

Dental Specialties

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GENERAL DENTIST SKILLS OVERLAP ALL THE DENTAL SPECIALTIES



Objectives

1. Identify the various dental specialties.
2. Compare the purpose of different dental specialties.
3. Determine the need for a dental specialist.
4. Analyze the dental hygienist's role in a dental specialty.
5. Demonstrate a willingness to collaborate with dental specialists.

Dental Specialty

“A dental specialty is an area of dentistry that has been recognized by the National Commission based on compliance with the Requirements for Recognition of Dental Specialties. Currently there are 12 dental specialties recognized by the National Commission” (American Dental Association, 2023, “Dental Specialties” section).

12 Dental Specialties

- Dental Anesthesiology
- Dental Public Health
- Endodontics
- Oral and Maxillofacial Pathology
- Oral and Maxillofacial Radiology
- Oral and Maxillofacial Surgery
- Oral Medicine
- Orofacial Pain
- Orthodontics
- Pediatric Dentistry
- Periodontics
- Prosthodontics

General Dentistry

- “The evaluation, diagnosis, prevention and/or treatment (nonsurgical, surgical or related procedures) of diseases, disorders and/or conditions of the oral cavity, maxillofacial area and/or the adjacent and associated structures and their impact on the human body” (ADA)
- Requires 4-years of dental school
- DDS: Doctor of Dental Surgery
- DMD: Doctor of Dental Medicine
- Post-graduate training is necessary if one decides to become a specialist.

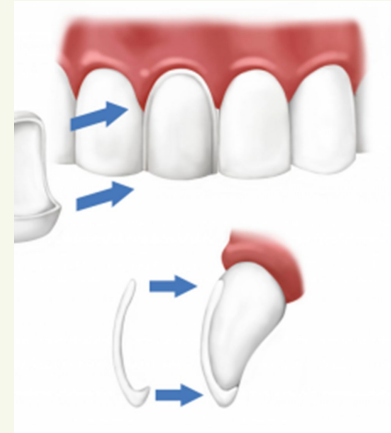
General Dentistry Procedures

- Restorations
- Root canals
- Exams/evaluations
- Simple surgeries



Cosmetic Dentistry: Veneers

- Porcelain or composite material
- Bonded/cemented to one or more teeth to improve appearance
- Cracked, chipped, or uneven size of teeth
 - Can last anywhere from 5-10 years; expensive; VERY THIN
- Most commonly seen on anterior teeth



Cosmetic Dentistry: Crowns and Bridges

- Replace damaged, chipped, or cracked teeth
- Most commonly placed after root canal therapy
- Bridge: 2 crowns on either side of missing tooth (also known as pontic)
- Tooth needs to be strong enough to support restoration
 - If not strong enough, a post/core will be required





VENEER



CROWN

Cosmetic Dentistry: Whitening

- Strong concentration of hydrogen or carbamide peroxide
- Can be administered as a gel, and then activated by curing light
- Usually not a one-time procedure (in-office)
- Some offices may make the trays and send the patient home with material



General Dentistry: Role of the Dental Hygienist

- Educate the patient on common procedures done in the office
- Oral hygiene instructions
- Collaborative work with the general dentist during exams

Endodontics

- Endodontists
 - Focus on treatments within the tooth, specifically the pulp
 - Diagnose and treat tooth pain
 - Root Canal Therapy (RCT)
 - Experts in pain management
 - 2-3 years of additional advanced training



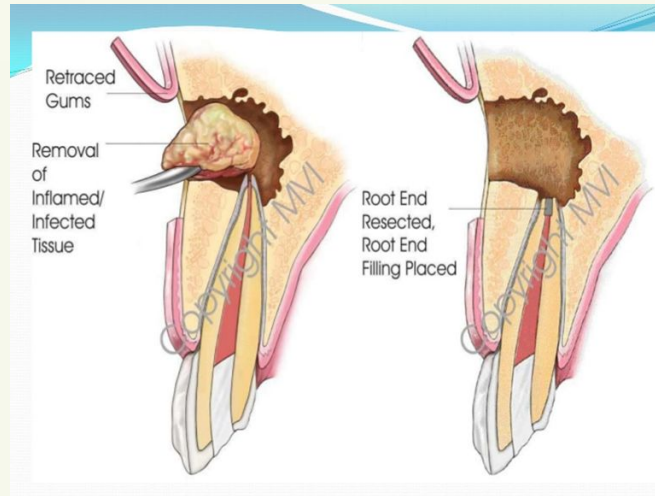
Root Canal Therapy

- Materials needed: dental rubber dam, dental burs, files, gutta percha, spreaders, and post/core.
- Tooth is opened, infection or decay is removed, canals are filled with gutta percha, and the opening of the tooth is sealed with temporary filling.
- Patient returns to general dentist after healing for permanent restoration, typically a crown.



