

# Let's Live Longer, Better

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Help all patients and ourselves live healthier lives

Jeffrey C. Kirian, DDS



# My Blessings





# My Practice





# My Team (Also part of my blessings)



# Golden Rule Treatment

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- Our goal is to always treat patients as we would like ourselves and our families to be treated
- Hippocratic Oath: ...gladly share such knowledge as is mine with those who are to follow... I will prevent disease whenever I can, for prevention is preferable to cure

With this in mind...



# Systemic Conditions Linked to Oral Health Conditions

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- Cardiovascular Disease (Direct Links)
- Diabetes/Insulin Resistance (Direct Links)
- Sleep Apnea (Direct Links)
- Chronic Headaches (Direct Links)
- GERD (Direct Links)
- Low birthweight/Premature Births, stillbirth (Direct and Correlative Links)
- Alzheimer's (Correlative)
- Cancer (Correlative)
- Erectile Dysfunction (Correlative)

# Systemic Conditions Linked to Oral Health Conditions, 2

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- Rheumatoid Arthritis (Correlative)
- Respiratory Disease (Correlative)
- Chronic Kidney Disease (Correlative)

# Obvious Periodontal Disease

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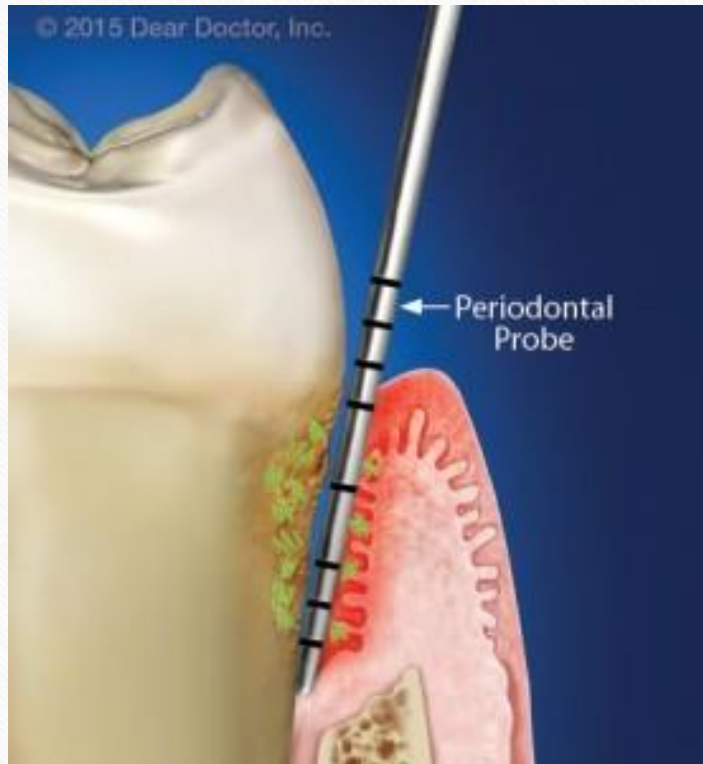


# Sometimes More Subtle

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# Detecting Periodontal Disease



Healthy: 1-3  
Gingivitis: no attachment loss, bleeding  
Mild PD:  $>3, <5$   
Moderate PD: 5-7  
Severe PD: 7+  
-Bleeding on probing  
-Radiographic bone loss

Measurements in mm





# Radiographic Bone Loss



# Cardiovascular Links

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- Periodontal Disease (PD)-Nearly 50% of Americans have PD (the most common chronic infection in the US), which can nearly double or triple risk for heart disease and stroke. Mostly asymptomatic
- 24-35% more likely to develop plaque in coronary arteries with PD
- 450% more likely to suffer from ischemic stroke if severe PD
- My practice: every patient who has had a heart attack or stroke has a history of periodontal disease
- Many of the plaques in the carotid artery actually contain periodontal pathogens: *B. forsythus*, *P. gingivalis*, *T. denticola*, *A. actinomycetemcomitans*, and *P. intermedia*



# Cardiovascular Links, 2

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- The links are so strong that *The American Journal of Cardiology* and the *Journal of Periodontology* issued a consensus statement recommending that:
  - Physicians warn patients with moderate to severe PD about CVD danger
  - These patients should get a complete physical annually and...
  - Be checked for diabetes, high cholesterol, and family hx of early deaths from CVD
  - If PD & 1+ risk factor (HTN, high cholesterol, etc): treat with lifestyle changes and possibly medication

