WHAT IS ORAL HEALTH?

WHAT IS POOR ORAL HEALTH?
**DENTAL BIOFILM (PLAQUE)**
- Sticky matrix of microorganisms
- When left undisturbed microorganisms multiply
- Microorganisms in biofilm produce toxins
- Can damage & destroy gums and the bone that anchors the teeth

**CALCULUS**
- Calculus is calcified biofilm
- Strongly attaches to the teeth
- Provides a rough, cement-like surface
- Calculus not a direct cause of inflammation but further irritates gum tissue

**CALCULUS (TARTAR)**
- Plaque below the gum line contains highly destructive bacteria
- Destruction of gum tissue
- Loss of periodontal ligament attachment
- Bone loss

**WHAT IS PERIODONTAL DISEASE?**
- Periodontal disease: infection caused by gram negative bacteria in the biofilm (dental plaque)
- Gingivitis: soft tissue only
- Periodontitis: soft tissue and bone

**WHAT IS GINGIVITIS & PERIODONTITIS?**

**Periodontology**

- Gingivitis
- Mild
- Moderate
- Severe
GINGIVITIS and early stages of Periodontitis DO NOT HURT!

Periodontitis can advance rapidly when patient is chronically hyperglycemic.

Important for the educator to raise this issue.

PERIODONTAL DISEASE CAN BE ASYMPTOMATIC

Hyperglycemia increases severity of periodontal disease

Periodontal disease increases hyperglycemia

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BONE LOSS VISIBLE ON RADIOGRAPHS

Periodontal probe

Good bone level

Gingivitis: uncontrolled diabetes

Hyperglycemia increases severity of periodontal disease

Periodontal disease increases hyperglycemia
PERIODONTITIS: UNCONTROLLED DIABETES

About 1/3 of people with diabetes have severe periodontal disease.

COMPLICATIONS OF DIABETES

What's Missing?

PERIODONTAL (GUM) DISEASE IS ONE OF THE MOST COMMON YET LEAST RECOGNIZED COMPLICATIONS OF DIABETES
TRIPLE THREAT
- Diabetes
- CVD
- Periodontal Disease

TRIPLE TREAT
- Inflammation can strike sites far from the oral cavity
- Oral microorganisms have been found in arterial plaque

THE COMMON DESTRUCTIVE THREAD
- In diabetes cytokines can cause β cell death & insulin resistance
- In periodontal disease the same cytokines are responsible for collagen destruction and bone loss

S/RP TX CAN HAVE A POSITIVE EFFECT ON DIABETES
- S/RP can reduce average A1c readings by approximately 0.6%
- Reduction in A1c from many of the second or third tier diabetes meds averages 1.0 to 1.5%

S/RP TX CAN HAVE A POSITIVE EFFECT ON DIABETES
- Tx with topical antibiotics has been shown to improve glycemic control
- Pts with A1c above 8.0 benefit from premedication

TAKE HOME MESSAGE FOR PATIENTS
- Periodontal disease is a chronic, progressive disease
- Periodontal disease is not cured, it is arrested
ADDITIONAL COMPLICATIONS

ORAL CANDIDIASIS

- A1c higher than 12% is a strong predictor of fungal infections
- Diabetes patients that smoke are at a higher risk of being colonized by yeast

CHRONIC ORAL CANDIDIASIS

CHRONIC ATROPHIC CANDIDIASIS (denture stomatitis)

ANGULAR CHEILITIS IN DIABETES

HERPES SIMPLEX VIRUS
**BURNING MOUTH SYNDROME**

**Glossodynia**
- Usually no detectible lesion
- Etiology of BURNING MOUTH SYNDROME uncertain
- **Neuropathy** of the oral region: tingling, numbness, burning or pain of oral region
- Symptoms of pain and burning are intense
- Can impact ability to eat

**SIALOSIS**
- Seen with chronic alcoholism and diabetes
- Painless, bilateral growth of parotid glands
- Followed by a loss of salivary production
- D/T autonomic neuropathy of the parotid gland

**XEROSTOMIA: CERVICAL CARIES**

**XEROSTOMIA: ROOT CARIES**

**SJÖGREN’S SYNDROME**
- Autoimmune disease associated with T1D
- Diminished salivary secretions

**CELIAC DISEASE & APHTOUS ULCERS**
- Autoimmune disease associated with T1D
- Recurrent aphthous ulcers may occur in patients with celiac disease
- May be a clue to dx
**CROHN’S DISEASE ➔ STEROID INDUCED DIABETES**
- Crohn’s disease ➔ long term use of corticosteroids (Prednisone)
- Mouth is the start of the GI tract
- Oral ulcers (Apthous ulcers) can appear during flare-ups of intestinal inflammation
- Apthous ulcers can be clue to diagnosis of Crohn’s Disease

**XEROSTOMIA: SALIVARY DYSFUNCTION**
- Use of Xylitol products
- Xylitol interferes with the growth of bacteria known to cause tooth decay
- Humidifier
- Ice chips/water
- Avoid caffeine
- Meticulous oral hygiene

**DENTAL CARIES**
- Cariogenic foodstuff, e.g. sucrose enters the biofilm
- Bacteria break down sugar to an acid ➔ demineralization
- A tooth with optimum fluoride contents resists the process of dental caries

**CARIOUS LESIONS**
- Tx of hypoglycemia, especially during sleep hours increases caries risk
- Erosion
- Special concern for T1DM
- Acid forming bacteria and fermentable CHO

**DRY SOCKET**
- Delayed wound healing with hyperglycemia

**INCCREASE AWARENESS OF ORAL HEALTH FOR DSME**
- Oral exam and professional cleaning should be part of risk reduction assessment
- Oral exams & professional cleanings should be performed AT LEAST every 6 months
- Professional cleanings may be required 4x/year for some patients
BLOOD ON YOUR TOOTHBRUSH
BLEEDING = INFECTION = DISEASE

DENTAL RISK ASSESSMENT
- Do your gums bleed?
- Do you notice any gum swelling?
- Do the spaces between your teeth appear to be getting wider?
- Do any teeth seem even slightly loose?

DENTAL RISK ASSESSMENT
- Do you notice any pus oozing out between your teeth and gums?
- When was your last check up and cleaning with a dental professional?
- Does your insurance coverage include dental exams and 2 professional cleanings/year

INTERPROXIMAL CLEANING
- Cleaning in between your teeth: 1x/day

BRUSHING, TONGUE SCRAPING
- Brush, soft brush: 2x/day, 2 minutes
- Tongue Scraping: At least 1x/day

INCLUDE ORAL HEALTH ASSESSMENT IN DIABETES RISK REDUCTION
- Tooth loss and oral pain affects nutritional intake & quality of life
- Ultimately affects glycemic control
CONTACT INFORMATION

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