

# Caring For the Oral Health of Individuals With Special Needs: Addressing Medical Complications in the Oral Care Plan

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LECOM School of Dental Medicine

PA Head Start Association

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This webinar is designed for oral health care professionals and allied health care professionals. Care givers and individuals with special needs will find " Understanding Medical Complications in the Oral Care Plan" to be more useful.

# Caring For the Oral Health of Individuals With Special Needs

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- Pennsylvania Coalition for Oral Health Board of Directors
- PDA Committee on Access to Care
- PA Department of Health: Advisory Health Board
- PA Department of Health Dental Consultant

These are some of the current affiliations I have that contribute to my knowledge base for these modules. I have been treating individuals with special needs for 25yrs in private practice and in safety net clinic settings. The stories and information that I share with you come from these years of experience, as well as continual research regarding this subject. Many are “trick of the trade” that I have found to be successful in the care of this population.

## Caring For the Oral Health of Individuals With Special Needs



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## Disclosure

**Specialized Care Co, Inc.**  
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The speaker, Dr. Alicia Risner-Bauman, does not have any financial interests in Specialized Care Company or ARK Therapeutic Services, Inc. or any other products mentioned in this module.



This is the standard disclaimer and disclosure statement.



**Please view the introduction before  
proceeding with this module.**

This webinar is part of the series of modules designed to help improve the oral health of individuals with special needs. Viewing the introductory module will help make this information more useful to you. Please view that content before continuing with this webinar. Thank you.

## Learning objectives

- Describe how medical limitations can affect oral health care.
- Identify basic management techniques necessary to care for various medical challenges.
- Identify interventions that can be used for medically compromised individuals.
- Describe inter-professional communication and referral systems needed to treat individuals with special needs.

These are some of the things we hope to “learn ya” during this webinar.

Identifying and managing limitations that compromise the healthcare plan is essential in developing a plan that will be workable. A patient centered plan can only be developed if it addresses the various limitations often faced by individuals with special needs.

As we dive into the needs of the medically compromised patient keep in mind that we are still addressing the same parameters we outlined previously in the introduction. We must look at both the patient and caregiver and their circumstances when discussing care modifications.

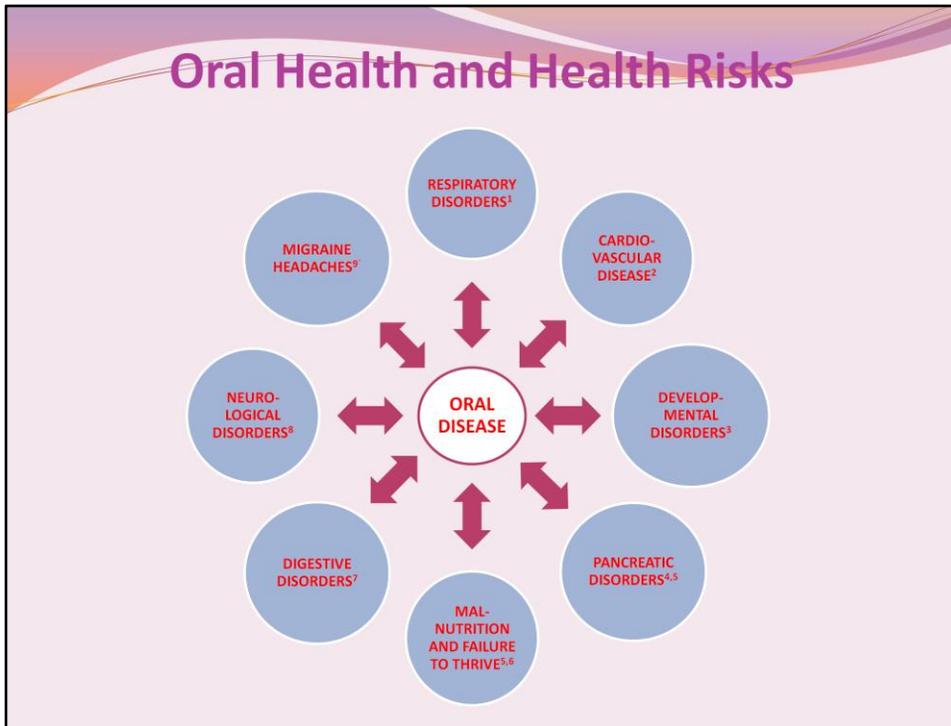
## Consultations and “The Book”

- Accurate and updated medical history with ICD diagnoses and codes
- Current medications including over-the-counter
- Vital signs
- Changes in health are recent hospitalizations
- Management plans in place

It is important that all caregivers provide all pertinent information. Very often we receive consultations that do not include a complete medical assessment from the primary care provider or sometimes from the group home. Don't hesitate to contact the nurses or providers and ask them for the most recent information. It's best to have this information forwarded ahead of time so that you don't waste appointment time in gathering the information and entering it into your health record. Checking for accuracy, dates, can be very time-consuming. Many individuals don't have patience to wait while you're sorting this out which can then lead to difficult behavior, the "what is taking so long" problem.