# Blood Pressure: What's OK?

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- **2017 ACC/AHA High Blood Pressure Guidelines:**
- Normal: **Less than 120/80** mm Hg;
- Elevated: Systolic between **120-129** *and* diastolic **less than 80**;
- Stage 1: Systolic between **130-139** *or* diastolic between **80-89**;
- Stage 2: Systolic **at least 140** *or* diastolic **at least 90** mm Hg
- Hypertensive crisis: Systolic **over 180** *and/or* diastolic **over 120**
- Routinely we see patients with BP in Stage 2 ranges up to Hypertensive Crisis



# 'White coat hypertension' may be sign of a real problem, study finds

Measuring blood pressure regularly at home is a much better way to predict risk of heart death.

by Shamard Charles, MD / Apr.18.2018 / 6:27 PM ET / Updated Apr.19.2018 / 2:09 PM ET

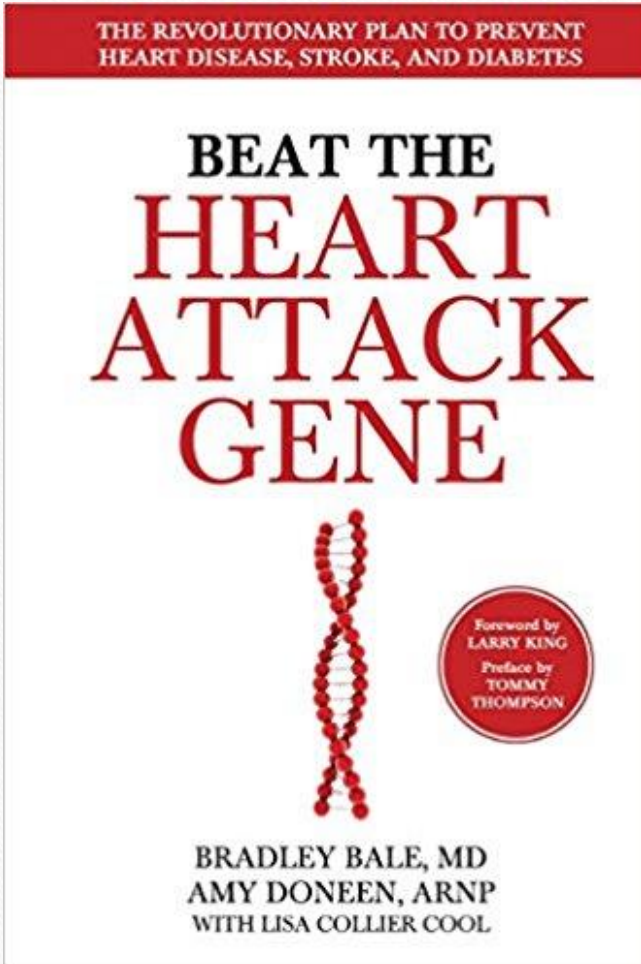


# “White Coat” Hypertension

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- Definition: a syndrome whereby a patient's feeling of anxiety in a medical environment results in an abnormally high reading when their blood pressure is measured.
- May affect up to 30% of Americans
- “Not Benign”, “the risk of death was **nearly twice as high** for patients with white coat hypertension, compared to patients whose blood pressure is normal when taken at the doctor's office and at home” New England Journal of Medicine





## Recommended Reading

Easy to understand, great for communication with patients as well.

# Diabetes and Insulin Resistance

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- Two-way relationship exists between diabetes and PD
  - Uncontrolled PD makes diabetes management difficult and vice versa. Chronic inflammation and stress on immune system is thought to be the major factor
- PD is a chronic, inflammatory infection. The body has limited resources to fight off infection and PD increases that burden
- 93% more likely to be at high risk for diabetes if have PD
- Insulin resistance increases the risk of developing PD



# Sleep Apnea and Airway Issues

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- Many signs of sleep apnea/airway obstructions are noted during dental exams
- Patients with severe sleep bruxism are much more likely to have airway issues
- Acid reflux can be correlated with sleep apnea, which can be visualized during dental exams
- New dental treatment modalities are focusing on airway: Create more intraoral volume, move teeth forward, less extraction-based treatment, etc

