scan

C. Results of differential diagnosis

D. Results of additional studies, as indicated
   1. Surgical
      a. Biopsy to rule out presence of tumor and confirm nonvital bone, as indicated
   2. Microbiologic assessment

E. Additional presurgical studies may include:
   1. Imaging
      a. Office-based scans (panoramic and/or cone beam computed tomography)
      b. CT scan
      c. Bone scans

II. Specific Therapeutic Goals for Medication-Related Osteonecrosis of the Jaws

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
B. Limited pain
C. Provision of full mucosal coverage of remaining, viable bone

III. Specific Factors Affecting Risk in the Treatment of Medication-Related Osteonecrosis of the Jaws

Severity factors that increase risk and the potential for known complications:
A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters,
and Considerations for Diagnosis and Management of Pathological Conditions
B. Associated teeth
C. Associated nonvital teeth
D. Periodontal disease
E. Potential for risk to adjacent structures
F. Extent of osteonecrosis clinically present (staging)
G. Airway status
H. Overall health of patient (active malignancy, metastatic disease, immunosuppression)

IV. Indicated Therapeutic Parameters for Medication-Related Osteonecrosis of the Jaws

The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, and an
imaging evaluation. Also see the Patient Assessment chapter.

The following procedures for the management of bisphosphonate-related osteonecrosis of the jaws are not
listed in order of preference:

A. Supportive, nonsurgical treatment
1. Local wound care
2. Nutritional support
3. Optimal therapy of concomitant systemic disease
4. Antibiotic therapy for secondary infections
B. Surgical treatment
1. Removal of affected bone
   a. Sequestrectomy
   b. Saucerization to bleeding bone
   c. Marginal resection of mandible
   d. Segmental resection of mandible
   e. Partial or complete maxillectomy
All specimens must be submitted for pathologic assessment.

C. Primary or secondary bony reconstruction to restore form and/or function
1. Alloplast reconstruction (bone plates)
2. Primary or secondary bony reconstruction to restore form and/or function
D. Posttreatment follow-up
1. Baseline imaging in the initial postoperative period
2. Repeat biopsy, when indicated by clinical or radiographic changes
3. Instructions to return if signs or symptoms recur before regularly scheduled follow-up appointment
E. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Medication-Related Osteonecrosis of the Jaws

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through
clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters,
and Considerations for Diagnosis and Management of Pathological Conditions
2. Elimination of clinically active osteonecrosis of the jaws and associated signs and symptoms
B. Known risks and complications associated with therapy
1. Presence of a general known risk and/or complication, as listed in the section entitled General
Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
2. Clinically persistent osteonecrosis of the jaws (eg, pain, fistula, exposed bone, pathologic fracture)
3. Systemic sequelae (eg, septicemia, endocarditis)
4. Masticatory or airway impairment
5. Further bone loss causing facial deformity

**METABOLIC AND DYSTROPHIC DISEASES OF BONE**

I. Indications for Therapy for Metabolic and Dystrophic Diseases of Bone

*May include one or more of the following:*

A. Clinical indications
   1. Pain
   2. Swelling
   3. Altered sensation
   4. Altered function
   5. Facial deformity (hard and/or soft tissue)
   6. Loss of bone
   7. Alteration of bone quality (eg, fibrous dysplasia)
   8. Deposition of bone
   9. Evidence of secondary infection
   10. Evidence of pathologic fracture
   11. Evidence of exposed bone
   12. Mobility or displacement of teeth

B. Imaging indications (based on clinical and plain film radiograph assessment)
   1. Mass effect
   2. Altered bone density (radiolucency and/or radiopacity)
   3. Displaced adjacent structures
   4. Expansion into adjacent structures and regions
   5. Evidence of fracture and/or infection

C. Results of differential diagnosis

D. Additional presurgical studies may include:
   1. Surgical procedures
      a. Biopsy (with or without guidance imaging)
         i. Incisional
         ii. Excisional
         iii. Trephine
         iv. Core
      2. Imaging
         a. Three-dimensional (eg, conventional tomography or CT, depending on size and character)
         b. Magnetic resonance
         c. Nuclear medicine scan
         d. Plain radiographs, including chest radiograph and skeletal survey

