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Gum Gardeners Study Club

2.27.17

## TEAM PERIODONTICS: WORKING TOGETHER TO IMPROVE PATIENT CARE

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## WHAT IS THE PURPOSE OF WHAT WE DO?

## WHAT DO PERIODONTISTS DO THAT IS BEYOND YOUR TREATMENT?

Hard Tissue Management

Supportive Therapies (Night Guard, Occlusal Adjustment, etc.)

## YOU ARE THE PERIODONTISTS IN YOUR PRACTICE!

### OBJECTIVE

- Create a heightened sense of Periodontal Awareness
- Help more patients
- Do more Periodontal Therapy
- Assure thoroughness in Diagnosis and Treatment
- Give YOU the tools to talk to patients

Dale Carnegie

## THE SMILE IS ONE OF THE MOST IMPORTANT TOOLS IN INFLUENCING PEOPLE

WHAT WE DO IS IMPORTANT!

## WHERE DOES PERIODONTAL THERAPY START?

The First Visit  
The Examination  
Re-Care Visit  
Periodic Exam

### THE EXAMINATION

- The Medical History
- The Dental History
- The Clinical Examination
- Possible Physician Consultation
- The Radiographic Examination

### THE MEDICAL HISTORY

### THE MEDICAL HISTORY

- Findings that would influence the DELIVERY of dental treatment
  - Contraindications
    - IV Bisphosphonates
    - Bleeding Disorders
  - Complications
    - Prosthetic Joints
  - Allergies to Therapeutic Medications

### THE MEDICAL HISTORY

- Findings that would influence the OUTCOME of dental treatment
  - Systemic Illness
    - Diabetes
    - Pregnancy
  - Medications
    - Calcium Channel Blockers
    - Cyclosporin
    - Bisphosphonates

## THE MEDICAL HISTORY

- Hematologic Disorders
  - Leukemia
  - Bone Marrow Transplants
- Immune System Disorders
  - HIV
  - AIDS

## THE MEDICAL HISTORY

- Findings that would make dental health/disease a risk for systemic health
  - Cardiovascular Disease
  - Stroke
  - Diabetes
  - Pregnancy
  - Prosthetic Joints
  - Etc.

## THE MEDICAL HISTORY

- Should You Treat This Patient?
- How Should You Treat This Patient?
- How Aggressively Should You Treat This Patient?

## THE DENTAL HISTORY

## THE DENTAL HISTORY

- Present Chief Complaint
  - What Problems Is the Patient Having?
- History of Chief Complaint
- Patient's Goals of Treatment
  - Short Term Goals
  - Long Term Goals (KEEP THEIR TEETH?)
- Relevant Dental Treatment History
  - Past Periodontal Treatment
  - Maintenance Care History

## THE CLINICAL EXAMINATION

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- Extra-oral Examination
  - Neck Palpation
  - Nodes
  - Peri-oral tissues
  - Lips
- Intra-oral Examination
  - Buccal Mucosa
  - Palate
  - Floor of the Mouth
  - Tongue

## THE CLINICAL EXAMINATION

- Missing Teeth
- Damaging Movement Caused By Missing Teeth
- Bone Loss Caused By Missing Teeth
- Plaque Level
- Calculus Level
- Inflammation Level

## THE CLINICAL EXAMINATION

- Mucogingival Evaluation
  - Recession
  - Keratinized Tissue
  - Frenum Pulls
- Periodontal Charting
  - Pocket Depths
  - Bleeding, Exudates
- Furcations
- Mobility

## THE CLINICAL EXAMINATION

- Occlusal Examination
  - Prematurities
  - Parafunction
  - Fremitus
- Hard Tissues
  - Caries
  - Defective Restorations
  - Open Contacts
- Gingival Display/Esthetics

## EVALUATION OF ORAL HYGIENE



- Presence or Absence of Food Debris, Plaque and/or Calculus
- Plaque Index
- Evidence of Traumatic Brushing and/or Flossing



