

## Lesson Plan #2 Treating Patients with Autoimmune Disorders

**Course:** Dental Hygiene Special Topics

**Topic:** Treating Patients with Autoimmune Disorders

**Audience:** Junior Dental Hygiene Students

**Time:** 60 minutes

**Materials:** Computer, Projector, Power Point, Pictures

### **Instructional Objectives:**

Upon completion of the lesson, the patient should be able to:

1. Describe how autoimmune diseases affect the immune system.
2. Identify various types of autoimmune diseases.
3. Explain signs, symptoms and potential oral manifestations of each autoimmune disease.
4. Plan dental hygiene care modifications for the patient with an autoimmune disease.
5. Suggest lifestyle changes that will support oral health in relation to autoimmune diseases.

### **References:**

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TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
3 Minutes	<p data-bbox="407 268 662 302"><b>I. Anticipatory Set</b></p> <p data-bbox="407 342 623 375"><b><u>A. Introduction</u></b></p> <p data-bbox="407 380 967 667">Those with autoimmune disorders are types of patients that you will encounter daily in both clinical practices here at school and in private practice daily. Specifically, patients with autoimmune diseases have a greater propensity for the development of periodontal disease and dental root caries. (Boyd, 2024).</p> <p data-bbox="407 707 967 1215">Autoimmune disorders may evolve from problems with the way the body responds to immune factors that are produced by the bodies organs and systems (Rajasekaran et. al., 2024). Dental considerations need to be considered regarding the use of home fluoride trays, use of antifungals and regular recall visits. Medications that these patients may be taking can greatly affect the occurrence of xerostomia and burning mouth syndromes. Nutrition plays a great part in the oral and systemic manifestations that patients with autoimmune disorders face (Nikiphorou and Philippou, 2023).</p>	<p data-bbox="995 268 1409 302"><b>Slide#1:</b> Autoimmune title slide</p> <p data-bbox="995 342 1403 520"><b>Q:</b> Patients with autoimmune diseases have higher incidences of developing periodontal and gum issues, what are some reasons?</p> <p data-bbox="995 560 1365 703"><b>A:</b> Multiple answers, like inflammation throughout the body, poor oral hygiene, medication side effects.</p> <p data-bbox="995 819 1370 997"><b>Q:</b> In your opinion, how do untreated dental conditions, including periodontal disease affect autoimmune disease progression?</p> <p data-bbox="995 1037 1409 1287"><b>A:</b> If left untreated, both tooth decay and periodontal disease can lead to infection and inflammation not only in the mouth, but throughout the entire body that is floating around in the blood stream.</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
2 Minutes	<p><b><u>B. Gain Attention/Motivate</u></b>  The etiology of many autoimmune conditions is unknown and still being researched. Oral manifestations such as plaque like lesions, increased incidence of periodontal disease, oral candidiasis and burning mouth as still occurring with curious causality. In your opinion, how can patients with autoimmune disorders be convinced of the oral systemic link? How can patients with autoimmune disorders be cared for by dental professionals to create the best dental outcomes?</p>	<p><b>Note:</b> Discuss how patients with endocrine disorders may be on multiple medications to control the conditions  Oral health disparities associated with endocrine disorders</p>
3 Minutes	<p><b><u>C. Active prior Knowledge</u></b>  Do any of you have a friend or family member that has a type of autoimmune condition? Anyone in your family that has lupus, celiac disease, or rheumatoid arthritis?</p>	<p><b>Slide #2:</b> Pictures and examples healthy lifestyle habits to prevent dental decay  Present after students answer</p> <p><b>Note:</b> Discuss examples of healthy lifestyle, if not answered by students</p>
2 Minutes	<p><b><u>D. Establish Rationale</u></b>  Patients with autoimmune conditions are at risk for developing periodontal disease and having high amounts of inflammation. Attending this informational lecture allows you to recognize the importance of dental health and proves that you are willing to learn more about how you can improve your patients' overall health.</p> <p>Learning about autoimmune conditions will help you to promote good oral health with those patients and learn how to treat them clinically.</p>	<p><b>Note:</b> Keep up slide #2 while establishing rationale</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
2 Minutes	<p>After today's lecture, you should be able to:</p> <p><b><u>E. Present Learning Objectives</u></b></p> <ol style="list-style-type: none"> <li>1. Describe how autoimmune diseases affect the immune system.</li> <li>2. Identify various types of autoimmune diseases.</li> <li>3. Explain signs, symptoms and potential oral manifestations of each autoimmune disease.</li> <li>4. Plan dental hygiene care modifications for the patient with an autoimmune disease.</li> <li>5. Suggest lifestyle changes that will support oral health in relation to autoimmune diseases.</li> </ol>	<p><b>Slide #3:</b> Lesson Objectives, briefly discuss</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