E. Laboratory evidence
   1. Abnormal laboratory values (eg, serum calcium, phosphorus, alkaline phosphatase, parathyroid hormone assay)

II. Specific Therapeutic Goals for Metabolic and Dystrophic Diseases of Bone

*The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.*

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
B. Elimination of disease
C. Controlled disease progression
III. Specific Factors Affecting Risk in the Treatment of Metabolic and Dystrophic Diseases of Bone

Severity factors that increase risk and the potential for known complications:

A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Associated teeth, vital and/or nonvital

C. Presence of acute and/or preexisting infection

D. Proximity to/invasion of adjacent structures

E. Fracture or weakening of jaw and facial skeleton due to extension of disease

F. Compromised airway

IV. Indicated Therapeutic Parameters for Metabolic and Dystrophic Diseases of Bone

The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, and an imaging evaluation. Also see the Patient Assessment chapter.

The following procedures for the management of metabolic and dystrophic diseases of bone are not listed in order of preference:

A. Diagnosis by aspiration or biopsy

B. Supportive, nonsurgical treatment
   1. No immediate treatment but deferred periodic reassessment and possible treatment for such conditions as fibrous dysplasia, osteogenesis imperfecta
   2. Medical management (eg, calcium supplements for osteoporosis, chemotherapy for Paget disease)
   3. Therapeutic injection of lesion (eg, corticosteroids)

C. Surgical treatment
   1. Recontouring and correction of secondary deformities
   2. Enucleation and curettage
   3. Resection of involved bone

   All specimens must be submitted for pathologic assessment.

D. Reconstruction to restore form and/or function (Also see the Reconstructive Surgery chapter)

E. Posttreatment follow-up
   1. Periodic clinical, laboratory, and imaging evaluation, as indicated
   2. Instructions to return if signs or symptoms recur before regularly scheduled follow-up appointment

F. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Metabolic and Dystrophic Diseases of Bone

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Control or elimination of disease
      a. Reduction in number and severity of symptoms
      b. Reversal of damage to anatomical structures
      c. None or minimal progression of disease

B. Known risks and complications associated with therapy
   1. Presence of a general known risk and/or complication, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Deterioration of clinical status
   3. Uncontrolled progression of disease
**CYSTS OF SOFT TISSUE**

This section excludes the management of salivary cysts.

I. Indications for Therapy for Cysts of Soft Tissue

*May include one or more of the following:*

A. Clinical indications
   1. Pain
   2. Deformity (e.g., swelling, expansion)
   3. Altered sensation
   4. Altered function
   5. Drainage
   6. Erythema
   7. Movable discrete swelling
   8. Fistula

B. Results of differential diagnosis

C. Additional presurgical studies may include:
   1. Fine-needle aspiration or incisional biopsy for confirmation of cyst
   2. Microbiologic assessment for secondarily infected lesions
   3. Imaging
      a. CT, magnetic resonance imaging, or ultrasonography for large lesions possibly impinging on vital structures
      b. Nuclear scans as dictated by clinical examination

II. Specific Therapeutic Goals for Cysts of Soft Tissue

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Eradication of cyst

III. Specific Factors Affecting Risk in the Treatment of Cysts of Soft Tissue

Severity factors that increase risk and the potential for known complications:

A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Presence of acute and/or preexisting infection

C. Proximity to/invasion of adjacent structures

IV. Indicated Therapeutic Parameters for Cysts of Soft Tissue

The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, and an imaging evaluation. Also see the Patient Assessment chapter.