# Potential Signs of Airway Issues

Tori



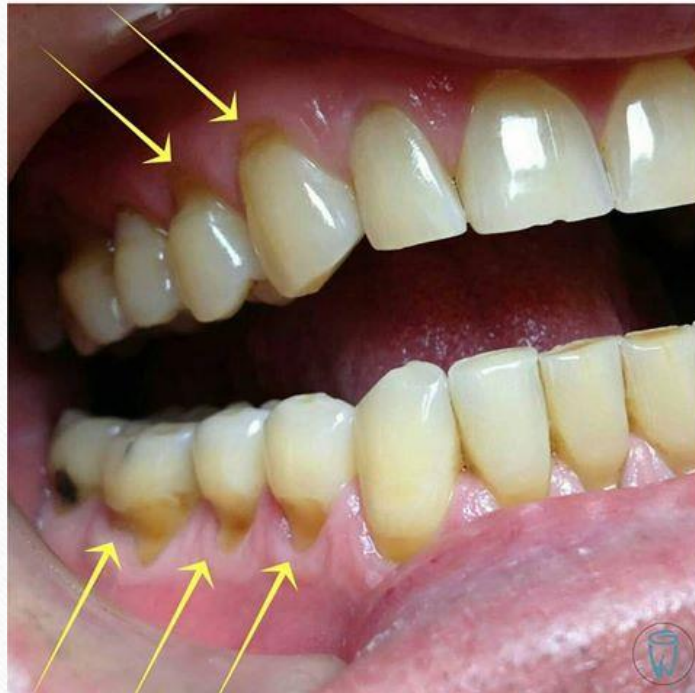
Bruxism





# Clenching/Bruxism Signs

Abfraction Lesions

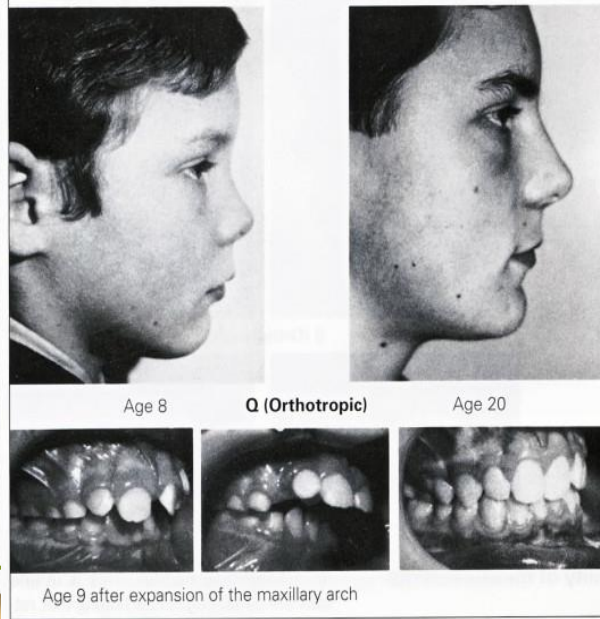
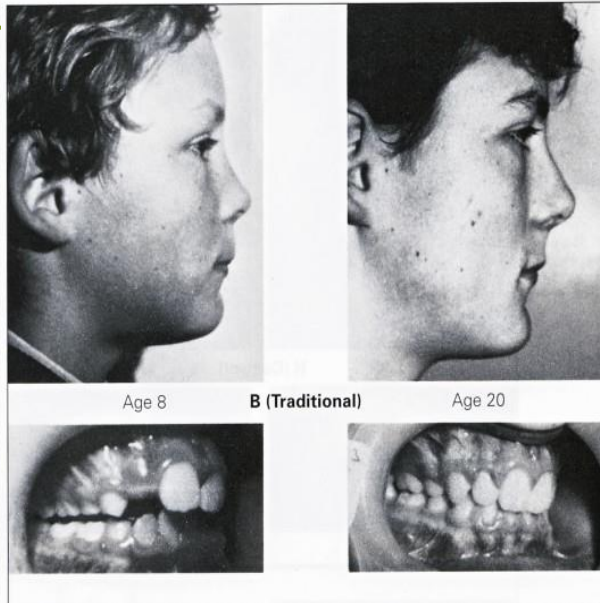


