

Incorporating ‘Quality’ Periodontics into Comprehensive Restorative Dentistry

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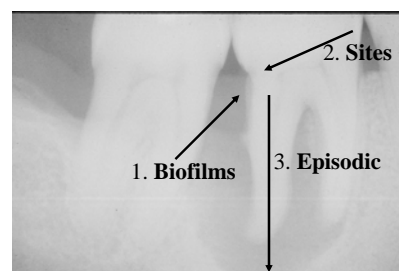
Myths?

- Perio disease is caused by bacteria?
- Periodontitis gets worse over time?
- Flossing is important?
- Root planing is critical?
- Biological width is self limiting?
- And, we can maintain 5 millimeter pockets?

5 Commitments to Achieving Success in Periodontics

- Commit to the comprehensive perio exam

Current Concepts of Periodontitis



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

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%

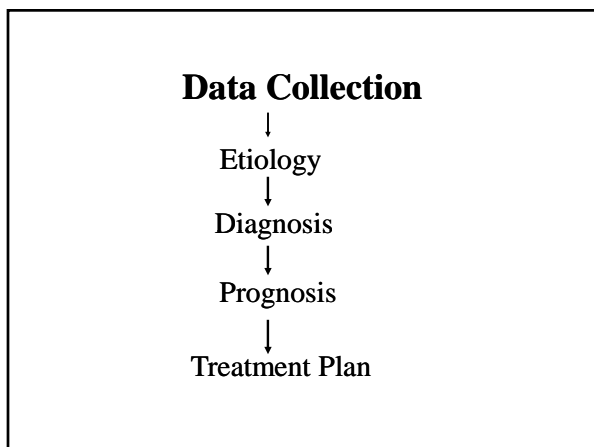
2003 Contemporary workshop

AETNA launches Dental/Medical Integration Program that includes Specialized Pregnancy Benefits

- Members who are pregnant, diabetes, coronary artery disease, or CVS (stroke)
- Reimburses for and increases the frequency of recare
- High risk members who seek early dental care lower their medical risk

Dental History is critical in formulating a patient's periodontal status

- **Familial history**
- **Medical status**
- **Smoking habit**
- **Stress activity**
- **Parafunctional habits**

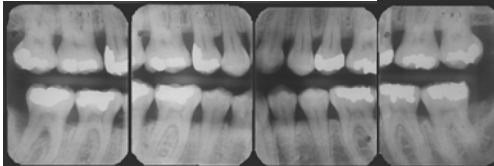
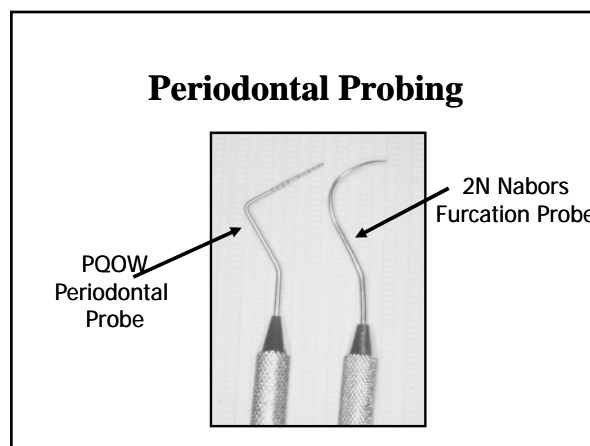


Data Collection


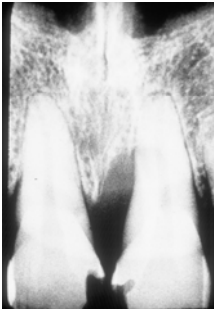
- ➔ **Radiographic Exam**
- ➔ **Probing**
- ➔ **Tissue Characteristics**
- ➔ **Mobility**

Vertical Bitewings

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

Depth of Sulcus Critical !!