The following procedures for the management of cysts of soft tissue are not listed in order of preference:

A. Diagnosis by aspiration or biopsy

B. Primary treatment
   1. Enucleation of cyst
   2. Excision of adjacent skin/mucosa if indicated

*All specimens must be submitted for pathologic assessment.*
C. Adjunctive treatment
   1. Primary repair
   2. Repair with adjacent soft tissue transfer

D. Posttreatment follow-up
   1. Clinical follow-up until form and/or function are restored
   2. Instructions to return if signs or symptoms recur before regularly scheduled follow-up appointment

E. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Cysts of Soft Tissue

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Patient remains free of disease

B. Known risks and complications associated with therapy
   1. Presence of a general known risk and/or complication, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Recurrence of cyst

BENIGN TUMORS OF SOFT TISSUE

I. Indications for Therapy for Benign Tumors of Soft Tissue

May include one or more of the following:

A. Clinical indications
   1. Pain
   2. Deformity (eg, swelling, expansion)
   3. Altered sensation
   4. Altered function
   5. Induration
   6. Elevated temperature
   7. Red, white, discolored, or pigmented lesions
   8. Ulceration
   9. Secondary infection

B. Imaging indications

C. Results of differential diagnosis

D. Results of additional studies, as indicated
   1. Biopsy (incisional or excisional, depending on lesion size, site, extent, character, and differential diagnosis)
   2. Fine-needle aspiration
   3. Microbiologic assessment for secondarily infected lesions

II. Specific Therapeutic Goals for Benign Tumors of Soft Tissue

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
B. Eradication of tumor
III. Specific Factors Affecting Risk in the Treatment of Benign Tumors of Soft Tissue

Severity factors that increase risk and the potential for known complications:

A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Presence of acute and/or preexisting infection

C. Proximity to/invasion of adjacent structures

D. Extent of tumor or malformation (eg, limited to primary site, beyond primary site)

E. Degree of mobility of normally mobile organ/structure (eg, tongue, mandible)

IV. Indicated Therapeutic Parameters for Benign Tumors of Soft Tissue

The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, and an imaging evaluation. Also see the Patient Assessment chapter.

The following procedures for the management of benign tumors of soft tissue are not listed in order of preference:

A. Diagnosis by aspiration or biopsy
   1. Primary treatment
      a. Local surgical (including laser, cryotherapy, and radiofrequency ablation) or chemical excision
      b. Vascularized or non-vascularized bone grafts
      c. Soft tissue flaps (eg, local, pedicled, free)
      d. Skin grafting or acellular dermal matrices
      e. Alloplasts (bone plates)
   2. Access osteotomies

B. Adjunctive treatment
   1. Primary or secondary reconstruction
      a. Vascularized or non-vascularized bone grafts
      b. Soft tissue flaps (eg, local, pedicled, free)
      c. Skin grafting or acellular dermal matrices
      d. Alloplasts (bone plates)
   2. Access osteotomies

C. Posttreatment follow-up
   1. Clinical examination until form and/or function are restored
   2. Instructions to return if signs or symptoms recur before regularly scheduled follow-up appointment

D. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Benign Tumors of Soft Tissue

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. No evidence of disease

B. Known risks and complications associated with therapy
   1. Presence of a general known risk and/or complication, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Local recurrence of tumor

MALIGNANT TUMORS OF SOFT TISSUE
Malignant tumors are managed only in part by surgery. Management is frequently comprehensive and involves an interdisciplinary team that includes specialties of Oral and Maxillofacial Surgery, radiation therapy, medical oncology, dentistry, and various support services.

I. Indications for Therapy for Malignant Tumors of Soft Tissue

May include one or more of the following:

A. Clinical indications
   1. Pain
   2. Deformity (eg, swelling, expansion)
   3. Altered sensation
   4. Altered function
   5. Induration
   6. Hemorrhage
   7. Elevated temperature
   8. Red, white, discolored, or pigmented lesions
   9. Ulceration
   10. Evidence of tumor and/or regional lymphadenopathy
   11. Secondary infection

B. Imaging indications
   1. Proximity to/invasion of adjacent bony or soft tissue structures

C. Results of differential diagnosis

D. Results of additional studies, as indicated
   1. Biopsy (incisional or excisional, depending on lesion size, site, extent, character, and differential diagnosis)
   2. Fine-needle aspiration
   3. Microbiologic assessment for secondarily infected lesions