Exostoses

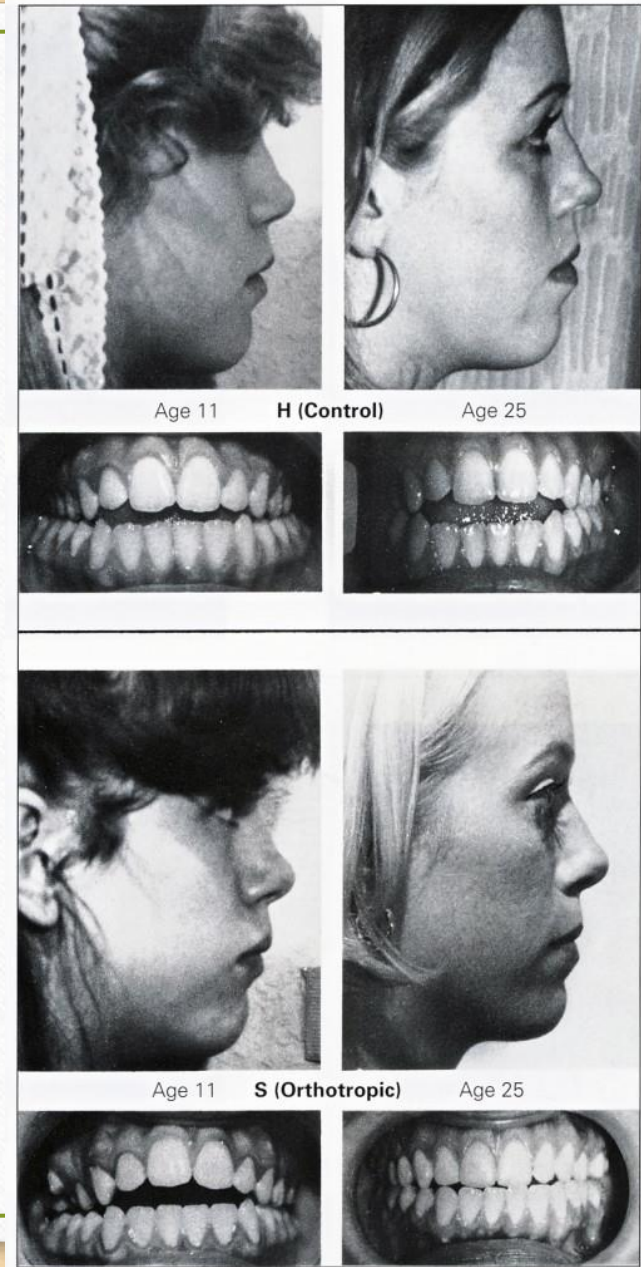




# Extraction



# Non-Extraction





# Sleep Apnea and Airway Issues

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- Children present with signs and symptoms that can be caught early
- High correlation of bruxism in children with obstructed airway
- Studies have shown that adenotonsillectomy in children with ADHD resulted in a significant decrease in symptoms by 6 months post op

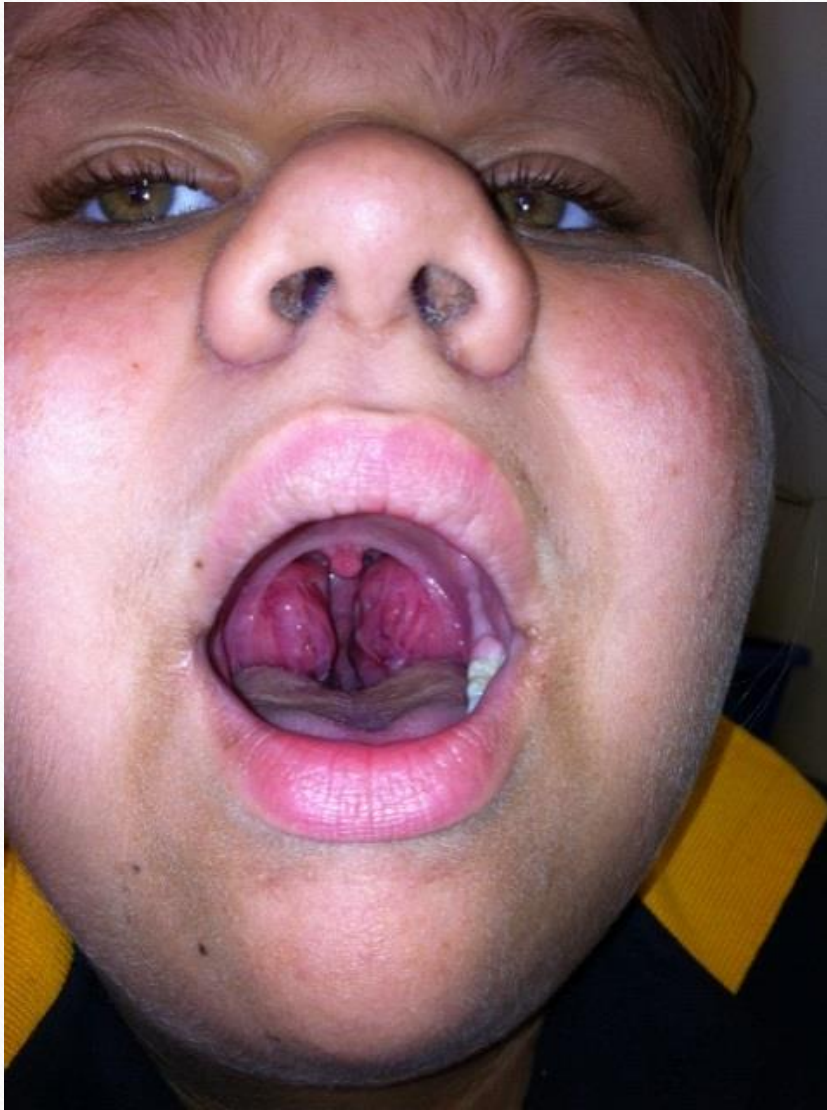
# Child Dental Signs/Symptoms

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- Bruxism
- Strong gag reflex
- Large tonsils
- Mouth breathing
- Gasping for breath when eating
- Snoring