Ask that the book of daily statistics and plans comes to each visit.

## Oral Health and Health Risks



As we discuss managing medical complications, we are not going to be looking at specific disease processes or disabilities. Instead, we are going to look at disease categories by system and modifications and concerns to consider in the overall healthcare plan.

Most of the complications we are discussing are due to the bacterial load and inflammation present in most oral disease. On a cellular level inflammatory cells become systemic and then causes inflammatory changes in the various systems we are going to discuss. Also oral bacteria has been found in many of these medical conditions as well.

# Pregnancy and Neonatal Development

## ORAL HEALTH CONCERNS

- PREMATURE and LOW BIRTH WEIGHT babies
- Tooth development begins at four weeks
- Acid erosion due to regurgitation
- **THERE ARE NO ABSOLUTE CONTRAINDICATIONS TO DENTAL CARE DURING PREGNANCY**
- **First dental visit at AGE 1yr old**

### Neonatal Mouth Formation

3-4 wks deciduous tooth buds  
4-7 wks lips  
8-12 wks palate  
12wks deciduous teeth harden  
6 mos permanent tooth buds



- Saini and Saini, Periodontitis: A risk for delivery of premature labor and low-birth weight infants. *J Nat Sci Biol Med.* 2010 Jul-Dec; 1(1): 40-42.
- <https://www.google.com/search?q=PICTURE+LOW+BIRTH+WEIGHT+BABIES&espv>

There was a time when pregnant women did not seek dental care, and some still believe it is not safe.

HAVE ALL READ GREEN OUT LOAD

There are relative contraindications depending on the patient's condition, therefore consulting the OB/GYN is reasonable.

We used to only treat in the second trimester because during the first trimester is when you have the most morning sickness and the third trimester you're so big you don't want to sit back in the chair. I had to sleep sitting up on my couch for the last month because I couldn't breathe with the pressure.

Look at the information on developing teeth; you can see why we stress the importance of prenatal care.

Develop relationships with your primary care providers, OB/GYN's, case workers, and pediatricians to discuss the importance of oral care during pregnancy.

Oral hygiene kits make a great shower gift, tooth paste, baby brush, and the like.

## Respiratory Disorders

Asthma, COPD, aspiration risk, sleep apnea, emphysema, cystic fibrosis, pneumonia

### ORAL HEALTH CONCERNS

- Inhalers can cause xerostomia, oropharyngeal candidiasis
- Mouth breathers can have increased stain and xerostomia induced complications
- CPAP users experience xerostomia, mask fit
- Cannot tolerate long appointments
- Cannot recline easily, restrictive lung disease should treat in semi-supine position

The ADA Practical Guide to Patients with Medical Conditions. Edited by Lauren L. Patton. Wiley and Blackwell. 2012.

Inhalers should be used before oral care at home and brought to the appointment and kept in the treatment room. Forget to ask what causes the onset of an attack, and the last time they had an attack, how frequently they are using inhalers.

Check oxygen tank levels for people who carry their own tanks. Make sure they have enough oxygen for the appointment and to get back home. Sometimes they are left waiting if you're running behind and you may have to have them turn off their oxygen and put them on your oxygen in order to make sure they'll have enough to get home.

# Pneumonia

- Oral bacteria has been associated with pneumonia
- Increased risk of aspiration pneumonia



- Frank A. Scannapieco Associations Between Periodontal Disease and Risk for Nosocomial Bacterial Pneumonia and Chronic Obstructive Pulmonary Disease. A Systematic Review. *Annals of Periodontology*, December 2003, Vol. 8, No. 1, Pages 54-69.
- <http://www.activebeat.co/your-health/every-breath-counts-6-fast-facts-for-world-pneumonia-day>
- American Dental Association, Health Policy Institute 2016, Health Resources and Services Administration 2016, American Association Cancer research 2016

Aspiration pneumonia is the number one reason for individuals with special needs to report to the emergency department.

It is imperative during treatment that an assistant, nurse etc. is constantly maintaining a clear airway.