E. Presurgical studies for staging purposes:
   1. Imaging
      a. CT, magnetic resonance imaging, or ultrasonography of primary site for extent of local disease, to evaluate for regional involvement and to evaluate for the presence of metastatic disease if appropriate
      b. Nuclear medicine scan for evaluation of possible distant metastatic sites (bone scan, PET scan, PET/CT scan)
      c. Conventional films as adjunct, including chest radiograph to complete TNM (Tumor, Node, Metastasis) staging and skeletal survey for presumptive metastatic lesion
   2. Laboratory assessment
      a. Culture and sensitivity for secondarily infected lesion
      b. Blood tests for presumptive malignant lesions, including complete blood cell count and liver function tests for tumors that may metastasize to the liver as part of presurgical workup
   3. Surgical
      a. Evaluation for presence of synchronous tumors that may include evaluation under anesthesia and panendoscopy, if indicated
   4. Clinical staging

II. Specific Therapeutic Goals for Malignant Tumors of Soft Tissue

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Eradication of tumor

III. Specific Factors Affecting Risk in the Treatment of Malignant Tumors of Soft Tissue
Severity factors that increase risk and the potential for known complications:

A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
B. Presence of acute and/or preexisting infection
C. Proximity to/invasion of adjacent structures
D. Extent of tumor (eg, limited to primary site, beyond primary site)
E. Presence and extent of regional and/or distant metastasis
F. Degree of mobility of normally mobile organ/structure (eg, tongue, mandible)

IV. Indicated Therapeutic Parameters for Malignant Tumors of Soft Tissue

The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, and an imaging evaluation. Also see the Patient Assessment chapter.

The following procedures for the management of malignant tumors of soft tissue are not listed in order of preference:

A. Diagnosis by either aspiration or biopsy
B. Primary treatment
   1. Local surgical or chemical excision for malignant tumors deemed to be local
   2. Excision of associated structures for invasive tumors as necessary in order to obtain clear anatomic margins
   3. Excision of associated structures in the region, including neck dissection when cervical lymph nodes are present (N+) or when high risk of occult neck disease exists in patients with malignant disease
   4. Adjuvant treatment with radiation therapy and/or chemotherapy when indicated

All specimens must be submitted for pathologic assessment.

C. Adjunctive treatment (Also see the Reconstructive Surgery chapter)
   1. Adjunctive radiation therapy and/or chemotherapy
   2. Primary or secondary reconstruction
      a. Vascularized or non-vascularized bone grafts
      b. Soft tissue flaps (eg, local, pedicled, free)
      c. Skin grafting or acellular dermal matrices
      d. Alloplasts (bone plates)
   3. Access osteotomies
D. Posttreatment follow-up
   1. Baseline plain radiographic imaging in the initial postoperative period when bone evaluation is needed
   2. Plain radiographs of the chest at regularly scheduled intervals
   3. Special imaging studies (CT, magnetic resonance imaging, bone scans, PET or PET/CT, according to tumor type and location and the clinician’s level of suspicion for recurrent and metastatic disease)
   4. Clinical and imaging examination for malignant tumors for the patient's lifetime
   5. Instructions to return if signs or symptoms recur before regularly scheduled follow-up appointment
E. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Malignant Tumors of Soft Tissue

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. No evidence of disease
B. Known risks and complications associated with therapy
1. Presence of a general known risk and/or complication, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

2. Local recurrence of tumor or metastasis

3. Residual functional deformity

4. Residual structural deformity

5. Damage to or loss of adjacent structures

6. Excess morbidity from radiation therapy or chemotherapy

7. Death from tumor metastasis, tumor extension, or as a result of tumor therapy

VASCULAR LESIONS

I. Indications for Therapy for Vascular Lesions

May include one or more of the following:

A. Clinical indications

1. Pain

2. Deformity (eg, swelling, expansion)

3. Altered sensation

4. Altered function

5. Induration

6. Thrill

7. Bruit

8. Hemorrhage

9. Elevated temperature

10. Red, white, discolored, or pigmented lesions

11. Secondary infection

B. Imaging indications

1. Infiltration of adjacent soft tissue and/or bony structures

2. Assess possible source (feeding vessel)

C. Studies may include:

1. Imaging

   a. Conventional angiography with possible therapeutic intervention and/or ultrasonographic examination for presumptive vascular malformation

   b. Magnetic resonance imaging or magnetic resonance angiography for presumptive vascular malformations

   c. CT angiography

2. Laboratory assessment when needed

   a. Culture and sensitivity for secondarily infected lesion

D. Results of differential diagnosis

E. Results of additional studies, as indicated

1. Fine-needle aspiration

2. Biopsy (incisional or excisional, depending on lesion size, site, extent, character, and differential diagnosis

II. Specific Therapeutic Goals for Vascular Lesions

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Eradication of tumor or malformation

III. Specific Factors Affecting Risk in the Treatment of Vascular Lesions
Severity factors that increase risk and the potential for known complications:

A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Presence of acute and/or preexisting infection

C. Proximity to/invasion of adjacent structures

D. Extent of tumor or malformation (e.g., limited to primary site, beyond primary site)

E. Degree of mobility of normally mobile organ/structure (e.g., tongue, mandible)

F. Excessive bleeding

G. Pregnancy

IV. Indicated Therapeutic Parameters for Vascular Lesions

The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, and an imaging evaluation. Also see the Patient Assessment chapter.

The following procedures for the management of vascular lesions are not listed in order of preference:

A. Diagnosis by physical examination, imaging, aspiration, or biopsy

B. Primary treatment
   1. Embolization and/or vessel ligation for vascular lesions
   2. Excision or resection (possibly postembolization)

All specimens must be submitted for pathologic assessment.

C. Adjunctive treatment
   1. Laser
   2. Sclerotherapy
   3. Primary or secondary reconstruction
      a. Bone grafts
      b. Skin grafting
      c. Soft tissue flaps (e.g., local, pedicled, free)
      d. Alloplasts (bone plates)
   4. Access osteotomies

D. Posttreatment follow-up
   1. Clinical examination for vascular lesions until form and/or function are restored
   2. Instructions to return if signs or symptoms recur before the regularly scheduled follow-up appointment
   3. Repeat imaging study (based on symptoms and clinical findings)
      a. Conventional angiogram
      b. CT angiogram
      c. Magnetic resonance imaging angiogram

E. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Vascular Lesions

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Disease eliminated

B. Known risks and complications associated with therapy
   1. Presence of a general known risk and/or complication, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
MUCOSAL DISEASES

I. Indications for Therapy for Mucosal Diseases

*May include one or more of the following:*

A. Clinical indications
   1. Pain
   2. Altered function
   3. Altered appearance (e.g., change in color or character)
   4. Altered mucosal integrity (e.g., ability to elevate or wipe off lesion by rubbing surface)

B. Results of differential diagnosis

C. Additional studies, as indicated, may include:
   1. Exfoliative cytology
   2. Microbiologic assessment
   3. Diagnosis via biopsy for conventional staining, direct or indirect immunofluorescence
   4. Brush biopsy

II. Specific Therapeutic Goals for Mucosal Diseases

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Elimination or control of disease

C. Elimination of symptoms

III. Specific Factors Affecting Risk in the Treatment of Mucosal Diseases

Severity factors that increase risk and the potential for known complications:

A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Presence of acute and/or preexisting infection

IV. Indicated Therapeutic Parameters for Mucosal Diseases

The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, and an imaging evaluation. Also see the Patient Assessment chapter.

The following procedures for the management of mucosal diseases are not listed in order of preference:

A. Diagnosis by physical examination and/or biopsy

B. Primary treatment
   1. Observation and periodic follow-up (e.g., lichen planus)
   2. Elimination of etiologic factor (e.g., change medication in cases of lichenoid drug reaction)
   3. Medication (e.g., antifungal, topical and/or systemic corticosteroid therapy, antineoplastic, other immune modulation therapy)
   4. Surgical removal
   5. Ophthalmologic consultation when indicated (e.g., pemphigus)
All specimens must be submitted for pathologic assessment.

