

Collaborative Care to Address Oral Issues of the Medically Complex Patient

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Financial Disclosure

The speaker does not have any financial disclosures or affiliations with ineligible companies within the last 24 months to declare.

Learning Outcomes

1

Identify oral complications that affect a medically complex patient

2

Identify the need and strategies to help alleviate oral complications

3

Identify the interdisciplinary care needed to promote better patient outcomes

Background

- Bachelors of Science in Dental Hygiene (University of New Mexico) 2011
- Masters of Public Health (New Mexico State University) 2014
- **Employment:**
- Oral Health Educator at Phoenix Children's Hospital
- Dental Hygienist
- Oral Health Consultant
- Public Health Advocate
- Mom to 3 boys



Whole Person Approach to Care

- This delivery model utilizes a diverse array of healthcare resources to improve care, coordination, well-being and health outcomes of the patient being treated.
- This model addresses all dimensions of the patient's health using a multidisciplinary team approach.



NYU Oral Health Nursing Education and Practice
(Organizational Chart)

Social Determinants of Oral Health

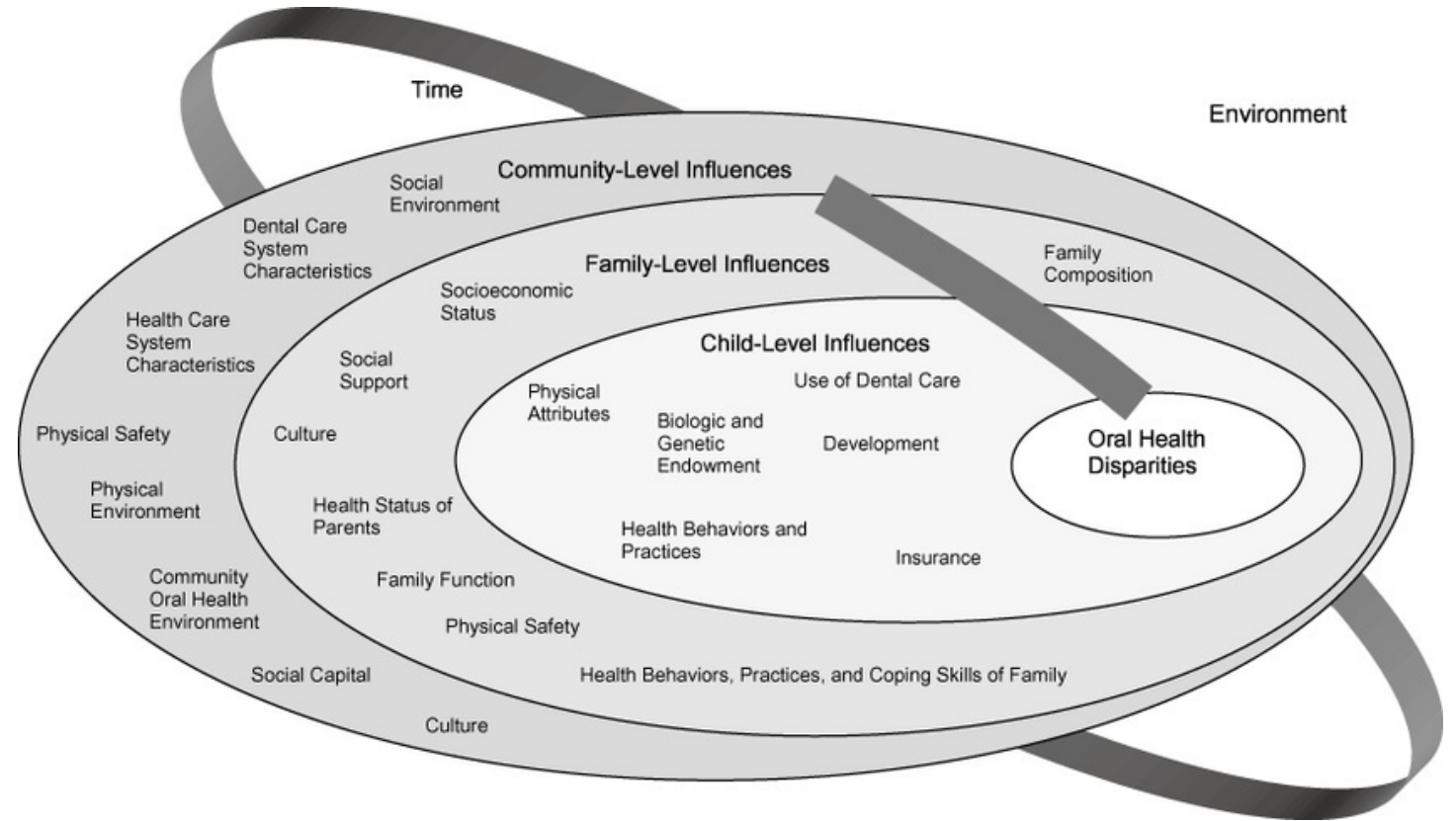





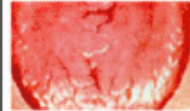














Figure obtained from Smiles for Life Curriculum

Oral Assessment

Bedside Oral Exam (BOE)

Perform each Shift

Category	Methods of Measurement	Numerical and Descriptive Ratings		
		1 Normal	2 Moderate Dysfunction	3 Severe Dysfunction
Swallow	Observe while patient swallows, check gag reflex	Normal swallow	Pain or difficulty with swallow	Unable to swallow (intubated, absent gag)
Lips	Observe	 Smooth, pink	 Dry or cracked	 Ulcerated or bleeding
Tongue	Observe appearance of tissue	 Pink, moist, papillae present	 Coated or loss of papillae with shiny appearance, with or w/o redness	 Blistered, cracked, or bleeding
Saliva	Observe Use tongue blade, touching the center of tongue and floor of mouth (optional)	 Watery	 Thick or ropy	 Absent
Mucous Membranes	Observe appearance of tissue	 Pink, moist	 Red or coated, no ulcers	 Ulcers with or w/o bleeding
Gingiva	Observe Use tongue blade, may gently press tissue with tip of blade (optional)	 Pink, firm	 Edema, with or w/o redness; with or w/o bleeding	 Bleeds easily
