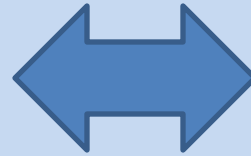


Women's Health and Periodontal Disease

Dr. Chris van Kesteren

Women's Health

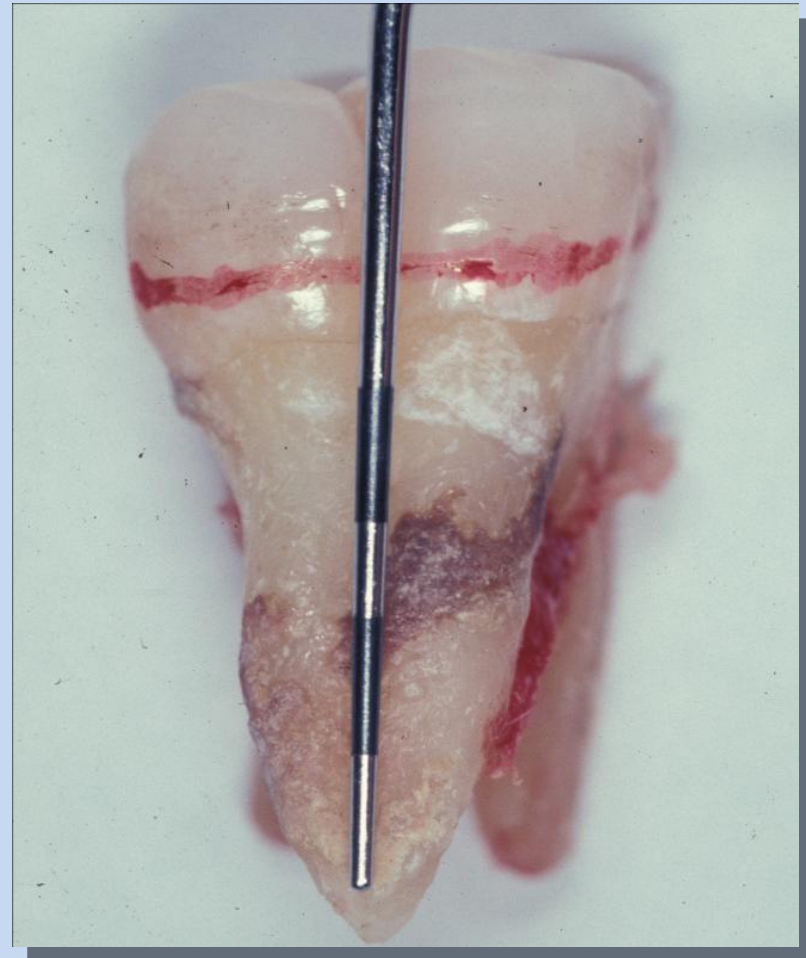
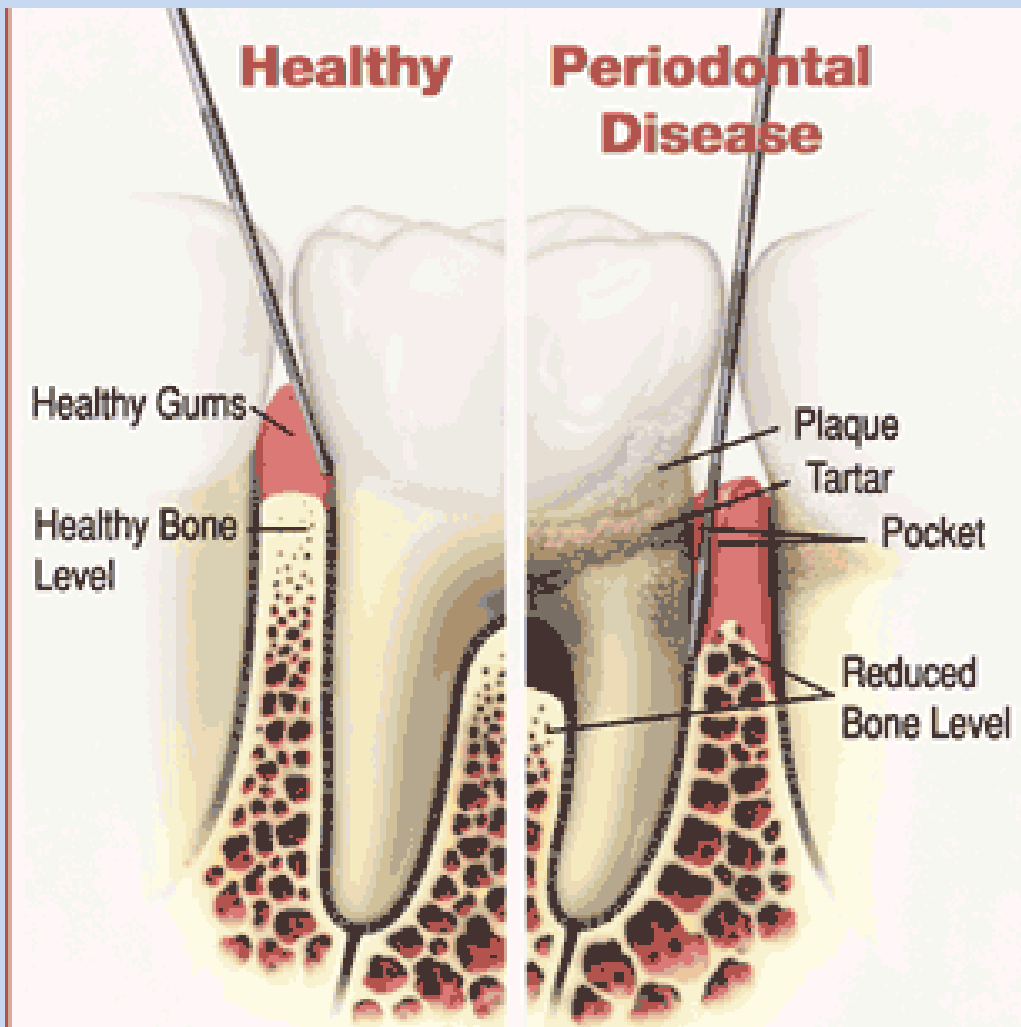
- Adolescence
- Smoking
- Stress
- Pregnancy
- Diabetes
- Menopause
- Osteoporosis/Osteopenia
- Cardiovascular Disease
- Stroke
- Sjogren's Syndrome
- Medications
- Autoimmune Dz
- Immune Deficiency



Periodontal Disease

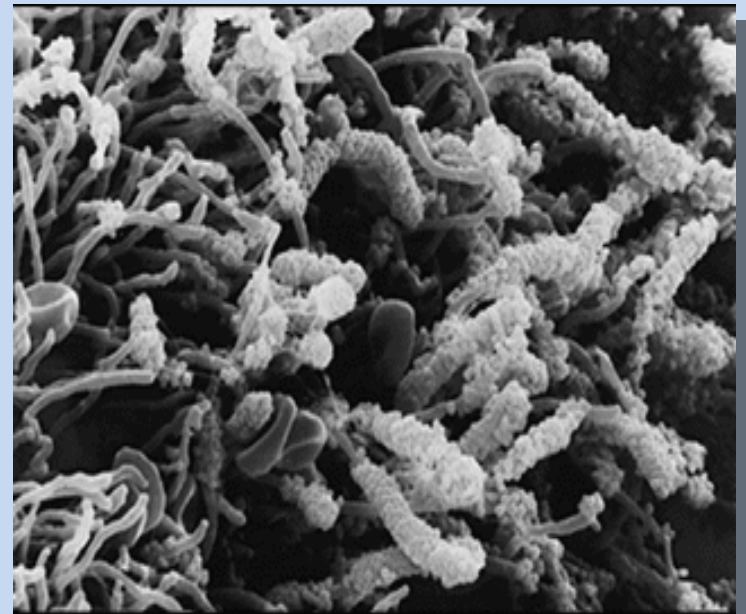
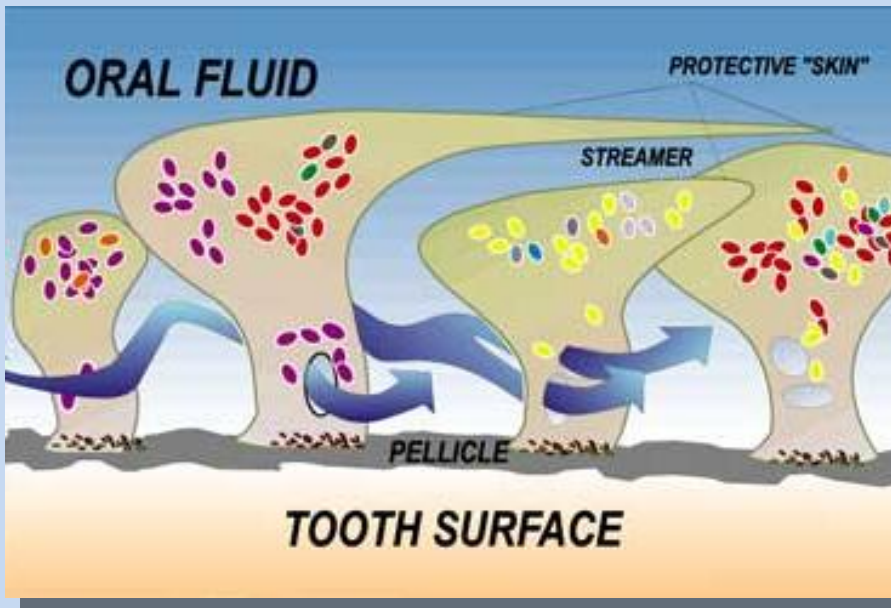
- Inflammation
- Attachment lost
- Susceptibility
 - Aggressive
 - Chronic
 - NUG / NUP
 - Systemic Health

