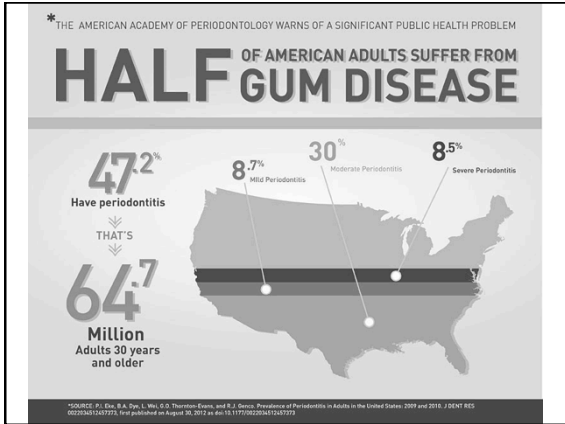





**Innovative Periodontics: Creating
Success in Today's Dental
 Practice**
 Samuel B. Low
 www.drslamlow.com
 slow@dental.ufl.edu



Left untreated, serious consequences can occur

Without proper diagnosis and treatment, periodontal disease can lead to...

-  The spread of infection
-  Loss of teeth
-  Surgery

How does your *practice* measure up??

1. Per cent of gross from dental hygiene ? _____
2. Per cent of dental hygiene are perio codes? _____
 1. 0180, 4355, 4341, 4342, 4910, 4381, 4921
3. Per cent new patient exams that are perio ? _____
4. Cancellation/no show rate _____ ?

A Periodontal Growth Center

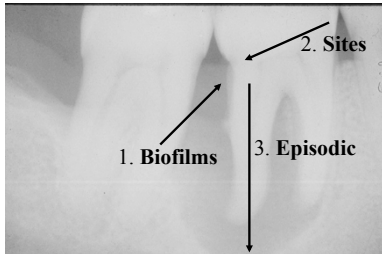
- **Greatest potential is periodontics**
- **Assess fee for periodontal probing**
- **Diagnosis must be the forerunner**
- **Apply high technology tool**
- **Education = treatment acceptance**

**Roger Levin
 Dental Economics**

5 Commitments to Achieving Success in Periodontics

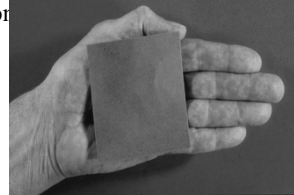
- *Commit to the comprehensive perio exam*

Current Concepts of Periodontitis



Wound surface area

If a patient had a wound this size on any other part of their body, they would seek medical attention



The perio/systemic interface

- Perio disease modestly associated with atherosclerosis, MI and CVD
- Periodontal disease may be a risk factor for preterm/low birth weight
- A variety of oral interventions improving oral hygiene reduce pneumonia by 40%

2003 Contemporary workshop

Medical costs contained by managing perio?

Annual medical costs are lower by \$2,956 and \$1,029 for individuals with heart disease or cerebrovascular disease, respectively, who are treated for periodontal disease, according to an oral health study conducted by United Concordia.

Chronic Periodontitis

- Adult periodontitis
- Umbrella term for a number of disease syndromes
- 25 to 50% of the population
- Rapid or slow with periods of exacerbation and remission
- Variety of microbial flora

Aggressive Periodontitis

- Generalized or localized juvenile periodontitis
- Pre-puberty periodontitis
- Rapidly advancing periodontitis
- Refractory periodontitis

Contagious or Transmissible? Families

- Periodontitis aggregates within families
- Significant relationship among siblings for spirochetes on tongue and in pockets. Other organisms on gingivae and in saliva

Van der Velden,

P. gingivalis and A.A. organisms transmitted between parents and their children

Contagious or Transmissible? Spouses

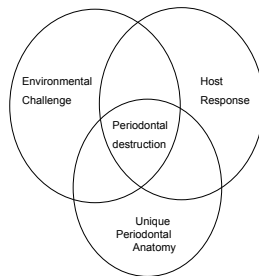
- P. gingivalis can be transmitted between spouses
- P gingivalis isolated from saliva, tongue, tonsillar area
- 10 of 18 severe periodontal patients had spouses with same organism

