

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

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This module is designed for direct caregivers and individuals with special needs. Oral health professionals and allied health professionals will find the "Addressing Medical Complications in the Oral Care Plan" module 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.

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



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## Disclosure

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This is the standard disclaimer and disclosure statement. I have no financial interest in any of the products I mention in these modules.



**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 you will take away from 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 and care givers.

As we dive into the needs of medically compromised individuals, keep in mind that we are still addressing the same parameters we outlined previously in the introduction. We must look at both the individual 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 individuals and 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 confirm that the most recent information has been forwarded ahead of time. 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. Discuss with the office staff how to best get information to them prior to the visit so the office has plenty of time for data entry and to review information. **DISCUSS THE BOOK**

## Oral Health and Health Risks



Oral bacteria, inflammation, and viruses have been found to complicate many medical conditions.

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.

# 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.

Ask 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, books, baby brush, and the like.

## Respiratory Disorders

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

### ORAL HEALTH CONCERNS

- Inhalers can cause xerostomia or dry mouth, oropharyngeal candidiasis or fungal infections
- Mouth breathers can have increased stain and dry mouth 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 kept with you at all times. Be sure healthcare professionals know where you keep the inhalers during appointments.. Be sure to share with providers what causes the onset of an attack, and the last time you had an attack, and how frequently you are using inhalers.

Check oxygen tank levels if you who carry your own tanks. Make sure there is enough oxygen for the appointment and to get back home. Sometimes you are left waiting if a provider is running behind, and you may have to turn off your oxygen and ask to use their oxygen in order to make sure you'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. Watch for symptoms of coughing or pain when breathing after appointments.

# Metabolic Disorders

- Diabetes, thyroid disorders, obesity, pancreatic cancer

## ORAL HEALTH CONCERNS

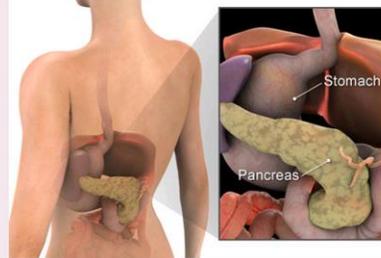
- Immunosuppression can increase risk of gum and teeth problems, post operative infections
- Diet control or lack of can lead to high sugar choices
- Thirst can cause increased consumption of sugary and/or acidic beverages
- Energy levels can be lower
- Problems with positioning for appointments
- Insulin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

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

Discuss with your primary care provider whether you should be taking prophylactic antibiotics, and if so what drug dosage they recommend. Ask them to provide the prescription and contact the provider you will be visiting to see whether they need you to take it for the first visit. An oral health care provider may recommend a chlorhexidine rinse one week prior to and after certain appointments to help with oral inflammation and bacteria.

# 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>

Inform your providers not only of the fact that you have diabetes but how well controlled the diabetes is, whether with diet or medication. Most providers will need to know if you check your glucose on a daily basis, but your normal levels run, and your last A1C reading. If you know your glucose levels are sometimes uncontrolled bring a glucose meter with you to check during your appointment if necessary. Always be sure to take your medication and eat as you would normally for appointments, and discuss with your healthcare provider whether you need to make any alterations for whatever procedures are planned. Don't assume that they don't want you to eat and then run into a problem with your glucose levels.

## 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.

Plaque continues to form on teeth regardless of whether or not people chew food. Chewing also stimulates saliva and can help remove debris from teeth. Some patients can experience severe dry mouth, so be sure to let your provider know if this is a problem for you so that mouth moisturizing can become part of your care plan. Individuals with a peg tube still need to have their mouth cleaned to remove the biofilm everyday. Buildup will form allowing bacteria to thrive, creating a chronic infection that can destroy the gums and bone.

## 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://aninternational.org/2013/06/12>
- [https://www.google.com/search?q=pictures+of+food&espv=2&biw=970&bih=857&tbn=isch&imgil=aAd\\_eXzd1Yd2M%253A](https://www.google.com/search?q=pictures+of+food&espv=2&biw=970&bih=857&tbn=isch&imgil=aAd_eXzd1Yd2M%253A)

Let your oral health care provider know if there are difficulties chewing food or if the diet has been modified due to chewing and/or swallowing difficulties. Patients who have had a gastric bypass will often see a decrease in saliva and eat small more frequent meals which increase their caries risk.

## 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. Share with your provider if you notice these types of changes in weight.