Periodontal Disease

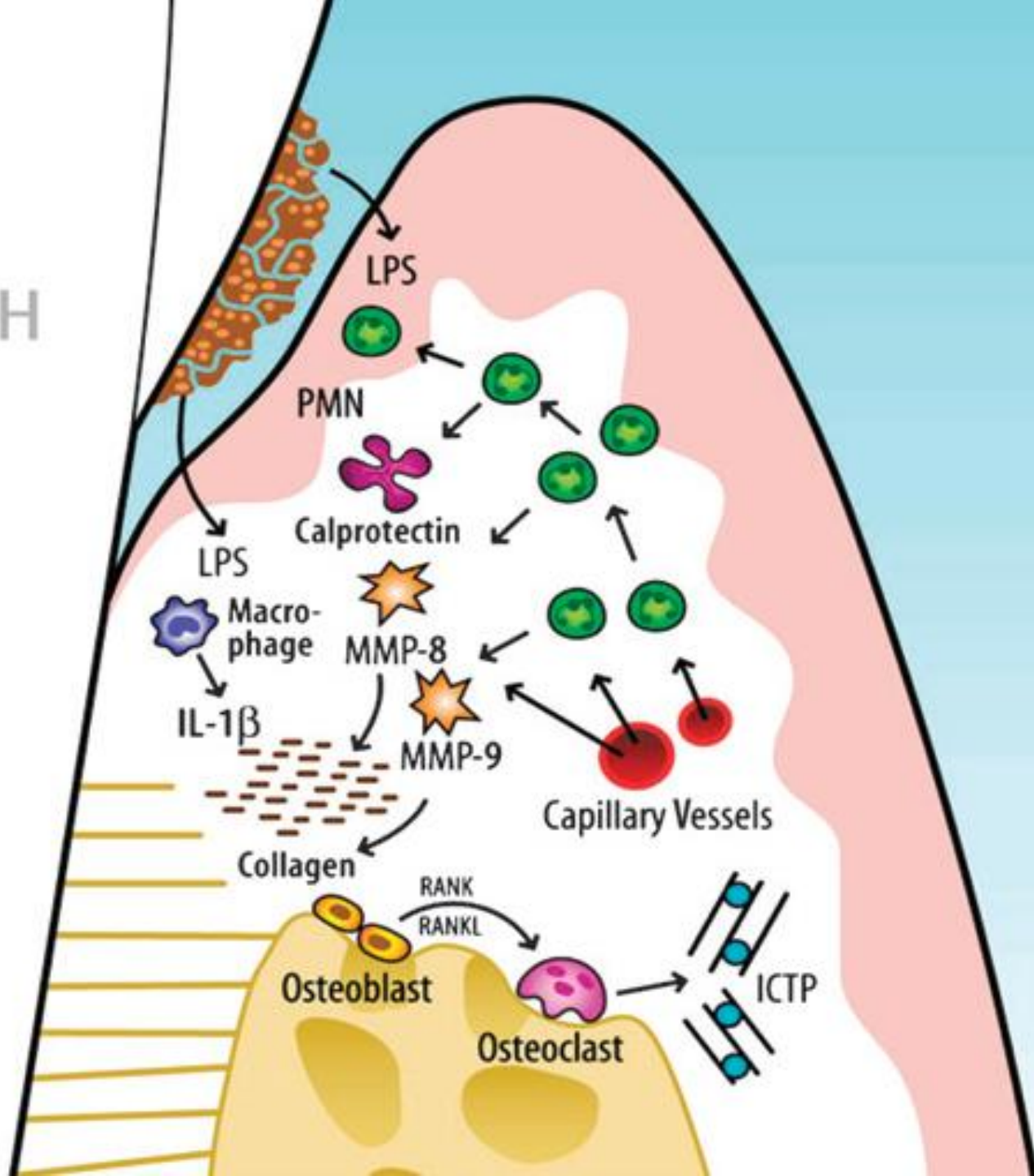


Etiology:

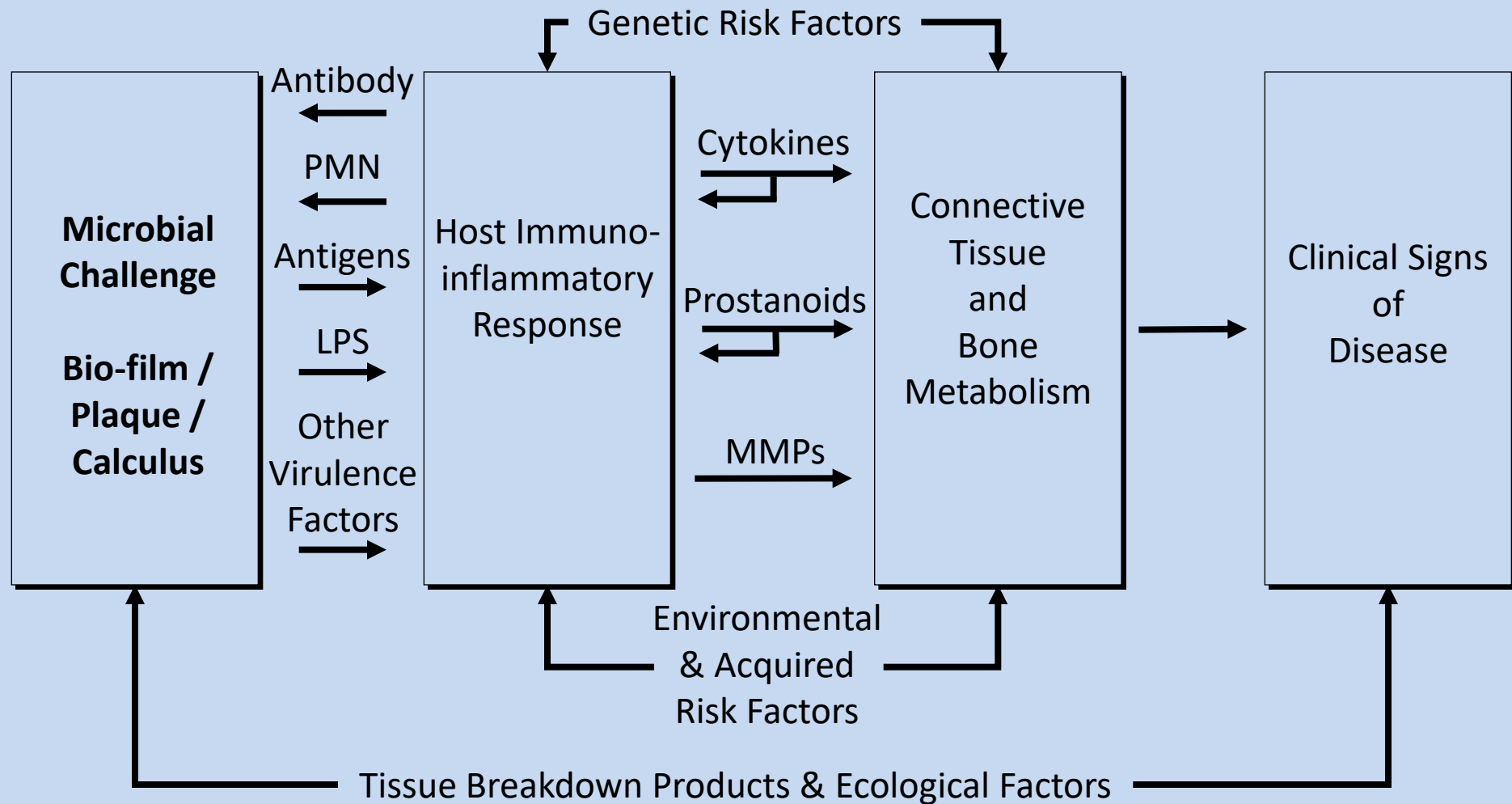
Bacterial plaque in a susceptible host



TOOTH



Host Pathway to Periodontal Disease



Periodontal Health – Women's Health

- Periodontal Disease: Susceptibility
- Women's Health Factors:
 - Can influence susceptibility
 - Examine Factors in a women's life

Adolescence

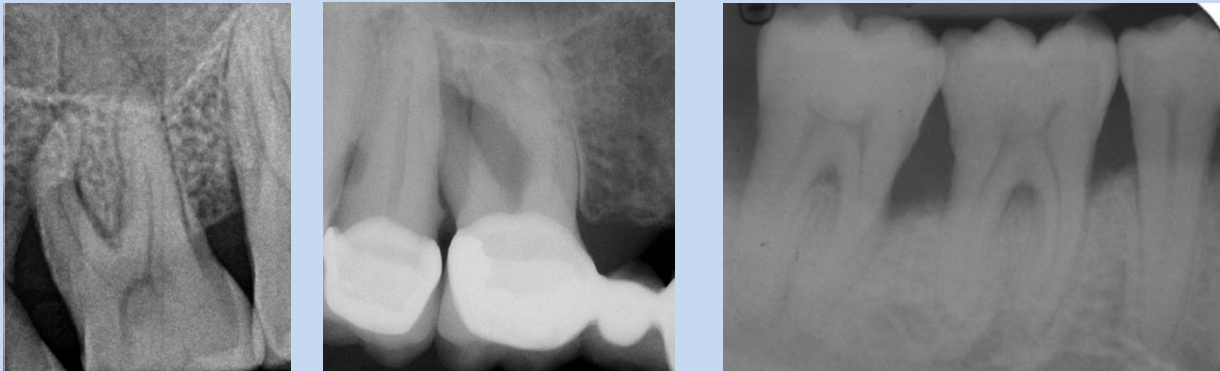
- Hormones
 - Increase blood circulation to the gingiva
 - Increase sensitivity to irritants
- Orthodontics
- Menstruation gingivitis
- Smoking
- Aggressive Periodontitis
- **Increased importance of oral hygiene and regular dental care**
 - **Is every 6 months enough?**

Aggressive Periodontitis

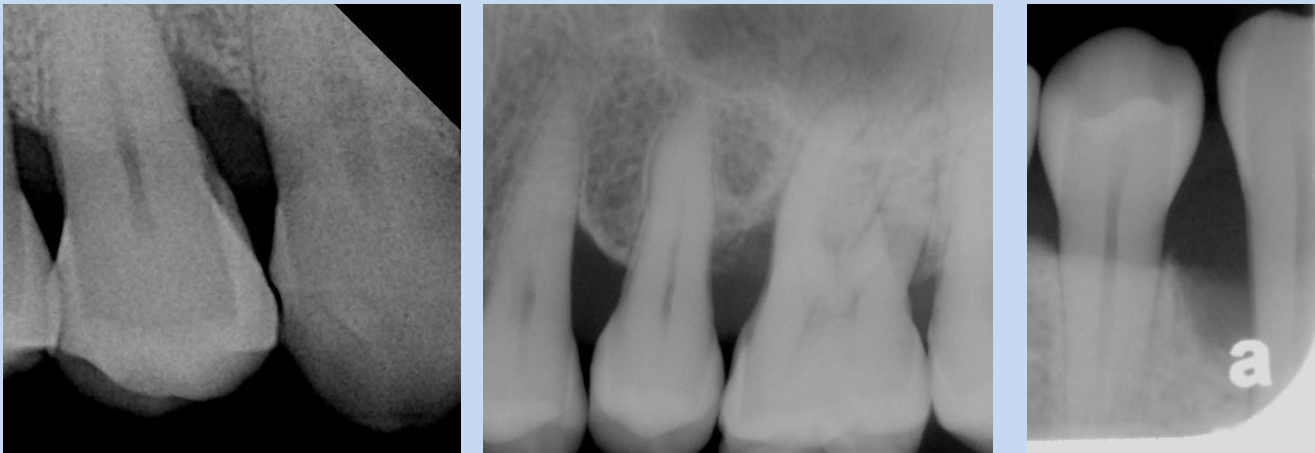
- 0.2 – 0.5% of children and young adults
- Higher prevalence: M >> F African-American >
- Rapid loss of attachment
- Familial pattern
- Immune System dysfunction
- Localized: First molars and incisors
 - Usually no evidence of systemic disease
 - Burnout in 20's
- Generalized: 3+ teeth not 1st molars and incisors
 - Marked periodontal inflammation; heavy etiology

Radiographic Assessment

- Furcation Involvement



- Vertical / Angular Bony Defect(s)