Van Steenberg,

- Spouses of patients with advanced periodontitis have a higher prevalence of periodontal pathogens and worse periodontal status than spouses of healthy subjects

Asikainer,

Model of Risk Factor Interaction in Human Periodontal Disease



Association between Cigarette Smoking, Bacterial Pathogens, and Periodontal Status

- 615 adults, 28 to 73 years old
- Odds ratio of pocket depth > 3.5 mm was 5.3
- Bacteria not different

Stoltenberg, et al

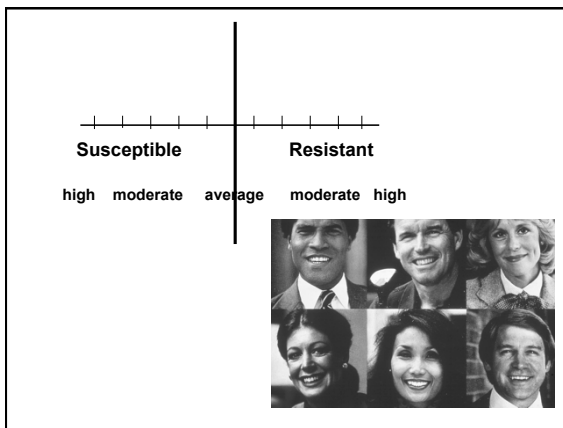
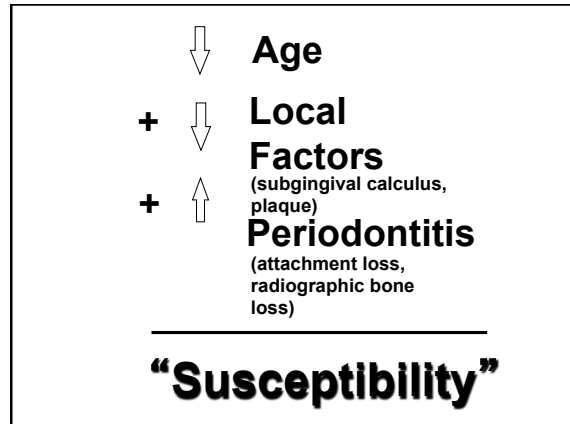
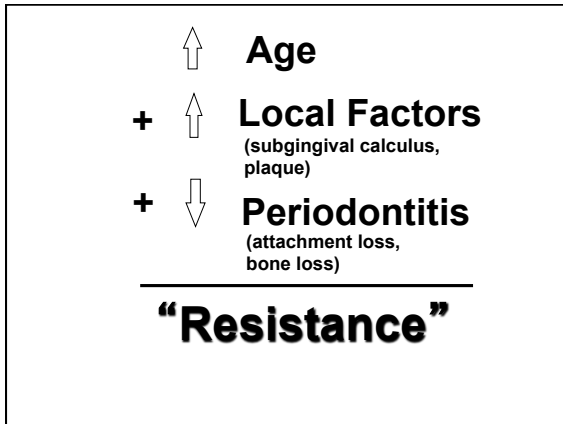
Periodontal Disease in Non-Insulin-Dependent Diabetes Mellitus

- 1,342 subjects, 15 years and older
- 19% with diabetes / 12% impaired glucose tolerance
- Odds ratio of 2.8 times for periodontal disease

Emrich et al

Occlusion must be stabilized in Aggressive Periodontitis !

- Initial or progressive mobility is major factor
- Primary occlusal trauma
 - Occlusal adjustment
 - Occlusal guard
- Secondary occlusal trauma
 - Occlusal adjustment- no fremitus
 - Occlusal guard
 - Splint !