- Angulation
- Pseudopockets
- Bleeding


D0180 Comprehensive periodontal evaluation


- New or established patients
- Can be preceded by D0150 (PSR)
- Evaluation of periodontal condition:
 - Probing and charting
 - Dental and medical history
 - Overall health assessment

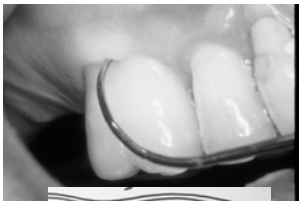

Furcation Involvement

Class I 

Class II 

Class II+ 

Class III 


Automated Probing



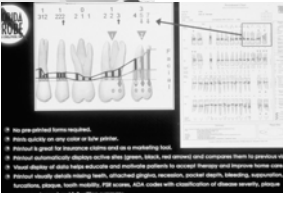
Handpiece

Patient Comfort




Improved Accuracy

Improved reproducibility




PATIENT EDUCATION GUIDE for PerioWise™

Periodontal Diseases:

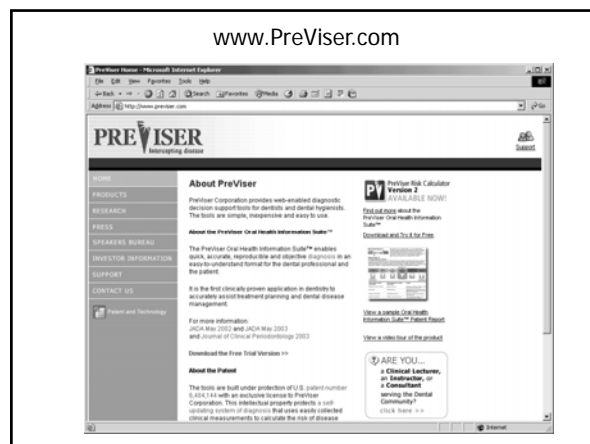
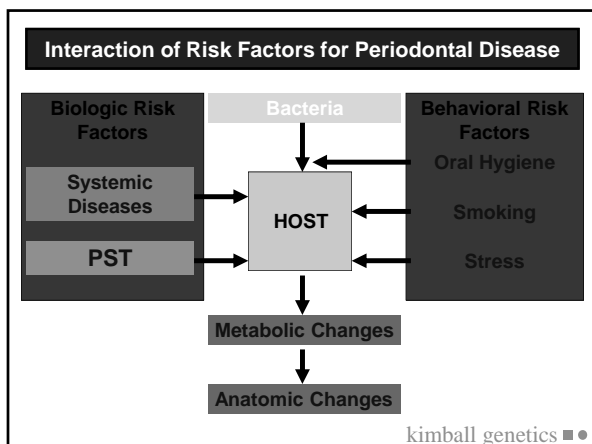
- Cause bad breath, bleeding gums and tooth loss.
- Can ruin your smile and prevent proper chewing and speaking.
- May be a risk factor for heart disease, stroke and possibly for pre-term low birthweight babies.
- Can adversely affect blood sugar regulation in diabetics.
- Represent a gum or bone infection caused by bacteria.
- Are easy to detect and early stages are easy to treat.

BE TESTED!