Treatment: Aggressive Periodontitis

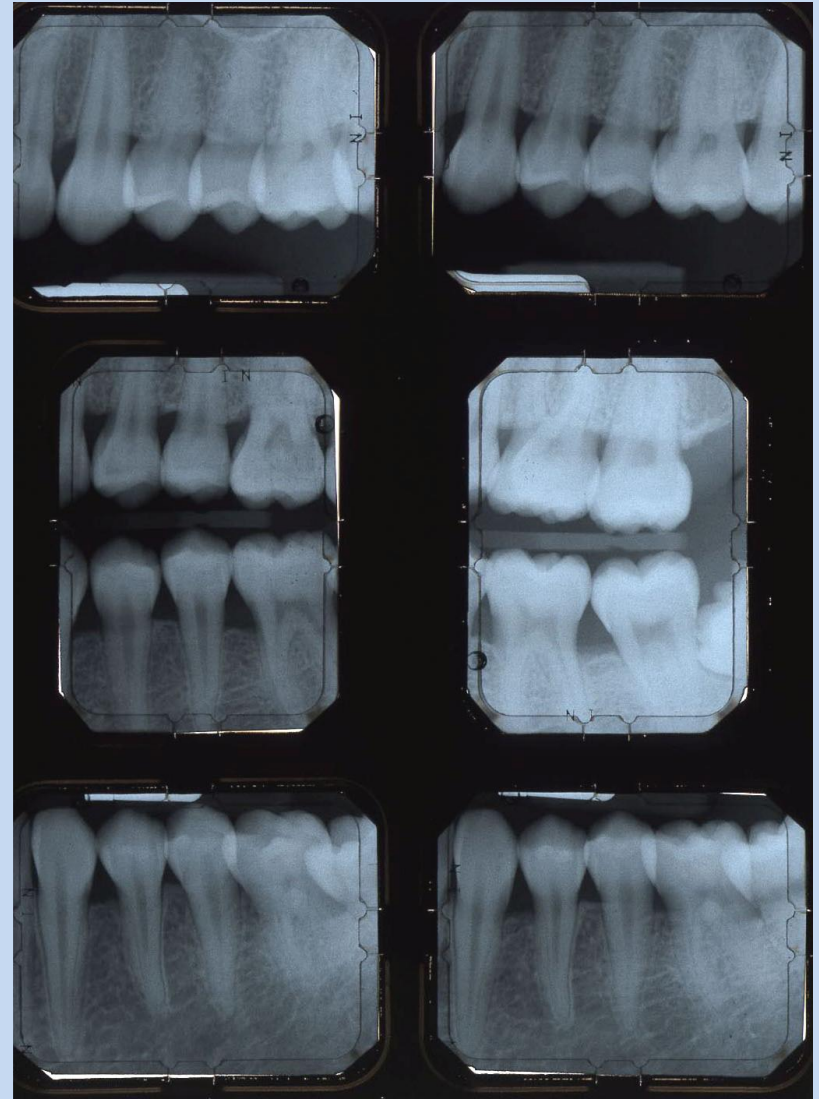
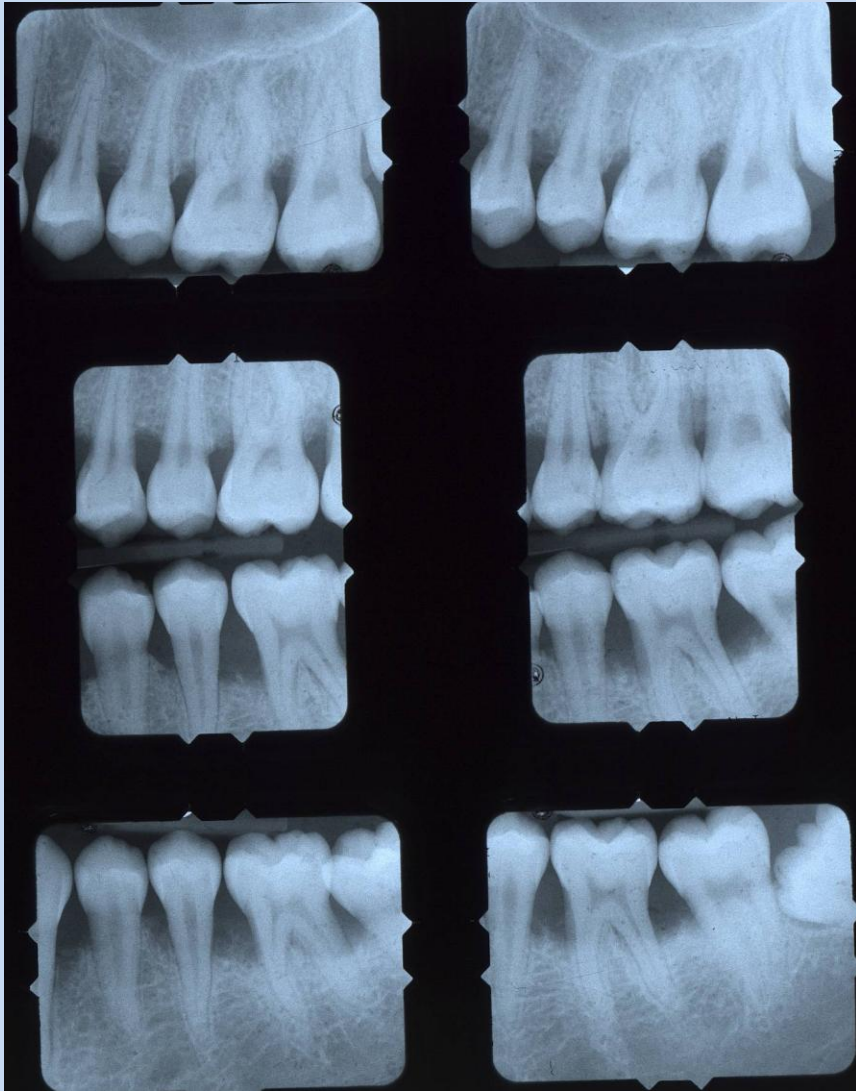
- Bone Loss Type and Severity
- Systemic Health Concerns
- Treatment Modalities
 - ScRP + Antibiotics
 - Guided Tissue Regeneration
 - Extraction and Restorative Options
- **Should I treat or should I refer??**

Bone Graft + Biologic Agent





Pre-op and 1 year Post-op

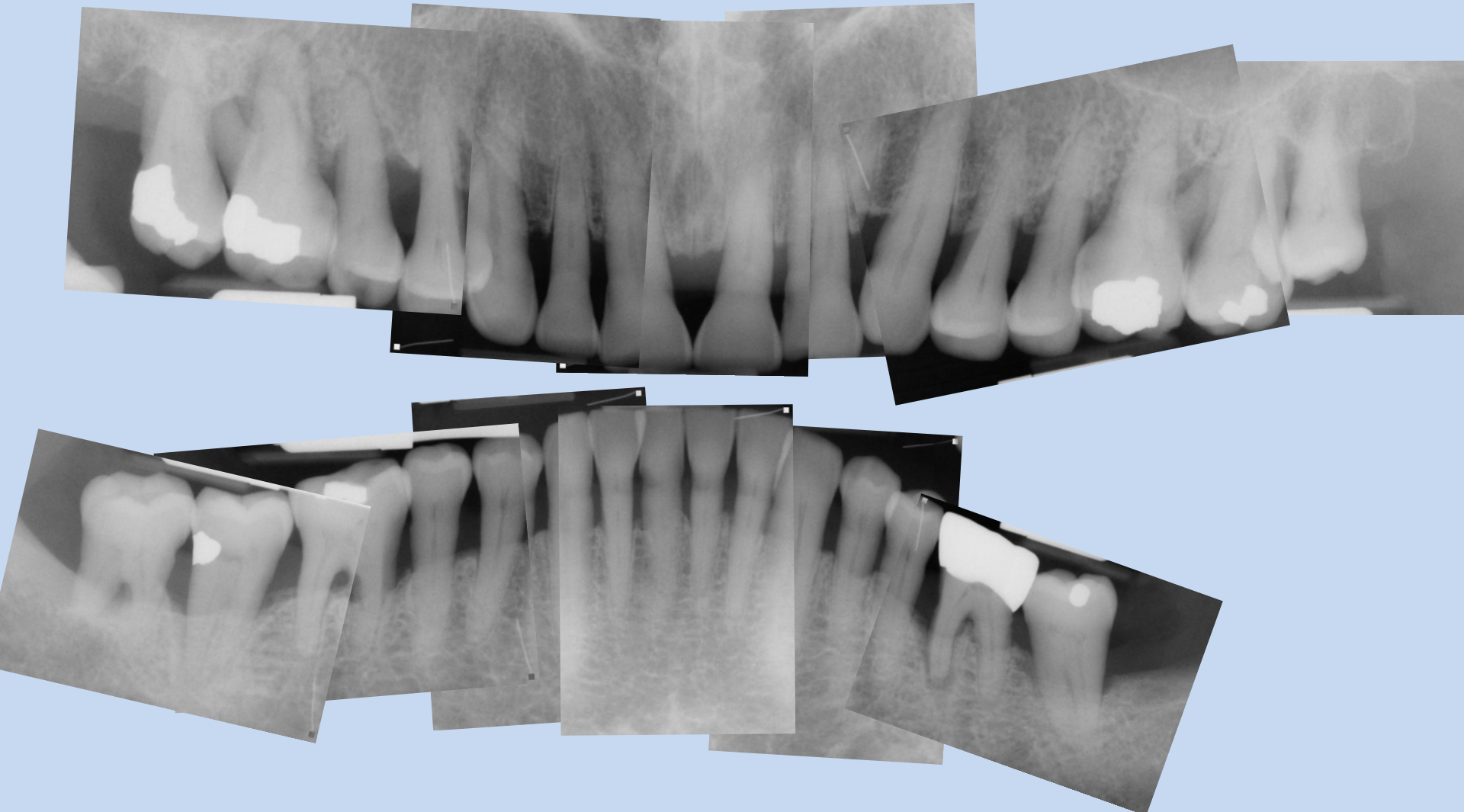


Smoking

- #1 risk factor for periodontal disease
- Associated with more calculus and bone loss
 - Red complex bacteria
- Immune System impact
 - Can have greater impact on Aggressive, Refractory and NUG/NUP patients
- Oral Cancer
- 2x more likely to be totally edentulous by 65
- **Smoking Cessation and Education**

Periodontitis Patients

64 year old male. Heavy smoker. Presents with generalized gum soreness. History of rounds of periodontal therapy followed by years of neglect.

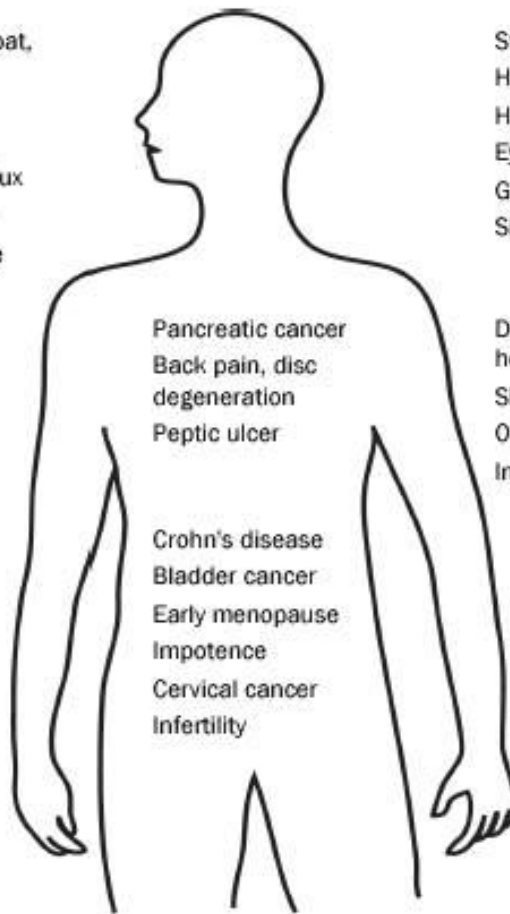


Oral cancer (mouth, throat, oesophagus, larynx)
Premature tooth loss, staining
Gastro-oesophageal reflux

Ischaemic heart disease
Chronic obstructive pulmonary disease
Spontaneous pneumothorax
Aortic aneurism
Peripheral vascular disease
Lung cancer
Pneumonia

During pregnancy

- Spontaneous abortion
- Fetal/neonatal death
- Lower than average birth weight
- Premature labour



Stroke
Hair loss
Hearing loss
Eyesight
Gum disease
Sinusitis

Delayed/impaired wound healing
Skin: aging, wrinkles
Osteoporosis
Impaired immune system

Tobacco smoke contains more than 4000 chemical compounds. Many of these agents are toxic and at least 43 can cause cancer. Tobacco is a known or probable cause of at least 25 diseases, including lung and other cancers, heart disease, stroke, emphysema and other chronic lung diseases. Tobacco is also a major cause of morbidity and disability. Smoking related diseases account for between 6 and 15% of all annual healthcare costs.