## Metabolic Disorders

- Diabetes, thyroid disorders, obesity, pancreatic cancer

### ORAL HEALTH CONCERNS

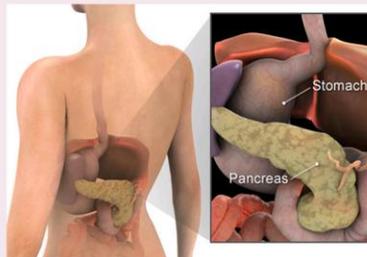
- Immunosuppression can increase risk of periodontal and caries problems, post operative infections
- Diet control or lack of can lead to high sugar choices
- Thirst can cause increased consumption of sugary and/or acidic beverages
- Energy levels can be lower
- Problems with positioning for appointments
- Insulin may need adjusting for professional visits

• The ADA Practical Guide to Patients with Medical Conditions. Edited by Lauren L. Patton. Wiley and Blackwell. 2012

Consideration should be given to prophylactic antibiotics and after (1 week) or Chlorhexidine regimen week prior and after

## Metabolic Disorders

Chronic infection can cause DIABETES complications, has been associated with PANCREATIC CANCER.



- Farrell, et.al. Variation of oral micro biota are associated with pancreatic diseases including pancreatic cancer. *Gut*. 2012, 61:4 582-588.
- Moore, Orchard, Guggenheimer, and Weyant. Diabetes and Oral Health Promotion: A Survey of Disease Prevention Behaviors. *Journal of the American Dental Association*. Sept. 2000, Vol 131, Issue 9, pgs. 1333-1341.
- <http://www.webmd.com/cancer/pancreatic-cancer/ss/slideshow-pancreatic-cancer-overview>

Ask your patients to Inform you not only of the fact that they are diabetic, but how well controlled the diabetes is, whether with diet or medication. Ask if they check their glucose on a daily basis, what their normal levels run, and their last A1C reading. A1C below 5.7 is considered normal. Consider having a glucometer available in your office for patients who may show up not feeling well and also for medical emergencies.

## Gastrointestinal Disorders

- GERD, hernia, ulcers, Crohns disease, peg tube, obesity

### ORAL HEALTH CONCERNS

- Increased acid in oral cavity
- Diet modifications (consistency)
- Lack of mechanical stimulation
- Medications are not sugar free
- Poor uptake of vitamins and minerals including calcium
- Care givers may not realize that oral cavity still requires care
- Oral bacteria can lodge in gut and cause inflammatory bowel disease. (Klebsiella bacteria)

Atarashi, K. et. Al. "Ectopic Colonization of Oral bacteria in the intestine drives TH1 cell induction and inflammation. *Science*. . Vol. 358, Issue 6361, pp. 359-365. 20 OCT 2017.

Some patients can experience severe dry mouth, so be sure to evaluate this and make mouth moisturizing part of the care plan. Individuals with peg tubes require oral care to remove the biofilm. Bacteria can still thrive and cause infection, gingival infection and bone destruction.

## Digestive Disorders

- The average person spends 23 minutes each day chewing their food, an insufficient amount of time for proper digestion.
- Healthy teeth are necessary to appropriately chew food.



- Emami, et.al. Impact of Edentulism on Oral and General Health. *International Journal of Dentistry*. Volume 2013, ID 498305
- <http://anhinternational.org/2013/06/12>
- [https://www.google.com/search?q=pictures+of+food&espv=2&biw=970&bih=857&tbn=isch&imgil=aAd\\_eXzdz1Yd2M%253A](https://www.google.com/search?q=pictures+of+food&espv=2&biw=970&bih=857&tbn=isch&imgil=aAd_eXzdz1Yd2M%253A)

Ask if there are difficulties chewing food or if the diet has been modified due to chewing and/or swallowing difficulties. Referral to a speech pathologist may be needed to address swallowing issues. People may be on a thickened liquids only regimen, and you will need to adjust care accordingly. Extracted from a vegetarian.

## Malnutrition and Failure to Thrive

- Inability to eat properly can lead to lack of proper nutrition, inadequate nutrition effects overall health and wellness.
  - Malnutrition is defined by the World Health Organization (WHO) as a “cellular imbalance between the supply of nutrients and energy and the body’s demand for them to ensure growth, maintenance, and specific functions.
  - Studies have shown increased musculoskeletal frailty in patients over 50yrs. old with missing teeth due to inadequate nutritional intake.
- 
- Robertson, MD. and Montagnini, MD. Geriatric Failure to Thrive. American Family Physician. 2004 JUL 15; 70(2):343-350.
  - <http://reference.medscape.com/features/slideshow/nutrition-def>
  - Lee, Seoyoung, Sebbah, Wael. “Association between number of teeth, use of dentures, and musculoskeletal frailty among older adults. “ Geriatrics and Gerontology International. December 7, 2017.