Endodontic Surgery

- Apicoectomy: removal of the infected apex of the root
 - Post-Op: pain management, avoid crunchy/sticky foods for 1 week, no use of straws, some post-op bleeding, swelling and pain is normal, no smoking, and continue proper home hygiene.
 - Contact specialist if: temporary filling falls out, worsening pain, visible inflammation



Endodontics: Role of the Dental Hygienists

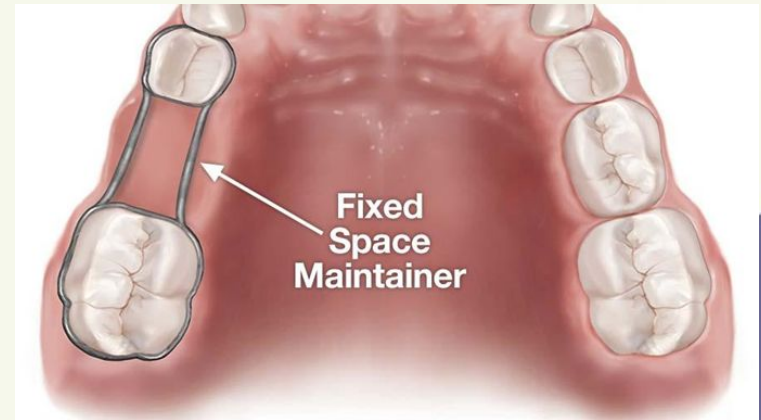
- Know how to educate the patient on procedure and post-op care
- Be vigilant; if unsure, always refer to be on safe-side
- Know when to refer
 - Unexplained tooth pain
 - Injury to tooth
 - Hot/cold sensitivity
 - Periapical radiolucency
 - Pulp vitality test – if tooth is non-vital

Orthodontics

- “the dental specialty that includes the diagnosis, prevention, interception, and correction of malocclusion, as well as neuromuscular and skeletal abnormalities of the developing or mature orofacial structures”. (ADA)
- 2-3 years residency program following dental school
- Indications:
 - Misaligned teeth
 - Overbite/underbite
 - Open bite or Crossbite
 - Misplaced midline
 - Spacing or Crowding

Fixed Orthodontic Appliances

- Specially Fixed Appliances
 - Due to thumb sucking or thrusting
 - Attached by bands
- Space Maintainers
 - Maintains an open space while permanent tooth erupts
- Braces
 - Bands, wires, and brackets
 - Gradually moving teeth into proper position



Removable Appliances

- Palatal Expander
 - Removable or Fixed
 - Widens the palate
- Aligners
 - Invisalign
 - Alternative to traditional braces, functions the same way
- Retainers
 - Removable or fixed
 - Placed after full orthodontics have been completed
 - Clear or wired



Orthodontics: Role of the Dental Hygienists

- Assess the patient's occlusion and oral habits
- Panoramic radiographs
 - Assess for mixed dentition growth
- Emphasis on home care
 - Give thorough instructions and stress the importance
- During appointment
 - Ultrasonic, air polisher, floss threader