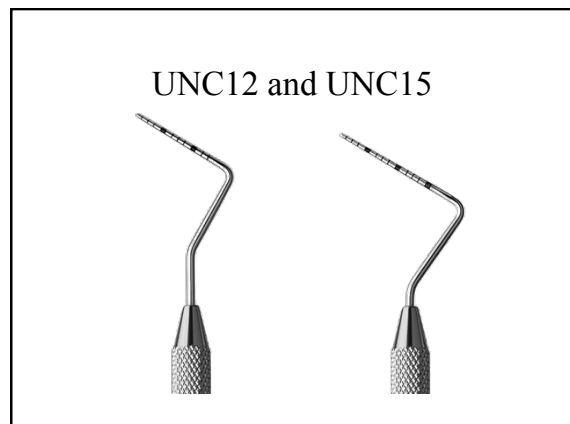


Data Collection

- ➡ Radiographic Exam
- ➡ Probing
- ➡ Tissue Characteristics
- ➡ Mobility

Vertical Bitewings





- Alveolar Crest Height
- Pattern of Bone Loss
- CEJ
- Dentition Related Pathology

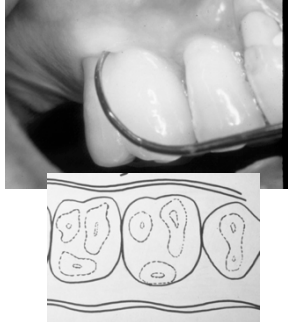
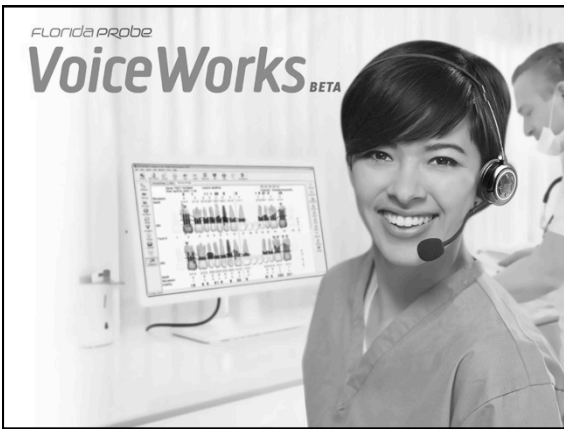


D0180 Comprehensive periodontal evaluation

- New or established patients
- Can be preceded by D0150 (PSR)
- Evaluation of periodontal condition:
 -
 -
 -

Furcation Involvement

- Class I 
- Class II 
- Class II+ 
- Class III 

“Knowing” your patient

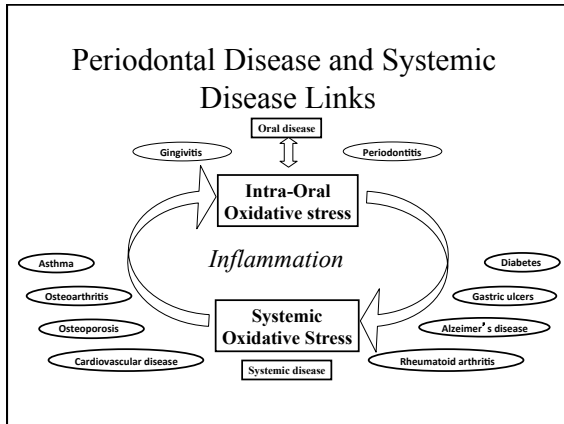
- Who was your previous dentist .experiences
- Any symptoms of gum disease
- Has any dentist mentioned gum disease
- When was your last “cleaning”? Frequency?
- Brothers, sisters, parents.. any history of gum disease
- Tobacco use??
- Grind or clench your teeth..?

Activity of the Inflammatory System is at the Center of Major Human Diseases

- Atherosclerotic Heart Disease
- Asthma
- Alzheimer’s Disease
- Diabetic Complications
- Obesity
- Osteoporosis
- Gastric cancer
- Osteoarthritis
- Periodontal disease
- Rheumatoid Arthritis

Periodontitis the “elevator speech”

- Periodontitis is the body’s reaction to a Stimulus resulting in an overactive response to produces inflammatory mediators that destroy its own healthy cells....
- Auto immune ??