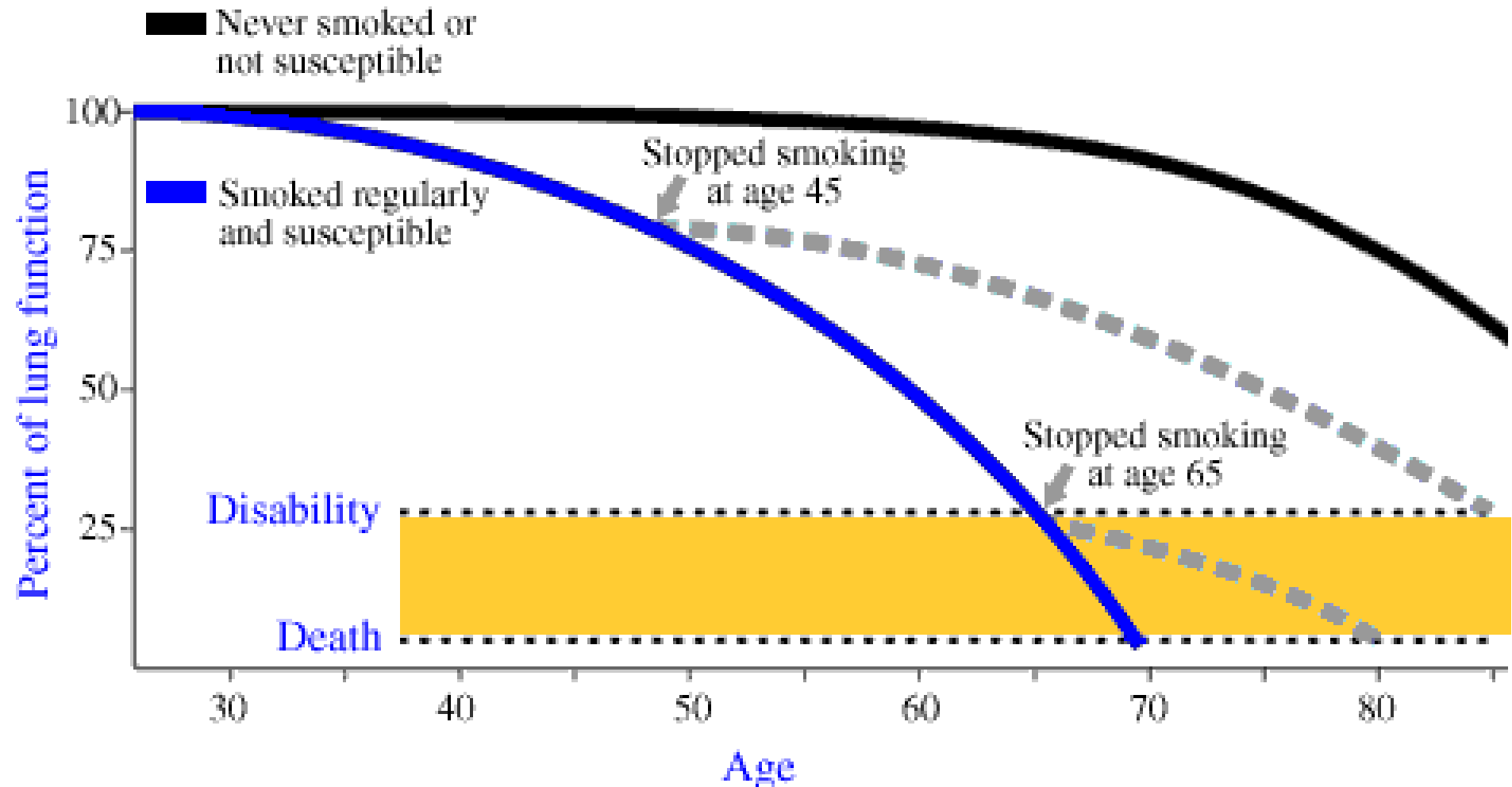
(From: www.Treatobacco.net)

Environmental tobacco smoke

- Otitis media
- SIDS
- Congenital malformation, cleft lip/palate
- Respiratory infections
- Asthma
- Poor lung function
- Greater chance of becoming a smoker



Period of Lung Dysfunction in Smokers



Stress

- Increase in cortisol levels
 - Immune system depression
- Increase in bad social habits
 - **smoking**
 - drinking
- Decrease in oral hygiene
- Increase clenching / grinding
- Decrease in visits to the dentist

Necrotizing Ulcerative Gingivitis (NUG)



NUG

- Rapid onset of painful, necrotic, ulcerative lesions limited to the gingival papillae
- May extend to the attached gingiva or alveolar mucosa in chronic form
- Patient history includes:
 - Psychological or psychosocial stress, poor diet, lack of sleep, failure to maintain adequate plaque control
- Predictable response to treatment

Treatment: NUG

- Initial Treatment:
 - Subgingival therapy limited
 - Peridex
 - Antibiotics
- 48-72 hour follow-up
 - Full Mouth Debridement / ScRP
- 2 week follow-up
 - Resolved?
 - If not, medical consult warranted

Pregnancy

- 50% of women – pregnancy gingivitis
- Swelling, bleeding, redness, and/or tenderness
- Periodontal Disease: impact on onset of early labor?

THE JOURNAL OF THE AMERICAN DENTAL ASSOCIATION

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DECEMBER 2011



**PREGNANCY
PERIODONTAL DISEASE**

COVER STORY
**Does periodontal treatment
help curb preterm birth,
low birth weight? 1423**

RESEARCH

*Self-adhesive resin cements and
postoperative sensitivity 1459*

TRENDS

*Oral health provisions in U.S.
health care reform 1471*

ASSOCIATION REPORT

*EBD recommendations on dietary
fluoride supplements 1480*

Pre-Term / Low Birth Weight

- Best to educate patients before pregnancy
- Should we treat?
 - **KEY: Intervention treatment beneficial**
 - Can drastically decrease risk from inflammation
- 2nd Trimester best (could require LA)

Pyogenic Granuloma

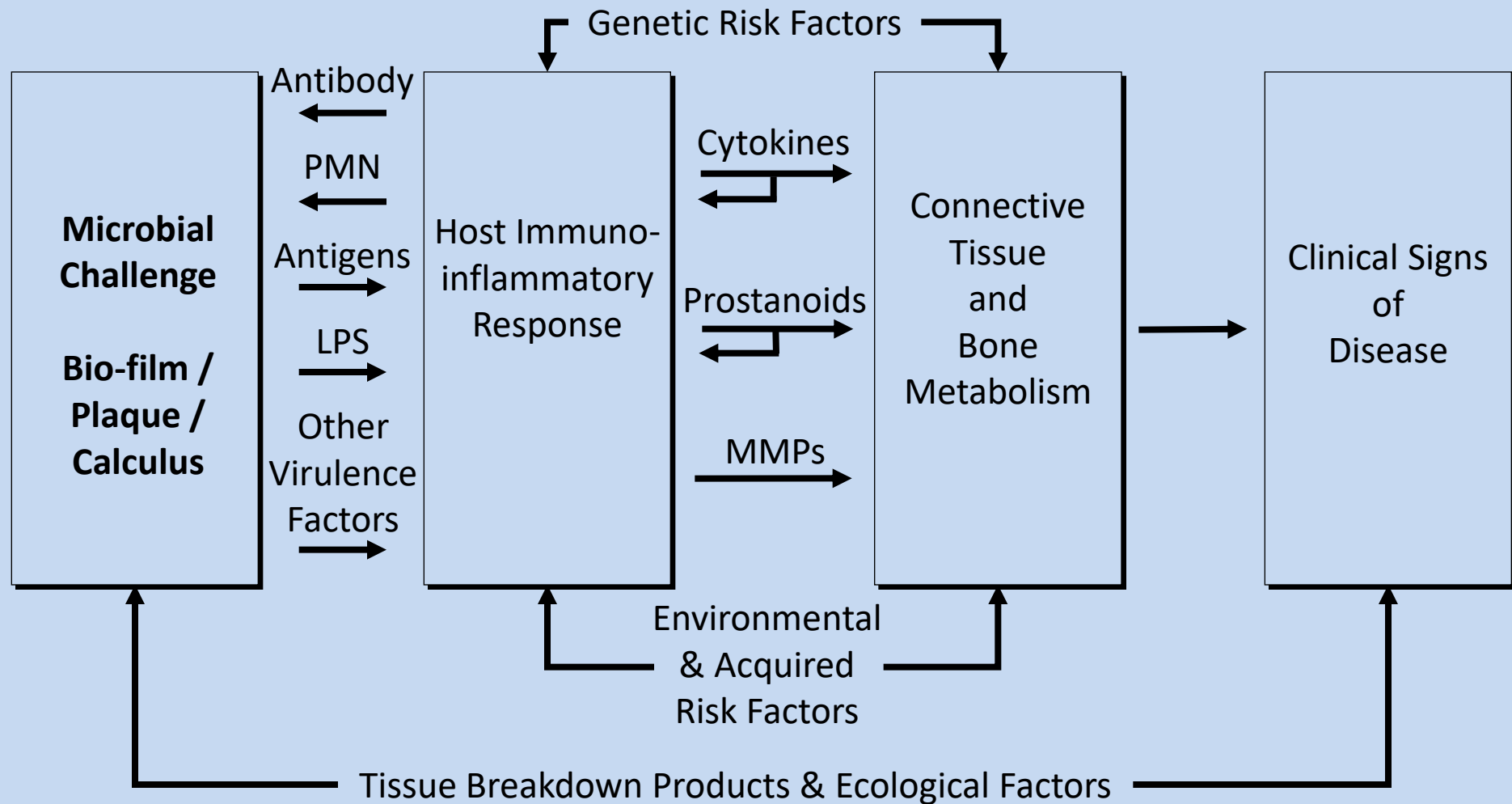


Chronic Adult Periodontitis

- Microbiota similar to healthy PD patients
- Understanding Susceptibility Critical
 - Systemic health: Time and Pressure
 - Local Factors: Tooth Anatomy
- Occlusion
- Habits