Failure to thrive also known as faltering weight or weight faltering, indicates insufficient weight gain or inappropriate weight loss. Ask about changes in weight, and whether those changes have been intentional or not.

## Cardiovascular Disorders

- Hypertension, Angina, hyperlipidemia, congestive heart failure, arteriosclerosis, cardiovascular disease

### ORAL HEALTH CONCERNS

- Medications can cause xerostomia, taste disturbances, Aphthous ulcers, lichenoid drug eruption
- Limitations make overall care difficult
- Ambulation issues to get to appointments
- Oral flora have been shown to complicate conditions
- Dental procedures can be stressful: consult with PCP



- <http://www.aaom.com/oral-lichen-planus>
- [The ADA Practical Guide to Patients with Medical Conditions](#), Edited by Lauren L. Patton, Wiley and Blackwell, 2012

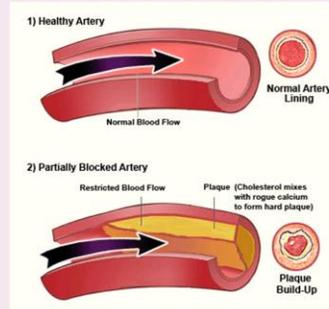
The most important way to control hypertension and other cardiac conditions is adequate pain control and reduced anxiety. Plans may need to be modified for time of day to coincide with regular anxiety medications. You may want to talk to the primary care provider about whether you can change the dosage schedule to better accommodate anxiety control at the office.

Notice swelling of legs when recline in chair, being winded coming into the office, take BP at each visit to establish trends. Make referrals to Primary care providers for elevated blood pressures, pulse, etc.

Oral lichenoid drug eruption is a medication-induced chronic change inside the mouth. It appears the same as idiopathic [oral lichen planus](#) clinically and under the microscope, and usually resolves when drug therapy is changed. Again, intra-professional consultations for treating this painful condition. LP: white papules, white lines (Wickham's Striae), usually bilateral, clear up when remove stimulus. Erosive you get a separation of the tissue and can indicate much more serious disease.

# Heart Disease

- Same bacteria as found in oral cavity
- Inflammation from chronic periodontal disease effects heart disease



- J.M. Lijestrand, et.al. Association of Endodontic Lesions with Coronary Artery Disease. *Journal of Dental research* (July 27, 2016).
- American Dental Association, Health Policy Institute 2016, Health Resources and Services Administration 2016, American Association Cancer research 2016

Studies have shown an increased stroke risk in patients with periodontal disease.as well. Again, inflammation, inflammation, inflammation. It's imperative to develop oral care plans that will decrease his risk.

## Signs of infection include:

- Bad or Bitter taste
- Pain
- Fever
- Swollen jaw
- Intraoral or extraoral swelling
- Exudate/purulent discharge
- Lethargy
- Swelling can close off airway
  - **Oral infections can be FATAL when invade fascial spaces or sinus spaces**

<http://www.sepsis.org/sepsis-and/dental-health>

As professionals we know that these signs are. Be sure to explain to care givers and individuals what to look for. Do not assume they know that these things mean that there could be an infection present, especially if they are used to these conditions.

## Neuromuscular Disorders

- Spasticity, contractures, hypermobility, hypomobility, chronic pain and fatigue, paralysis, seizures, cerebral palsy, arthritis

### • ORAL HEALTH CONCERNS

- Limitations in ability to hold things, open mouth, control movements
- Painful actions, TMD
- Fear of biting self and others
- Fear of falling or moving during procedure
- Swallowing difficulties



Can write order for medically necessary facial massage before appointments, as regular care. Massage after long appointments while giving post op instructions  
Use of stabilizing measures for care  
Talk about pouching and clearing food and coordination involved for this

## Immunosuppression

- Infection, diabetes, cancer therapy, HIV/AIDS, Lupus, long term hospitalizations, Muscular Sclerosis, systemic steroids, allergies

### ORAL HEALTH CONCERNS

- Microbial nature of caries and periodontal disease
- Secondary infections such as Candidiasis
- Polypharmacy induced xerostomia
- Antibiotic prophylaxis and usage for care
- Contact stomatitis

Most oral disease is a germ game. Keep in mind immunosuppressed people are going to have a much higher risk of oral disease. Your health care plan may need to include more frequent visits to providers to keep overall disease in check. Many of these concerns will require planning with primary care providers. Be sure that your staff is trained to recognize there may be a need to plan these consultations before the first visit and to be sure the information has come to your office before the person's first visit. This will enable you to perform an adequate examination and not have to waste the person's, staff's, or caregiver's time.