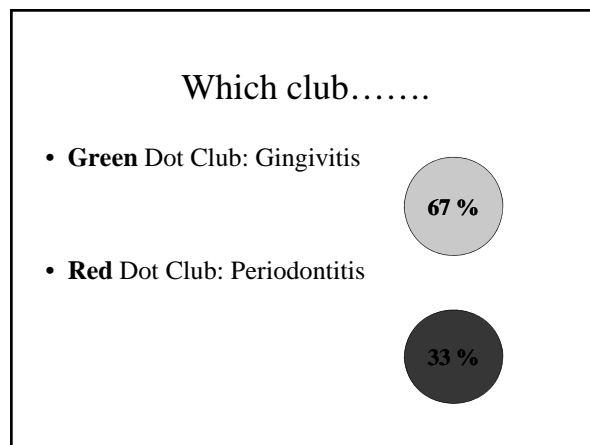


World Workshop of Periodontology, 1996

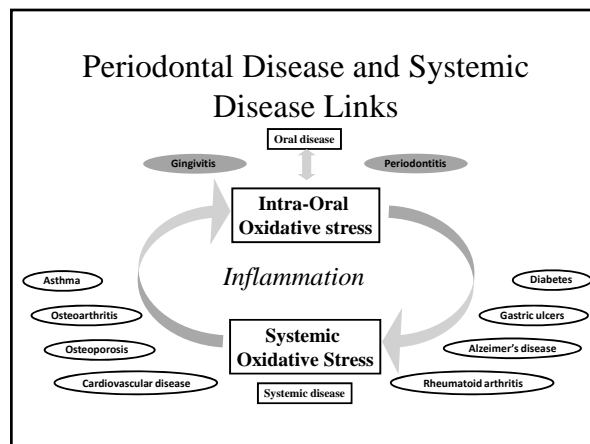
1. Wide variations of inflammatory response among subjects.
2. Microbial parameters explain a small amount of disease incidence or prevalence.
3. Half the variability in periodontal disease expression is controlled by genetic not microbial factors.



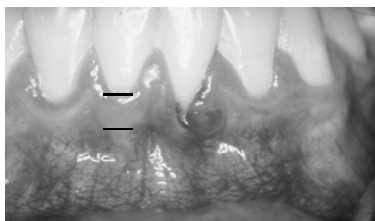
- ### “Knowing” your patient
- Who was your previous dentist .experiences
 - Any symptoms of gum disease
 - Has any dentist mentioned gum disease
 - When was your last “cleaning”? Frequency?
 - Brothers, sisters, parents.. any history of gum disease
 - Tobacco use??
 - Grind or clench your teeth..?



- ### Novel Treatment strategies
- Omega 3
 - Aspirin
 - Probiotics: Orogenics
 - Topical Antioxidants: Perioscience

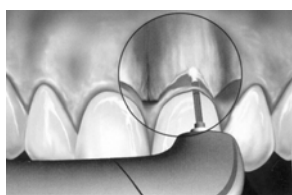
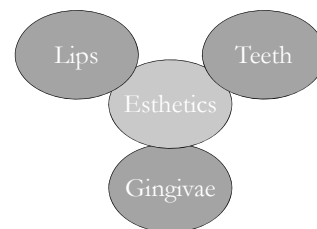


Attached Gingivae



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

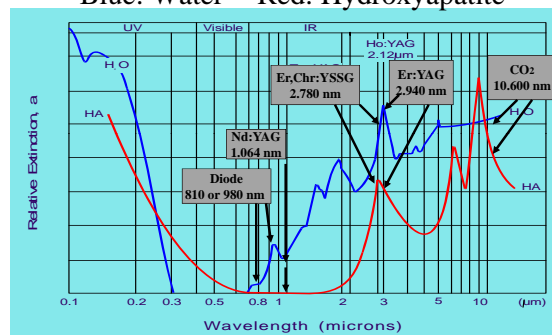
Anatomy of a smile



Closed Crown Lengthening



Different Absorption Characteristics: Blue: Water Red: Hydroxyapatite



Diode lasers



waterlase[®]iPlus




Intuitive Power
2011

Dual Wavelength

YSGG Advantages

- Best hard-tissue cutting
- Best soft-tissue cutting
- Deep Pocket Therapy
- Endo disinfection




iLase Advantages

- Setup in seconds for quick or unexpected soft-tissue needs
- Better hemostasis than YSGG
- Bendable tips might provide better access to some locations
- Although we have not yet developed a protocol for iLase, Biolase diodes are FDA-cleared for temporary relief of minor pain

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

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

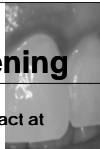
6 Key Decisions Cosmetic Crown Lengthening

1. Sound the osseous crest (3.0 mm osseous crest-proposed GM)
2. Zone of keratinized gingiva
Scallop desired lengths if >3mm will be retained
3. Bevel papilla areas (later you can apically position and adjust levels)

4. Leave papilla intact at base
5. Thin osseous crest but leave minimum of 1mm thickness
6. Will Dentin / Root Surfaces be exposed?