Attached Gingivae

Parameter	Alveolar Mucosa	Gingivae
Color	red	coral pink
Surface	smooth, shiny	stippled
Mobility	loose, mobile	firm, immobile



- ### Diode Soft-Tissue Lasers
- Advantages:
 - bleeding or collateral damage to healthy tissue
 - Most cases - topical anesthetic is sufficient for a pain free procedure
 - Surgical precision
 - Little to no postoperative discomfort and a short healing time

Advantages of Lasers in Surgical Procedures

Laser Cut More Visible To Eye / Dry Field
 Laser Sterilizes Wound As It Cuts
 Decreased Post Operative Pain And Edema
 Decreased Post Operative Infection
 The theory of "Sealing" and "Sterilizing" the wound?
 Less Wound Contraction And Scarring

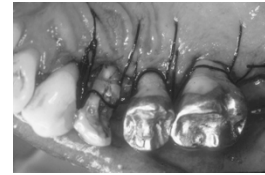
- ### Soft Tissue
- De-epithelialize
 - Degranulate
 - Denature proteins
 - Gingivectomy
 - Inhibit epithelial migration...clot establishment

Hard tissue

- Tooth
 - Cementum
 - Calculus
 - Dentin
- Bone
 - Removes
 - Biostimulates

Crown Lengthening Procedures

- Considerations:
 - Biologic width
 - Attached gingivae
 - Furcations
 - Restorability
 - Support loss to the adjacent tooth



Purpose of Crown lengthening

- Provide proper form and retention of restorations
- Access to subgingival caries
- Access to subgingival fractures
- Esthetic enhancement of patient's smile

5 Commitments to Achieving Success in Periodontics

- Commit to the comprehensive perio exam
- Define staff skills and limitations -manuals

A compensation program for the dental hygienist...

- 85% salary
- 15% bonus
 - Productivity with attention to A/R
 - Cancellations/no shows
 - Absenteeism
 - Team building
 - Creativity

Increasing Patient Services by Effective Use of Dental Hygienists

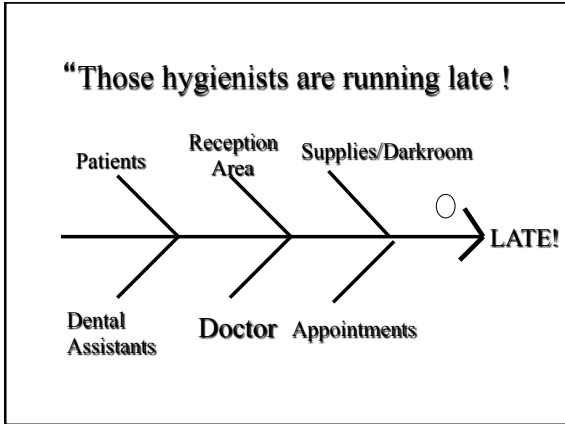
- Expand the role of hygienists
- Patients served well at lower cost
- Decrease turnover by increase job satisfaction
- Dentists relieved of some professional tasks

Gordon Christensen
JADA

Increasing Hygiene Productivity.....

- 40% of services beyond the prophylaxis
- 50% of dentist's production from hygiene operatories
- 30% increase in hygiene production using an assistant
- Take advantage of advanced technology
- No treatment plan presentations in hygiene operatories

**Roger Levin
Dental Economics**

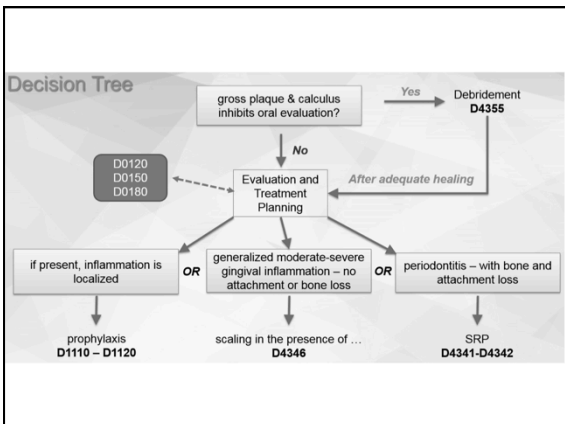


Hygiene productivity

- Do periodontal exams!
- Review RDH production monthly
- Hygienists must use technology
- Educate patients
- Reinforce treatment plans
- Know your dentist!