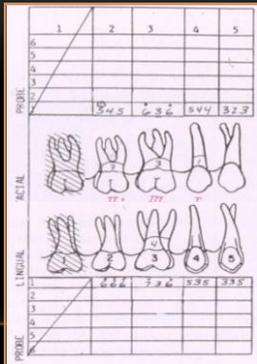
## EVALUATION OF SOFT TISSUES



- Color
- Contour
- Texture
- Integrity of Papillae
- Spontaneous Bleeding and/or Suppuration



## PERIODONTAL CHARTING



## PERIODONTAL PROBING

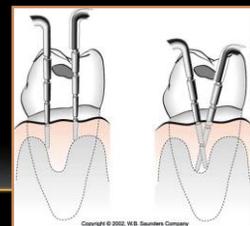


THE PROBE IS THE KEY TO PERIODONTAL DIAGNOSIS; IT'S SAID "WHEN THE PROBE APPEARS, THE DISEASE APPEARS. AND WHEN THE PROBE DISAPPEARS, SO DO THE TEETH."

## FACTORS AFFECTING THE ACCURACY OF PERIODONTAL PROBING

- Pressure (25 grams of force)
- Angulation
- Tooth Contour
- Inflammatory Status
- Type of Probe

Accurate to within  
~ 1.0 mm.



## BLEEDING ON PROBING



## MEASUREMENT OF GINGIVAL RECESSION



## EVALUATION OF TOOTH MOBILITY



\*Grade 1: crown of tooth moves 0.2 to 1.0 mm in a horizontal direction.

Grade 2: crown of tooth moves > 1.0 mm horizontally.

Grade 3: crown of tooth moves in a vertical direction.

\*Method for recording mobility proposed by Lindhe

## EVALUATION OF FURCATION INVOLVEMENT



## EVALUATION OF OCCLUSION AND INTERDENTAL RELATIONSHIPS



## DENTAL RADIOGRAPHS

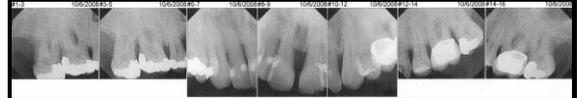


NEW PATIENT

“Please Evaluate tooth #14 for Possible Perio – Endo.”



Soft Tissue Management Has Been Completed.



## What else is going on?



## DIAGNOSIS

- Moderate to Advanced Periodontitis
- Bruxism
- Occlusal Trauma
- Root Fracture #14

## TREATMENT PLAN

- Occlusal Adjustment
- Pocket Reduction
- Prognosis
  - Overall Good
  - #2,3,14,15 Poor to Hopeless

## IN THIS CASE

- Distribution of Bone Loss was Important
- Early Furcation Loss was Important
- Mobility was Important
- Occlusal Examination was Important

## GOOD CLINICAL RECORDS ARE ESSENTIAL

- For Diagnosis and development of an appropriate course of treatment.
- As an objective means to monitor progress of treatment or disease.
- To minimize liability risks.
- For processing insurance claims

### POCKETS:

- 0 to 3 mm = healthy to gingivitis = Type I
- 3 to 4 mm = early periodontitis = Type II
- 4 to 6 mm = moderate periodontitis = Type III
- 6 mm or greater = advanced periodontitis = Type IV

## THREE TREATMENT TREES FOR PERIODONTAL THERAPY

EXAMINATION  
TREATMENT  
RE-EVALUATION  
MAINTENANCE AND MONITORING

## THREE TREATMENT TREES FOR PERIODONTAL THERAPY

EXAMINATION  
TREATMENT  
RE-EVALUATION  
REFER FOR SPECIALTY CARE  
MAINTENANCE AND MONITORING

## RE-EVALUATION

- SCORE ORAL HYGIENE – GOOD/FAIR/POOR – OFFER SUGGESTIONS
- REPROBE AND CHART POCKET AREAS
- MARK BLEEDING POINTS, SUPPURATION AND SIGNS OF INFLAMMATION