Teeth or dentures	Observe appearance of teeth or denture	 Clean or no teeth	 Local debris (between teeth)	 General debris, decay
Odor	Smell	Normal	Slightly to moderately foul	Strong foul odor

Modified from: Eilers, et al. (1988) "Development, testing, and application of the oral assessment guide." *Oncol Nurs Forum* 15(3): 325-30.

Oral Systemic Connection/Manifestations

Thyroid Gland Disorders and Manifestations in the Oral Cavity:

Hypothyroidism

- Salivary gland enlargement
- Macroglossia
- Glossitis
- Delayed dental eruption
- Enamel hypoplasia
- Mouth breathing

Hyperthyroidism

- Increased caries risk
- Increased gum disease risk
- Burning mouth syndrome
- Accelerated dental eruption
- Maxillary and Mandibular osteoporosis

Dental Considerations

Hyperthyroidism



Adrenaline containing local anesthetics should be avoided in patients with unstable hyperthyroidism due to increased risk of a thyroid crisis (storm).



Defer dental treatments in patients with unstable thyroid disorders until it has been stabilized with medications.



Patients with stable well controlled thyroid disorders will not have any contradictions to dental treatment.

Dental Considerations Hypothyroidism

Patients are extremely sensitive to CNS depressant drugs.

Benzodiazepines, barbiturates and narcotic analgesics may cause respiratory and cardiac depression.

L-thyroxine (T4) or levothyroxine can interact with some sympathomimetic drugs that is used in dentistry including epinephrine or norepi

Oral Systemic Connection/Manifestations

Adrenal Disorders

- Xerostomia
- Gingivitis/periodontal disease
- Thrush and fungal infections
- Burning mouth syndrome
- Oral lichen planus
- Geographic tongue

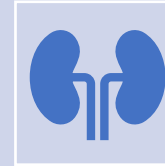
Diabetes

- Increased thirst with xerostomia
- Dental caries
- Burning mouth
- Fissured tongue
- Taste disturbance
- Poor wound healing
- Fruity oral odor
- Gingivitis/periodontal disease
- Parotid gland enlargement
- Thrush
- Oral neuropathies

Dental Considerations Adrenal Disorders



Long-term use of corticosteroids indicates serious underlying condition. Long term use can lead to dental complications including gum disease, thrush and sore mouth.