Prosthodontics

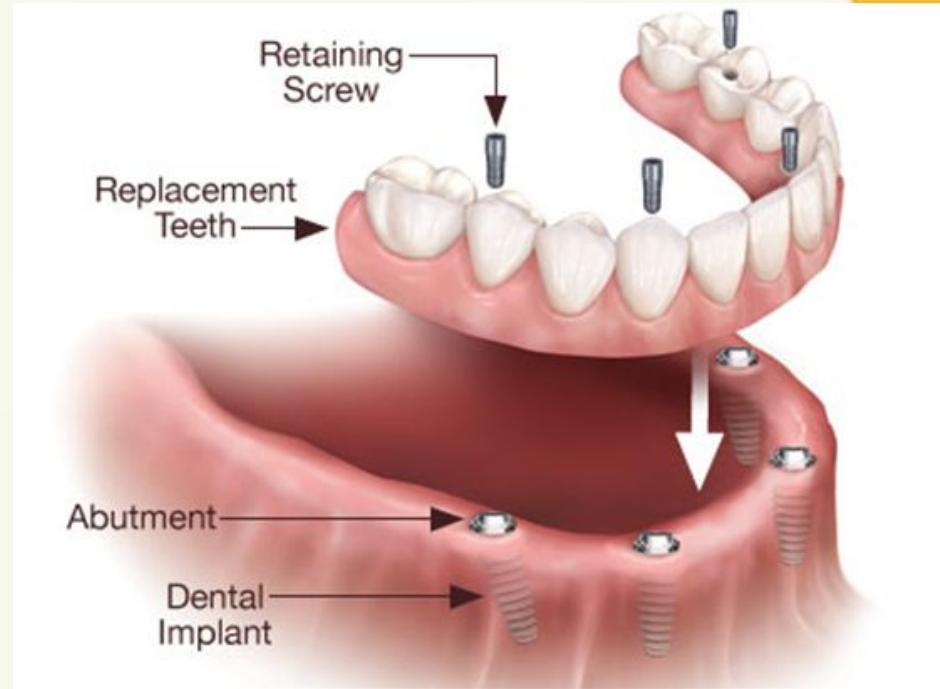
- “the diagnosis, treatment planning, rehabilitation and maintenance of the oral function, comfort, appearance and health of patients with clinical conditions associated with missing or deficient teeth and/or oral and maxillofacial tissues using biocompatible substitutes. (ADA)
- 3 years additional training post dental school
- Experts in replacing missing teeth
- Fixed or removable appliances

Partial Dentures

- Fixed or Removable
- Pink, gingiva-colored base with either metal clasps or connectors.
- Does not replace ALL teeth, but some missing teeth.



Full Dentures



Prosthodontics: Role of the Dental Hygienist

- Discuss with patient the different tooth replacement options available.
- Explain home care instructions: denture brush, denture bath, soaking solutions, etc.
- Clean appliances during appointment in the ultrasonic tank.
- Always ask if dentures are fitting properly and if any adjustments are needed.

Periodontics

- “the prevention, diagnosis and treatment of diseases of the supporting and surrounding tissues of the teeth or their substitutes and the maintenance of the health, function and esthetics of these structures and tissues.” (ADA)
- 3 additional years of specialty training
- Focuses on periodontal disease and its effect on the periodontium
- Procedures
 - Periodontal surgeries
 - Gingival grafts
 - Laser treatments
 - Crown lengthening

Periodontal Surgeries

- Crown Lengthening
 - To expose more tooth structure prior to restorative or cosmetic work
- Gingivectomy
 - To correct “gummy smile”
- Gingival Graft Surgery
 - Adding gum tissue, typically due to recession
- Gingival Flap Surgery
 - Allowing access to root of tooth for scaling and root debridement
- Laser-based therapies
 - LANAP- Laser-Assisted New Attachment Procedure
 - Laser may be used for cutting or curettage in any surgery



Before gum graft



 **IMPRESS**
PERIO IMPLANT CENTER
Certified Treatment in Peri-Implantitis

After gum graft



Periodontics: Role of the Dental Hygienist

- When to refer? – Periodontal disease is Stage III or IV, periodontal abscess present, furcation involvement, mobility, recession, IAG.
- Periodontal assessment with selective radiographs (VBWX)
- Educate the patient about the periodontal disease process
- Educate the patient on oral hygiene instructions related to periodontal disease
 - Stillman's brushing method (in the presence of recession)
 - Oral irrigator
 - Antibacterial mouthrinse
 - 3-4 month recare