Treatment Plan Restorative Procedures

Bobby Butler



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- Define staff skills and limitations -manuals

Decision-Making

<u>Traditional Management</u>	<u>TQM/DQM Style</u>
1. Guessing	1. Data Collection and problem diagnosis
2. Defend the status quo	2. Continuous improvement
3. Crisis management and blame	3. Preparation and organization
4. Dentist only	4. Dental TEAM
• 85% blame people	• 85% system improvement
• 15% system Improvement	• 15% blame people

A compensation program for the dental hygienist...

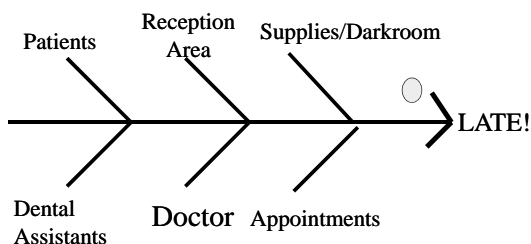
- 85% salary
- 15% bonus
 - Productivity with attention to A/R
 - Cancellations/no shows
 - Absenteeism
 - Team building
 - Creativity

Increasing 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
December 1995

“Those hygienists are running late !



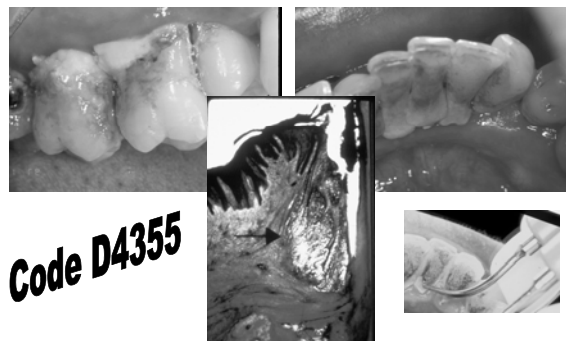
Hygiene productivity

- 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

Gross Debridement

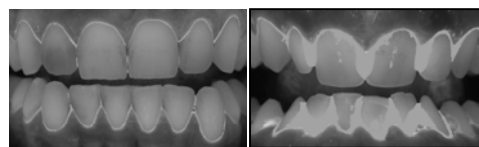


Treatment Groups

<u>Regimen</u>		<u>Control</u>
0.454% SnF2	Dentifrice	0.243% NaF
Power (O/R)	Brush	ADA Manual
0.07% CPC	Rinse	None

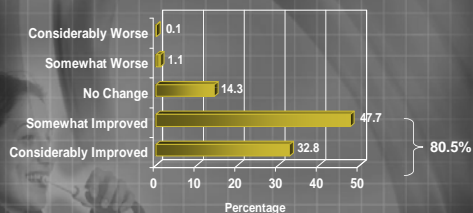
- blinded test kits with usage instructions
- unsupervised at-home oral hygiene (no floss)
- labeled instructions for use (2 min vs thoroughly)

Overnight Plaque at Week 4



Regimen Group Control

A Practice-Based Study of a Power Toothbrush: Assessment of Effectiveness and Acceptance



Change in oral health status after switching to Braun Oral-B Ultra Plaque Remover (n = 16,903)

Warren PR, et al JADA 2006; 131: 389-94

Oral-B Triumph with SmartGuide

First power brush with clinically proven oscillating/rotating technology and SmartGuide wireless remote display for continuous visible brushing feedback