C. Adjunctive treatment
   1. Ensuring oral hygiene
   2. Evaluation of medications
   3. Nutritional support

D. Posttreatment follow-up (dependent on nature of disease)
   1. Consider repeat biopsy if change occurs in the clinical appearance of the lesion

E. Instructions to return if signs or symptoms recur before the regularly scheduled follow-up appointment

F. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Mucosal Diseases

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Elimination or amelioration of symptoms (pain)
   3. Elimination or control of disease

B. Known risks and complications associated with therapy
   1. Presence of a general known risk and/or complication, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Recurrence of symptoms
   3. Recurrence of disease
   4. Functional disability
   5. Chronic pain

SALIVARY GLAND DISEASES: BENIGN AND MALIGNANT TUMORS AND MISCELLANEOUS LESIONS

I. Indications for Therapy for Salivary Gland Diseases: Benign and Malignant Tumors and Miscellaneous Lesions

May include one or more of the following:

A. Clinical indications
   1. Pain
   2. Mass effect (eg, swelling, expansion)
   3. Ulceration
   4. Altered neurologic function dependant on anatomic location of gland
   5. Reduced or absent salivary flow
   6. Alteration in color of overlying tissue
   7. Fluctuance
   8. Secondary infection
   9. Altered speech or masticatory function
   10. Evidence of regional or distant metastasis
   11. Auditory changes

B. Imaging indications
   1. Displacement of adjacent anatomical structures
   2. Proximity to/invasion of adjacent structures (eg, deep lobe of parotid gland, palatal bone)

C. Results of differential diagnosis

D. Results of additional studies, as indicated
1. Fine-needle aspiration
2. Incisional or excisional biopsy, depending on lesion location, extent, and character
3. Core needle biopsy with or without imaging guidance.

E. Additional presurgical studies may include:
1. Magnetic resonance imaging, CT or PET, PET/CT scanning, as indicated, for evaluation of primary site, neural involvement, and metastases
2. Plain radiographs, including panoramic radiograph, for intraosseous salivary gland tumors or other tumors with suspected bone involvement
3. Chest radiographs in cases of malignant lesions
4. Laboratory tests, including complete blood cell count and liver function tests in cases of malignant disease
5. Contrast-enhanced sialography
6. Quantitative and qualitative salivary flow studies

II. Specific Therapeutic Goals for Salivary Gland Diseases: Benign and Malignant Tumors and Miscellaneous Lesions

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
B. Eradication of cyst or tumor

III. Specific Factors Affecting Risk in the Treatment of Salivary Gland Diseases: Benign and Malignant Tumors and Miscellaneous Lesions

Severity factors that increase risk and the potential for known complications:

A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
B. Presence of acute and/or preexisting infection
C. Proximity to/invasion of adjacent structures
D. Extent of cyst or primary tumor
E. Presence and extent of regional and/or distant metastases

IV. Indicated Therapeutic Parameters for Salivary Gland Diseases: Benign and Malignant Tumors and Miscellaneous Lesions

The presurgical assessment includes, at a minimum, a comprehensive history and a physical examination. An imaging evaluation may be indicated depending on the salivary lesion being evaluated. Also see the Patient Assessment chapter.

The following procedures for the management of salivary gland diseases are not listed in order of preference:

A. Diagnosis by aspiration or biopsy
B. Primary treatment
   1. Marsupialization (eg, ranula)
   2. Local excision of lesion (eg, canalicular adenoma)
   3. Local excision of lesion with adjacent tissue (eg, mucous retention phenomenon, pleomorphic adenoma)
   4. Sialadenectomy (eg, sublingual gland for ranula, pleomorphic adenoma of major gland)
   5. Sialadenectomy with excision of associated adjacent tissues (eg, malignant tumor of major gland)
   6. Simultaneous or delayed prophylactic or therapeutic lymph node dissection (eg, specific malignant tumors)
   7. Radiation therapy and/or chemotherapy for malignant tumors
   8. Sialoendoscopy for benign duct blockage
   9. Sialography for benign duct blockage and stenosis
All specimens must be submitted for pathologic assessment.

