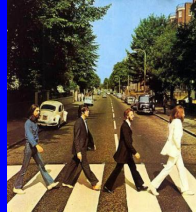


Managing Dental Conditions of the Baby Boomer Generation

Samuel B . Low
www.drslamlow.com
slow@dental.ufl.edu



What you will learn....

- Standardizing the collection of periodontal data in an efficient manner and reviewing successful parameters to determine tooth survival in short and long term prognosis
- Developing "realistic" non-surgical therapies and the respective reevaluation with emphasis on "new" anti-inflammatory systems including micro-ultrasonic and laser technology, and nutraceuticals as probiotics and anti-oxidants
- Understanding the etiology of Xerostomia from medications to Sjogrens.
- Creating management strategies including local and systemic therapies for "dry mouth" and appreciating oral conditions as caries activity as a result of the condition.
- Establishing techniques to communicate with the Boomer generation.
-

The Generations

- The Builders (1922-1946)
 ~ 52,000,000
- The Baby Boomers (1946-1964)
 ~ 71,000,000
- Generations Xers (1964-1980)
 ~ 51,000,000
- Generation Y/Nexters/Millennials/Eco Boomers (1980-2000)
 ~ 75,000,000

A Baby Boomer turns 50 every
 8.5 seconds

For the next 18 years, BB will turn 65
 at a rate of 8,000 per day.....

Financial Characteristics

- Average income \$71,000
- Average personal net worth \$236,000....
- Can expect to live to 85...
- 74% are still in the workforce

Characterisites

- Only group that spent more \$\$ for dentistry between 2010 and 2020
- Highest level of per patient dental expenditures
- 41% have dental coverage

Baby Boomers

Values: optimism, team orientation, personal gratification, health and wellness, personal growth, youth, work, involvement

Seminal events: McCarthy hearings, Civil Rights Act, Kennedy elected, Cuban Missile Crisis, Kennedy assassination, Viet Nam, MKL assassination, first lunar landing, Woodstock, Kent State shootings

Baby Boomers: On the Job

Assets	Liabilities
Service Oriented	Not naturally "budget minded"
Driven	Uncomfortable with conflict
Willing to "go the extra mile"	Reluctant to go against peers
Good at relationships	May put process ahead of result
Good team players	Self-centered
Want to please	Overly sensitive to feedback

Messages that motivate Boomers:

- "You're important to our success."
- "You're valued here."
- "Your contribution is unique and important."
- "We need you."
- "I approve of you."
- "You're worthy."

What other generations say about them...

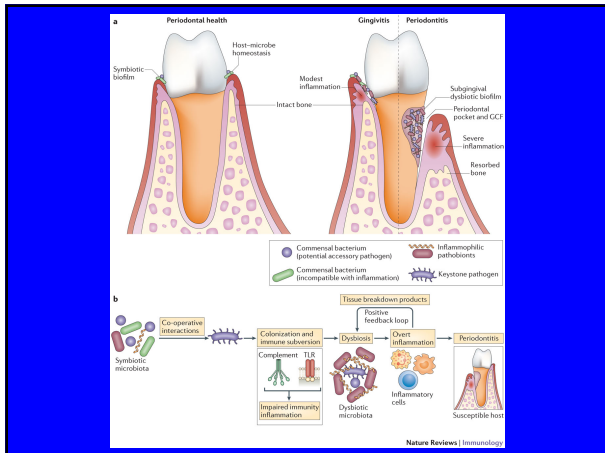
Builders	"They talk about things they ought to keep private." "They're self-absorbed."
Gen X	"They're self-righteous." "They're workaholics." "They're too political." "Lighten up, it's only a job."
Eco Boomers	"They're cool." "They work too much."

Myths about Baby Boomers

- They're on their way out.
- They'll grow up.
- They've always had it easy; they're assured of a comfortable retirement.
- They've quit learning.
- Boomers are workaholics.

The New Economic Dynamo....

- The 50 plus population in the US is the third largest economy in the world
- Boomers have 80% of the US net worth..