## Psychological Disorders

- Bipolar, OCD, ADHD, anxiety, depression, eating disorders

### ORAL HEALTH CONCERNS

- Many medications can cause xerostomia
- May not have desire to care for self
- May have “unreasonable” fear issues
- Can lead to behavioral issues
- Can have psychotic episodes when proper care is not possible
- Erosion of enamel due to digestive acids in mouth with regurgitation
- Imperative to follow routine.
- Care must be flexible to meet differing needs of patients

• <https://www.ncbi.nlm.nih.gov/pubmed/9676478>

Many times our health history questionnaires do not properly address various psychological concerns. Asking whether a person has any of the “Ds”: ADHD, ADD, OCD, ODD, etc. can one way to ask about conditions that many people can be very sensitive about and reluctant to reveal on a written health history. Medications will usually tell you that there are psych disorders being treated.

People with eating disorders involving regurgitation may have a reverse smile line from the acid destroying the lingual surfaces of the teeth, and swollen parotid glands. Discuss with individuals, care givers, and staff if there are any changes in personality that occur, how often, when, and what signs you should look for.

Discuss how to modify care plans with a person’s behaviorist or psychologist.

Individuals with PTSD can have triggers that will cause them to have an episode, violent or otherwise. It is important to ask if there are any triggers and if you need to change your approach to help make them more comfortable. For example, do you need to say something if you are approaching from behind to prevent startling them. Victims of rape can be especially sensitive to close contact, especially in or near the mouth. Work out a signal that a patient can use to alert you to know that they need a break immediately if they are feeling threatened, as opposed to a signal that is used to say that a break is needed to close or spit or something similar.

Issues of informed consent can also become a problem with some of these individuals. In some circumstances they may be perfectly sound to give consent, and in other states of mind they may not. Address these concerns as much as possible before the person arrives for their first visit.

## Cognitive Impairments

- **Mental retardation**, traumatic brain injury, dyslexia, illiterate, dementia , Alzheimer's

### ORAL HEALTH CONCERNS

- May not be able to comprehend instructions or complete intake information
- May not be able to remember from one session to the next
- May not understand problem with poor hygiene, advantage to good hygiene
- Difficulty communicating
- Care givers of individuals with severe cognitive limitations cannot truly know the level of understanding the person they care for has due to limitations in testing cognitive ability.

Handbook of Psychological Assessment 2009

Do not use r word, and ask agencies to change their medicals to state “intellectual impairment”.

Find out if the impairment is developmental or trauma induced, and confirm who can give consent for care. Many individuals with these limitations can still give consent for care themselves

## Behavioral and Emotional Deficits

- Autism, Dementia, ADHD, anxiety, OCD, depression, bipolar, high fear

### ORAL HEALTH CONCERNS

- Violent or emotional outbursts prevent care
- Anti-social behaviors can make management challenging
- May be on numerous psychotropic medications
- Inability to seek care or follow up
- Polypharmacy common

• <https://www.nidcr.nih.gov/OralHealth/Topics/DevelopmentalDisabilities/PracticalOralCarePeopleAutism.htm>

Even if you are told someone cannot understand you address them directly. When the person who brings someone stops me from talking to the person directly, saying that they can't understand me or they can't answer me, I let them know that I treat each person I see the same way, talking to them directly and asking them questions first. Then, if they're unable to respond, I asked the person with them for the answer and I simply tell them it helps me build rapport with the person because I don't know what they can or cannot understand. Besides, everyone understands nice and can tell at some level whether they are being treated nicely or not.

## Behavioral and Emotional deficits

- Sensory processing needs can delay care or complicate lessons
- Need predictable environment
- Care givers anxious about appointments
- Care givers overwhelmed by general care may have trouble prioritizing oral care.
- Increased caries risk from food rewards
- Increased periodontal issues from resistance

Very often there are behavioral plans in place or caregivers will know what causes emotional outbursts. It's important to consult with people prior to the appointment. Be prepared; the more you know about the person you're going to be taking care of the better you can care for them and the better you can include addressing their needs in an oral care plan. Because you had time to think about interventions before they arrive. Value of meet and greet.