Oral-B Triumph with SmartGuide

Features and Technology


- SmartGuide
- Oscillating/rotating/pulsating motion

Clinical Trials

- Plaque and gingivitis
- Stain
- Brushing Time
- Pressure sensor

Resources

- www.thejcdp.com
- www.dentalcare.com



Superior Oral Health Superior Results



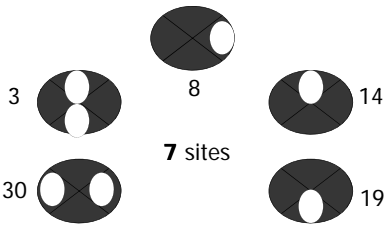
FlexCare ... the Next Generation



- 16% lighter than Elite
- 30% smaller than Elite
- 80% less vibration than Elite
- 3 Modes / 2 Routines
- Enhanced patient compliance

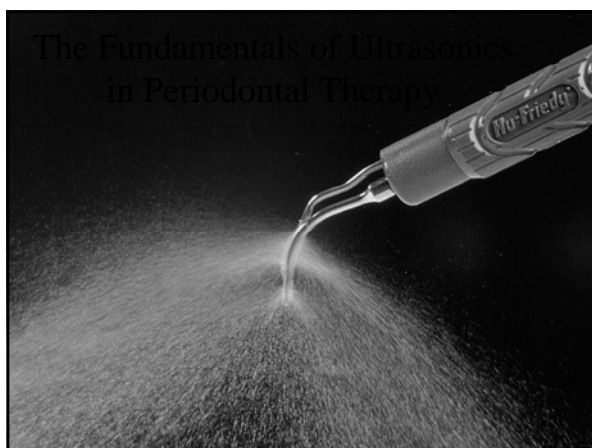
Oral Hygiene Instruction

PASS (Plaque Assessment Scoring System)



7 sites

$7 \times 5 = 35$ $100 - 35 = 65\%$ Efficiency



Definitions of a "Cleaning"

- **Scaling:** Instrumentation to remove supragingival uncalcified and calcified accretions and all gross subgingival accretions.
- **Root Planing:** Instrumentation to remove the microbial flora on the root surface of lying free in the pocket, all flecks of calculus and all contaminated cementum and dentin.
 - » O'Leary 1986

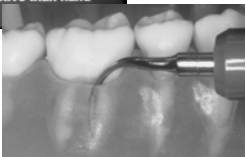
EFFECT OF ULTRASONIC INSTRUMENTATION ON DENTAL PLAQUE MICROFLORA IN VITRO
 • Thilo and Baehtl
 • J. Perio. Research 22:518, 1987

	Time of Ultrasonication				
	0's	10's	20's	30's	60's
Spirochetes	32	6	2	2	0.1
Motile Rods	20	0.3	0	0	0
Cocci	11	27	37	42	47
Others	35	66	62	57	53

A COMPARISON OF THE EFFECTIVENESS OF HAND SCALING AND ULTRASONIC DEBRIDEMENT IN FURCATIONS AS EVALUATED BY DIFFERENT DARK-FIELD MICROSCOPY
 • Loom and Vogel
 • J. Perio. Res 6:260, 1973

Furcations	I	II	III
No Treatment	49%	50%	51%
Hand Debridement	10%	24%	23%
Ultrasonic	10%	9%	10%

"Ultrasonic debridement was significantly more effective than hand scaling in Class II and Class III furcations."



The Clinical Evaluation of Hand and Ultrasonic Instruments on Subgingival Debridement. Part I. With Unmodified and Modified Ultrasonic Inserts
 Dragoo, M.R.
 International Journal of Perio. and Rest. Dent. Vol. 12, 1992


5 dentists and 5 dental hygienists with minimum of 10 years experience root planed 168 surfaces with different instrumentation

	Mesial	Buccal	Lingual	Distal
Hand Instruments:	-	-	-	-
Modified P-10 R & L:	+27%	+38%	+17%	+19%
Unmodified P-10:	-19%	-86%	-11%	-18%

- Manual versus Power Driven Instrumentation**
- Manual and mechanically driven instrumentation appears comparable in affecting improved outcomes
 - Adjunctive irrigation and soft tissue treatment result in similar clinical outcomes when compared to debridement alone.
 - » Hallmon, Rees: Annals of Periodontology December 2003