Phase I Therapy

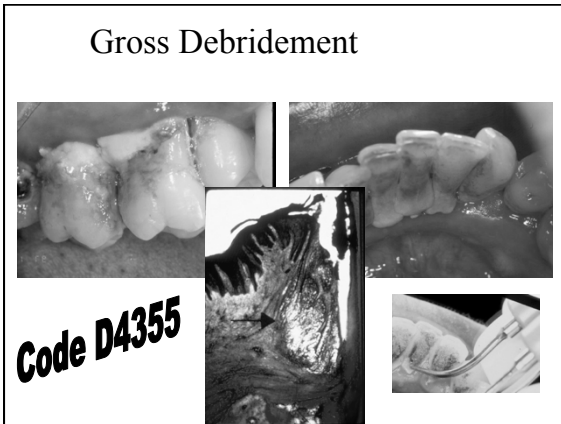
- **Gross Debridement**
- **Oral Hygiene Instruction**
- **Definitive Debridement**
- **Caries Control**
- **Occlusal Therapy**
- **Endodontic Therapy**
- **Extraction of Hopeless Teeth**
- **Provisionals**



D4346 scaling in presence of generalized moderate or severe gingival inflammation – full mouth, after oral evaluation

The removal of plaque, calculus and stains from supra- and subgingival tooth surfaces when there is generalized moderate or severe gingival inflammation in the absence of periodontitis.

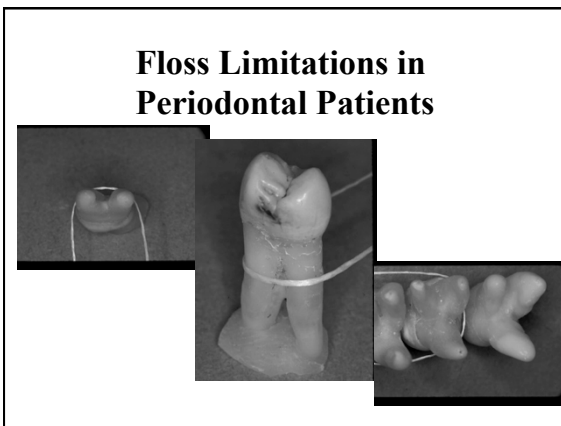
It is indicated for patients who have swollen, inflamed gingiva, generalized suprabony pockets, and moderate to severe bleeding on probing. Should not be reported in conjunction with prophylaxis, scaling and root planing, or debridement procedures



Probiotics

Defined as the daily administration of certain live microorganisms in amounts adequate to confer a health benefit on the host.

e to confer a health benefit on the host.



How do I manage Patients with poor plaque control??

- Document in records
- Increase frequency of recare
- Place emphasis gently-do not challenge!
- Power toothbrushes
- Rinses after debridement
- Local delivery antimicrobials

Categories of “Debridement”

- Gross Debridement
- Gingival Debridement
- Periodontal Debridement

Patients' Perception of Pain During Ultrasonic Debridement: A Comparison Between Piezoelectric and Magnetostrictive Scalers
 Muhney, Dechow, *Journal of Dental Hygiene*, Volume 84, Number 4, Fall 2010, pp. 185-189(5)

- The results show that, on average, patients in this study prefer instrumentation with the piezoelectric as it relates to awareness of associated discomfort and vibration.
- The results of this study may assist the clinician in the decision over which ultrasonic device may prove more beneficial in decreasing patient discomfort and increasing patient compliance.

