

**Course:** DNTH 305 Dental Hygiene Theory

**Topic:** Dental Specialties

**Audience:** Adult Learners (Student Dental Hygienists)

**Time:** 50 minutes

**Materials:** PowerPoint, projector, computer

**Instructional Objectives:**

Upon completion of the lecture, the student should be able to:

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.

**References:**

Alarcón, J. A., Fernández-Serrano, J., Garcia-Espona, C., Garcia-Espona, E., & Garcia-Espona, I. (2024). Is there a common pattern of dental specialties in the world? Orthodontics, the constant element. *BMC Oral Health*, 24(1), 49–49.

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American Dental Education Association. (n.d.). *National boards and recognized dental specialties*.

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Mashni, M., Peterson, D. E., & Saxen, M. A. (2019). Point: A 21st-century paradigm for the recognition of dental specialties in the United States. *The Journal of the American Dental Association* (1939), 150(3), 193–199. <https://doi.org/10.1016/j.adaj.2019.01.023>

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TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
3 minutes	<p><b>I. ANTICIPATORY SET</b></p> <p>A. <u>Introduction</u></p> <p>A dental speciality is an area designated to a specific area of dentistry. There are 12 dental specialties recognized by the American Dental Association. They each have their own education requirements, purpose, and procedures.</p> <p>B. <u>Gain Attention/Motivate</u></p> <p>An image of a patient's mouth will be shown to students to gain their attention and sympathy for a patient's oral condition. A discussion will ensue about how the students feel about the patient's condition and what services beyond general dentistry they may need. I will ask "How do you feel about this patient's condition?" and "Do you think this patient's needs will be met by a general dentist or would they need a specialist?"</p> <p>C. <u>Activate Prior Knowledge</u></p> <p>A picture of dental specialties will be shown to students. The students will be asked questions about the dental specialties pertaining to their function or purpose, what type of procedures they perform, and why dental hygienists are important to specialists. Questions will include "Can you name any dental specialties?", "What type of procedures does this specialist</p>	<p><b>Slide 1:</b> Dental Specialties title</p> <p><b>Slide 2:</b> Patient image</p> <p><b>Note:</b> As dental hygienists, we mainly work with general dentists, but we can also work in specialty areas.</p> <p><b>Slide 3:</b> Picture of dental specialties</p> <p><b>Q:</b> What are some examples of dental specialties?</p> <p><b>A:</b> Answers will vary, but should at least a few of the 12 specialties such as orthodontics, oral and maxillofacial surgery, and periodontics.</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
	<p>perform?” and “What is the purpose of the dental hygienist in dental specialties?”</p> <p>D. <u>Establish Rationale</u></p> <p>The purpose of this lecture is to acquaint the students with dental specialties as they will be working in the presence of certain dental specialists. They will also be responsible in part for recognizing a patient’s need for referral to a specialist.</p> <p>E. <u>Present Instructional Objectives</u></p> <p>After today’s lecture, you should be able to:</p> <ol style="list-style-type: none"> <li>1. Identify the various dental specialties.</li> <li>2. Compare the purpose of different dental specialties.</li> <li>3. Determine the need for a dental specialist.</li> <li>4. Analyze the dental hygienist’s role in a dental specialty.</li> <li>5. Demonstrate a willingness to collaborate with dental specialists.</li> </ol>	<p></p> <p><b>Slide 4:</b> Objectives</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
5 minutes	<p><b>II. Dental Specialty</b></p> <p>A. Definition of dental specialty</p> <p>B. Dental specialties</p> <ol style="list-style-type: none"> <li>1. Dental Anesthesiology</li> <li>2. Dental Public Health</li> <li>3. Endodontics</li> <li>4. Oral and Maxillofacial Pathology</li> <li>5. Oral and Maxillofacial Radiology</li> <li>6. Oral and Maxillofacial Surgery</li> <li>7. Oral Medicine</li> <li>8. Orofacial Pain</li> <li>9. Orthodontics</li> <li>10. Pediatric Dentistry</li> <li>11. Periodontics</li> <li>12. Prosthodontics</li> </ol>	<p><b>Slide 5:</b> Dental specialty definition</p> <p><b>Slide 6:</b> Dental specialties</p>