Sonic

- Functions in the audible range
- 2,500 to 7,000 cps or Hz
- Attaches to a conventional handpiece
- Driven by compressed air
- Orbital or elliptical tip movement
- All surfaces active



Ultrasonic - Piezoelectric

- Functions above the audible range
- 29,000 to 50,000 cps or Hz
- Ceramic transducer
- Linear tip movement
- Lateral surfaces active



Ultrasonic - Magnetostrictive

- Functions above the audible range
- 20,000 to 42,000 cps or Hz
- Ferromagnetic transducer
- Elliptical movement
- All surfaces active



Tuning Options



- Light to heavy debris removal



- Light debris removal and deplaquing

Light Debris Removal

- Low to medium power setting
- Thin perio designs



Manual Instrumentation

- **Periodontal diagnosis only**
- **Pocket depths 4mm. or greater**
- **Gracey Instrumentation**
 - Anterior
 - 3/4
 - Posterior
 - 15/16
 - 13/14

Definitive Debridement

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

*ultrasonic disinfection: whole mouth circuit

Instrumentation Protocol

- Debridement (Gross)
 - Ultrasonic : P-10 P-50
- Debridement (Gingivitis)
 - Ultrasonic : P - 50 (option P 10)
 - Polish
- Debridement (Periodontitis)
 - Ultrasonic : P - 50 P - 100 (option P 10)
 - Gracey Curettes : thin
 - Polish

Oraqix Application

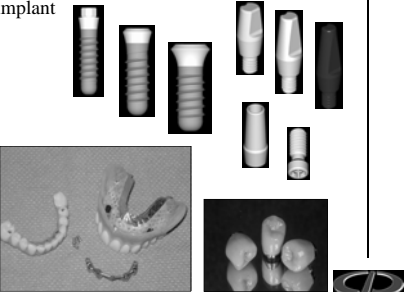
Oraqix is applied at the gingival margin and directly into the periodontal pocket to provide localized anesthesia with the uniquely designed Oraqix™ Dispenser.



© 2004 DENTSPLY Pharmaceutical


Dental Implant Parts and Pieces Glossary

- Endosseous implant
 - Body
 - Neck
- Abutment
- Prostheses
 - Crown
 - Overdenture
 - Hybrid



Peri-implant tissue assessment Data Collection

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



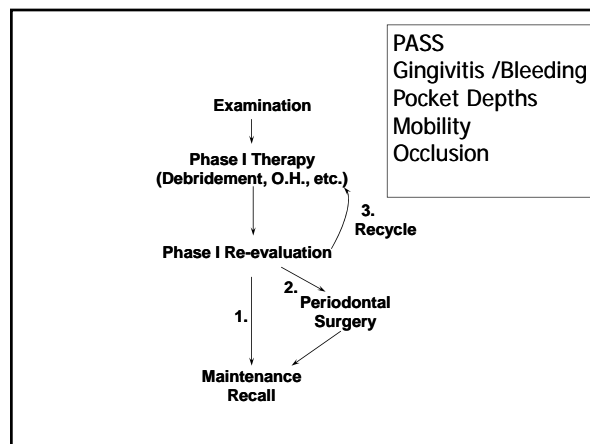
Cavitron® SofTip™ Ultrasonic Implant Insert