Host Pathway to Periodontal Disease



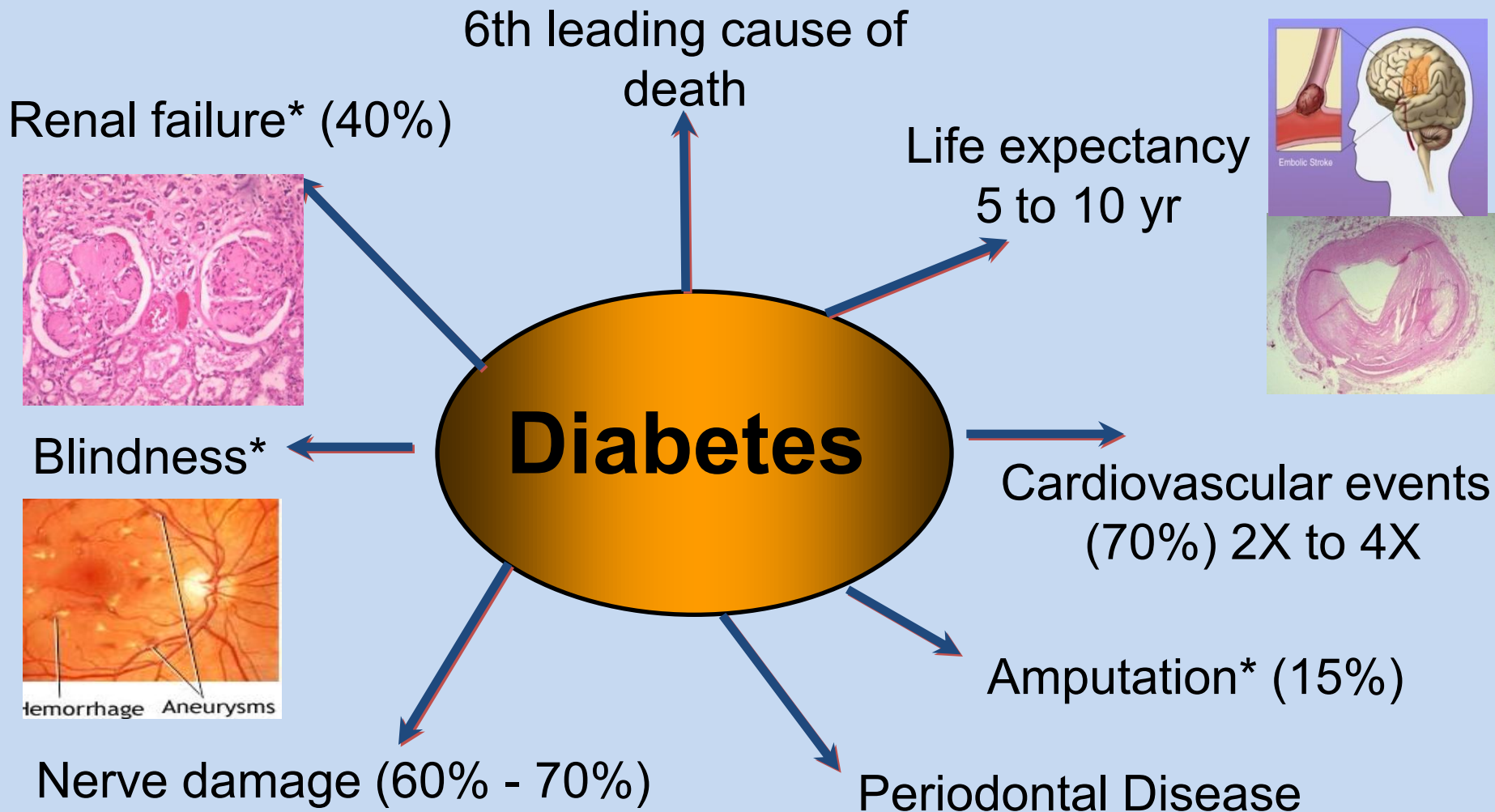
Treatment: Chronic Periodontitis

- Bone Loss Type and Severity
- Treatment Modalities
 - ScRP
 - Periodontal Maintenance: Compromised
 - Guided Tissue Regeneration
 - Extraction and Restorative Options
- Occlusion
 - Adjustment / Splinting
 - Bite Guard
- **Should I treat or should I refer??**

Diabetes Mellitus in the US: Health Impact of the Disease

Microvascular

Macrovascular



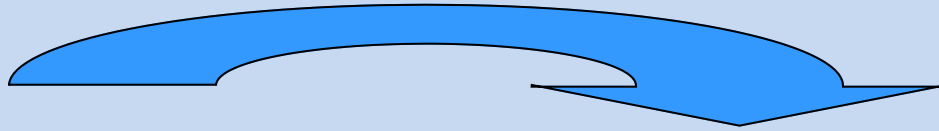
*Diabetes is the no. 1 cause of renal failure, new cases of blindness, and non-traumatic amputations

Diabetes Statistics. October 1995 (updated 1997). NIDDK publication NIH 96-3926.
Harris MI. In: *Diabetes in America*. 2nd ed. 1995:1-13.

Periodontitis and Diabetes

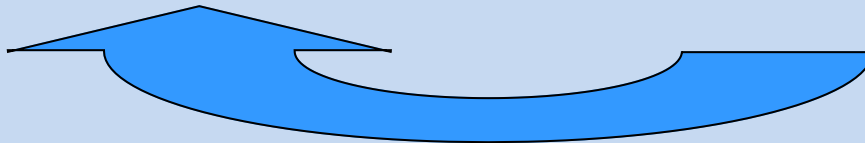
Insulin sensitivity:

Increased blood sugar levels which increase susceptibility



Diabetes

**Gingivitis /
Periodontal Disease**



Inflammation:

Mediators enters bloodstream causing insulin sensitivity

Effect of Diabetes on Periodontitis

- Increased Sugars Levels in the GCF
- Shift in Subgingival Microflora – Red Complex
- Vascular Changes – impaired wound healing
- Altered Immunological / Inflammatory Response
- At risk for xerostomia: Caries risk
- HbA1C: 6.0 – 6.5 or less = 135-152 blood sugar

Uncontrolled Diabetic Patient

- Patient History: HbA_{1c}
- Bone Loss
- Multiple gingiva / periodontal abscesses
- Sweet breath odor
- Highly inflamed and swollen gingiva



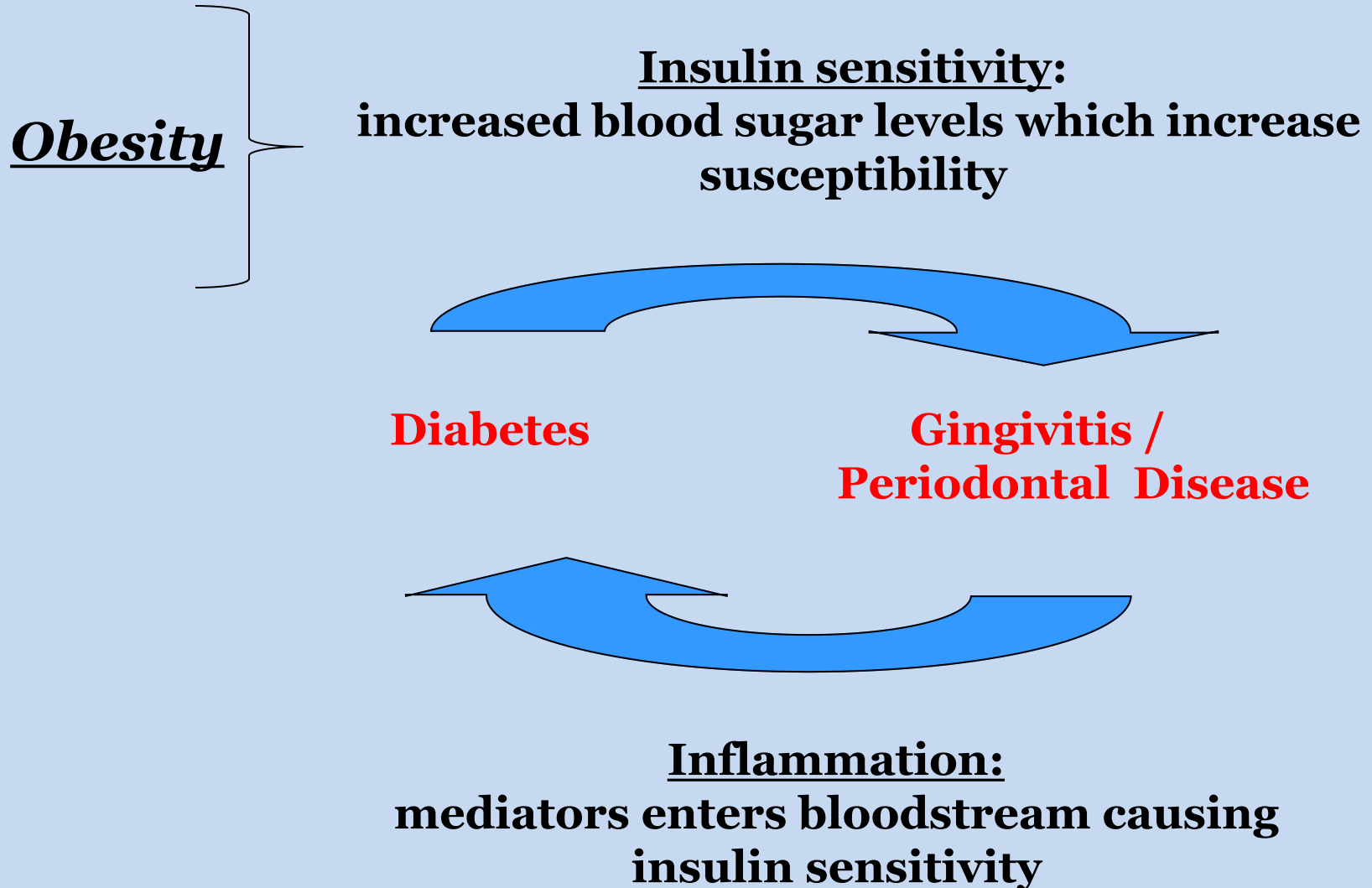
Treatment: Uncontrolled Diabetes

- Periodontal Disease Treatment
 - Tight Periodontal Maintenance
- Medical Consult for Diabetes Control
- Need to control both diseases!
 - “One affects the other ...”

Obesity

- Increase in pro-inflammatory cytokines (TNF- α)
 - Contribute to bone resorption
- Insulin resistance
 - Mediates relationship b/w obesity and perio dz
- Strong association: systemic and oral health
 - Diabetes, CVD, severity periodontal dz
- **Education**
- **Ideas?**

Periodontitis and Diabetes



Menopause / Post-Menopause

- Dry mouth
- Pain and burning sensations in the gum tissue
- Gingivostomatitis
 - Dry or shiny
 - Bleed easily
 - Abnormally pale to deep red
 - SERM's help to relieve symptoms
- Osteoporosis/Osteopenia?
- **Help manage symptoms**