C. Adjunctive treatment
   1. Radiation therapy and/or chemotherapy for malignant tumors, when indicated
   2. Reconstructive procedures (Also see the Reconstructive Surgery chapter)
      a. Bone, nerve, and soft tissue grafts, including local pedicled and microvascular free grafts
   3. Nutritional support

D. Posttreatment follow-up
   1. Clinical follow-up of cyst or benign tumors until form and/or function are restored
   2. Annual clinical follow-up of recurrence-prone tumor (e.g., pleomorphic adenoma), with special
      reference to primary site
   3. Continual clinical examination for malignant tumors for the patient’s lifetime, with type of
      examination and imaging depending on tumor type, likely site of metastasis, and likely length of time
      to appearance of recurrence or metastasis
   4. Instructions to return if signs or symptoms recur before the regularly scheduled follow-up
      appointment

E. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Salivary Gland Diseases: Benign and Malignant Tumors and
   Miscellaneous Lesions

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through
clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters,
      and Considerations for Diagnosis and Management of Pathological Conditions
   2. Patient free of cyst or tumor at primary, regional, or distant site

B. Known risks and complications associated with therapy
   1. Presence of a general known risk and/or complication, as listed in the section entitled General
      Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Local recurrence of cyst or tumor
   3. Metastasis
   4. Death from tumor metastasis, extension, or therapy

SALIVARY GLAND INFECTIONS

I. Indications for Therapy for Salivary Gland Infections

May include one or more of the following:

A. Clinical indications
   1. Pain
   2. Swelling
   3. Erythema
   4. Altered neurologic function
   5. Drainage of pus or mucus
   6. Reduced salivary flow
   7. Sinus tracts (fistula)
   8. Fluctuance
   9. Induration
   10. Fever
   11. Dehydration
12. Leukocytosis
13. Elevation of sedimentation rate
14. Evidence from culture

B. Results of differential diagnosis

C. Results of additional studies, as indicated
1. Culture and sensitivity
2. Gram stain
3. Aspiration

D. Additional studies, as indicated, may include:
1. Radiographs for sialolith (occlusal films)
2. Office-based scans (panoramic and/or cone beam computed tomography)
3. CT
4. Magnetic resonance imaging
5. Sialography
6. Complete blood cell count with differential count
7. Sedimentation rate
8. Evaluation for underlying disease process (eg, alcohol, starvation, diabetes, immunosuppression, collagen vascular disease, etc)
9. Microbiologic assessment

II. Specific Therapeutic Goals for Salivary Gland Infections

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Eradication of infection

III. Specific Factors Affecting Risk in the Treatment of Salivary Gland Infections

Severity factors that increase risk and the potential for known complications:

A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Presence of acute infection

C. Extent of infection (eg, localized, diffuse)

D. Identification of organism (eg, known, classified)

E. Virulence of organism and/or responsiveness to antibiotics

F. Potential for injury to adjacent structures

G. Degree of vascularity in region (eg, after radiation therapy, multiple operations)

H. Postsurgical state with intensive care unit admission

I. Presence of chronic infection

J. Presence of sialoliths

IV. Indicated Therapeutic Parameters for Salivary Gland Infections

The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, and an imaging evaluation. Also see the Patient Assessment chapter.

The following procedures for the management of salivary gland infections are not listed in order of preference:

A. Appropriate antibiotic therapy

B. Incision and drainage (if indicated)

C. Control of pain

D. Management of underlying medical condition when present

E. Maintenance of hydration and nutrition
F. Sialolithotomy
G. Sialodochotomy
H. Sialodochoplasty
I. Sialadenectomy
J. Instructions for posttreatment care and follow-up

All specimens must be submitted for microbiologic assessment.