Oral and Maxillofacial Surgery

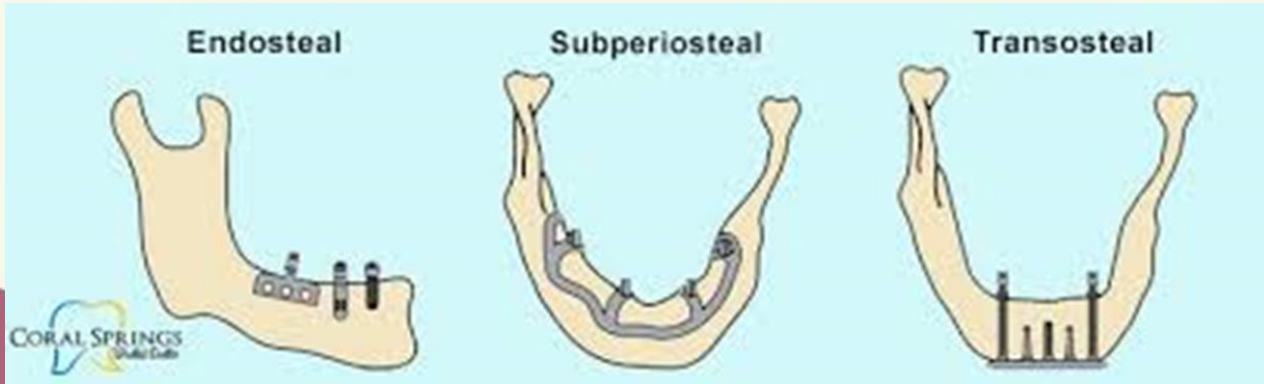
- “the diagnosis, surgical and adjunctive treatment of diseases, injuries and defects involving both the functional and esthetic aspects of the hard and soft tissues of the oral and maxillofacial region. ”
- Surgical expert of the dental world!
- Specific Interests: head/neck cancer, cosmetic facial surgery, craniofacial/pediatric maxillofacial surgery
- 4-6 years of residency
 - May train with medical residents: internal medicine, general surgery, and anesthesiology

Procedures

- Extractions - 3rd molars, preparation for orthodontics
- Frenectomies, root amputation
- Implants
- Trauma - fractures of the jaw or orbits of the eyes, facial lacerations
- Diagnose and surgically treat cancers of the head, neck, and mouth
- Corrective jaw surgery

Implants

- Subperiosteal: a metal framework is firmly secured on the jawbone, but the framework lies below the gum line
- Transosteal: can only be fitted to the mandible, attaches metal plate at the bottom of the mandible with screws running through the mandible
- Endosteal: within the bone, replaces a single tooth, can provide support for complete or partial dentures-the most common type of implant placed



Why Get an Implant?

- Indications :

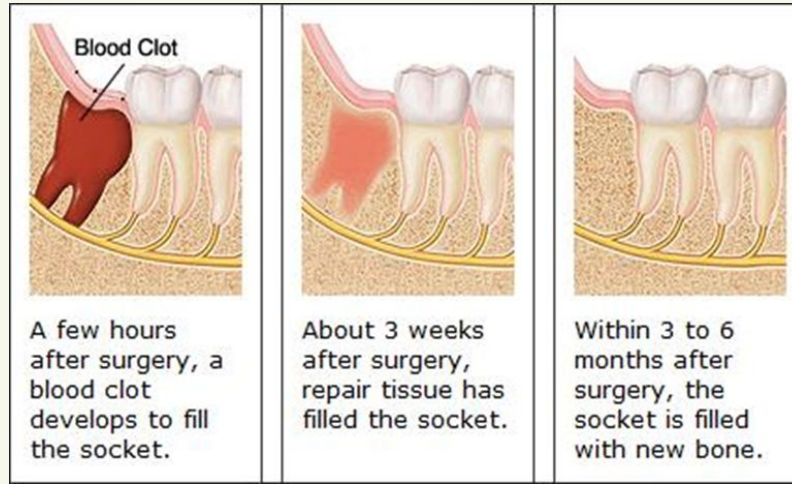
- Missing teeth
- Adequate bone levels
- No active periodontal disease that is uncontrolled
- Consistent oral home care

- Contraindications:

- Recent radiation therapy
- Pregnancy
- Uncontrolled diabetes
- Alcoholism/substance abuse
- Smoking patients
- Anticoagulant medications