## Polypharmacy and Medication Side Effects

- Know the medications your patient is taking and update each visit
  - Names and common side effects
  - Additive side effects
  - When they are administered
  - How they are administered
- Goal in treating side effects is to
  - PREVENT side effects limiting medication or changing medication therapy and/or administration
  - REDUCE RISK of side effects by consulting with primary care providers, pharmacists, nurse practitioners, care givers, etc.
  - MANAGE side effects with additional treatment or therapies

Update means reading the list and confirming the medications and dosages. These change often in at risk populations.

# Pharmacologic Interventions

## Candidiasis

- **Candidiasis** is an infection caused by a *Candida* yeast (fungus) Oropharyngeal and/or esophageal.
  - Prolonged antibiotic therapy
  - Xerostomia
  - Immune suppression either medication or disease induced
  - Omeprazole
  - Atypical antipsychotics
  - Corticosteroid use
- Signs and symptoms include
  - White plaques that wipe off
  - Redness or soreness
  - Loss of taste, cottony feeling in mouth
  - Pain when eating or swallowing.
  - Angular chelitis : cuts in corners of mouth



[https://phil.cdc.gov/phil/details.asp?pid=1217#modalIdString\\_CDImage\\_o](https://phil.cdc.gov/phil/details.asp?pid=1217#modalIdString_CDImage_o)

- [http://online.lexi.com/lco/action/doc/retrieve/docid/patch\\_fj/1799543](http://online.lexi.com/lco/action/doc/retrieve/docid/patch_fj/1799543)
- ADA Guide to Dental Therapeutics.
- <https://www.cdc.gov/fungal/diseases/candidiasis/thrush/index.html>

Treat denture. Pharmacy may call, patient may call since ointment/paste used vaginal tx

## Pharmacologic Interventions

### Candidiasis

- Antifungal suspensions and pastes for treating Candidiasis
  - Nystatin: 100,000 units per ml. Swish, hold, gargle, and swallow 5mls 4x per day until symptoms resolved.
  - Chlorhexidine: 0.12%. Swish and expectorate 15mls 2x per day until resolved.
  - Nystatin and triamcinolone: 100,000 units/g and 0.1% ointment.  
Apply to lesion 2-3x per day until healed.
  - Nystatin ointment: 100,000 units/g. Apply to lesion 4x per day until resolved.
  - Fluconazole: 150mg capsule administered at first signs of infection.

[http://online.lexi.com/lco/action/doc/retrieve/docid/patch\\_f/1799543](http://online.lexi.com/lco/action/doc/retrieve/docid/patch_f/1799543)  
ADA Guide to Dental Therapeutics.  
<https://www.cdc.gov/fungal/diseases/candidiasis/thrush/index.html>

Some pharmacists may question if this is in your scope of practice. Most women who have had this problem can recognize that this is a chronic problem for them with antibiotic therapy. Ask your female patients if they have this problem, and recommend yogurt with active cultures to help prevent, and to see Their PCP or call you if they do have a problem. I have had some cases where we have to prescribe the Diflucan with the antibiotic because they will have an issue. Remember, the problem is secondary to an antibiotic that you prescribed!

# Pharmacologic Interventions

## Oral Mucositis

- Steroid mouth rinses and topical ointments can help treat painful inflammation associated with burning mouth and xerostomia
    - Triamcinolone Acetonide solution: 0.1% aqueous suspension. Rinse 5mls and expectorate 4x/day. NPO 1 hr.
      - 5ml of 95% ethanol to 40mg/ml injectable vial, qs to 200ml with sterile water.
    - Triamcinolone Acetonide ointment: 0.1% or 0.5% ointment. Apply thin film to inner surface of denture or medication tray. Apply to lips if needed.
  - Magic Mouthwash: Many formulations available, 3 or more ingredients:
    - An antibiotic to kill bacteria around the sore
    - An antihistamine or local anesthetic to reduce pain and discomfort
    - An antifungal to reduce fungal growth
    - A corticosteroid to treat inflammation
    - An antacid that helps ensure the other ingredients adequately coat the inside of your mouth
- ADA Guide to Dental Therapeutics  
• <https://www.mayoclinic.org/tests-procedures/chemotherapy/expert-answers/magic-mouthwash/faq-20058071>

May have to give compounding information to pharmacist. Best to call and ask if has own standard formulation.