5 minutes	<p><b>III. General Dentistry</b></p> <p>A. Definition</p> <p>B. Education</p> <ol style="list-style-type: none"> <li>1. 4 years dental school</li> <li>2. Degree obtained</li> </ol> <p>C. Procedures</p> <ol style="list-style-type: none"> <li>1. Restorations</li> <li>2. Root canals</li> <li>3. Exam and evaluations</li> <li>4. Simple procedures</li> </ol> <p>D. Cosmetic dentistry</p> <ol style="list-style-type: none"> <li>1. Veneers <ol style="list-style-type: none"> <li>a) Material</li> <li>b) Purpose</li> </ol> </li> </ol>	<p><b>Slide 7:</b> General dentistry</p> <p><b>Slide 8:</b> General dentistry procedures</p> <p><b>Note:</b> General dentists play a big role in specialties as their functions overlap with specialists.</p> <p><b>Q:</b> What kind of simple procedure can a general dentist perform that can also be performed by a specialist?</p> <p><b>A:</b> Extractions.</p> <p><b>Slide 9:</b> Cosmetic dentistry: veneers</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
5 minutes	<p>2. Crowns and bridges</p> <ol style="list-style-type: none"> <li>Purpose</li> <li>Tooth integrity consideration</li> </ol> <p>3. Whitening</p> <ol style="list-style-type: none"> <li>Material</li> <li>Procedure</li> </ol> <p>E. Role of the dental hygienist</p> <ol style="list-style-type: none"> <li>Education</li> <li>Collaborative practice</li> </ol> <p><b>IV. Endodontics</b></p> <p>A. Definition</p> <ol style="list-style-type: none"> <li>Area of focus</li> <li>Purpose</li> </ol> <p>B. Education</p> <ol style="list-style-type: none"> <li>Additional years of advanced training</li> </ol> <p>C. Root canal therapy</p> <ol style="list-style-type: none"> <li>Materials</li> <li>Procedure</li> <li>Post-op restorative instructions</li> </ol> <p>D. Endodontic surgery</p> <ol style="list-style-type: none"> <li>Apicoectomy <ol style="list-style-type: none"> <li>Post-op instructions</li> </ol> </li> </ol> <p>E. Role of the dental hygienist</p> <ol style="list-style-type: none"> <li>Education</li> <li>When to refer</li> </ol>	<p><b>NOTES-MEDIA-Q/A</b></p> <p><b>Slide 10:</b> Cosmetic dentistry: crowns and bridges</p> <p><b>Slide 11:</b> Picture of a veneer vs a crown</p> <p><b>Q:</b> How are veneers and crowns different?</p> <p><b>A:</b> Crowns cover all surfaces of the tooth completely while veneers fully cover the facial and incisal parts of the tooth and a small portion of the lingual, mesial, and distal aspects of the tooth.</p> <p><b>Slide 12:</b> Cosmetic dentistry: whitening</p> <p><b>Slide 13:</b> General dentistry: role of the dental hygienist</p> <p><b>Slide 14:</b> Endodontics</p> <p><b>Note:</b> Patients are commonly referred to treat or retreat root canals.</p> <p><b>Slide 15:</b> Root canal therapy</p> <p><b>Q:</b> What would be an indication that there is something endodontically wrong with a tooth?</p> <p><b>A:</b> There is a periapical radiolucency, fistula, temperature sensitivity, or tooth pain present.</p> <p><b>Slide 16:</b> Endodontic surgery</p> <p><b>Slide 17:</b> Endodontics: role of the dental hygienist</p>
5 minutes	<p><b>V. Orthodontics</b></p> <p>A. Definition</p> <ol style="list-style-type: none"> <li>Purpose</li> <li>Indication for referral</li> </ol>	<p><b>Slide 18:</b> Orthodontics</p> <p><b>Q:</b> How many of you have seen an orthodontist? Were you referred by your general dentist?</p> <p><b>A:</b> Answers will vary; yes or no.</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
5 minutes	B. Education <ol style="list-style-type: none"> <li>1. Additional years in residency program</li> </ol>	<b>Slide 19:</b> Fixed orthodontic appliances
	C. Fixed orthodontic appliances <ol style="list-style-type: none"> <li>1. Specially fixed appliances</li> <li>2. Space maintainers</li> <li>3. Braces</li> </ol>	<b>Slide 20:</b> Removable appliances <b>Note:</b> With invisalign or clear aligners, compliance is an issue and can impede the success of the treatment.
	D. Removable appliances <ol style="list-style-type: none"> <li>1. Palatal expander</li> <li>2. Aligners</li> <li>3. Retainers</li> </ol>	<b>Slide 21:</b> Orthodontics: role of the dental hygienist <b>Q:</b> What kind of instructions would you give your patient if they had traditional braces <b>A:</b> Answer should include brushing after each meal, use of a floss threader and/or water flosser, anti-gingivitis/antibacterial mouthrinse to prevent gingivitis, prescription fluoride toothpaste
	E. Role of the dental hygienist <ol style="list-style-type: none"> <li>1. Assessment</li> <li>2. Radiographs</li> <li>3. Homecare</li> <li>4. Dental hygiene procedures</li> </ol>	
	<b>VI. Prosthodontics</b>	
	A. Definition <ol style="list-style-type: none"> <li>1. Purpose</li> </ol>	<b>Slide 22:</b> Prosthodontics
	B. Education <ol style="list-style-type: none"> <li>1. Additional years of training</li> </ol>	
	C. Partial dentures <ol style="list-style-type: none"> <li>1. Fixed vs removable</li> <li>2. Appearance</li> <li>3. Purpose</li> </ol>	<b>Slide 23:</b> Partial Dentures
	D. Full dentures <ol style="list-style-type: none"> <li>1. Purpose</li> <li>2. Appearance</li> <li>3. Full denture vs overdenture</li> </ol>	<b>Slide 24:</b> Pictures of full dentures