Dental treatment can induce stress in the patient. If patient suffering from adrenal insufficiency cannot produce sufficient hormones and undergoes stress, they may exhibit Addisonian (adrenal) crisis.



Patients with adrenal disorders exhibiting stress can experience progressive hypotension 6 to 13 hours after dental treatment.



Do morning appointments for these patients so they are awake if adrenal crisis does occur later in the day.

Dental Considerations

Diabetes



Morning Appointments

Short morning appointments

Stress Reduction

If necessary,
premedication analgesic
to control pain and stress

Hygiene & Recall appointments

Frequent recall
appointments.

Diet Counseling

Provide counseling
on proper food.
Educate on
importance of
seeking dietician
consult.

Dental Clinic Considerations

Have glucometer available.
Have glucose ready and a
rapid acting simple carb
available in clinic.

Oral Systemic Connection/Manifestations

Autoimmune Conditions and Manifestations in Oral Cavity

Sjogren's Syndrome

- Debilitated salivary glands causing xerostomia
- Mouth sores
- Dysphagia
- Caries
- Tooth loss
- Thrush
- Gingivitis/Periodontal issues
- Chapped lips (angular cheilitis)
- Friable oral mucosa
- Fissured tongue

Crohn's Disease

- Facial/lip swelling with soreness
- Angular Cheilitis
- Mouth ulcers
- Gingival Hyperplasia
- Erythema
- Corrugated buccal mucosa
- Xerostomia
- Mucosal tags

Dental Considerations Sjogren's Disease

Patients will have increased dental sensitivity consider topical or local numbing agent.

Due to increased risk of caries consider Silver diamine fluoride, increased use of fluoride, xylitol counseling, placement of composite restorations and diet counseling.

If mobility issues exist educate on better oral hygiene regimens.

Difficulty wearing oral prosthesis can occur.

Dental Considerations Crohn's Disease

Literature suggests orofacial granulomatosis manifests in half of children and 20%-50% of adults with Crohn's making it an early indicator of Crohn's.

Topical steroids may be indicated for recurrent aphthous ulcers.

Monitoring of blood pressure and glucose levels at every dental visit to ensure safe treatment due to long term corticosteroid use.

Asthma is likely to be present with Crohn's educating patient on rinsing after inhaler use. Dental professionals should be advised not to use ultrasonic scalers.

Oral Systemic Connection/Manifestations End Stage Renal Disease (ESRD) and Uremia Manifestations in Oral Cavity

- Pallor of mucosa
- Xerostomia
- Decreased salivary flow
- Parotitis
- Metallic taste
- Saliva with ammonia odor
- Stomatitis
- Oral ulcerations
- Candidiasis



Dental Considerations ESRD



Do not use drugs toxic to kidneys. Use caution and alter drug dosage when eliminated by kidney.



If patient on renal dialysis, dental treatment should be on day after dialysis.



Be aware of poor healing in the oral cavity and mouth sores.



Advise patient on potential toxicity problems from certain medications.

Oral Systemic Connection/Manifestations

Autoimmune Conditions and Manifestations in Oral Cavity

Hematological Disease

- Lichen planus
- Xerostomia
- Atrophic glossitis
- Burning mouth
- Dental decay

Immunosuppressive meds

- Gingival Hyperplasia
- Xerostomia
- Dental decay
- Oral mucosal tissue changes with elevated risk of oral cancer.

Dental Considerations

Aplastic Anemia



Spontaneous bleeding gums, oral hematoma's, petechial hemorrhages, gingival swelling all are common in patients with aplastic anemia.



Ensure patients have increased white blood cell count to avoid infections before dental treatments.



Discussion with hematologist to minimize bleeding risks.




Treatment is usually a stem cell transplant and patient will go on immunosuppressive medications that have high risk of gingival hyperplasia.