Inflammation, your health, and the health of your patients

The chronic diseases of aging are connected through common inflammatory mechanisms

Inflammation levels differ among individuals and are mostly controllable

Inflammation is a major determinant of your health and the health of your patients; How to live well longer

Chronic Inflammatory Diseases of Aging

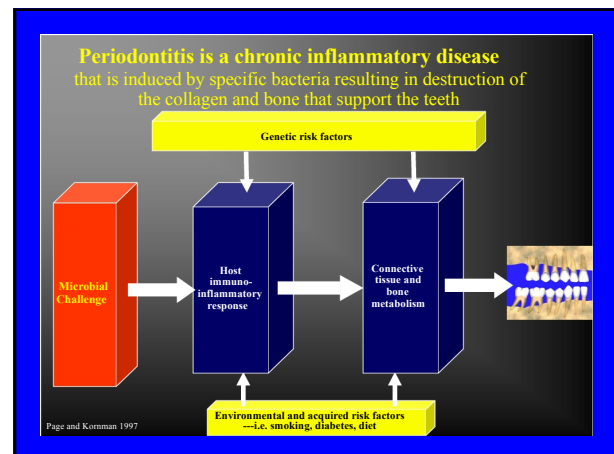
- Periodontal diseases
- CVD
- Obesity
- Diabetes
- Alzheimer's
- Arthritis

Chronic Inflammatory Diseases of Aging

- Inflammatory mechanisms critical in development and progression of disease
- Diet and genetic variations
- Resolution is an active process that can be supplemented
- Although genes do not change, their expression can and can be passed on
- Visceral fat substantially increases the inflammatory burden

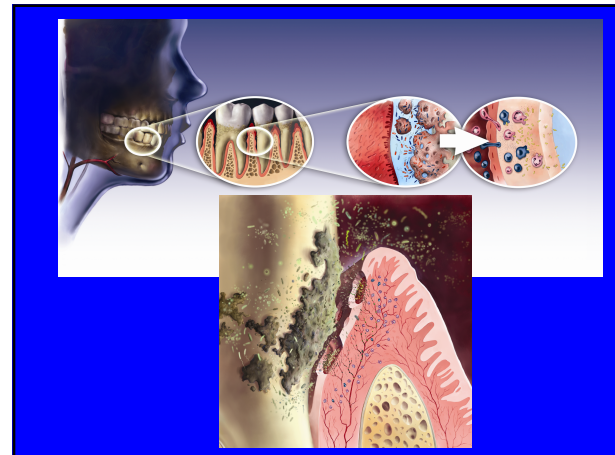
Chronic Inflammation and Resolution

- Lipid mediators "resolvins" and "protectins"
- Biosynthesized from omega-3 fatty acids
- Aspirin is a potent anti-inflammatory
- Defects in resolution mechanisms can result in persistent, sub-clinical chronic inflammation



5 Commitments to Achieving Success in Periodontics

- Commit to the comprehensive perio exam



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 public has heard these messages---and they are



COVID-19 Mortality by Age and Pre-Existing Condition*

Age (yrs)	Case Fatality Rate (%)	Pre-existing conditions	Case Fatality Rate (%)
80	14.8	Cardiovascular disease	10.5
70-79	8.0	Diabetes	7.3
60-69	3.6	Chronic respiratory disease	6.3
50-59	1.3	Hypertension	6.0
40-49	0.4	Cancer	5.6
30-39	0.2	No pre-existing conditions	0.9
20-29	0.2		
10-19	0.2		
0-9	None		

Case fatality rate for COVID-19 based on age and pre-existing conditions.

*Case Fatality Rate (%) = (number of deaths / number of COVID-19 cases) x 100 for each group

Source: Worldometers.info. Accessed 14 March 2020.

- Mortality rates in the U.S. from early data (March 2020) compiled by the CDC:

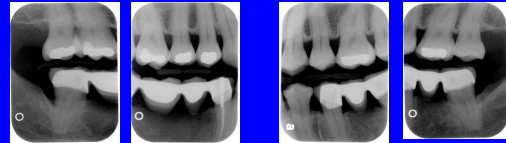
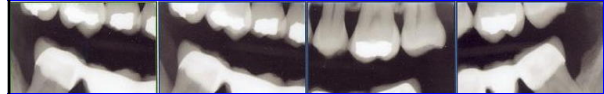
“Knowing” your patient

- 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..?

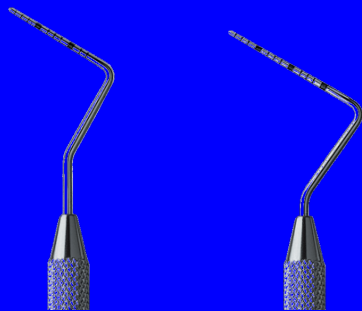
Data Collection

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

Digital Versus Digital.....