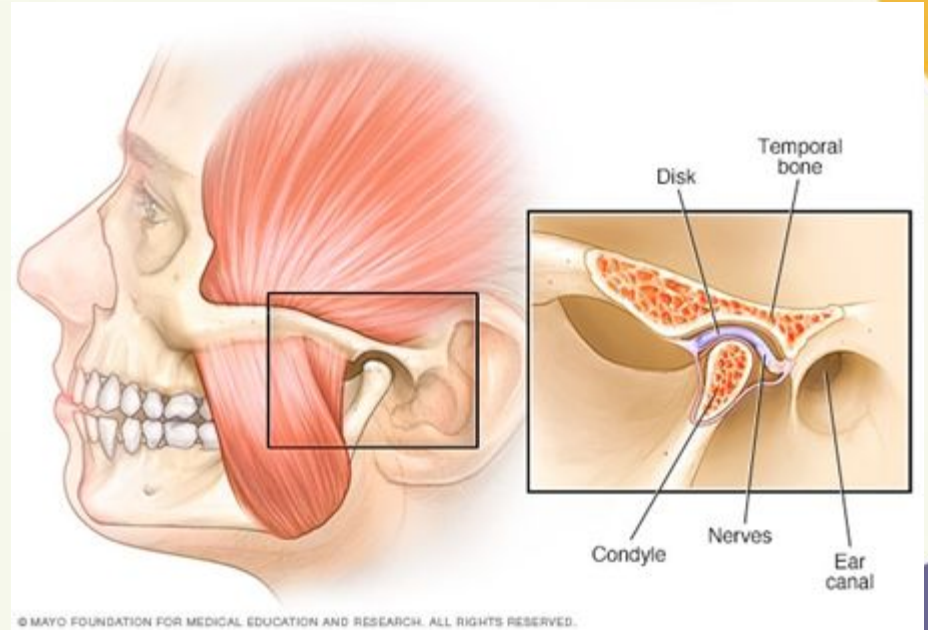
Post-Op Care for Surgical Patients

- Bleeding: biting on gauze, oozing after 24 hours is normal.
- Swelling: ice for 20 minutes and 20 minutes off, may persist up to 2 weeks, jaw muscles may be stiff
- Home Care: warm saltwater rinses, brush tongue, resume normal brushing 24 hours after surgery but avoid surgical site.



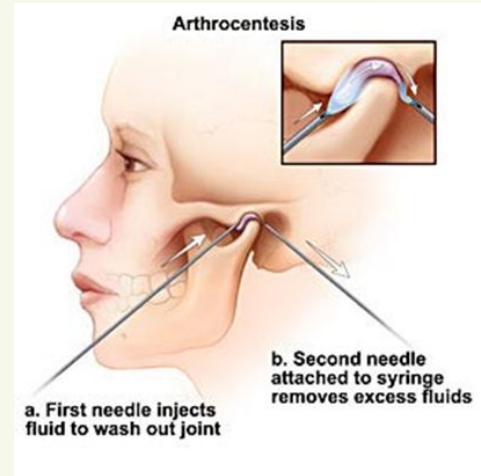
TMJ Disorder

- Etiologic Factors
 - Biological: sleep apnea, autoimmune disorders, grinding/clenching
 - Emotional: patients with anxiety, depression, or stress



TMD Treatments

- Non-surgical: jaw rest, warm compress, stretching exercises, acupuncture.
- Surgical: Arthrocentesis, Total Joint Replacement, Injections
- Appliances: nightguards (in-office or OTC), splints



TMD: Role of the Dental Hygienist

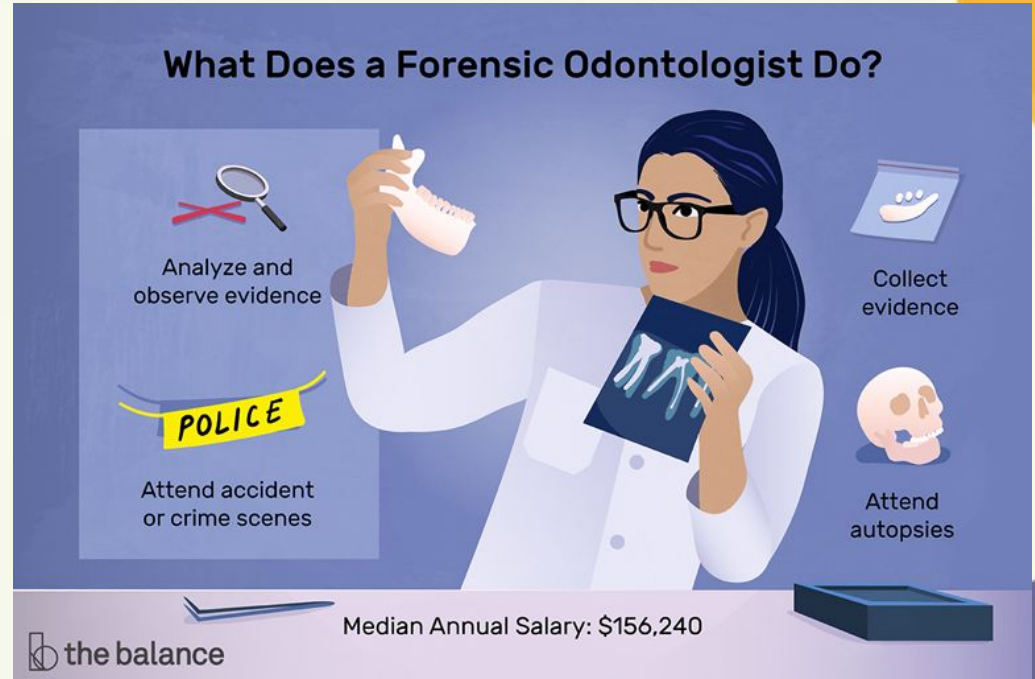
- Know
 - Know when to refer and how to educate
- Assess
 - Thorough EOE/IOE: assess TMJ (clicking, popping, any injury)
- Look
 - Look for any clinical signs of wear or malocclusion
- Educate
 - Educate on various treatment options and home care solutions