Immunosuppressed Patients

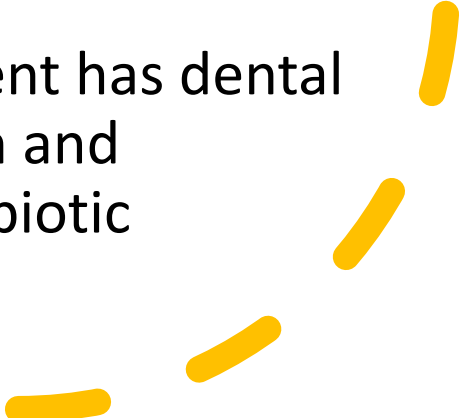
Types of immunosuppressed patients:

- Patients taking immunosuppressive drugs
 - Long term corticosteroid use
 - HIV Patients
 - Patients undergoing cancer treatment
 - Patients who underwent transplant or received implants
- 

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Dental Considerations for Immunosuppressed Patients

Ask questions to determine severity of immunosuppression and the reason they are immunosuppressed.

- No elective dental treatment until white count is above 2,000
 - Platelet count should not be less than 60,000 for elective treatment. If emergency treatment is indicated a unit of platelets prior to procedure may be indicated.
 - Full aggressive dental therapy prior to organ transplant to ensure patient is free of infections.
 - If severely immunocompromised patient has dental infection provide medical coordination and consultation to determine proper antibiotic coverage and procedures indicated.
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All About the Saliva

Human saliva is essential for:

- Mastication
- Lubrication
- Speech production
- Protecting mucosal surfaces of the oral cavity
- Keeps the relationship between the host and oral microbiome in symbiotic state.
- Protects mouth from dental caries



Xerostomia

Various conditions,
treatment and
medications can cause
xerostomia:

Head/Neck Cancer
Treatment

Autoimmune Conditions

Diabetes

HIV infection

Antihistamine,
antidepressant,
antihypertensive,
anticholinergic agent
and sedatives.

Mouth breathing

GVHD (graft vs host
disease)

Xerostomia Prevention



Use of non-alcohol based oral rinses.



Increased use of Xylitol products



Use of dry mouth discs, lozenge, gel or spray.



Chewing xylitol-based gum



Avoid salty and spicy foods.



Avoid Sticky foods like caramel or peanut butter.



Avoid dry foods like crackers, bread or cookies.