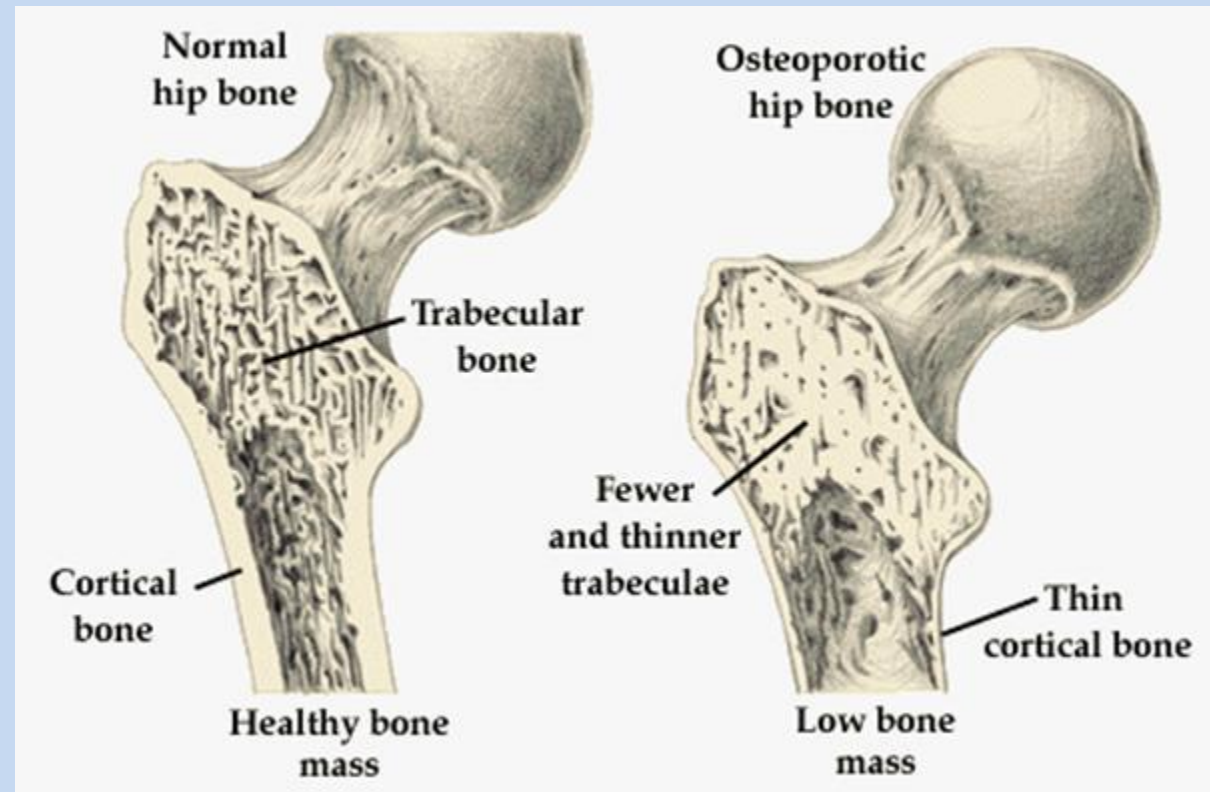
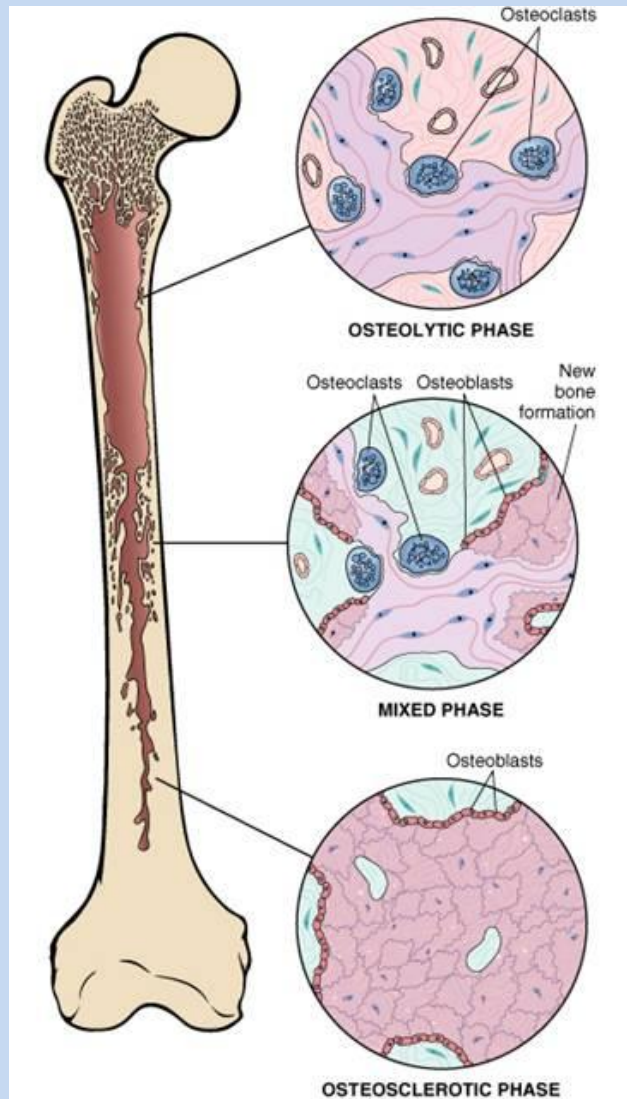
Osteoporosis / Osteopenia



Osteoporosis / Osteopenia

- Bone remodeling equilibrium dysfunction
 - Decreased bone mass
 - Fragility, deformity, and fracture
- Diagnosis:
 - Dexa scan:
 - > -1 : Normal bone density
 - -1 to -2.5 : Osteopenia
 - < -2.5 : Osteoporosis

Bone Changes



Recommended Calcium Intake by the National Institutes of Health Consensus Conference on Osteoporosis

For all people, with or without osteoporosis:	Dosage
Children ages 1 to 10	800 mg/day
Men, premenopausal women, and postmenopausal women also taking estrogen	1000 mg/day
Teenagers and young adults ages 11 to 24	1200 mg/day
Post menopausal women not taking estrogen	1500 mg/day
Pregnant and nursing mothers	1200 mg/day to 1500mg/day

Impact on Periodontal Health

- Oral bone density decreases
- Increased ridge resorption after extraction
- Increased risk of tooth loss?
 - 1% density loss -- 4x risk for tooth loss
- Increased risk for periodontal disease?
 - Greater progressive loss of attachment

List of Drugs

Oral

- Fosamax
- Fosamax Plus D
- Boniva
- Skelid
- Didronel
- Actonel

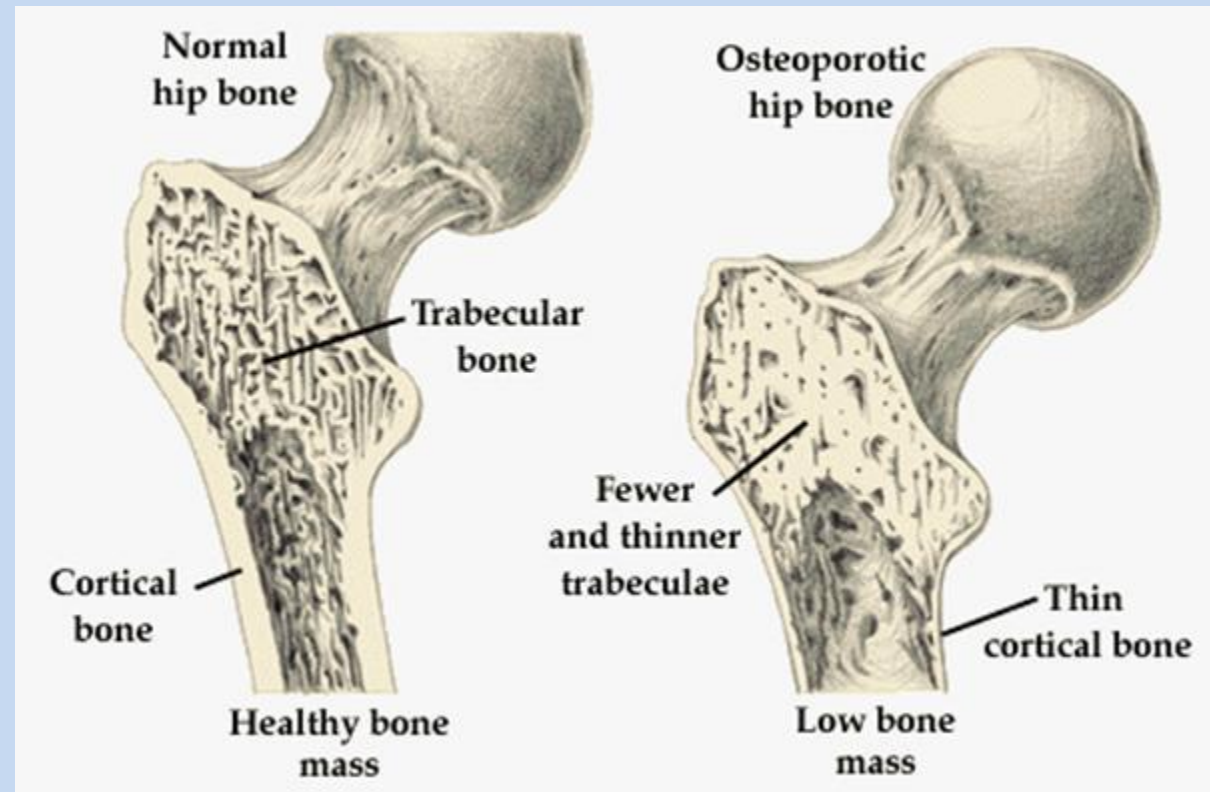
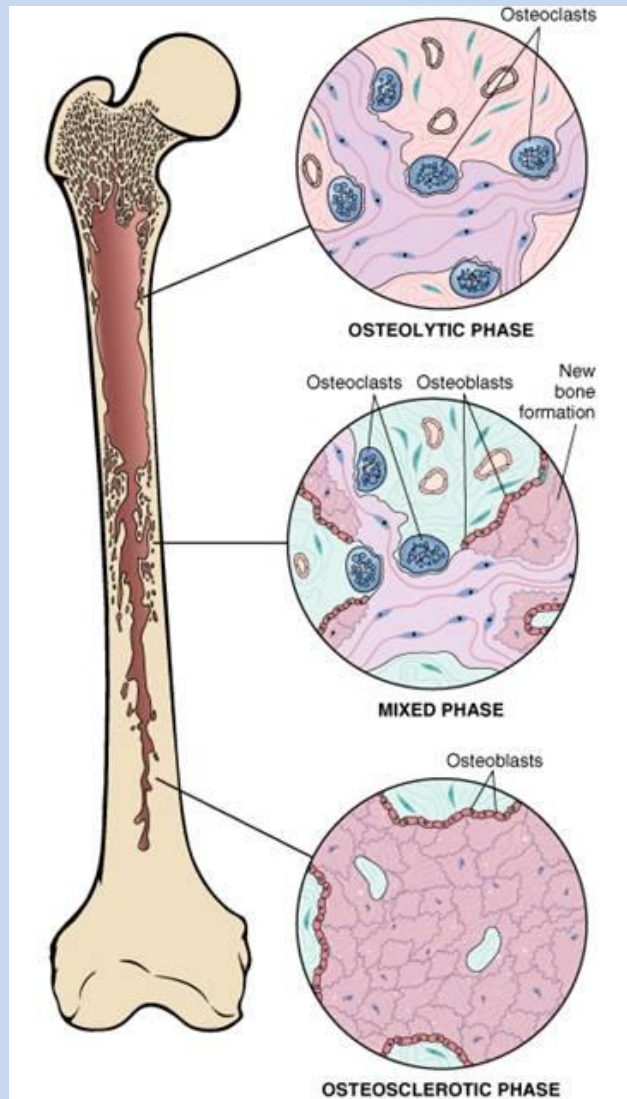
IV

- Reclast
- Aredia
- Zometa
- Bonefos

Mechanism of Action

- Binds to Bone
- Alter bone metabolism: inhibits osteoclast activity
- Impact on bone healing naturally and after injury