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
5 minutes	<p>E. Role of the dental hygienist</p> <ol style="list-style-type: none"> <li>1. Education</li> <li>2. During appointment procedures</li> </ol> <p><b>VII. Periodontics</b></p> <p>A. Definition</p> <ol style="list-style-type: none"> <li>1. Purpose</li> <li>2. Procedures</li> </ol> <p>B. Education</p> <ol style="list-style-type: none"> <li>1. Additional years of specialty training</li> </ol> <p>C. Periodontal surgeries</p> <ol style="list-style-type: none"> <li>1. Crown lengthening</li> <li>2. Gingivectomy</li> <li>3. Gingival graft surgery</li> <li>4. Gingival flap surgery</li> <li>5. Laser-based therapies               <ol style="list-style-type: none"> <li>a) Laser assisted New Attachment Procedure (LANAP)</li> </ol> </li> </ol> <p>D. Role of the dental hygienist</p> <ol style="list-style-type: none"> <li>1. When to refer</li> <li>2. Assessment</li> <li>3. Education</li> </ol>	<p><b>Slide 25:</b> Prosthodontics: role of the dental hygienist</p> <p><b>Slide 26:</b> Periodontics</p> <p><b>Slide 27:</b> Periodontal surgeries</p> <p><b>Slide 28:</b> Picture of gingival graft and laser use</p> <p><b>Note:</b> They will take tissue from an area in the mouth, commonly the palate, and place it in the area of recession for a gingival graft.</p> <p><b>Slide 29:</b> Periodontics: role of the dental hygienist</p>
5 minutes	<p><b>VIII. Oral and Maxillofacial Surgery</b></p> <p>A. Definition</p> <ol style="list-style-type: none"> <li>1. Purpose</li> <li>2. Surgical expert of the dental world</li> <li>3. Special interests</li> </ol> <p>B. Education</p> <ol style="list-style-type: none"> <li>1. Residency program</li> </ol> <p>C. Procedures</p>	<p><b>Slide 30:</b> Oral and Maxillofacial Surgery</p> <p><b>Q:</b> What is one of the most common reasons a patient is referred to this type of specialist?</p> <p><b>A:</b> 3rd molar extraction.</p> <p><b>Slide 31:</b> Procedures</p>



TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
	<p>D. Implants</p> <ol style="list-style-type: none"> <li>Types of implants <ol style="list-style-type: none"> <li>Subperiosteal</li> <li>Transosteal</li> <li>Endosteal</li> </ol> </li> <li>Why get an implant? <ol style="list-style-type: none"> <li>Indications</li> <li>Contraindications</li> </ol> </li> </ol> <p>E. Post-op care for surgical patients</p> <ol style="list-style-type: none"> <li>Bleeding</li> <li>Swelling</li> <li>Homecare</li> </ol> <p>F. TMJ Disorder</p> <ol style="list-style-type: none"> <li>Etiologic factors <ol style="list-style-type: none"> <li>Biological</li> <li>Emotional</li> </ol> </li> <li>TMD treatments <ol style="list-style-type: none"> <li>Non-surgical</li> <li>Surgical</li> <li>Appliances</li> </ol> </li> <li>Role of the dental hygienist in TMD <ol style="list-style-type: none"> <li>Know</li> <li>Assess</li> <li>Look</li> <li>Educate</li> </ol> </li> <li>Role of the dental hygienist in oral and maxillofacial surgery <ol style="list-style-type: none"> <li>Implant care</li> <li>Referral</li> </ol> </li> </ol>	<p><b>Slide 32:</b> Implants</p> <p><b>Slide 33:</b> Why get an implant?  <b>Q:</b> Why would a patient recently having radiation therapy be a contraindication?  <b>A:</b> There is a possibility of osteoradionecrosis; the bone is not viable for an implant.  <b>Note:</b> These are considered contraindications because they may interfere with the healing or placement of the implant.  <b>Slide 34:</b> Post-op care for surgical patients  <b>Slide 35:</b> TMJ disorder</p> <p><b>Slide 36:</b> TMD treatments</p> <p><b>Slide 37:</b> TMD: role of the dental hygienist</p> <p><b>Slide 38:</b> Oral and maxillofacial surgery: role of the dental hygienist</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
5 minutes	<p>c) Post-op care</p> <p><b>IX. Forensic Odontology</b></p> <p>A. Definition</p> <p>B. Purpose</p> <p>C. Function/services</p>	<p><b>Slide 39:</b> Forensic odontology</p> <p><b>Note:</b> Forensic odontology is not actually considered a dental specialty.</p> <p><b>Slide 40:</b> Forensic odontology</p>
2 minutes	<p><b>SUMMARY</b></p> <p>Dental specialties are intertwined with general dentistry, but do have their separate functions. There are 12 dental specialties recognized by the American Dental Association. We discussed the function, purpose, education, and procedures of multiple dental specialties today including oral and maxillofacial surgery, orthodontics, periodontics, prosthodontics, endodontics, in addition to general dentistry. Forensic odontology was also discussed even though it is not a recognized dental specialty.</p>	<p><b>Slide 41:</b> Summary slide</p> <p><b>Q:</b> What are some of the dental specialties recognized by the ADA?</p> <p><b>A:</b> Answers will vary but should include any of the 12 dental specialties.</p> <p><b>Note:</b> The primary role of dental hygienists when working with a specialist is to provide patient education and identify conditions for referral.</p>
5 minutes	<p><b>CRITICAL THINKING ACTIVITY</b></p> <p>The students will be shown 3 case studies and must answer the questions pertaining to each case study:</p> <p>Case study #1:</p> <p>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</p>	<p><b>Slide 42:</b> Questions title</p> <p><b>Slide 43-46:</b> Critical thinking activity</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
	<p data-bbox="350 254 935 562">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.</p> <ol data-bbox="399 583 967 947" style="list-style-type: none"> <li data-bbox="399 583 967 674">1. Who would be the best specialist to refer this patient to?</li> <li data-bbox="399 695 967 785">2. What is the purpose of this dental specialist?</li> <li data-bbox="399 806 967 947">3. For what other signs or symptoms of a patient would you refer to this specialist?</li> </ol> <p data-bbox="350 968 537 999">Case study #2:</p> <p data-bbox="350 1020 922 1272">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.</p> <ol data-bbox="399 1293 967 1604" style="list-style-type: none"> <li data-bbox="399 1293 967 1383">1. What dental specialist would this patient need to be referred to?</li> <li data-bbox="399 1404 967 1495">2. What procedure would this dental specialist perform for this patient?</li> <li data-bbox="399 1516 967 1604">3. In general, for what other conditions should you refer to this specialist?</li> </ol> <p data-bbox="350 1625 537 1656">Case study #3:</p> <p data-bbox="350 1677 954 1824">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</p>	<p data-bbox="997 541 1192 573"><b>A:</b> Endodontist</p> <p data-bbox="997 615 1365 688"><b>A:</b> Assess the tooth for root canal and perform root canal</p> <p data-bbox="997 730 1409 947"><b>A:</b> Should include all of the following: unexplained tooth pain, injury to tooth, hot/cold sensitivity, periapical radiolucency, pulp vitality test – if tooth is non-vital</p> <p data-bbox="997 1276 1203 1308"><b>A:</b> Oral surgeon</p> <p data-bbox="997 1350 1382 1423"><b>A:</b> To extract the retained root tips of #30</p> <p data-bbox="997 1465 1409 1864"><b>A:</b> Should include all of the following: implants - if patient wanted it, extractions - 3rd molars, preparation for orthodontics, frenectomies, root amputation, 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</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
	<p>class 1 malocclusion.</p> <ol style="list-style-type: none"> <li>1. What dental specialist does this patient need to be referred to?</li> <li>2. What is the purpose of this dental specialist?</li> <li>3. For what other signs or symptoms of a patient should you refer to this specialist?</li> </ol>	<p>A: Orthodontist</p> <p>A: To address malocclusion, openbite, edge to edge</p> <p>A: Should include all of the following: misaligned teeth, overbite/underbite, open bite or crossbite, misplaced midline, spacing or crowding</p>