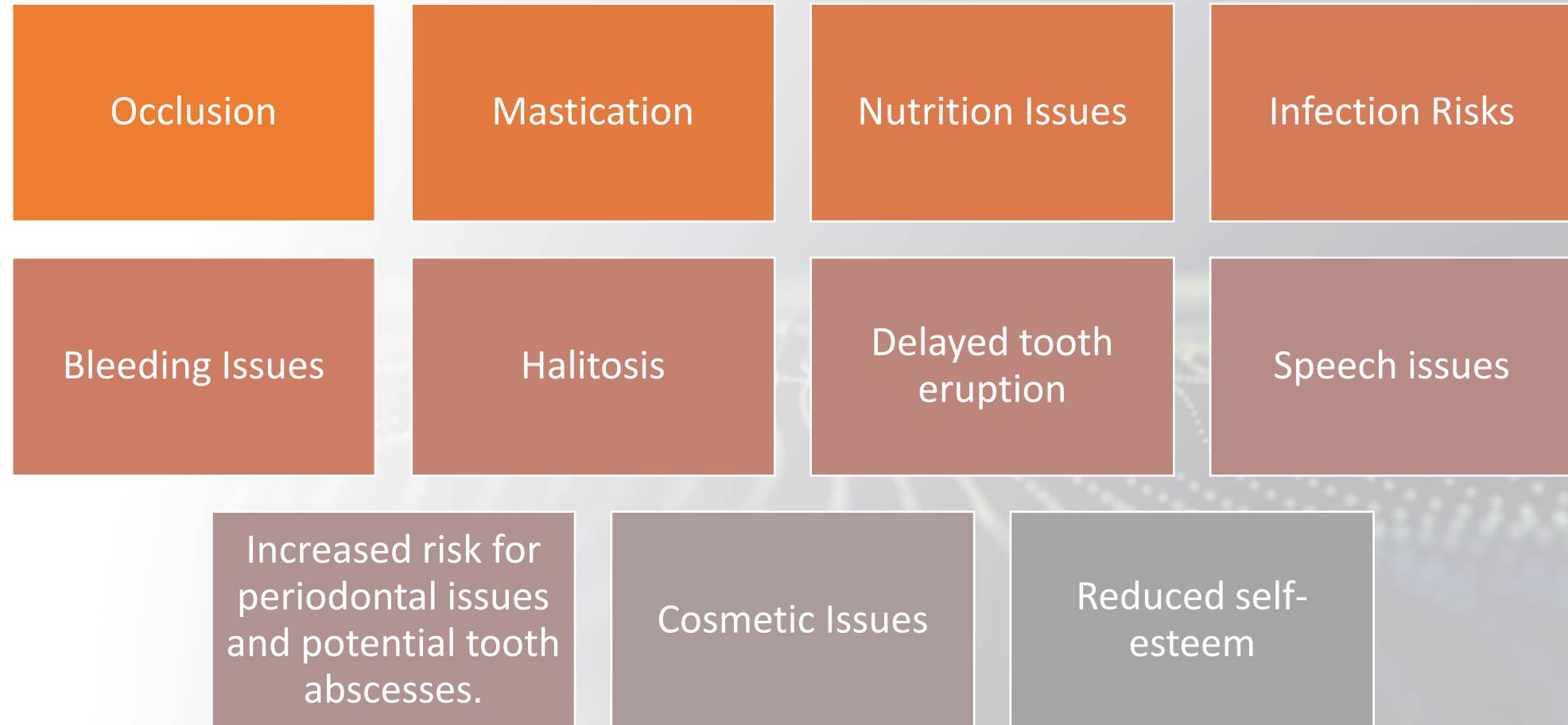


Gingival Hyperplasia

- An oral condition that causes gums to overgrow.
- Severe cases gums will completely cover teeth.
- Caused by vitamin C deficiency
- Medications like cyclosporin, phenytoin and calcium channel antagonists.



Concerns Surrounding Gingival Hyperplasia



Gingival Hyperplasia Prevention

- Proper oral hygiene care to reduce severity. Inflammation is usually caused by a plaque induced response.
- Use of antiseptic toothpaste/oral rinse.
- Switching different meds tacrolimus over cyclosporin.
- Gingivectomy for severe cases.



Mucositis

Oral Mucositis- is inflammation of the mucous membranes of the oral cavity and oropharynx characterized by tissue erythema, inflammation, atrophy and ulcerations.

- Chemotherapy Induced
- Radiation Induced
- GVHD
- Autoimmune
- HSV (herpes simplex virus)



Mucositis

Who is at increased risk?

- Patients with poor oral hygiene
- Active dental decay
- Active gingivitis/periodontal disease
- High titers of herpes simplex virus (HSV)
- Slower metabolism of chemotherapeutic drugs.
- Xerostomia
- Higher levels of oral microflora

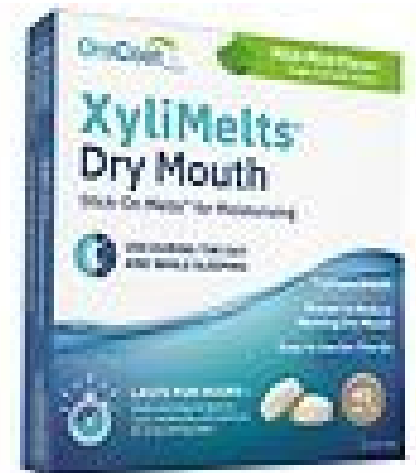
Clinical Manifestations

- Pain
- Oral breakdown
- Redness of oral cavity
- Scalloping
- Xerostomia
- Ulcerations covered with white pseudo membrane.
- Swallowing difficulty

Mucositis Prevention

Oral Hygiene

- Daily oral cavity screenings
- Basic oral care (toothbrushing/oral rinse)
- Avoiding spicy/acidic food, drinks, rinses, toothpaste.
- Use of cryotherapy during infusions.
- Increased intake of glutamine (Juven/Healios)
- Avoid carbonated beverages
- Minimizing xerostomia risk



Dental Considerations for the Pediatric Cancer Survivor

- Tooth development
- Root malformations
- Microdontia
- Hypodontia
- Enamel hypoplasia
- Salivary function
- Craniofacial development
- TMJ function
- Increase risk of subsequent malignant neoplasms in oral cavity
- Increase decay risk

Questions???

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