## RE-EVALUATION

- RECORD MUCOGINGIVAL DEFECTS – ZONES OF INADEQUATE ATTACHED GINGIVA
- EVALUATE MOBILITY AND OCCLUSAL PROBLEMS
- RE-EVALUATE THE RADIOGRAPHS – ESPECIALLY BONE LEVELS
- DECIDE TO REFER TO A PERIODONTIST OR TO CONTINUE MAINTENANCE

## THREE TREATMENT TREES FOR PERIODONTAL THERAPY

EXAMINATION  
REFER FOR SPECIALTY CARE  
MAINTENANCE AND MONITORING

## WHEN TO REFER TO A PERIODONTIST PRIOR TO INITIATING SOFT TISSUE MANAGEMENT

- Patient has severe isolated defects
- Patient is medically compromised with systemic factors
- Treatment plan questions relative to questionable teeth
- Complex interdisciplinary cases
- Unknown prognosis of strategic abutment teeth
- Advanced disease with or without mobility
- Rapid Bone deterioration
- Laser Periodontal Therapy is being considered (LANAP)

## SOFT TISSUE THERAPY

## BENEFITS OF SOFT TISSUE THERAPY

- HELPS PATIENTS REDUCE OR ELIMINATE DISEASE = HEALTHIER PATIENTS
- BUILDS RAPPORT WITH THE NEW PATIENT
- BUILDS PATIENT'S CONFIDENCE IN THE DIAGNOSIS AND THE TREATMENT PLAN AND QUALITY CARE OF THE OFFICE

## BENEFITS OF SOFT TISSUE THERAPY

- INCREASES THE EDUCATION OF THE PATIENTS
- LEGALLY INFORMS PATIENTS OF THEIR PERIODONTAL STATUS
- HELPS MAINTAIN PERIODONTAL STABILITY

## BENEFITS OF SOFT TISSUE THERAPY

- EASIER TO DETERMINE WHO NEEDS TO BE REFERRED TO THE PERIODONTIST
- IMPROVES PREDICTABILITY OF RESTORATIVE CARE
- CREATES A BETTER ENVIRONMENT IN WHICH TO PERFORM RESTORATIVE DENTISTRY

## BENEFITS OF SOFT TISSUE THERAPY

- INCREASES DOLLAR PRODUCTION AND PROFIT
- INCREASES NEW PATIENT REFERRALS FOR THE GENERAL PRACTICE
- INCREASES HYGIENIST'S PROFESSIONAL SELF-ESTEEM

## BENEFITS OF SOFT TISSUE THERAPY

- POSSIBLE INCREASE OF BENEFITS TO THE STAFF AND HYGIENISTS IN PARTICULAR
- PROVIDES THE HIGHEST LEVEL OF CARE TO OUR PATIENTS
- IT'S THE RIGHT THING TO DO

## MECHANICS OF SOFT TISSUE MANAGEMENT

- Diagnose your patient
- Determine the number of scaling appointments necessary
  - Type 2 - 1 appt of light scaling or prophyl
  - Type 3 - 2-3 appointments of scaling and root planing
  - Type 4 - 4-6 appointments of scaling and root planing
- Each appointment is approx. 1 hour of time

## MECHANICS OF SOFT TISSUE MANAGEMENT

- Try to do scaling and root planing within a close time frame.
- Recommend doing with anesthetic
- Must do a re-evaluation following scaling and root planing

WHAT IS THE PROBLEM TODAY?