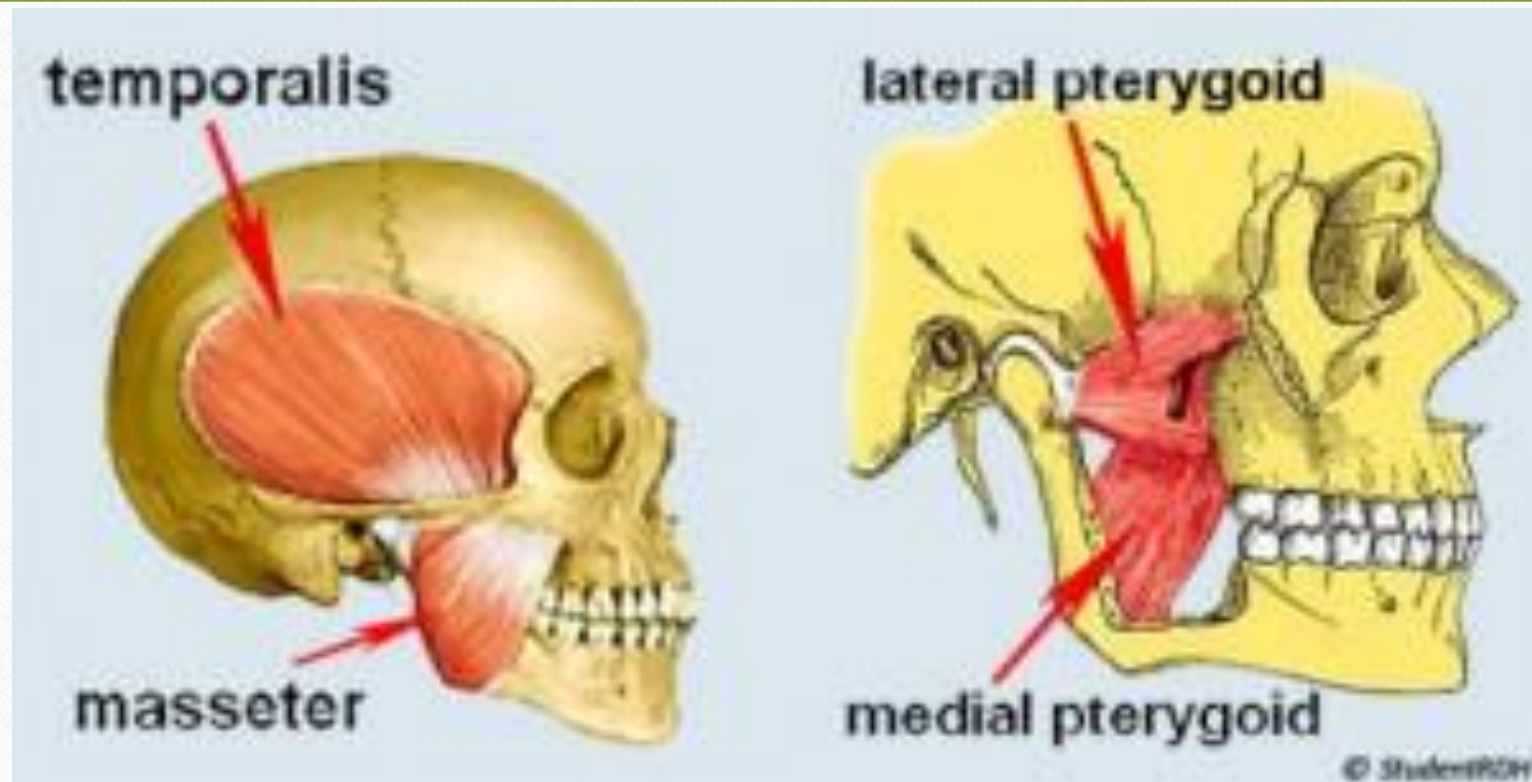
# Chronic Headaches

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- Many patients experiencing headaches and “TMJ” symptoms have occluso-muscular dysfunction, aka “Bite Problems”
- Correction of occlusion (bite) can eliminate much muscle dysfunction which can eliminate triggers of migraines and tension headache
- Signs/Symptoms include popping/clicking of jaw, jaw fatigue, orofacial pain, teeth sensitivity to cold, flat &/or worn teeth, loose teeth, history of clenching &/or grinding