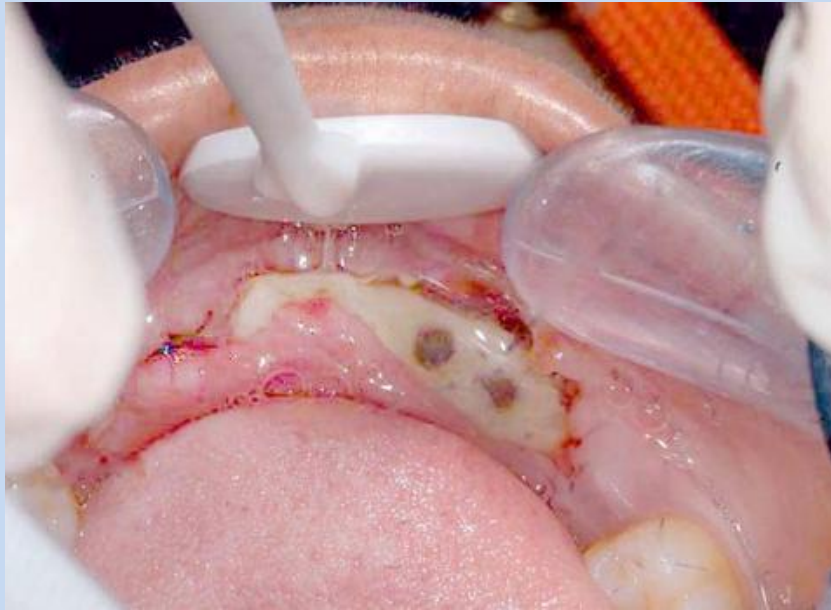
Bone Changes



Risks of Bisphosphonate Use

- Factors:
 - Dosage
 - 0.7/100,000 person/year
- Risk: IV >>> Oral
- Systemic health important
 - Corticosteroid therapy
 - Diabetes
 - Smoking
 - Alcohol use
 - Poor oral hygiene
 - Chemotherapeutic drugs

Bisphosphonate Related OsteoNecrosis of the Jaw (BRONJ)



Treatment Concerns

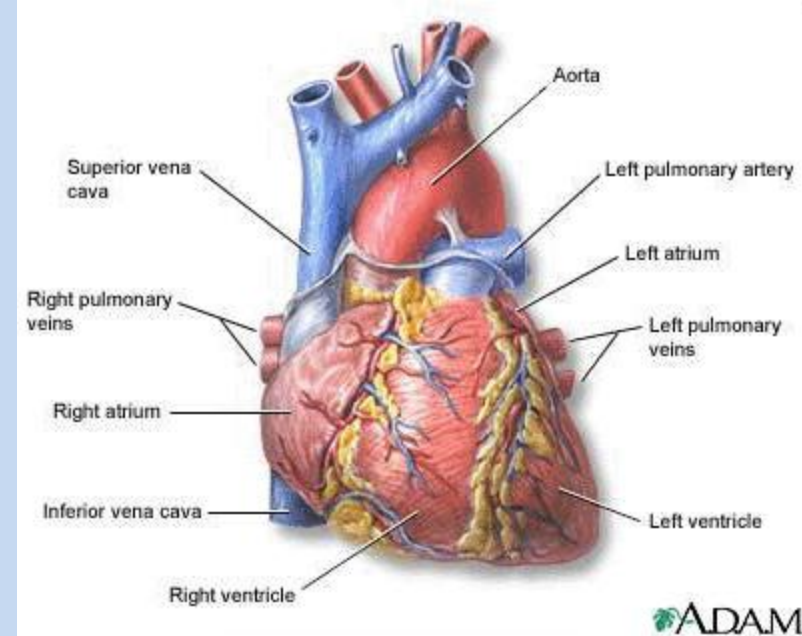
- Implant or Periodontal Surgery Candidate?
 - Less than 3 years: No alterations
 - More than 3 years: Informed consent
- Screening Test: CTx blood test?

CTx values less than 100 pg/ml representing high risk,
CTx values between 100 pg/ml and 150 pg/ml representing moderate risk,
CTx values above 150 pg/ml representing minimal risk.

Cardiovascular Disease

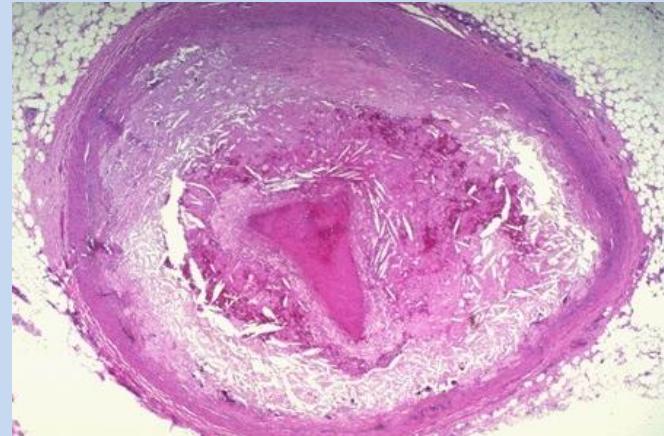
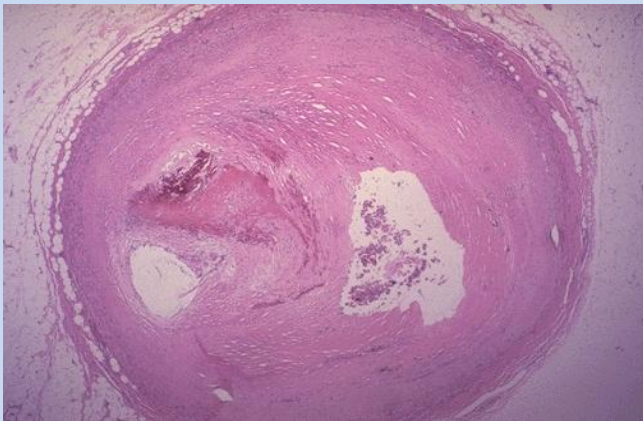
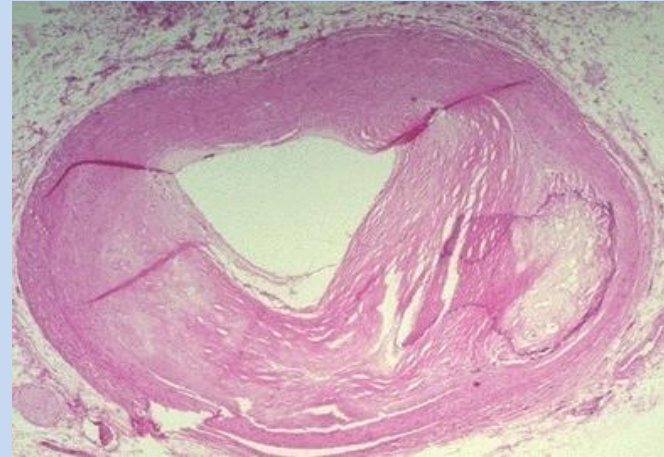
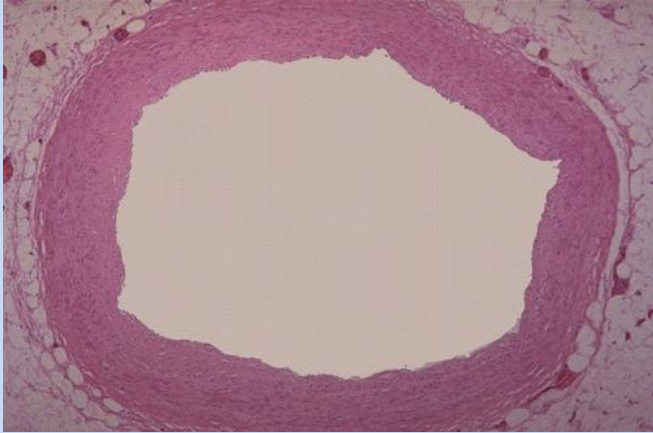
Conditions that involve narrowed or blocked blood vessels that can lead to a heart attack, chest pain (angina), or stroke.

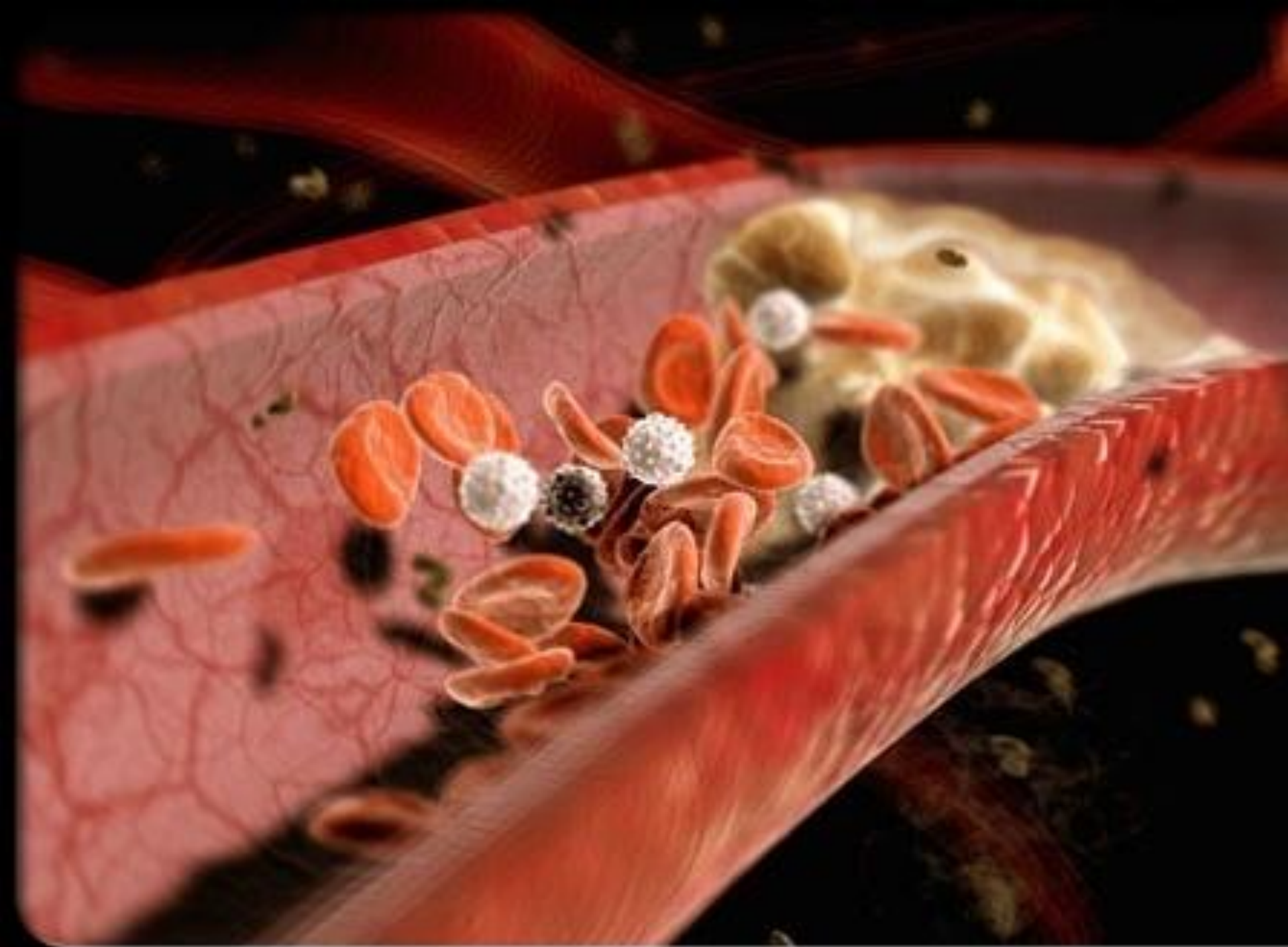
Research has indicated that periodontal and cardiovascular diseases may be related.