COMPANY PROFILE

Periodontal Therapy has become synonymous with:

**SOFT TISSUE MANAGEMENT**

The Restorative Equivalent of:

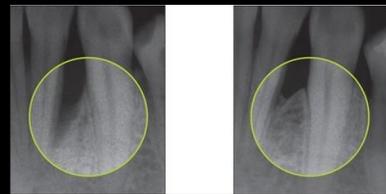
## CARIES REMOVAL



Beyond Soft Tissue Management is:

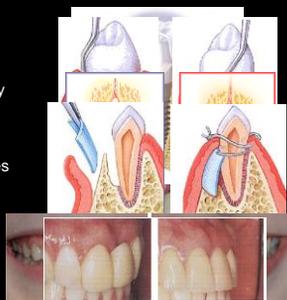
## HARD TISSUE MANAGEMENT

## Hard Tissue Management



## Main Periodontal Procedures

- Non-surgical treatments
  - Scaling and root planning
  - Adjunctive/antibiotic therapy
- Laser therapy
- Periodontal surgery
  - Pocket reduction procedures
  - Regenerative procedures
  - Soft tissue grafts
  - Crown lengthening
- Cosmetic procedures
  - Ridge augmentation



**WHICH PROCEDURES DO YOU DO  
AND WHEN?**

## TREATMENTS FOR PERIODONTAL DEFECTS

- Scaling and Root Planing +- Supportive Therapy
- Osseous Surgery (Flap Surgery)
- Guided Tissue Regeneration
- Gingivectomy
- Laser Periodontal Therapy

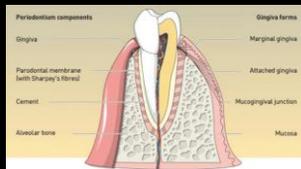


**SLOW DOWN!**

Patients first need to understand and "own" their disease

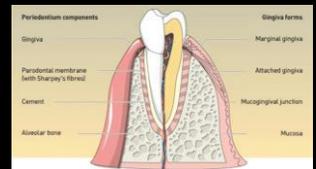
## TALKING PERIODONTAL DISEASE

- Explain periodontal probings before you take them, patients have no clue what a 6mm pocket means
- Overhear works very well, say numbers out loud
- "Biologic Seal" around the tooth; these numbers test to see if you have a leaky seal
- Leaky seals allow bacteria to invade the gums and nest
- Nesting bacteria erodes the bone around your teeth and can cause them to loosen and fall out



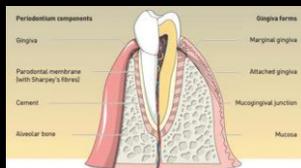
## TALKING PERIODONTAL DISEASE

- Gum disease usually doesn't hurt so it's best (easier, less expensive) to treat early
- Our goal is to help you keep your teeth for the rest of your life
- To do that, we need your toothbrush and floss to work for you because you brush 365 days a year 1-3 times per day and we only see you 2,3,4 times
- Your toothbrush and floss can only reach 3mm and my instruments can't really reach beyond 4mm



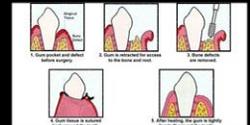
## TALKING PERIODONTAL DISEASE

- I think it's best that we (do a deep cleaning, increase recalls, refer to a periodontist) in order to keep these pockets at a maintainable level
- There is no cure for periodontal disease, it has to be managed like blood pressure or diabetes; it never goes away, can go up and down, and can come back once you have it under control



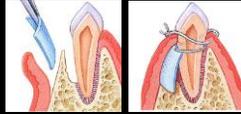
## TREATMENTS FOR PERIODONTAL DEFECTS

- Osseous Surgery (Flap Surgery)
  - Improve Hard Tissue Contours (Create Physiologic Architecture)
  - Access for Debridement
  - Pocket Reduction
  - Visual Inspection (cracks, root grooves, etc.)
- Talking Surgery
  - It's a surgical deep cleaning that removes the nesting bacteria and stitches healthy gums down tighter around the tooth creating a healthier and more cleansible area



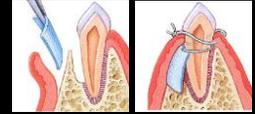
## TREATMENTS FOR PERIODONTAL DEFECTS

- Guided Tissue Regeneration
  - Similar to osseous surgery but may not be resective
- Trying to regenerate: bone, PDL, cementum
- Can use a variety of different methods:
  - Emdogain/Gem 21/PRP
  - Bone Grafts
  - Membranes