UNC12 and UNC15



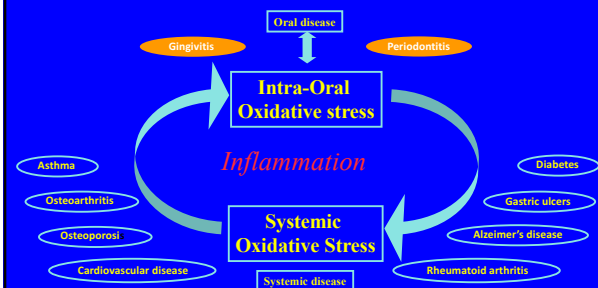
Periodontitis the “elevator speech”

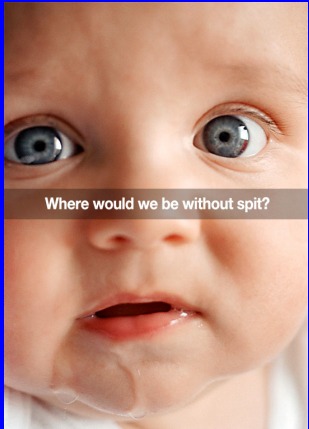
- Periodontitis is the body’s reaction to a **Stimulus** resulting in an **overactive** response to produces **inflammatory** mediators that **destroy** its own healthy cells....
- Auto immune ??

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

Periodontal Disease and Systemic Disease Links





- Introduction
- Symptoms & signs
- Etiology
- Diagnosis
- Management

Xerostomia (dry mouth):

- Is not a disease but a symptom caused by many factors.
- Not all people who complains of xerostomia actually has salivary gland dysfunction.
- Incidence continues to rise due to increase in age 60 plus
- Incidence is 13 to 28% of population over age 60

Salivary Gland

- Parotid gland
 - major source when eating
 - **serous**
- Sublingual gland
 - only 2-3% of saliva
 - **mucous** (primarily) + serous
- Submandibular gland
 - the most responsible when no stimuli
 - **Serous** + mucous
- Minor salivary gland
 - **mucous** (primarily)

Function of Saliva

- Lubrication
- Initial digestion of food
- Modulate the oral flora
 - Immune mechanism
 - Anti-microbial
- Tooth remineralization
- **MAJOR SOURCE : ORAL ANTIOXIDANTS**

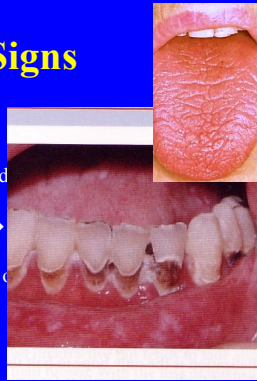
Symptoms & Signs

- Symptoms:
 - Oral dryness (most common)
 - Halitosis
 - Burning sensation
 - Loss of sense of taste or bizarre taste
 - Difficulty in swallowing
 - Tongue tends to stick to the palate
 - Decreased retention of denture

Symptoms & Signs

- Signs:

- Saliva pool disappear
- Mucosa: dry or glossy
- Duct orifices: viscous and
- Tongue:
 - glossitis → fissured →
- Angular cheilitis
- Rampant caries: cervical
- Periodontitis
- Candidiasis



9 Myths about caries prevention on older adults Roberts , et al , Dimensions 2012

1. Not just children, 93% of Boomers have caries
2. Not just occlusal, 49.7% have root decay
3. Flossing **not** effective, need ingenuity
4. **Disinfect** the mouth, not just the dentures
5. Unaware of xerostomia. **Ask!**
6. **Diet** is still crucial
7. Fluoride (5000 PPM) alone not enough: **Xylitol**
8. **Varnish** with moderate to high risk
9. **Risk** assessment critical

Etiology

- Aging
- Foods & drugs
- Systemic factors
- Radiotherapy
- Sjogren's syndrome
- Other salivary gland diseases

Etiology

- Foods: alcohol, coffee, coco cola, smoke
- Drugs: most prevalent
 - 400 DRUGS
 - Anti-depressants
 - Anti-histamine
 - Cimetidine
 - Anti-cholinergic
 - Anti-HTN (sympathomimetic drugs)
 - Anti-inflammatory

Etiology

- Systemic factors:
 - Emotions: nervousness , excitation, **depression**, stress..
 - Encephalitis, brain tumors, stroke, Parkinson's dis.
 - Dehydration: diarrhea, vomiting, **polyuria of diabetes** ...
 - Anemia, nutrition deficiency.