Oral and Maxillofacial Surgery: Role of the Dental Hygienist

- Implant Care: spongy floss with floss threader, interdental brushes, end-tuft brush.
- When to refer:
 - Extractions - 3rd molars, preparation for orthodontics
 - Frenectomies, root amputation
 - Implants
 - Trauma - fractures of the jaw or orbits of the eyes, facial lacerations
 - Diagnose and surgically treat cancers of the head, neck, and mouth
 - Corrective jaw surgery
- Post-op care for surgical procedures

Forensic Odontology

- Branch of forensic medicine that handles and presents dental evidence in the court of law.
- Identifies human remains (individual cases and mass disasters)
- Can assist with cases of abuse/neglect, estimate ages, missing persons, criminal suspects.
- *Is not a dental speciality



Forensic Odontology

- Detailed records that are accurate and always kept even after death
- Radiographs, study models, intraoral and extraoral photos
- Identifying markers
 - Implants
 - Joint replacements
 - Missing teeth

Summary

- 12 dental specialties
 - “A dental specialty is an area of dentistry that has been recognized by the National Commission based on compliance with the Requirements for Recognition of Dental Specialties” (American Dental Association, 2023, “Dental Specialties” section).
- Role of the dental hygienists
 - Identifying reasons for referral
 - Patient education
- Forensic odontology is NOT a dental specialty



Questions?



Critical Thinking Activity

Case #1

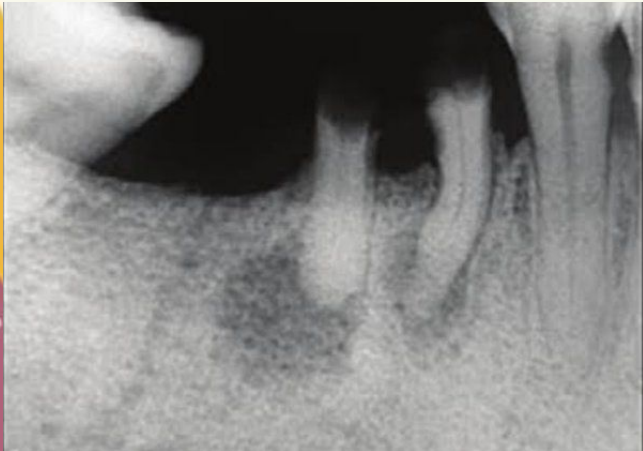
A patient present with radiating pain from tooth #29. Upon examination of the tooth, near the apex of the tooth on the mucosa, there is a fistula. While examining a PA of the tooth in question, you notice a large periapical radiolucency around the apex of the root. The general dentist diagnoses the patient with a periapical abscess. The dental hygienist refers the patient to a specialist.

1. Who would be the best specialist to refer this patient to?
2. What is the purpose of this dental specialist?
3. For what other signs or symptoms of a patient would you refer to this specialist?



Case #2

A patient presents with retained root tips on #30. After a PA is taken of #30, you find a radiolucency on the apex of #30 as well. The dental hygienist refers the patient to a dental specialist.



1. What dental specialist would this patient need to be referred to?
2. What procedure would this dental specialist perform for this patient?
3. In general, for what other conditions should you refer to this specialist?

Case #3

A patient presents with an openbite and edge to edge. The patient has right molar and canine class 1 malocclusion and left molar and canine class 1 malocclusion.

1. What dental specialist does this patient need to be referred to?
2. What is the purpose of this dental specialist?
3. For what other signs or symptoms of a patient should you refer to this specialist?