A comparative in vitro study of a magnetostrictive and a piezoelectric ultrasonic scaling instrument
 Busslinger, et al, J Clin Perio 2001 28(7) 642


- 30 extracted human teeth with subgingival calculus
- SEM examination revealed the smoothest surfaces but, subjectively, the most tooth substance loss after the curette, followed by the magnetostrictive instrument, with the least substance loss, and then the piezoelectric instrument, with medium substance loss.
- **Conclusion:** The piezoelectric ultrasonic scaler was more efficient than the magnetostrictive ultrasonic scaler in removing calculus but left the instrumented tooth surface rougher.

A comparative evaluation of the efficacy of manual, magnetostrictive and piezoelectric ultrasonic instruments--an in vitro profilometric and SEM study.
 Singh S, Uppoor A, Navak D. J Appl Oral Sci. 2012 Feb;20(1): 21-6.

- Gracey after five, EMS Piezo, and SPS
- manual, magnetostrictive and piezoelectric ultrasonic instruments produce the same surface roughness
- it can be concluded that their efficacy for creating a biologically compatible surface of periodontally diseased teeth is similar.



Gross Debridment

- Low-Medium power setting
- Triple bend tip designs





Gingival Debridment

- Low to medium power setting
- Medium to Thin perio designs

Periodontal Debridement

- Low power setting
- Thin perio designs

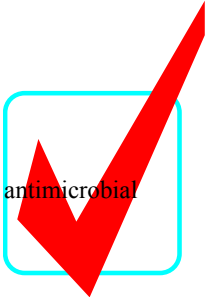



Limitations of Ultrasonic Instrumentation


- Handpiece sterilization
- Altered tactile sensitivity
- Fluid control / evacuation
- Effects of noise, vibration
- Contaminated aerosol production

Advantages of Ultrasonic Instrumentation


- Reduced clinician fatigue
- Less repetitive stress
- Increased access
- Less tissue distension
- Potential for antimicrobial delivery
- Benefits of lavage



Tuning Options



- Light to heavy debris removal



- Light debris removal and deplaquing

Perio Instrumentation Protocol

- **Debridement (Gross)**
 - Ultrasonic : Large triple bend
 - Debridement (Gingivitis)
 - Ultrasonic : Medium triple bend
 - Polish
- **Debridement (Periodontitis)**
 - Ultrasonic : Thin insert and medium triple bend
 - Gracey Curettes : thin
 - Polish

Definitive Debridement

1st appointment 2-3 weeks	*Gross Debridement (D4355)
2nd appointment 2 weeks	Perio examination (D0180)
3rd appointment 2 weeks	*Definitive debridement (Max. & Mand. R)
4th appointment 2- 4 weeks	*Definitive debridement (Max. & Mand. L)
5th appointment	*Re evaluation (D0170)

*full disinfection with ultrasonic

J Periodontol. 2000 Nov;71(11):1792-801.
Position paper: sonic and ultrasonic scalers in periodontics.
Research, Science and Therapy Committee of the American Academy of Periodontology.
Drisko CL


- Ultrasonic and sonic scalers appear to attain similar results as hand instruments for removing plaque, calculus, and endotoxin.
- Ultrasonic scalers used at medium power seem to produce less root surface damage than hand or sonic scalers.
- Due to instrument width, furcations may be more accessible using ultrasonic or sonic scalers than manual scalers

- It is not clear whether root surface roughness is more or less pronounced following power-driven scalers or manual scalers.
- It is also unclear if root surface roughness affects long-term wound healing.
- Periodontal scaling and root planing includes thorough calculus removal, but complete cementum removal should not be a goal of periodontal therapy.