3 Minutes	<ol style="list-style-type: none"> <li>1. Oral lichen planus               <ol style="list-style-type: none"> <li>a. Inflammatory process                   <ol style="list-style-type: none"> <li>i. Chronic</li> <li>ii. Recurrent</li> </ol> </li> <li>b. Affects                   <ol style="list-style-type: none"> <li>i. Tongue</li> <li>ii. Cheeks</li> <li>iii. Tongue</li> <li>iv. Gingiva</li> </ol> </li> <li>c. Malignant                   <ol style="list-style-type: none"> <li>i. 1.1%</li> <li>ii. Risk</li> </ol> </li> <li>d. After 40</li> <li>e. Etiology                   <ol style="list-style-type: none"> <li>i. Genetics</li> <li>ii. Systemic diseases</li> <li>iii. Hepatitis B</li> <li>iv. Hepatitis C</li> </ol> </li> <li>f. Remission</li> <li>g. Flare-ups</li> </ol> </li> <li>2. Types of Lichen Planus               <ol style="list-style-type: none"> <li>1. Reticular                   <ol style="list-style-type: none"> <li>a. Wickham striae                       <ol style="list-style-type: none"> <li>i. Mossy</li> <li>ii. Lacy</li> <li>iii. White threads</li> <li>iv. Slightly raised</li> <li>v. Buccal mucosa</li> </ol> </li> </ol> </li> <li>2. Plaque-like                   <ol style="list-style-type: none"> <li>a. Occurs</li> <li>b. Frequently</li> <li>c. Dorsal tongue                       <ol style="list-style-type: none"> <li>i. Oral leukoplakia</li> </ol> </li> </ol> </li> <li>3. Papular                   <ol style="list-style-type: none"> <li>a. Papules</li> <li>b. Oral mucosa                       <ol style="list-style-type: none"> <li>i. Buccal mucosa</li> </ol> </li> </ol> </li> <li>4. Atrophic/erosive                   <ol style="list-style-type: none"> <li>a. Oral erythroleukoplakia lesion</li> </ol> </li> </ol> </li> </ol>	<p><b>Slide #3:</b> Oral Lichen Planus</p> <p><b>Q:</b> Did you friends or family members with autoimmune conditions also have dental decay or periodontal disease associated with their disorder? Did it make it worse? * Pause 3-7 seconds for class to answer *</p> <p><b>A:</b> Yes, autoimmune disorders can worsen both the rate of dental decay and progression of gingivitis into periodontal disease.</p> <p><b>Slide #4:</b> Types of oral lichen planus: reticular – picture of reticular</p> <p><b>Q:</b> Do you think that poor oral hygiene can also increase your caries risk and development of periodontal disease in association with different autoimmune conditions?</p> <p><b>A:</b> Yes, poor oral hygiene in combination with inflammatory factors can increase risk, leaving soft biofilm undisturbed for an extended period allows bacteria to colonize/ multiply, eventually causing mineral loss</p> <p><b>Slide #5:</b> Types of lichen planus: plaque like white lesions</p> <p><b>Slide #6:</b> Types of lichen planus: papular</p> <p><b>Notes:</b> Picture of papular on slide</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
3 Minutes	<ul style="list-style-type: none"> <li> <ul style="list-style-type: none"> <li>i. Bilateral</li> <li>ii. symmetric</li> </ul> </li> <li>5. Ulcerative           <ul style="list-style-type: none"> <li>a. Similar</li> <li>b. Erosive               <ul style="list-style-type: none"> <li>i. Central ulceration</li> <li>ii. Lesion</li> </ul> </li> </ul> </li> <li>6. Bullous           <ul style="list-style-type: none"> <li>a. Bulla</li> <li>b. Separation</li> <li>c. Oral epithelium</li> <li>d. Underlying</li> <li>e. Connective tissue</li> </ul> </li> </ul>	<p><b>Slide #7:</b> Types of lichen planus: atrophic/erosive</p> <p><b>Notes:</b> picture of atrophic/erosive</p> <p><b>Slide #8:</b> Types of lichen planus: ulcerative</p> <p><b>Notes:</b> picture of ulcerative</p> <p><b>Slide #9:</b> Types of lichen planus: bullous</p> <p><b>Notes:</b> picture of bullous</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
4 Minutes	<ol style="list-style-type: none"> <li>3. Dental hygiene care <ol style="list-style-type: none"> <li>a. Avoid <ol style="list-style-type: none"> <li>i. Aggravating</li> <li>ii. Foods</li> </ol> </li> <li>b. Lesion <ol style="list-style-type: none"> <li>i. Limit biofilm removal <ol style="list-style-type: none"> <li>1. Viscous lidocaine</li> </ol> </li> <li>ii. Avoid toothpastes <ol style="list-style-type: none"> <li>1. Pyrophosphates</li> </ol> </li> <li>iii. Avoid mouthrinses <ol style="list-style-type: none"> <li>1. Alcohol</li> </ol> </li> <li>iv. Topical corticosteroids <ol style="list-style-type: none"> <li>1. Prednisolone</li> </ol> </li> <li>v. Carefully monitor <ol style="list-style-type: none"> <li>1. Transform</li> <li>2. Oral squamous cell carcinoma</li> </ol> </li> </ol> </li> </ol> </li> <li>1. Rheumatoid arthritis <ol style="list-style-type: none"> <li>a. Joint inflammation <ol style="list-style-type: none"> <li>i. Destruction</li> <li>ii. Joint</li> <li>iii. Loss</li> <li>iv. cartilage</li> </ol> </li> <li>b. Association <ol style="list-style-type: none"> <li>i. Periodontal disease</li> </ol> </li> <li>c. Women <ol style="list-style-type: none"> <li>i. More commonly affected</li> <li>ii. men</li> </ol> </li> <li>d. Peak <ol style="list-style-type: none"> <li>i. 50</li> </ol> </li> <li>e. P. gingivalis <ol style="list-style-type: none"> <li>i. Autoantibody</li> </ol> </li> </ol> </li> <li>2. Dental hygiene care of RA <ol style="list-style-type: none"> <li>a. Non-surgical periodontal therapy</li> <li>b. Manual dexterity <ol style="list-style-type: none"> <li>i. Alterations <ol style="list-style-type: none"> <li>1. Floss holder</li> <li>2. Electric toothbrush</li> <li>3. Interdental brush</li> <li>4. Tennis ball</li> </ol> </li> </ol> </li> </ol> </li> </ol>	<p><b>Slide #10:</b> Dental hygiene care for oral lichen planus</p> <p><b>Slide #11:</b> Rheumatoid arthritis (RA)</p> <p><b>Q:</b> How can rheumatoid arthritis patients be managed in the clinic?</p> <p><b>A:</b> Patients may be put on more frequent recall schedules, if necessary, have non-surgical periodontal therapy performed, go over medications, make home fluoride trays.</p> <p><b>Slide #12:</b> Rheumatoid arthritis dental hygiene care</p>



TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
4 Minutes	<ul style="list-style-type: none"> <li>c. Health choices               <ul style="list-style-type: none"> <li>i. Healthy eating</li> <li>ii. Weight</li> <li>iii. Tobacco cessation</li> </ul> </li> <li>3. Scleroderma               <ul style="list-style-type: none"> <li>a. Affects connective tissue                   <ul style="list-style-type: none"> <li>i. Skin</li> <li>ii. Blood vessels</li> <li>iii. Heart</li> <li>iv. Lungs</li> <li>v. Kidneys</li> <li>vi. GI tract</li> <li>vii. Musculoskeletal system</li> </ul> </li> <li>b. Fibrosis</li> <li>c. Vasculopathy</li> </ul> </li> <li>4. Scleroderma dental hygiene care               <ul style="list-style-type: none"> <li>a. Limited mouth open                   <ul style="list-style-type: none"> <li>i. Access</li> </ul> </li> <li>b. Prevention</li> <li>c. Microstomia</li> <li>d. Xerostomia                   <ul style="list-style-type: none"> <li>i. Home fluoride trays</li> <li>ii. Saliva substitutes</li> <li>iii. Xylitol products</li> <li>iv. Avoid alcohol</li> </ul> </li> <li>e. Hand weakness</li> <li>f. Reduced grip</li> </ul> </li> <li>5. GI Tract Diseases               <ul style="list-style-type: none"> <li>a. Affect organ-specific autoantibody</li> <li>b. Genetic component                   <ul style="list-style-type: none"> <li>i. Environmental factors</li> </ul> </li> <li>c. Celiac disease (CD)</li> <li>d. Inflammatory bowel disease (IBDs)</li> <li>e. Crohn's disease</li> <li>f. Ulcerative colitis (UC)</li> </ul> </li> </ul>	<p><b>Slide #12 cont'd</b></p> <p><b>Slide #13:</b> Scleroderma</p> <p><b>Notes:</b> pictures of scleroderma in patients</p> <p><b>Q:</b> Have you ever encountered a patient or friend/family member that has fingers or digits that look frozen?</p> <p><b>A:</b> Yes/no</p> <p><b>Slide #14:</b> Scleroderma dental hygiene care</p> <p><b>Slide #15:</b> Autoimmune diseases affecting the GI tract</p>



TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
3 minutes	<p>9. Dental hygiene care</p> <ol style="list-style-type: none"> <li>Avoid NSAIDS</li> <li>Tobacco cessation</li> <li>Referral mental health</li> <li>Interprofessional care</li> <li>Dietary assessment</li> <li>Dietary counseling</li> <li>Palliative treatment</li> <li>Dental biofilm</li> <li>Fluorides</li> </ol> <p>10. Ulcerative colitis</p> <ol style="list-style-type: none"> <li>Irritable bowel</li> <li>Affects colon</li> </ol> <p>11. Dental hygiene care</p> <ol style="list-style-type: none"> <li>Palliative treatment</li> <li>Avoid NSAIDS</li> <li>Education <ol style="list-style-type: none"> <li>Biofilm removal</li> </ol> </li> <li>Regular recalls <ol style="list-style-type: none"> <li>Periodontal</li> <li>Healthy</li> </ol> </li> </ol> <p>12. Multiple sclerosis (MS)</p> <ol style="list-style-type: none"> <li>Demyelination <ol style="list-style-type: none"> <li>Central nervous system</li> </ol> </li> <li>Progressive disability <ol style="list-style-type: none"> <li>Motor</li> <li>Sensory</li> <li>Cognitive</li> <li>Emotional</li> </ol> </li> <li>Females <ol style="list-style-type: none"> <li>2x-3x more <ol style="list-style-type: none"> <li>Males</li> </ol> </li> </ol> </li> </ol> <p>13. Dental hygiene care</p> <ol style="list-style-type: none"> <li>Medical consults</li> <li>Dental clearance</li> <li>White blood counts</li> <li>Palliative treatment</li> <li>Orofacial manifestations</li> <li>Self-care <ol style="list-style-type: none"> <li>Individualized</li> <li>Disturbances <ol style="list-style-type: none"> <li>Motor</li> <li>visual</li> </ol> </li> <li>prevention</li> </ol> </li> </ol>	<p><b>Slide #19:</b> Dental hygiene care of crohn's patient</p> <p><b>Slide #20:</b> Ulcerative colitis</p> <p><b>Notes:</b> picture of colon with ulcerative colitis lesions</p> <p><b>Slide #21:</b> Dental hygiene care for UC patient</p> <p><b>Notes:</b> Reinforce consistent brushing and flossing will remove harmful bacteria and increase periodontal health and longevity</p> <p><b>Notes:</b> Pictures of UC patients colonic mucosa</p> <p><b>Slide #22:</b> Pystomatitis vegetans picture</p> <p><b>Slide #23:</b> Multiple sclerosis</p> <p><b>Notes:</b> Pictures of health versus multiple sclerotic neuron</p> <p><b>Slide 24:</b> Dental hygiene care with MS patients</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
7 minutes	<ul style="list-style-type: none"> <li>iv. risk</li> <li>v. oral candidiasis</li> <li>vi. frequent appointments</li> </ul> <p>14. Myasthenia gravis</p> <ul style="list-style-type: none"> <li>a. Neuromuscular</li> <li>b. Weakness</li> <li>c. Abnormal fatigue <ul style="list-style-type: none"> <li>i. Defective <ul style="list-style-type: none"> <li>1. Transmission</li> <li>2. Nerve impulses</li> </ul> </li> </ul> </li> <li>d. Myasthenic crisis <ul style="list-style-type: none"> <li>i. Life-threatening</li> <li>ii. Swallow</li> <li>iii. Respiratory muscles</li> <li>iv. 911</li> <li>v. BLS</li> </ul> </li> </ul> <p>15. Dental hygiene care</p> <ul style="list-style-type: none"> <li>a. Short appointments</li> <li>b. Consult</li> <li>c. Medical clearance</li> <li>d. Manage anxiety</li> <li>e. Semi-supine</li> <li>f. Limited water</li> <li>g. Bite block</li> <li>h. Rest periods</li> <li>i. Speech difficulties</li> <li>j. Distress</li> <li>k. Comfort</li> <li>l. Biofilm</li> <li>m. Electric toothbrush</li> <li>n. Support options</li> <li>o. Frequent visits</li> </ul> <p>16. Sjogren's syndrome</p> <ul style="list-style-type: none"> <li>a. Autoantibodies attack <ul style="list-style-type: none"> <li>i. Healthy cells</li> <li>ii. Exocrine glands</li> <li>iii. Other organs</li> </ul> </li> <li>b. Exocrine glands <ul style="list-style-type: none"> <li>i. Produce moisture <ul style="list-style-type: none"> <li>1. Mouth</li> <li>2. Eyes</li> <li>3. Nose</li> <li>4. Throat</li> <li>5. Skin</li> </ul> </li> </ul> </li> </ul>	<p><b>Q:</b> What changes can be expected when implementing lifestyle habits that support oral health?</p> <p><b>A:</b> Longevity and functionality of oral health, decreased risk of caries, overall healthier lifestyle due to healthy diet choices</p> <p><b>Slide #24:</b> Myasthenia gravis</p> <p><b>Notes:</b> picture of muscle weakness seen with myasthenia gravis</p> <p><b>Slide #25:</b> Dental hygiene care of patient with myasthenia gravis</p> <p><b>Notes:</b> picture of patient shown with facial weakness and altered smile</p> <p><b>Slide #26:</b> Sjogren's syndrome</p> <p><b>Notes:</b> pictures of salivary positioning in the face/mouth</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
4 minutes	<ul style="list-style-type: none"> <li>c. oral manifestations               <ul style="list-style-type: none"> <li>i. increased caries</li> <li>ii. increased biofilm</li> <li>iii. oral candidiasis</li> </ul> </li> <li>17. Dental hygiene care               <ul style="list-style-type: none"> <li>a. Interprofessional approach</li> <li>b. Self-care education</li> <li>c. Dietary intake</li> <li>d. Reduce snacking                   <ul style="list-style-type: none"> <li>i. Fermentable carbohydrates</li> </ul> </li> <li>e. Xylitol                   <ul style="list-style-type: none"> <li>i. Mints</li> <li>ii. Gums</li> <li>iii. Hard candies</li> <li>iv. Sprays</li> </ul> </li> <li>f. Saliva substitutes</li> <li>g. Water bottles</li> <li>h. Antifungal mouthrinses</li> <li>i. Home fluorides</li> <li>j. Avoid                   <ul style="list-style-type: none"> <li>i. SLS</li> <li>ii. Pyrophosphates</li> </ul> </li> <li>k. Antimicrobial rinses                   <ul style="list-style-type: none"> <li>i. Chlorhexidine</li> <li>ii. Therastom</li> </ul> </li> <li>l. Reduce caries                   <ul style="list-style-type: none"> <li>i. Calcium phosphate</li> </ul> </li> <li>m. Frequent recalls</li> </ul> </li> <li>18. Systemic lupus erythematosus               <ul style="list-style-type: none"> <li>a. Widespread inflammation                   <ul style="list-style-type: none"> <li>i. Internal organs</li> <li>ii. Glands</li> <li>iii. Tissue destruction</li> <li>iv. Tissue damage</li> </ul> </li> <li>b. Oral lesions                   <ul style="list-style-type: none"> <li>i. Discoid</li> <li>ii. Petechia-like</li> <li>iii. Gingival bleeding</li> <li>iv. Erosive mucosal</li> </ul> </li> </ul> </li> </ul>	<p><b>Slide #27 cont'd</b></p> <p><b>Slide #28:</b> Dental hygiene care of sjogren's patient</p> <p><b>Notes:</b> picture of organs/areas affected with Sjogren's syndrome</p> <p><b>Slide #29:</b> Systemic lupus erythematosus</p> <p><b>Notes:</b> picture of patient with butterfly rash</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
4 minutes	<p>19. Dental Care</p> <ul style="list-style-type: none"> <li>a. Consult</li> <li>b. Medical clearance</li> <li>c. Monitor <ul style="list-style-type: none"> <li>i. Periodontal health</li> <li>ii. Bone loss</li> <li>iii. Corticosteroids</li> </ul> </li> <li>d. Oral self-care <ul style="list-style-type: none"> <li>i. Biofilm</li> <li>ii. Gingivitis</li> </ul> </li> <li>e. Prevention <ul style="list-style-type: none"> <li>i. Fluorides</li> <li>ii. Dietary counseling</li> <li>iii. Saliva substitutes</li> </ul> </li> <li>f. Modify oral care <ul style="list-style-type: none"> <li>i. Mobility</li> <li>ii. Dexterity</li> </ul> </li> <li>g. Palliative treatment</li> <li>h. Tobacco cessation</li> </ul>	<p><b>Slide #30:</b> Dental hygiene care of lupus patient</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
3 minutes	<p><b>Summary:</b></p> <p>I hope that you all were able to benefit from the information presented to you today and have a better foundation for understanding autoimmune diseases, ways to prevent and treat caries and periodontal disease, as well as understanding the role of diet in the caries process. Utilize the information presented today and begin to form healthy oral hygiene habits and recognize healthier choices in diet. Refer to statistics presented today to be informed of the importance and impact of dental caries and periodontal health in systemic health. Be proactive and recognize and accept your responsibility as a patient in sustaining your dental health by committing to routine dental prophylaxis and exams every six months. Remember the urgency of untreated decay and outlying ethical contingencies. Recognize the benefits of preventive dental care treatment such as sealants. Also, decrease caries risk and strengthen enamel by fluoride use. Finally, initiate and consistently implement lifestyle changes that support overall longevity and functionality of your oral health.</p>	<p><b>Slide #15:</b> Summary  <b>Notes:</b> Thank you for your attention/ participation</p> <p><b>Q:</b> From the lesson, what information was most important to you?</p> <p><b>A:</b> Answers will vary. Clarify misconceptions.</p>

TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
5 minutes	<p><b>D. Objective 4. Plan dental hygiene care modifications for the patient with an autoimmune disease.</b></p> <p><b>E. Objective 5. Suggest lifestyle changes that will support oral health in relation to autoimmune diseases.</b></p> <p><b>Critical Thinking Activity:</b>  <b>Case:</b> Let us consider the case of Jane Doe, a 55 year old female that presents with a medical history of Sjogren's syndrome. She was diagnosed 3 years ago. She reports persistent dry mouth, difficulty swallowing, and recurrent oral infections. She has been experiencing these symptoms since 2019. She states, "My mouth feels so dry, and I keep getting cavities. It's hard to eat, and I'm worried about my teeth." What strategies would you suggest for Jane Does to utilize for homecare and cavities management?</p> <ol style="list-style-type: none"> <li>1. What are some questions that we may ask this patient in the clinic?  Answer: What are your current oral hygiene habits? Do you brush? Floss? Waterpik usage? What are your current medications? Do you use saliva substitutes? Do you use fluoride trays? How often do you visit the dentist?</li> <li>2. What should be documented with this patient in her chart?  Answer: Her medical history, medications, vitals, intraoral and extraoral manifestations, and the odontogram (existing and needed treatment) all should be documented.</li> </ol>	<p><b>Slide #31:</b> Case study</p> <p><b>Notes:</b> panoramic x-ray shown</p>