# Major Muscles Commonly Involved



# GERD

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- Signs of tooth erosion can be evident during routine dental exam
- Many times it is asymptomatic
- Signs/Symptoms include severe wear and shifting of teeth, chipping teeth (especially upper front teeth), high caries rate, dark surfaces where enamel has been lost
- Can be correlated with sleep apnea in some cases, acid regurgitation from negative pressure when gasping for air



# Signs of Acid Erosion

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# Erosive Issues

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# Low Birthweight/Premature Births

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- Periodontal disease has been shown as a causative factor in preterm births
- Moms with PD have 30-50% higher risk of preterm or low birth weight
- A case study showed *F. nucleatum*, an oral pathogen, as the definitive cause of death in a stillbirth
- Preeclampsia has been implicated with dental infection and PD
- Dental benefit companies sometimes will cover more than the typical 2 cleanings per year for pregnant women

# Alzheimer's Disease

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- High incidence of periodontal disease in Alzheimer's patients
- Patients with chronic periodontitis (CP) for at least 10 years had an estimated 70% higher risk of developing AD than people without CP
- Links thought to be related to inflammation in CNS



# Cancer

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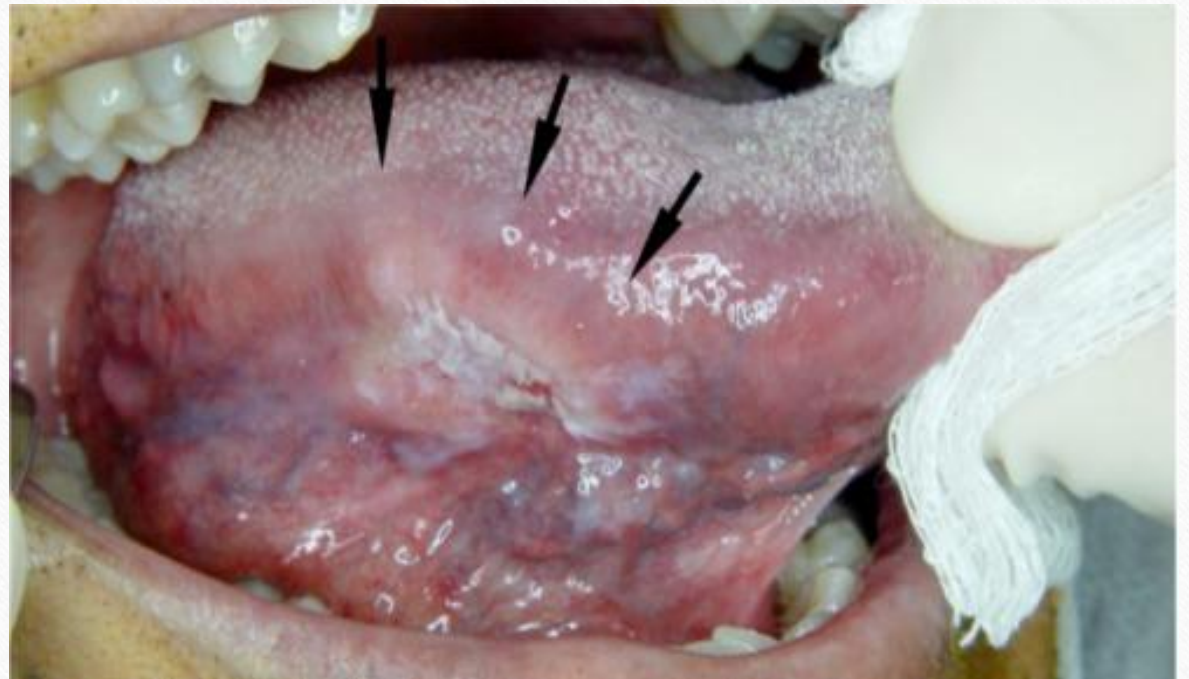
- Many cancers have much higher incidences in patients with periodontal disease
- 62% increased risk for pancreatic cancer with PD
- Recent studies show a a very strong link between periodontal pathogens and the onset of cancer; *Treponema denticola* has been implicated with pancreatic cancer
- Periodontal pockets harbor human papilloma virus, cytomegalovirus, Epstein Barr virus, and suspected agents associated with oral cancer
- Oral cancer screenings, done routinely at dental check ups, play a major role in early detection and decreased morbidity