## Pharmacologic Interventions Oral Mucositis/Xerostomia

- Mucositis/xerostomia prophylaxis can be arranged before stem cell transplants, etc. where immune suppressing drugs will be utilized, head/neck radiation therapy.
  - Consult with primary care provider, cancer treatment center, etc.
  - Palifermin (Kepivance): 60mcg/kg IV qd x 3 days before and x3 days after myelotoxic treatment
  - Amifostine: 200mg/m<sup>2</sup> IV qd. Start 15-30 minutes before XRT



• Epocrates Plus Version 17.10

Again, these have their own side effects to take into account  
All dental completed before H/N radiation. SHARE WITH ALLIED PROFESSIONAL COLLEAGUES

## Pharmacologic Interventions

### Xerostomia

- Xerostomia formulations usually contain a lubricant to ease discomfort, best with fluoride or xylitol
  - Biotene and other OTC regimens
  - MIGHTEAFLOW from Camellix or Cardinal Health orders@camellix.com
  - Sodium Bicarbonate solutions
- Xylitol is an antimicrobial shown to decrease the load of cariogenic bacteria
- Stannous and chlorhexidine gluconate help to decrease the bacterial load of certain periodontal bacteria
  - 0.12% Chlorhexidine Rinse
  - Stannous Fluoride 5000 Paste

Xerostomia can be a terrible condition. It is painful and it increases the risk of dental disease. Saliva buffers acids to help prevent enamel erosion, hence increased decay. You also need saliva to swallow. Many people are diagnosed with dysphasia when they simply need saliva to swallow.

## Pharmacologic Interventions

### Fluoride

- Fluoride in water has an effect on teeth in the mouth and in the developing tooth structure leading to healthier teeth throughout the lifetime.
- Ingested fluoride is secreted in the saliva.
- Fluoride is a naturally occurring mineral that is *adjusted* in community water sources *to 0.7ppm*, the level shown to be most effective in preventing dental caries.



Hate to say pharm since is naturally occurring mineral  
CWF become involved, gather your network. Public health crisis.

## Pharmacologic Interventions

### Fluoride

- Fluoride in toothpaste, rinses, and gels, help to strengthen enamel by re-mineralizing the tooth structure in the mouth.
  - Apply to *clean teeth*, swish, then expectorate. Do not rinse. NPO 30 minutes.
    - 0.4% stannous fluoride or 1.1% sodium fluoride Pastes and Gels:
      - pea size amount to brush
      - Custom fit trays: Apply thin ribbon of gel to cover all tooth surfaces. Seat tray for 5 minutes then remove. Clean tray.
    - 0.05-0.15% fluoride Rinses: 15ml, swish for 30 secs. to one minute
  - Fluoride varnish should be utilized every 3 months in high caries risk individuals.
    - Covered by most insurances, including public assistance

Be aware that not all of our colleagues are in agreement about what is the best intervention.

## Pharmacologic Interventions

### Silver Diamine Fluoride

- Applied to carious lesions to arrest decay progression
- Approved for use in USA in 2015. Has been used internationally for many years.
- Caries can turn black.
- Topical: 25%(w/v) silver, 8% ammonia and 5% fluoride.
  - Silver acts as antimicrobial
  - Fluoride promotes remineralization
  - Ammonia stabilizes high concentrations in solution
- Dry surface, apply sparingly to involved surfaces



• <http://decisionsindentistry.com/article/silver-diamine-fluoride-use-older-adults>. Horst, Jeremy. "Silver Diamine Fluoride Use in Older Adults". Decisions in Dentistry. August 1, 2016.

With the rampant caries that we see this has the potential to be a game changer in all age groups.

Arresting caries while getting treatment done or waiting for the patient to reach an age where they are more cooperative is changing our approach to care. LEARN IT, USE IT.

## Inter-Professional Care

- Identify oral health issues and refer early for treatment and prevention measures
- Train staff in application of fluoride varnish
- Modify polypharmacy to decrease xerostomia
- Identify limitations and share strategies to overcome obstacles to oral health care
- Be familiar with antibiotic prophylaxis recommendations for heart valve and joint replacements

JADA 146(1) <http://jada.ada.org> January 2015

The network of professionals that you build should include numerous medical providers and dental specialists. Among the professionals to have regular contact with include speech pathologists, occupational therapists, behaviorists and psychologists, pharmacists, social workers, case workers, etc. Having these relationships will make treating individuals with special needs easier. You want to have people you can call and ask about anything that may come your way.