TIME	LESSON CONTENT	NOTES-MEDIA-Q/A
	<p data-bbox="410 275 943 380">3. What are some intraoral and extraoral signs and symptoms that we may examine in this patient?</p> <p data-bbox="410 428 964 716">Answer: Dry oral mucosa, multiple carious lesions, increased plaque and calculus, Tongue appears coated, salivary flow significantly reduced, Angular cheilitis and radiographs reveal evident of bone loss and inflammation at the apex associated with some of the carious lesions.</p> <p data-bbox="410 764 943 831">4. What are some diagnoses that we may find in this patient?</p> <p data-bbox="410 879 906 1016">Answer: We may find multiple carious lesions, persistent dry mouth, angular cheilitis, and periodontal disease or gingivitis.</p> <p data-bbox="410 1064 938 1169">5. How could this patient be treatment-planned to have ultimate preventative oral health?</p> <p data-bbox="410 1176 967 1696">Answer: The dental hygienist can recommend placing dental sealants on the non-decayed permanent molars. She can prescribe a prescription toothpaste such as Prevident 5000 for the patient to use nightly to help prevent decay. She can also suggest an electric toothbrush and demonstrate proper flossing and proper waterpik and electric toothbrush usage to the patient. The last thing is to stress the fluoride application at each six-month visit, use of home fluoride trays and saliva substitutes.</p>	