Etiology

- Radiation induced head and neck cancer
 - 30,000 to 40,000 people each year with head and neck cancer
 - Serous acini: more sensitive to R/T
 - Saliva: thickened, altered electrolytes, pH ↓ , secretion of immunoglobulins ↓

Etiology

- Sjogren's syndrome:
 - Systemic autoimmune disorder, **exocrine invasion** mainly
 - 80-90% in **female, middle-aged**
 - **4 million Americans**
 - **White blood cells attack moisture producing glands**
 - **Dry mouth, dry eyes, fatigue, and muscular pain**

Etiology

- Other salivary gland diseases:
 - Obstruction or infection of gland
 - Sarcoidosis, amyloidosis
 - Benign or malignant tumor
 - Excision of gland or congenital missing

Diagnosis

- History taking
- Symptoms & clinical examination
- Special investigations
 - Salivary flow rate, SFR
 - Salivary scintiscanning
 - Sialochemical analysis & laboratory values
 - Labial biopsy
 - Sialography

Management

- Dietary & environmental considerations
- Preventive Dental Care Measures
- Saliva stimulants
- Saliva substitutes

Dietary & Environmental Considerations

- Dietary:
 - Avoid drugs that may produce xerostomia
 - Avoid dry & bulky foods
 - High fluid intake & rinsing with water
 - Avoid alcohol, smoking and sugar
 - Take protein and vitamin supplements
- Environment:
 - Maintain optimal air humidity in the home
 - Use Vaseline to protect the lips

Preventive Dental Care Measures

- Smooth sharp cusps, occlusal grooves or fissures, irregular fillings.
- Check and adjust the denture.
- OHI.
- Topical fluoride with carrier use.
- Fluoride rinses & chlorhexidine rinses.
- Antifungal medications:
 - Denture: Miconazole gel, amphotericin or nystatin ointment
 - Topical: Nystatin, amphotericin suspension or fluconazole..

Saliva Stimulants

- Chewing gums
- Diabetic sweets
- Sialagogues:
 - Pilocarpine
 - 5~10 mg, tid
 - Bradycardia, sweating, flushing, urgency of urination, GI upset ...
 - Pyridostigmine

Salivary Substitutes

- **Salivary Substitutes**
 - Carboxy-methyl-cellulose or mucin
 - Saliva Orthana: contains **fluoride**.
 - Mixture of glycerin & citric acid
 - Natural oral antimicrobial contents: H_2O_2

Substitutes

- Optimoist
- Saliva Substitute
- Moi-Stir
- V A Oralube
- MouthKote
- Xero-Lube
- Salivart

**ALL SALIVARY SUBSTITUTES
AND DENTIFRICES ARE
PALLIATIVE AND DO NOT HAVE
A SUBSTANTIAL EFFECT ON DRY
MOUTH!**

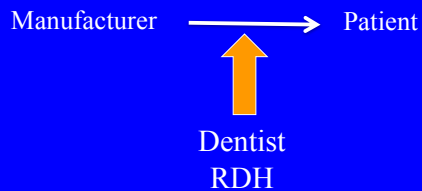
Clinical case series: radiation induced xerostomia PerioSciences

- Dr. Terry Rees (Baylor)
- 40 patients using AO gel
- 80% report extremely positive results in 48 hours
- Dr. Dennis Abbott (manages dental oncology patients)
- 12 Cases utilizing AO gel
- 92% improvement within one week

Future considerations

- Hypothesis: minor salivary glands have increase ROS and decrease anti oxidants
- Not just decrease quantity of liquid but decrease in quality of anti oxidants
- NEXT: measure quantity and quality of saliva for anti oxidants with and without AO gel

Closing the gap in oral health care products



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
- Define staff skills and limitations -manuals

Increasing Hygiene Productivity.....

- 40% of services beyond the prophyl
- 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

Oral-B PRO 5000

NEW

INTRODUCING THE WORLD'S FIRST BLUETOOTH CONNECTED TOOTHBRUSH:

Two Way Bluetooth Interactivity

Excess pressure

Excessive pressure

Are you using it ?

Are you doing it 2X day

When are you doing it

23 days Brushing 2x daily

17 days Interdental

07 days Mouth rinsing

28 days Tongue cleaning

What is the ScanCare App?