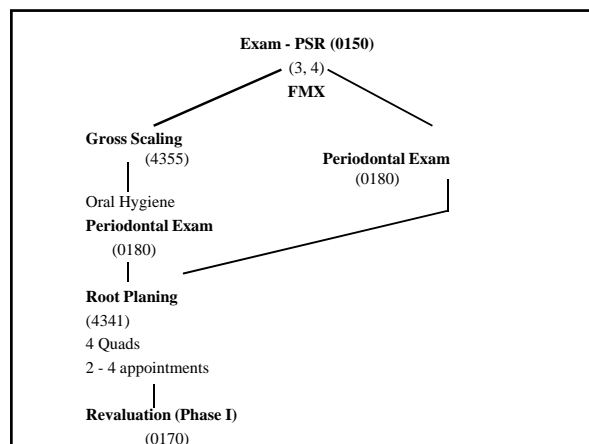
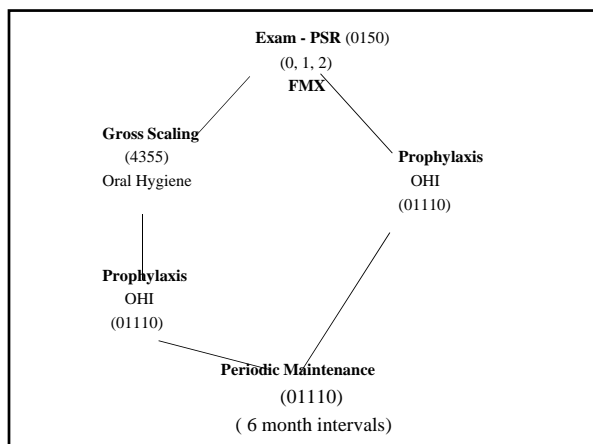


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PROFESSIONAL

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



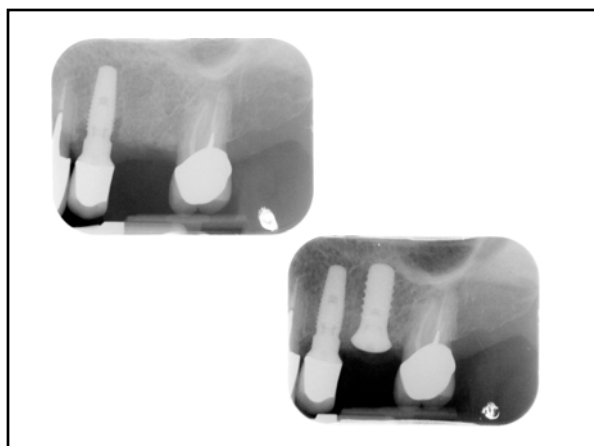


The effect of laser therapy as an adjunct to non surgical periodontal treatment in subjects with chronic periodontitis: a systematic review ..Karlson et al J perio 2008

- Limited studies evaluating the effect
- Results using laser as an adjunct to SRP or replacing SRP as first tx option, should be interpreted with caution
- Need independent studies with power
- **Conclusion: To date, no evidence exists on the significance of laser treatment as an adjunct to non-surgical periodontal treatment in adults with chronic periodontitis.**

Influence of laser therapy on peri-implantitis

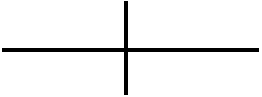
- Romanos GE . Treatment of the perio-implant lesions using different laser systems. J Oral laser applications 2002;2:75-81
- Miller RJ: Treatment of the contaminated implant surface using the Er:Cr:YSGG laser Implan dent 2004;13:165-170.
- Romanos GE, Nentwig GH . Regenerative therapy of deep peri-implant infrabony defects after CO2 lser implant surface decontamination. Int Journ perio Rest Dent 2008 Vol 28 No, 3 pg 245-255.
- Oyster DK Parker WB Gher ME CO2 lasers and temperature changes of titanium implants. J Periodontol 1995;66:1017-1024



5 Commitments to Achieving Success in Periodontics

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- 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

Periodontal Recare

- Medical History: Reviewed, BP 140/80, H&N WNL
- PASS: 60% E
 - Recommendations: Proxybrush 614
- Areas of Concern

*2-3	-12
31-30	19
^	^
- Therapy Today: Ultra/Manual, Betadine AOC
- Next recare/ Comments: 6-02, check caries d #3

Supportive Periodontal Maintenance

	Resistance	Host	Susceptibility
Radiographs	36 months	→	18 months
Comprehensive Exam	36 months	→	18 months

5 Commitments to Achieving Success in Periodontics

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- Define staff skills and limitations -manuals
- Commit to the Phase I reevaluation
- Commit to a recare appointment
- Commit to developing a relationship with a periodontist

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