V. Outcome Assessment Indices for Salivary Gland Infections

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Absence of infection
B. Known risks and complications associated with therapy
   1. Presence of a general known risk and/or complication, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Persistent infection
   3. Systemic sequelae of the infection

SALIVARY GLAND DISEASES: OTHER LOCAL OR SYSTEMIC

This section includes but is not limited to Sjögren syndrome, sarcoidosis, and necrotizing sialometaplasia.

I. Indications for Therapy for Salivary Gland Diseases: Other Local or Systemic

May include one or more of the following:

A. Clinical indications
   1. Xerostomia
   2. Salivary gland enlargement
   3. Ulceration
   4. Hyposalivation
B. Results of differential diagnosis
C. Results of additional studies, as indicated
   1. Clinical
      a. Keratoconjunctivitis sicca
      b. Rheumatoid or other immune mediated arthritis
      c. Lacrimal gland enlargement
      d. Signs and symptoms of sarcoidosis (eg, hilar lymphadenopathy, Heerfordt syndrome, hypercalcemia, Löfgren syndrome)
   2. Imaging
      a. Sialography
      b. Nuclear medicine scan (bone scan)
      c. CT
      d. Magnetic resonance imaging
      e. Chest radiograph for sarcoidosis
   3. Laboratory
      a. Evidence of Sjögren syndrome (eg, SSA, SSB, antinuclear antibody, latex fixation test)
      b. Elevated sedimentation rate
c. Serum angiotensin-converting enzyme (eg, sarcoidosis)

4. Surgical
   a. Fine-needle aspiration
   b. Biopsy (lip vs parotid)
   c. Core needle biopsy

D. Additional presurgical studies may include:
   1. Magnetic resonance imaging or CT

II. Specific Therapeutic Goals for Salivary Gland Diseases: Other Local or Systemic

The goal of therapy is to restore form and/or function. However, risk factors and potential complications may preclude complete restoration of form and/or function.

A. Presence of a general therapeutic goal, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Elimination or control of disease

III. Specific Factors Affecting Risk in the Treatment of Salivary Gland Diseases: Other Local or Systemic

Severity factors that increase risk and the potential for known complications:

A. Presence of a general factor affecting risk, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions

B. Presence of acute and/or preexisting infection

C. Potential for injury to adjacent structures

IV. Indicated Therapeutic Parameters for Salivary Gland Diseases: Other Local or Systemic

The presurgical assessment includes, at a minimum, a comprehensive history, a physical examination, and an imaging evaluation. Also see the Patient Assessment chapter.

The following procedures for the management of salivary gland diseases are not listed in order of preference:

A. Diagnosis by aspiration or biopsy

B. Medical treatment of underlying disorders

C. Palliative treatment of pain, dehydration, malnutrition

D. Sialadenectomy in chronic and persistent disease

E. Instructions for posttreatment care and follow-up

V. Outcome Assessment Indices for Salivary Gland Diseases: Other Local or Systemic

Indices are used by the specialty to assess aggregate outcomes of care. Outcomes are assessed through clinical evaluation and may include an imaging evaluation.

A. Favorable therapeutic outcomes
   1. General favorable therapeutic outcomes, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Patient free of disease
   3. Reduction in number and severity of symptoms
   4. Reversal of damage to structures
   5. Controlled progression of disease
   6. Improved clinical status

B. Known risks and complications associated with therapy
   1. Presence of a general known risk and/or complication, as listed in the section entitled General Criteria, Parameters, and Considerations for Diagnosis and Management of Pathological Conditions
   2. Deterioration of clinical status or progression of disease
   3. Malignant transformation
   4. Injury (temporary or permanent) to sensory or motor nerves
SELECTED REFERENCES - DIAGNOSIS AND MANAGEMENT OF PATHOLOGICAL CONDITIONS

This list of selected references is intended only to acknowledge some of the sources of information drawn on in the preparation of this document. Citation of the reference material is not meant to imply endorsement of any statement contained in the reference material. The list is not an exhaustive compilation of information on the topic. Readers should consult other sources to obtain a complete bibliography.

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SALIVARY GLAND INFECTIONS


SALIVARY GLAND DISEASES: OTHER LOCAL OR SYSTEMIC

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