# Lateral Border of Tongue is Most Common Site

Leukoplakia

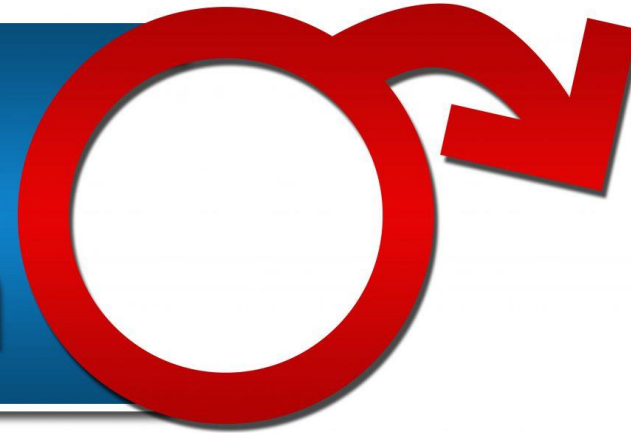


Squamous Cell





# Erectile Dysfunction



- Men with periodontal disease are 3 times more likely to suffer from ED
- Likewise, men with ED are 79% more likely to have periodontal disease
- Cause is thought to be inflammation in the endothelial cells
- ED may be an early warning sign of cardiovascular disease

# Rheumatoid Arthritis

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- PD is prevalent among RA patients
- Both PD and RA have similar pathogenic mechanisms
- Mechanism believed to be inflammation triggering autoimmune response



# Respiratory Disease

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- Studies have shown significantly higher prevalence of periodontitis among COPD patients compared with healthy individuals
- Oral and periodontal microorganisms may be implicated in bacterial pneumonia
- Higher incidence of lung infections in patients with PD

# Chronic Kidney Disease

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- Periodontitis has been cited as an independent risk factor for CKD
- Periodontal treatment in patients with CKD has shown improvement in glomerular filtration rate
- Up to a 35% higher mortality rate in CKD patients with PD



# Non-Surgical Treatment

Scaling and Root Planing: always first step in mild to moderate cases

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# Non-Surgical Treatments, Adjunct

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Mincocycline HCL 1 mg

Microspheres

- Placed directly into infected pocket, ideally at time of scaling and root planing

- Proven to increase attachment of gingiva to tooth



# Surgical Treatments

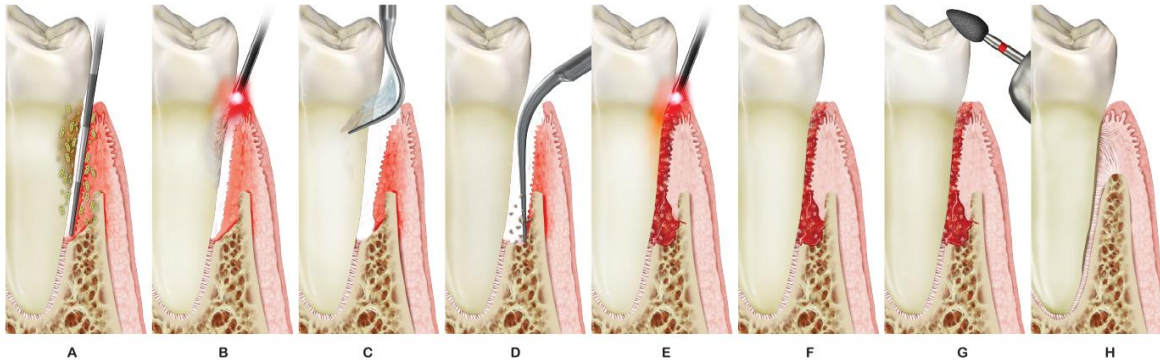
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Flap Surgery

# Surgical Treatments

**LANAP® = LAR™**  
PERIODONTAL REGENERATION PROTOCOL LASER ASSISTED REGENERATION



## Treatment Procedure

- |   |  |
|---|--|
| A. Perio probe indicates excessive pocket depth and bone defects  | E. PerioLase MVP-7 is used to form a gel-clot containing <u>stem cells</u> from bone and soft tissue collagen                                    |
| B. PerioLase® MVP-7™ laser energy vaporizes bacteria, diseased tissue, pathologic proteins, and alerts the practitioner to the presence of tartar | F. Adherence of reté ridges, stem cells, RBCs to clean root surface, with a stable fibrin clot at the gingival crest to create a 'closed system' |
| C. Ultrasonic scaler and specialized tips are used to remove root surface tartar and calculus   | G. Bite trauma is adjusted   |
| D. Bone is modified at time of surgery, Laser Tissue Regeneration (LTR™) initiated  | H. True periodontal tissue regeneration occurs   |



This graphic is for illustrative purposes only and is not a technical representation of the LANAP® protocol. Usage without permission is prohibited. © 2016 MDT, Inc. © 2016 IALD. All rights reserved.