## 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

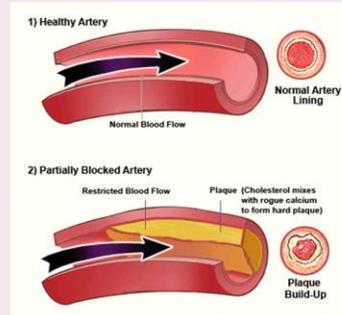


The most important way to control hypertension and other cardiac conditions is adequate pain control and reduced anxiety. Be sure to discuss your concerns with your providers ahead of time, especially if you're dental chicken. Fear of dentistry is the #2 fear among adults. You are not the first chicken we've seen, and you won't be the last. During the care planning phase, share your concerns so your care plan can be modified accordingly for appointments and home care. There are no rewards for heroes; we are here to help you, and you need to help us help you.

Don't hesitate to contact your oral health care provider when you notice any sore or other unusual things in your mouth. They could indicate other problems with your medications or overall health. There are treatments for aphthous ulcers or canker sores as well as other conditions that cause sores in the mouth.

# 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 show an increased risk of not only heart disease but stroke with chronic periodontal disease. Good oral care and regular visits are extremely important preventive measures for your overall health and oral health.

## 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

Pouching and clearing food requires muscle coordination in the facial muscles and tongue. Individuals with limited muscle control may not remove debris that accumulates around the mouth during meals. It is important to check the cheeks and floor of mouth when providing care.

## 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

If you have diabetes or some other condition that suppresses your immune system, you will be more prone to infection in general. Most oral disease is chronic infection that needs to be kept in check on a daily basis.

Confirm before your first visit that your oral health provider has had an opportunity to plan with your primary care provider when you schedule your appointment. Make the office staff aware that you have special considerations that need to be brought to the attention of the treating providers.

## 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>

If you notice any of these signs of infection you should be contacting your healthcare professionals. If you notice these in the mouth or after any dental treatment, your first contact should be with your oral health care professional.

## 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 vomiting
- Imperative to follow routine.
- Care must be flexible to meet differing needs of patients

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

Many health history questionnaires do not properly address various psychological concerns. Let providers know if there is any type of psychological, behavioral, or emotional condition. Providers understand their may be reluctance to share this information. However, for the health and safety of everyone involved, you must share your concerns. Medications for these conditions can cause dry mouth. Timing and dosages are also important for appointment planning.

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 providers if there are any changes in personality that occur, how often, when, and what signs you should look for.

Care plans can be modified with a person's behaviorist or psychologist, so inform providers who your behavior professionals are and give permission to contact them. Individuals with PTSD can have triggers that will cause them to have an episode, violent or otherwise. It is important to share are any triggers and if the provider should change their approach to help make you more comfortable. For example, do they need to say something if they are approaching from behind to prevent startling you. Victims of rape can be especially sensitive to close contact, especially in or near the mouth. Work out a signal that you can use to alert a provider that you need a break immediately if you 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 psychological impairments. In some circumstances a person may be perfectly sound to give consent, and in other

states of mind they may not. Address these concerns as much as possible before arriving for the 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

Even if cannot understand talk to patient

Example parents or staff talking for them

Developmental or trauma induced

## 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 we are told someone cannot understand us, we still should address them directly. Most providers try to treat each person they see the same way, talking to them directly and asking them questions first. Then, if they're unable to respond we should ask the person with them for the answer. This helps to build rapport with the person because we 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 your medications, when and why you are taking them. BRING CURRENT LIST TO 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 cheilitis : cuts in corners of mouth



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

- [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>

Treat the denture if you have one. This will avoid recontamination. Do not be alarmed if the ointment or paste says “not for internal use”. Many of these are used vaginal yeast infections, but they are perfectly safe for the mouth.

## 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 providers may not prescribe for a vaginal yeast infection even though they prescribed the antibiotic causing the infection. Talk to your provider about any secondary problems from a prescription first; they will advise you if you need to contact your PCP.

## 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 MUST be completed before H/N radiation SHARE WITH ALLIED PROFESSIONAL COLLEAGUES

## 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. Share your pharmacist's information with your healthcare provider. They can consult with them directly to be sure you get the medication you need.

## 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.

Become involved in efforts to promote community water fluoridation. This is another way to help protect you and your loved ones from decay. Dental decay is a 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

Your provider may recommend additional fluoride if you have a high risk for cavities. Discuss what will be easiest to use, if you will need a physician order in order to apply it, and be sure you understand the instructions for use.

## 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. Using this will turn the areas of decay black, but decay also turns black over time.

## 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. You want to have people you can call and ask about anything that may come your way. Make sure your providers have a list of the name and contact number for all the professionals involved in your care so they can consult with one another easily.

## 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

You may be required to take antibiotics for any procedure that is more invasive than brushing the teeth. Let providers know if you have taken any in the past, if you have had the regimen changed, and if you are wondering if you still need one.

## 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](http://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>

You need annual dental visits and evaluations at the very least. Twice a year is best for exams, and many individuals with special needs may require more frequent cleanings and fluoride varnish application due to their oral care limitations.

## 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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