## Antibiotic Prophylaxis Protocols

- Dental procedures that involve manipulation of gingival tissue or the periapical region of teeth or perforation of the oral mucosa (not including injections through non-infected tissue).
- Recommended by the **American Heart Association** for patients with underlying cardiac conditions associated with the **highest risk** of adverse outcome from infective endocarditis.
  - Prosthetic cardiac valve
  - History of infective endocarditis
  - Congenital heart disease: ONLY for
    - unrepaired cyanotic CHD, including palliative shunts and conduits
    - completely repaired congenital heart defect with prosthetic material or device, whether placed by surgery or by catheter intervention, during the first 6 months after the procedure
    - repaired CHD with residual defects at the site or adjacent to the site of a prosthetic patch or prosthetic device which inhibits endothelialization
  - Cardiac transplantation recipients with cardiac valvular disease

Be sure to answer these requests in a timely fashion. A person may be in need of an emergency extraction, and care is delayed waiting for a confirmation from the PCP or surgeon. Have relationships with your colleagues so that these questions can be answered with a phone call. As these protocols change, be professional about asking how they want to proceed now given the new guidelines if you are seeing a patient that has been covered for years but may not need to any longer.

## Antibiotic Prophylaxis Protocols

- The most common cause of endocarditis for dental, oral, respiratory tract, or esophageal procedures is *S viridans* (alpha-hemolytic streptococci)
  - ORAL:
    - AMOXICILLIN
      - Adults: 2g      Children: 50mg/kg not to exceed 2g
    - CLINDAMYCIN
      - Adults: 600mg      Children: 20mg/kg not to exceed 600mg
  - IV/IM:
    - AMPICILLIN
      - Adults: 2g IV/IM      Children: 50mg/kg not to exceed 2g

When in doubt check it out.

## Antibiotic Prophylaxis Protocols

- Careful review of the scientific literature, the ADA found that *dental procedures are not associated with prosthetic joint implant infections.*
- Research shows that the benefits of antibiotic prophylaxis to prevent joint infections from invasive dental procedures do not outweigh the risk of developing infections from *c. difficile* infections or antibiotic resistance from overuse of antibiotics.



- [https://www.aae.org/uploadedfiles/publications\\_and\\_research/endodontics\\_colleagues\\_for\\_excellence\\_newsletter/antibioticprophylaxisfordentalpatientswithtotaljointreplacements.pdf](https://www.aae.org/uploadedfiles/publications_and_research/endodontics_colleagues_for_excellence_newsletter/antibioticprophylaxisfordentalpatientswithtotaljointreplacements.pdf)  
www.healthype.com

Although the American Association of orthopedic surgeons has changed the requirements many orthopedic surgeons still are requesting antibiotic prophylaxis. If this is the case, ask why; perhaps there is a compromising medical condition that you're not aware of. Again use that opportunity to educate one another.

## Antibiotic Prophylaxis Protocols

- Prosthetic joint prophylaxis is recommended for individuals with compromised immune systems (due to, diabetes, rheumatoid arthritis, cancer, chemotherapy, HIV, malnourishment, chronic steroid use, etc.), which increases the risk of orthopedic implant infection.
- ORAL:
  - KEFLEX
    - Adults: 2g one hour before appointment
    - Children: 50mg/kg not to exceed 2g

- [https://www.aae.org/uploadedfiles/publications\\_and\\_research/endodontics\\_colleagues\\_for\\_excellence\\_newsletter/antibioticprophylaxisfordentalpatientswithtotaljointreplacements.pdf](https://www.aae.org/uploadedfiles/publications_and_research/endodontics_colleagues_for_excellence_newsletter/antibioticprophylaxisfordentalpatientswithtotaljointreplacements.pdf)

## Importance of Regular Dental Visits

- Systemic diseases and vitamin deficiencies can be indicated by the condition of the mouth, gums, cheeks, and tongue.
- The tongue and oral cavity are frequently the first regions of the body to show signs indicative of a vitamin deficiency.
- Tongue abnormalities may manifest as tongue enlargement, loss of normal tongue anatomy, and sometimes burning and tingling.
- Diabetes is often indicated by certain types of gum disease.
- Oral ulcers can be indicative of systemic disease such as Crohn's disease, immune suppression, and chronic NSAID use.

• <http://reference.medscape.com/features/slideshow/nutrition-def#page=2>

Recommend annual dental visits and evaluations, make it part of your intake information if you work in the medical office, and vice versa at the dental office make sure they seen a physician within the last year. If we work together to keep people healthier.

## Addressing Medical complications in the Oral Care Plan

- Individuals with special needs are at risk for dental disease.
- Medical complications can be exasperated by poor oral health.
- Increased oral disease can be caused by medical complications.
- Modifications to home care and appointments may be necessary in order to accommodate medical comorbidities.
- Working with allied health professionals is imperative to create an oral health care plan.

## Questions?

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