The basis for this relationship is thought to be inflammation. Inflammation is equally as important as cholesterol control.

Narrowing the Arteries





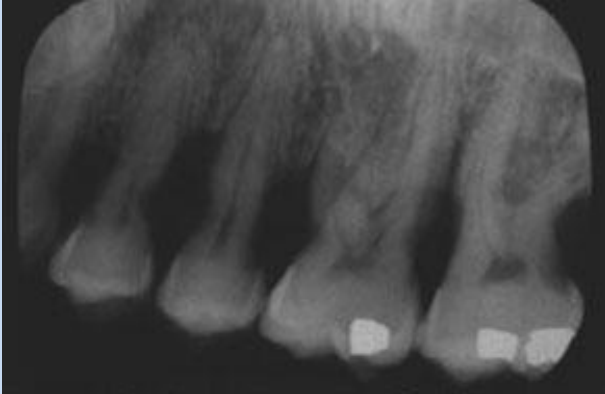
Stroke

- Increased risk for forming atherosclerotic plaques
 - MI
 - Ischemic Stroke
- Impact on oral health
 - **Manual Dexterity**
 - Desire to clean their teeth: Stress
 - Medications: Dry mouth

Medications

- Anti-histamines, Diuretics, Pain killers, HTN, Anti-depressants
 - Soft tissue Changes
 - Gingival overgrowth
 - Dry Mouth
 - Without saliva, susceptible to caries and periodontal disease
 - Nutrition impact: sore throat, difficulty swallowing, and hoarseness

Xerostomia



Sjogren's Syndrome

- Salivary glands are target organ.
- Clinical:
 - Increase in dental caries related to xerostomia
 - Effect on periodontal disease induction and progression not well known.
- **Referral to Oral Diagnostic Dentist**

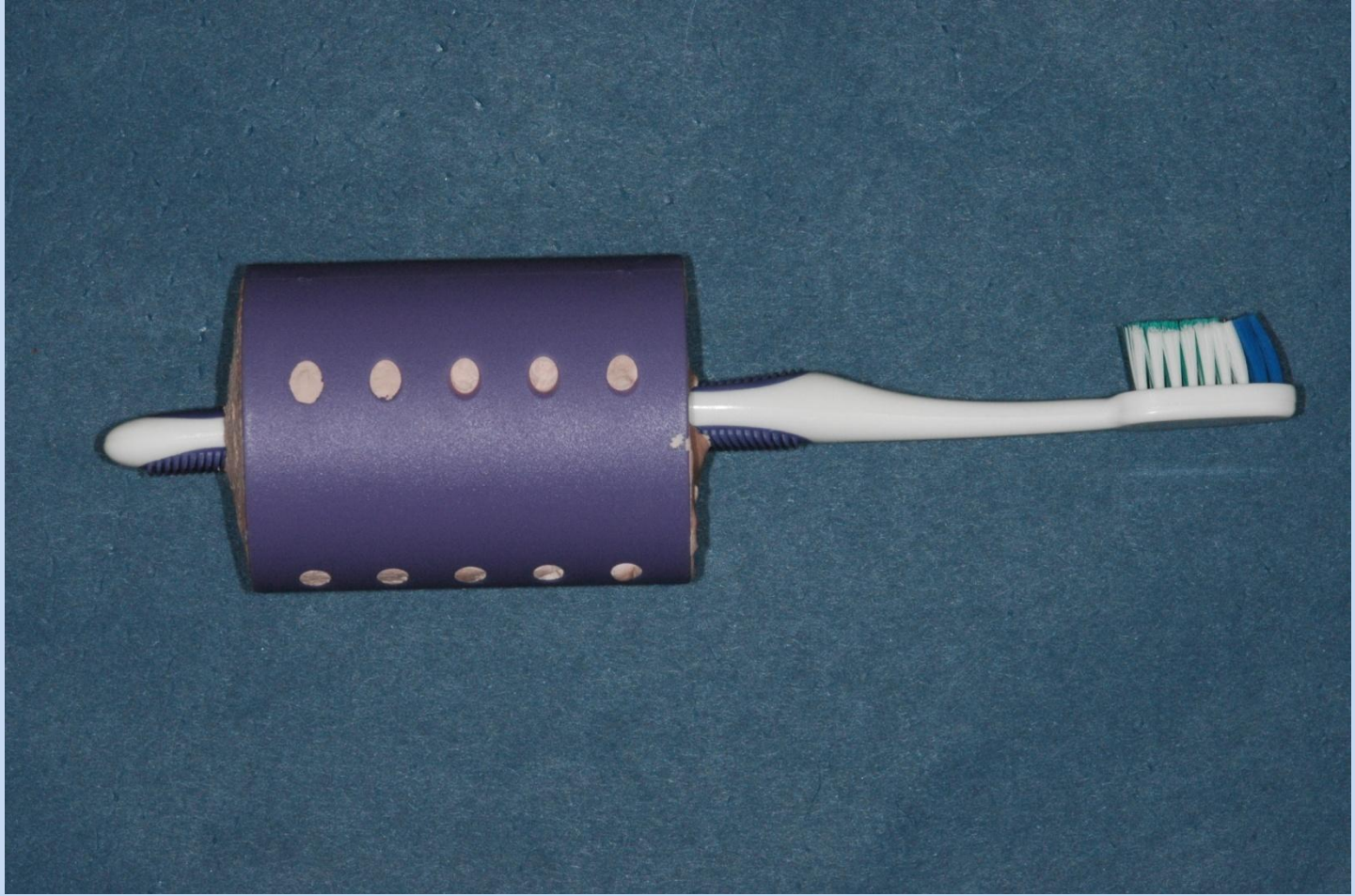
Treatment of Xerostomia

- Sugar free gum, hard candies, and mints
- Low abrasive, highly fluorinated toothpaste
- Saliva Replacement
 - Biotene
 - Water
- Salivary Gland stimulators
 - Salagen, Cevimeline, Bethanechol
- High Fluoride – Trays
 - Prevident
 - Frequent Fluoride tray therapy
- Medication change?

Rheumatoid Arthritis

- Auto-immune inflammatory destruction of joints
- Association with Periodontal Disease:
 - **Management of oral hygiene is a concern with impaired dexterity.**





Cardiovascular Disease, Stroke, Sjogren's, Rheumatoid Arthritis

- Association with Poor Oral Hygiene
- Increase cleanings / periodontal maintenance
 - Every 3-4 month average?

Immune Deficiencies

- Congenital Immune Deficiencies
 - Severity:
 - Both T-cell and B-cell deficiencies.
 - Immunoglobulin and macrophage deficiencies
 - PMN dysfunction
 - Younger Age
- Acquired immune deficiencies
 - HIV
 - Disease presentation more severe
 - Any age

Immune Deficiencies

- Undiagnosed Patient
 - Unexplained generalized bone loss
 - Exposed bone
 - Fetid Breath
 - Punched out papilla

Referral to their physician

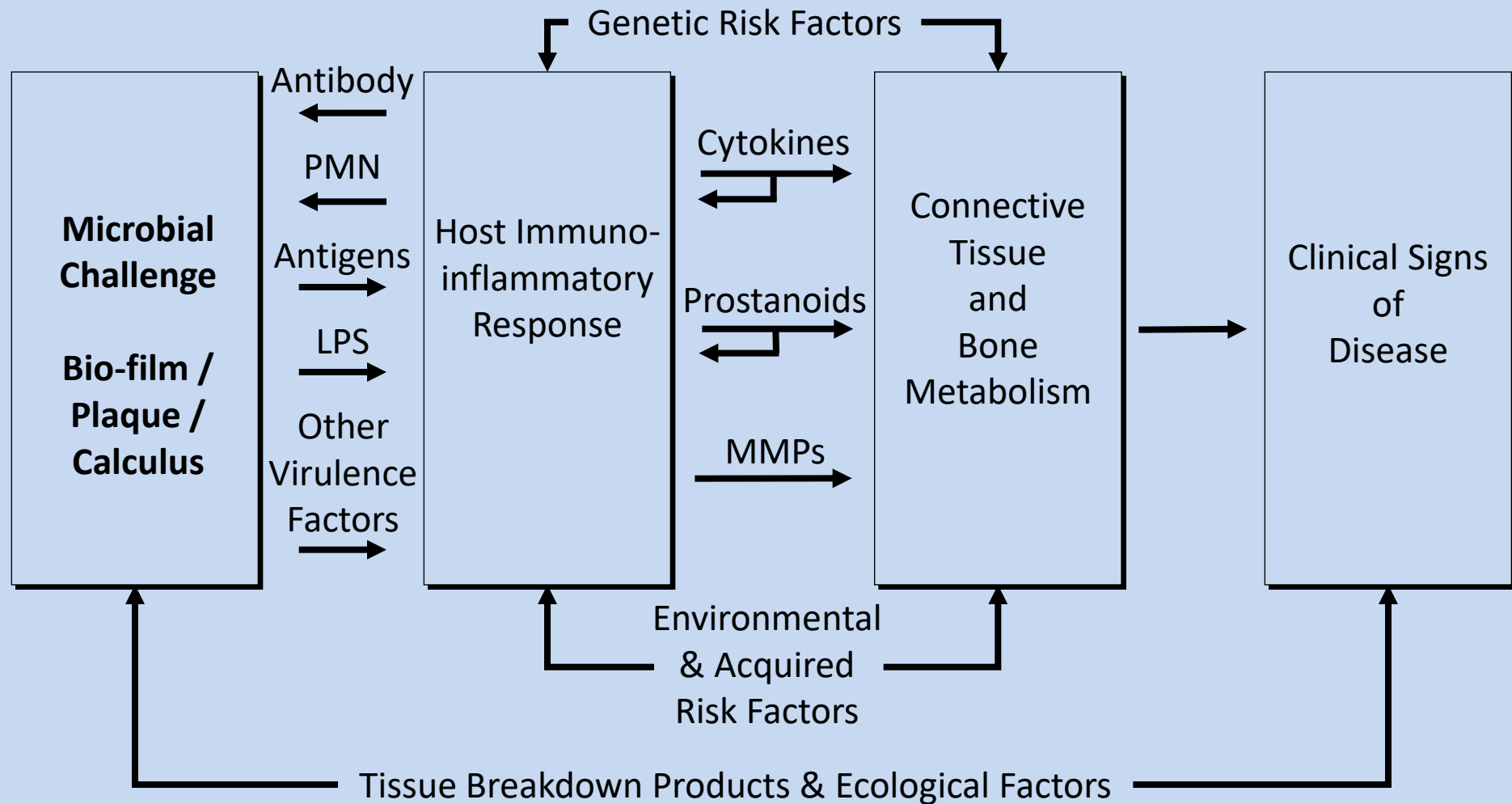
Necrotizing Ulcerative Periodontitis (NUP)



NUP

- Tissue necrosis with exposure of alveolar bone.
- Indicative of depleted CD4/CD8 counts
 - CD4 cell count below 100 cells/mm³
 - More likely to develop destructive periodontal lesions.
- Prevalence unknown but typically in immunocompromised patients
- **In HIV patients, indicative of end stage with 73% fatality within 24 months**

Host Pathway to Periodontal Disease



***Contact our office if you
have concerns with your
periodontal health.***

***We are experts in
diagnosing periodontal
issues that affect keeping
your teeth.***

704-549-4991