## TREATMENTS FOR PERIODONTAL DEFECTS

- Guided Tissue Regeneration
  - Need to have bone in order to get bone
- Talking Perio
  - The periodontist may try to regrow the bone and gum attachment to the tooth



## TREATMENTS FOR PERIODONTAL DEFECTS

- Gingivectomy
  - Not often performed; mostly cosmetic
  - Pocket formation without bone loss
  - Remove overgrowth
- Talking Perio
  - Keep your eyes out for "gummy smiles"



## TREATMENTS FOR PERIODONTAL DEFECTS

- Laser-Assisted New Attachment Procedure
  - Same goals as the other therapies
  - Not resective but regenerative
  - Uses lasers instead of incisions/stitches
  - Uses the patient's own blood cells for healing



## HOW DO YOU DECIDE ON TREATMENT?

- Review the Clinical Information (Health, Radiographs, Past Periodontal Charts)
- Review Oral Hygiene
  - "Garbage In, Garbage Out"-no surgery unless the patient can take care of it
- Defect Morphology and Probing Information Determine our Treatment Options
  - Number of bony walls
  - Morphology of Defect
  - What will the end result look like?
    - Cosmetics, Amount of Gingiva, Gingival Levels



## 2-WALL DEFECT



## 3-WALL DEFECT



## Bone Walls and Treatment Options

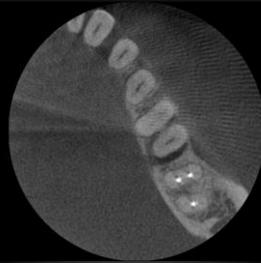
- One Walled Defect – Resection
- Two Walled Defect – Combination of Regeneration and Resection
- Three Walled Defect - Regeneration