### Test Items:

Objective #1: Describe how autoimmune diseases affect the immune system.

Test Item #1: List which organs are involved in autoimmune conditions?

- a. pituitary, pancreas, thyroid, gonads
- b. heart, lungs, brain, stomach
- c. veins, arteries, capillaries
- d. head, toes, fingers

Objective #2: Identify various types of autoimmune diseases.

Test Item #2: Determine which autoimmune disease is described here based on the following symptoms: lack of salivary gland production of saliva, dry eyes, angular cheilitis, high caries rate.

- a. rheumatoid arthritis
- b. sjogren's syndrome
- c. scleroderma
- d. ulcerative colitis

Objective #3: Explain signs, symptoms and potential oral manifestations of each autoimmune disease.

Test Item #3: Which of the following is the **BEST** habit to lower the risk of caries in relation to autoimmune disorders?

- a. Drinking juice or soda all at once rather than over an extended period.
- b. Avoiding artificially sweetened food and beverages.
- c. Using fluoridated toothpaste, mouthwash and home fluoride trays.
- d. Chewing sugar-free gum that has xylitol as an active ingredient.

Objective #4 – Short Answer. Plan dental hygiene care modifications for the patient with an autoimmune disease.

Test Item #4: Formulate an oral hygiene care plan that will decrease the risk of caries in 4-5 sentences in length using APA formatting style.

Objective #5 – Short Answer. Suggest lifestyle changes that will support oral health in relation to autoimmune diseases.

Test Item #5: Based on the information presented today, describe lifestyle changes you'll make to support the longevity of your oral health if you develop an autoimmune condition. A minimum length of 4-5 sentences in length using APA formatting style is needed.

Answer Key:

- 1. A
- 2. B

3. C

4. Brushing two times a day with an electric toothbrush for two minutes at a 45-degree angle using soft pressure. Consistent daily / nightly flossing using 'c' wrap technique with string floss. Routine use of fluoridated toothpaste as well as fluoridated mouthwash without alcohol. Prescription fluoride trays to use every night. Regular recall visits depending on the periodontal status of the patient.

5. Diet control exemplifying infrequent snacking and lessened intake of sugars and starches and an increased ingestion of fluoridated water. Committing to routine dental examinations, radiographs, fluoride applications, periodontal charts, and professional oral hygiene instructions every six months. Advocating preventative measures such as sealants. Prescribing home fluoride trays and gels for patient to use nightly.