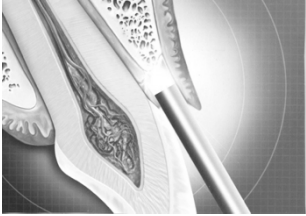
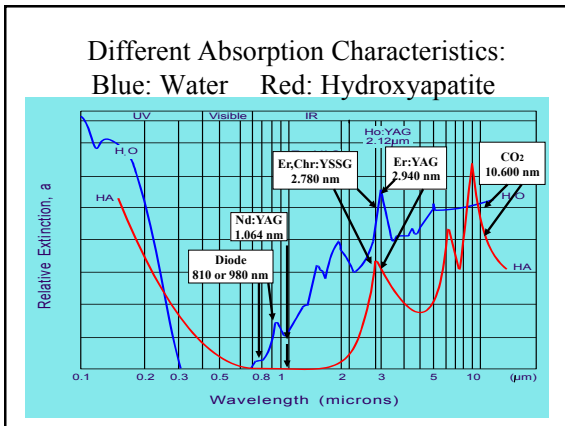
- Studies have established that endotoxin is weakly adsorbed to the root surface, and can be easily removed with light, overlapping strokes with an ultrasonic scaler.
- A significant disadvantage of power-driven scalers is the production of contaminated aerosols.
- Preliminary evidence suggests that the addition of certain antimicrobials to the lavage during ultrasonic instrumentation may be of minimal clinical benefit.

Peri-implant tissue assessment
Data Collection

- Tissue condition
 - Color/ Contour/ Texture
- Sulcus depth
 - Monitor radiographically
- Bleeding
- Mobility... failed implant!



Potential laser applications for periodontal therapy.....

- Soft Tissue**
- De-epithelialize
 - Degranulate
 - Denature proteins
 - Gingivectomy
 - Inhibit epithelial migration...clot establishment

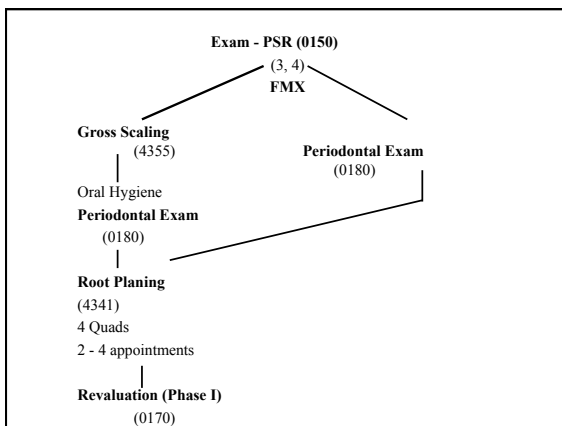
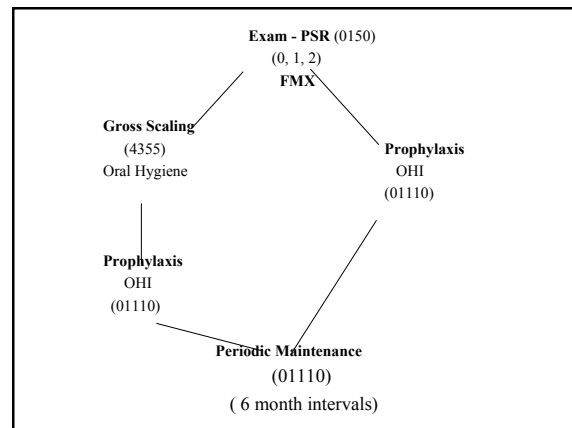
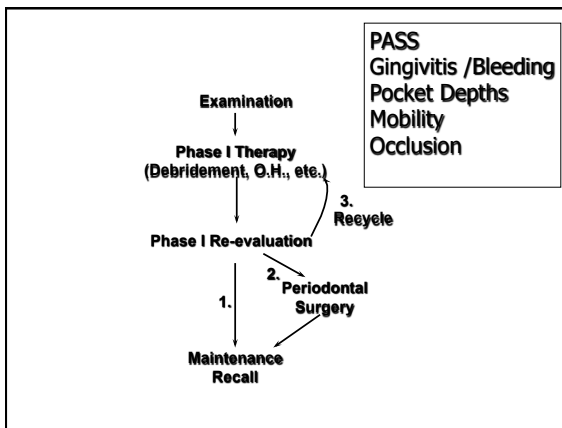
- Access**
- Hemostasis
 - Visualize site

Antibacterial...