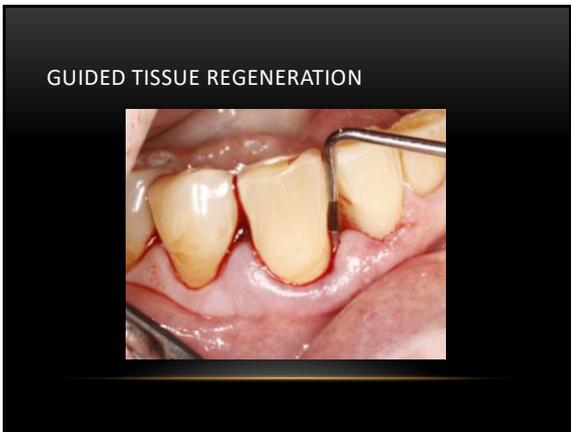
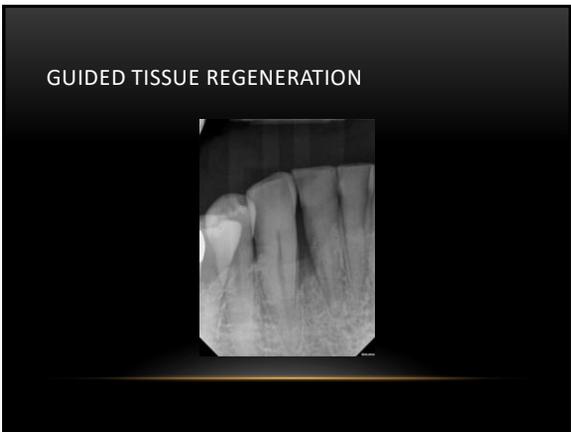
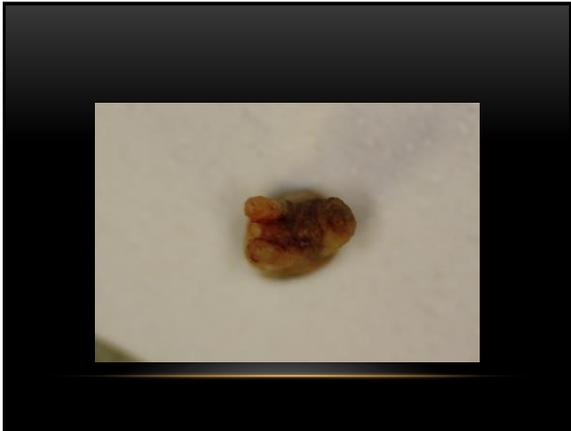
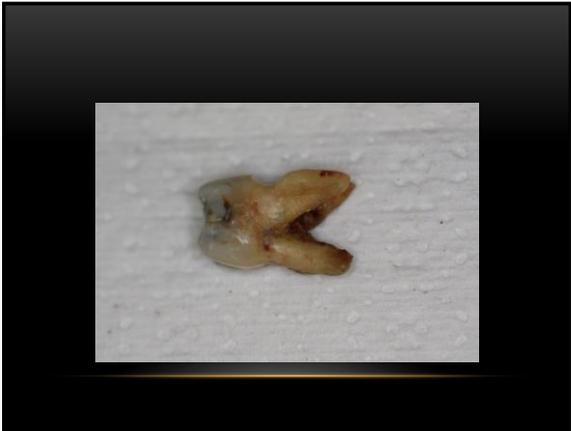
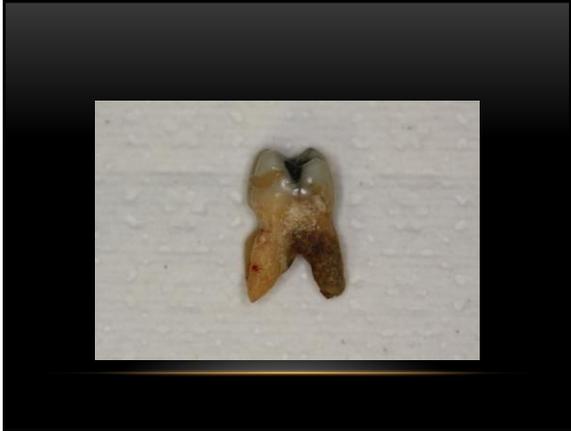
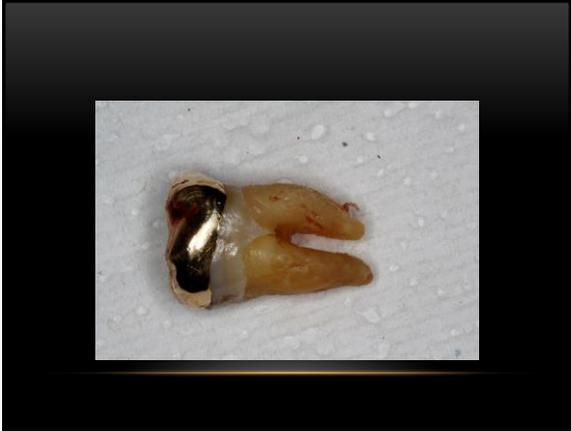
## Options in Regeneration

- Wide Defects Require More Advantages in the Graft
  - Autogenous Bone
  - Membrane
  - Growth Factors
- Narrow Defects Bring More Advantages to the Graft
  - Blood Supply
  - Containing a Stable Graft/Clot

## PERIO VS. FRACTURE







### GUIDED TISSUE REGENERATION



### GUIDED TISSUE REGENERATION



### GUIDED TISSUE REGENERATION

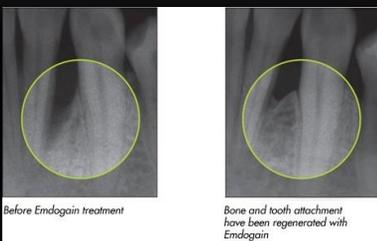


### EMDOGAIN



- Porcine Enamel Matrix Derivative
- Contains Growth Factors that Promote Regeneration
- Mix with Bone, Membrane, or Alone