## **Test Items**

**Objective #1:** Identify the various dental specialties.

**Test Item #1:** A patient needs a removable partial denture to replace teeth #2-5 and #13-15. Which of the following dental specialties will be able to provide this service for the patient?

- A. Prosthodontist
- B. Endodontist
- C. Orthodontist
- D. Orofacial pain

**Objective #2:** Compare the purpose of different dental specialties.

**Test Item #2:** This dental specialty performs procedures such as implants, gingival grafts, laser treatments, and crown lengthening. Which dental specialty of the previous statement describe?

- A. Endodontics
- B. Oral and Maxillofacial Surgery
- C. Periodontics
- D. Oral medicine

**Objective #3:** Determine the need for a dental specialist.

**Test Item #3:** A patient needs a bridge from teeth #18-20, but #18 presents with an apical radiolucency extending to the inferior alveolar nerve. The patient will need a root canal. They currently see a general dentist. Do they need to see a dental specialist, and if so which specialist?

- A. Yes, endodontist
- B. Yes, oral surgeon
- C. Yes, periodontist
- D. No

**Objective #4:** Analyze the dental hygienist's role in a dental specialty.

**Test Item #4:** A patient presents with full traditional orthodontics. In 2-4 sentences, describe the role of the dental hygienist in the orthodontic specialty?

**Objective #5:** Demonstrate a willingness to collaborate with dental specialists.

**Test Item #5:** In 2-4 sentences, describe how you would use your skills as a dental hygienist in endodontics and periodontics.

**Correct Answer Key:**

1. A
2. C
3. A
4. Answers will vary, but should describe the duties performed by the dental hygienists with a patient in orthodontics.

Example answer: The role of the dental hygienist is to assess the patient's occlusion and oral habits as they go through the orthodontic process. The dental hygienist should use an ultrasonic scaler, air polisher, and floss threader to remove deposits from the teeth. The dental hygienist should also educate and emphasize the importance of proper homecare to the patient.

5. Answers will vary, but should describe the functions of a dental hygienist as they relate to a dental specialty such as the ability to diagnose or identify oral conditions.

Example answer: As a dental hygienist, I would use my skills to identify oral conditions such as periapical radiolucencies on radiographs if I was working with an endodontist as they treat conditions within the tooth such as dealing with periapical infections and the pulp of the tooth. If I were working with a periodontist I would assess the teeth for mobility and other periodontal conditions as they treat the supporting tissues of the teeth.