- Bio-films
- Bacteriocidal

5 Commitments to Achieving Success in Periodontics

- Commit to the comprehensive perio exam
- Define staff skills and limitations -manuals
- Commit to the Phase I reevaluation



Perio Phase II Decisions

Periodontal Debridement/ Curettage

1. Pocket Depth: 4-5 mm
2. Local factors as calculus
3. Edematous
4. Single rooted
5. Horizontal Bone loss
6. Less Compliant

Perio Phase II Decisions Surgical indications

1. Pocket depths 5mm greater
2. Minimal local factors as calculus
3. Fibrotic gingivae
4. Multi rooted
5. Angular bone loss
6. More compliant

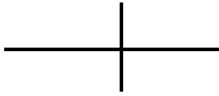
How do I manage Patients who refuse to see a periodontist or have periodontal surgery??

- Document with records!!
- Root planing must be very competent !
- Increase frequency of recare ..2-3 months
- Emphasis on plaque control
- Pharmaceutical intervention
- Compromised restorative care

5 Commitments to Achieving Success in Periodontics

- Commit to the comprehensive perio exam
- Define staff skills and limitations -manuals
- Commit to the Phase I reevaluation
- Commit to a recare appointment

Periodontal Recare

- Medical History
 - Plaque Control PASS SCORE ____ % E
– Recommendations:
 - Areas of Concern
- 
- Therapy Today
 - Next recare/ Comments

The “60” minute recare

- 5 minutes : Seat patient
- 5 minutes : Update medical history
- 10 minutes : Clinical exam
– BP, H&N, OH, Caries, Perio, etc...
- 25 minutes : Subgingival debridement
- 5 minutes : Supragingival debridement
- 5 minutes : Dismiss the patient
- 5 minutes : Write up chart

How do I manage Patients who are inconsistent with recare appointments??

- Document with records..mandatory
- Consider 2 appointments ...1 week apart..recare can not be completed in 1 appointment
- Consider rinses following recare
- Progressive periodontitis and caries

Indications for Systemic Antibiotics

- **Juvenile Periodontitis**
 - Localized vs. Generalized
- **Rapidly Advancing Periodontitis**
- **Refractory Periodontitis**

Local Delivery Antibiotics

- **User - friendly**
- **Stays in place**
- **Requires no removal**
- **Enhances the effect of debridement**

5 Commitments to Achieving Success in Periodontics

- **Commit to the comprehensive perio exam**
- **Define staff skills and limitations -manuals**
- **Commit to the Phase I reevaluation**
- **Commit to a recare appointment**
- **Maintain a quality dialogue with your periodontist**

What patients look for in a specialist..

- **Human touch ..**
 - Want specialist to be familiar with details of case
- **Going extra mile**
 - Call patient beforehand establish relationship..radiographs received
- **Right experience**
 - Has the expertise for their problem

What conditions should I consider referring in referring my patient to a periodontist ?

- **Probing depths ≥ 5 mm.**
- **Probing depths deepening**
- **Request dental implants**
- **Requires special periodontal surgery**
- **Atypical forms of periodontal disease**

What information should I give the Periodontist ?

- **Diagnostic quality radiographs**
 - Intraoral conditions
- **Tell periodontist by phone or by note**
 - Area in mouth that need special attention
 - Your restorative treatment plan
 - Medical complications
 - Compliance to date

What should I expect from a periodontist ?

- Open, frank, and continuing communication
- Thanks for the referral
- Written report
 - Exam, prognosis treatment plan, suggestions for restorative care
 - Discussion of recare schedule

At what stage in the treatment plan should I make the referral ?

- Early before the restorative treatment plan is finalized
- Consider before Phase I

How should I make the referral ?

- Explain periodontal disease to the patient
- Describe future periodontal treatment in general terms
- Tell patient about the periodontist' s training
- Make entry level in chart and every subsequent appointment if patient does not see periodontist

Who should I refer to ?

- Treatment philosophy similar to yours
- Provides superior level of care
- Maintains a good relationship with you
- Has good patient rapport
- Conveniently located to your patients
- Provide patient with only one referral name

- “The goal of my practice is simply to help my patients retain their teeth all of their lives if possible.....
In maximum comfort, function, health, and esthetics”

Dr. L. D. Pankey