### EMDOGAIN HEALING

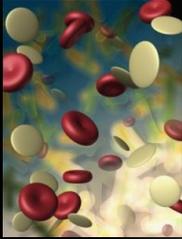


### GEM-21S



- Synthetic Platelet Derived Growth Factor
- Biologic Modifier in a TCP matrix
- Stimulate Regeneration

## PLATELET-RICH BLOOD PRODUCTS



- Drawn from the patient's blood
- Placed in a centrifuge and spun to separate the components
- Added to grafts or alone to stimulate regeneration

## Lecture Outline

- Recession Causes/Etiology
- Anatomic Considerations
- Decision-making for Diagnosis and Tx
- Treatment Options and Cases
- Laser-Assisted Periodontal Surgery
- Q & A

## Gingival Recession

- Gingival recession is defined as the oral exposure of the root surface due to a displacement of the gingival margin apical to the cementoenamel junction and it is regularly linked to the deterioration of dental esthetics.
- Successful treatment of recession-type defects is based on the use of predictable periodontal plastic surgery (PPS) procedures.

## Gingival Recession - Causes

- Mechanical Trauma
- Tooth Position
- Periodontal Inflammation/Disease
- Frenal/Muscle Attachments
- Orthodontic Movement

## Gingival Recession - Causes



## Trauma-induced Recession



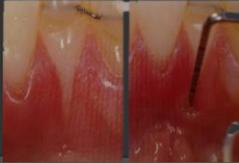
- Flossing Clefts
- Red clefts
  - Incomplete clefts
  - Complete clefts

## Trauma-induced Recession



### Foreign Body Trauma

- Piercings
- Toothpicks
- Other Oral Habits



## Orthodontic Movement



- Often seen with labial movement outside the alveolar housing
- Hygiene can be compromised from the hardware or narrow clefting
- Often seen with extraction of a lower incisor

## Thin Periodontal Tissues at Risk



## Post-Orthodontic Recession

- Often seen when teeth are moved outside the alveolus or into thin alveolar bone
- Most commonly first molars and lower incisors
- Can see it generalized

## Grafting Before/After Orthodontics

- Interdisciplinary Treatment Planning
  - Restorative
  - Orthodontic
  - Periodontal
  - Patient
- Depending on tooth movement and properties of the periodontal tissues

## Orthodontic Treatment



Orthodontic Treatment



Orthodontic Treatment



Prosthetic Treatment



Prosthetic Treatment



Deep Margins Cause Inflammation



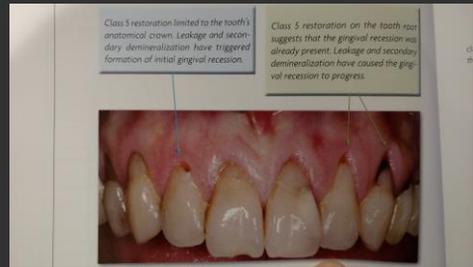
Deep Margins Cause Gingival Recession



## Ideal Margins Can Have Long Term Stability



## Restorative Etiology



## Restorative Etiology



## Mixed Etiology



Orthodontic, Restorative, Thin Biotype, Frenal Attachments, Abrasion

## Mixed Etiology



Orthodontic, Thin Biotype, Abrasion

## Factors Predisposing to Gingival Recession

### Root Prominence



### Tooth Position



### Frenum Attachments



### Cervical Restorations



### Wear and Compensatory Eruption



No root coverage can be expected

### Other Contributing Factors

- Tooth Rotation
- Loss of Papilla Height
- Tooth Shape
- Tooth Eruption

## Classic Miller Classification

### CLASSIFICATION OF MARGINAL TISSUE RECESSION.\*

CLASSIFICATION	CRITERIA
<b>Class I</b>	Marginal tissue recession that does not extend to the mucogingival junction
<b>Class II</b>	Marginal tissue recession that extends to or beyond the mucogingival junction, with no periodontal attachment loss (bone or soft tissue) in the interdental area
<b>Class III</b>	Marginal tissue recession that extends to or beyond the mucogingival junction, with periodontal attachment loss in the interdental area or malpositioning of teeth
<b>Class IV</b>	Marginal tissue recession that extends to or beyond the mucogingival junction, with severe bone or soft-tissue loss in the interdental area and/or severe malpositioning of teeth