LANAP (Laser  
Assisted New  
Attachment Protocol)



# It Starts With Communication

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- Communication with physicians is currently cumbersome and difficult
- Treatment of other (if not all) diseases could be benefitted by improving oral health
- I have collaborated with some physicians very well, and we have made great gains in our patients health and well-being
- Direct and open. Work with physicians with the same goals

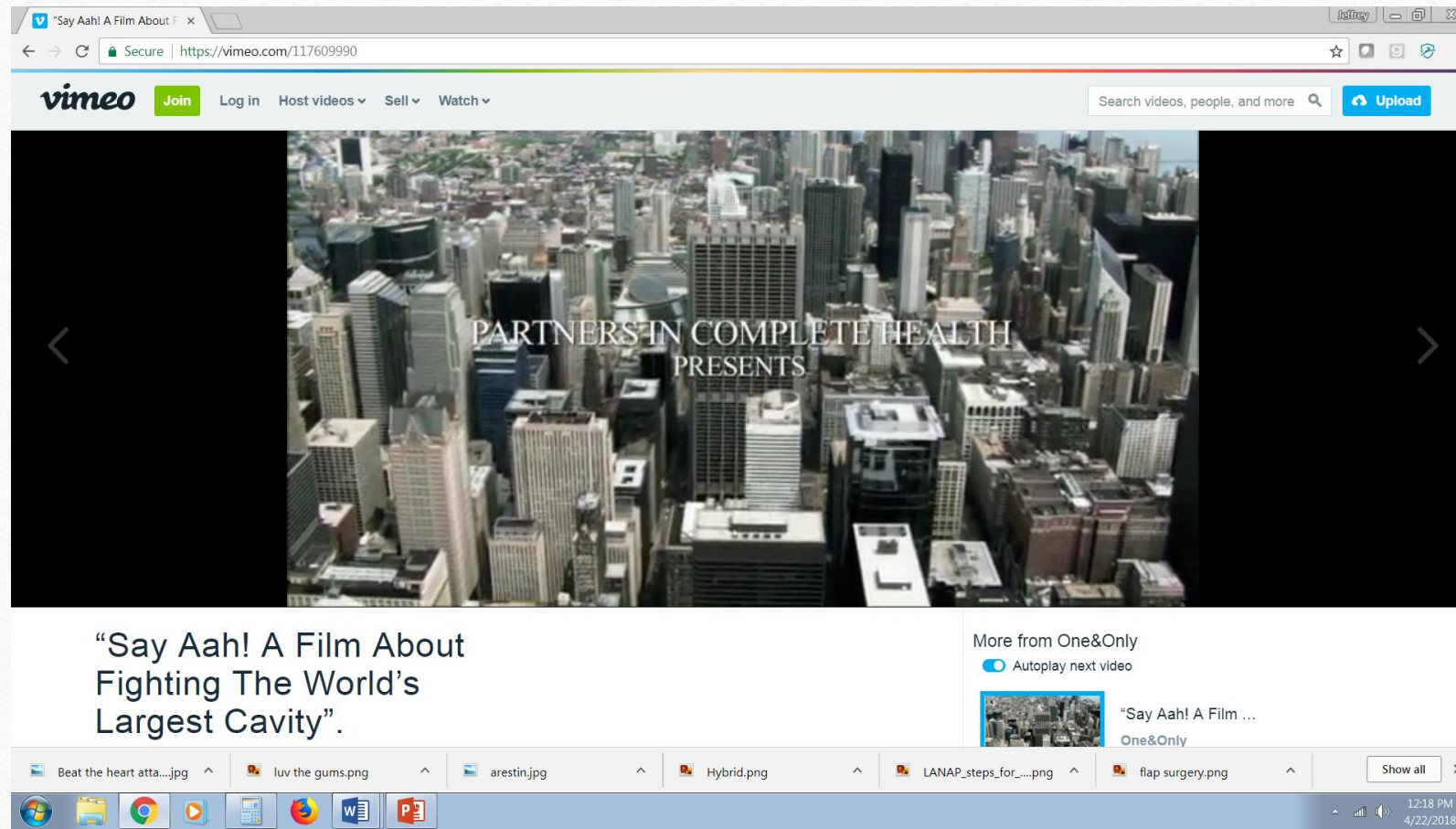
# Talk to Your Dentist & Ask Questions

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- We **all** have the same goal of helping our patients become healthy or maintaining health
- Dental hygienists are included. They typically spend the most time with patients and are highly trained as well
- Form a two-way referral system. If you trust your dentist, send patients. If not, find a new dentist
- Ask for referral pads, business cards



Recommended Viewing: <https://vimeo.com/117609990>



Questions???



# Resources

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- **Association Between Periodontal Disease and Erectile Dysfunction: A Systematic Review**. Kellesarian SV, Kellesarian TV, Ros Malignaggi, Al-Askar M, Ghanem A, Malmstrom H, Javed F, American Journal of Men's Health, 2018 March.
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