\* Source: Miller.<sup>40</sup>

## Classic Miller Classification



## Decision Tree

It is important to remember that with apical to gingival recession there is always a sulcus/pocket that can be probed. This facial probing depth (PD) contributes to the total facial clinical attachment loss or clinical attachment level (CAL).  
 $CAL = RD + PD$



When should we treat gingival recession?

## When should we treat gingival recession?

- Esthetic Concerns
- Cervical Lesions
- Advancing Recession
- Pre-prosthetic Augmentation
- Inability to Clean
- Root Sensitivity?

## Thin Periodontal Tissues at Risk



Thin Periodontal Tissues at Risk



Thin Periodontal Tissues at Risk



Thin Periodontal Tissues at Risk



Thin Periodontal Tissues at Risk



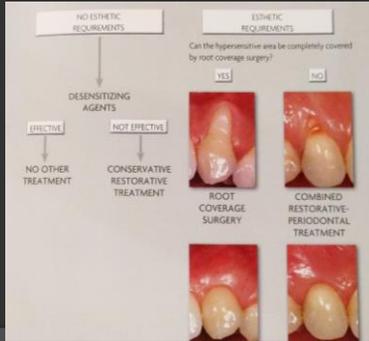
Esthetic Concerns



Thin Periodontal Tissues at Risk



## Tooth Hypersensitivity



## Plaque Accumulation

Is there plaque accumulation due to an irregular gingival margin?



## Questions to Ask: Diagnosis

- Is the recession a cosmetic concern?
- Has the recession been progressing?
- Can the patient clean the area?
  - Is there localized marginal inflammation?
  - Is there a caries risk with the exposed cementum?
- Are you planning restorative dentistry?
  - Can the tissues support the trauma?
  - Is the tissue thickness adequate for an ideal result?

## Questions to Ask: Diagnosis

- Does the patient have tooth sensitivity?
  - Non-surgical, MGS, restorative
- Are there other local factors involved?
  - Tooth Wear
  - Tooth Position
  - Rotations
  - Orthodontics
  - Etc.

**How do you decide which treatment is best?**

## Gingival Recession - Techniques

- Free Gingival Autograft
- Free Connective Tissue Graft
- Pedicle Autografts
  - Lateral
  - Coronal
  - Semilunar
- Subepithelial Connective Tissue Graft
- Guided Tissue Regeneration
- Pouch and Tunnel Technique
- Allografts



Thin Periodontal Tissues at Risk



Thin Periodontal Tissues at Risk



Thin Periodontal Tissues at Risk



Thin Periodontal Tissues at Risk



Thin Periodontal Tissues at Risk



Improving Aging Restorations



## Improving Aging Restorations



## Improving Aging Restorations



## Improving Aging Restorations



## Improving Aging Restorations



## Free Connective Tissue Graft

- Indications
  - Gingival recession with or without attached tissue
  - Thin periodontal tissues for restorative work
  - Mucogingival defects
- Difficulties
  - Donor site pain
  - Limited amount of donor tissue

## Isolated Recession Defects



- More prominent with:
- Thin biotypes
  - Prominent roots
  - Bruxism?

It's A Bone Issue

## ALTERED PASSIVE ERUPTION

### Johnson and Waldrop, 2004

- >200 Patients Post Ortho
- 85% had Central Incisors with less than 1.25 length to width
- 30% had width greater than or equal to length
- 83% had papilla height less than 4 mm
- 68% had asymmetry of at least 1 mm
- 90% of the patients might benefit from Esthetic Crown Lengthening







Two Weeks Ago

Today