Probiotics

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



Before and After



ProBioraPro

Perio Tray® Non-Invasive Delivery of Doctor-Prescribed Medications



Floss Limitations in Periodontal Patients



Categories of “Debridement”

- Gross Debridement D4355
- Gingival Debridement D0110
- Periodontal Debridement D4341/4342
- Gingival recare D0110
- Periodontal recare D4910

Ultrasonic - Piezoelectric

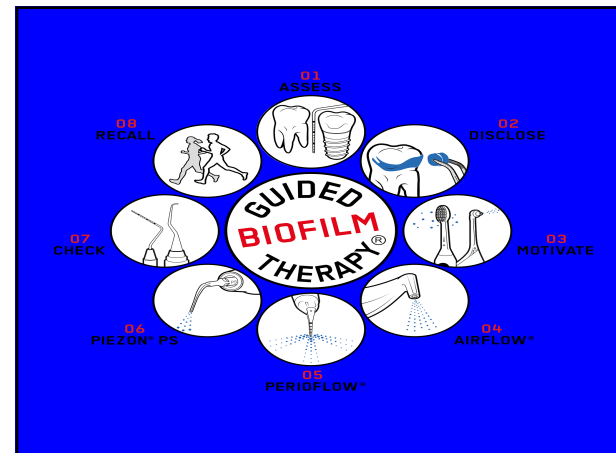
- Functions above the audible range
- 29,000 to 50,000 cps or Hz
- ♦ Ceramic transducer
- ♦ Linear tip movement
- ♦ Lateral surfaces more active



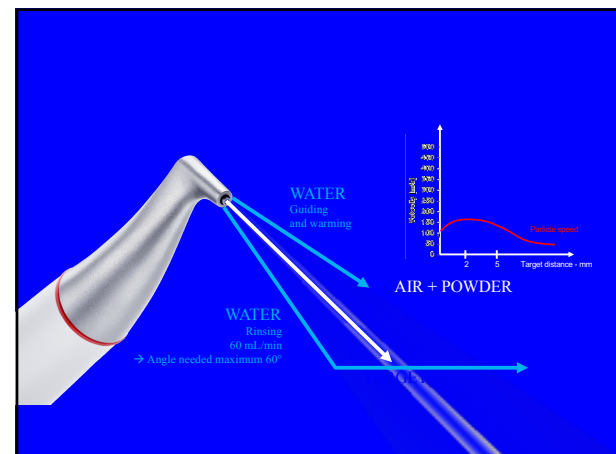
Cavitron touch™ with Steri-Mate 360°



- ✓ **Touch Screen Interface** for ease of use with customizable power settings and memory presets for improved efficiency
- ✓ Exclusive **Steri-Mate 360° Rotating Handpiece** allows the clinician to fully rotate any insert
- ✓ **Lightweight Handpiece Cable** for improved ergonomic benefits
- ✓ **Detachable Handpiece Cable** for easy repairs



THE ORIGINAL. *THE MASTER.*

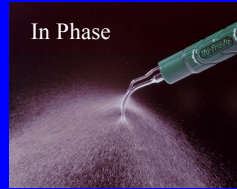


Insert Design

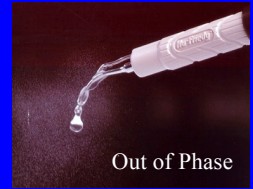


Decrease power. No more than 33% and decrease water!

In Phase



Out of Phase



- Decrease water!
- Light debris and biofilm removal

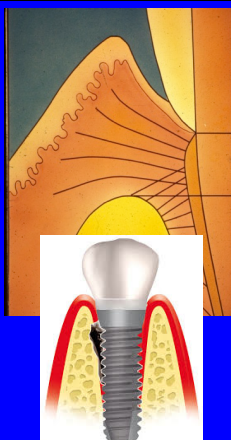
Instrumentation Protocol

- **Debridement (Gross)**
 - Ultrasonic : large as triple bend
- **Debridement (Gingivitis)**
 - Ultrasonic : Medium triple bend
 - Polish
- **Debridement (Periodontitis)**
 - Ultrasonic : Medium triple bend and thin perio
 - Gracey Curettes : thin
 - Polish



Tooth

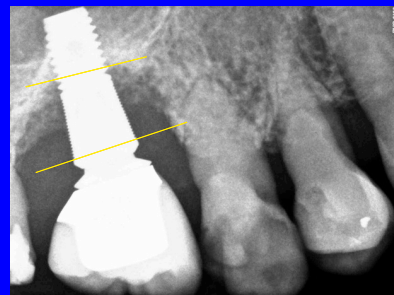
Sulcus
Junctional Epithelium
Supracrestal fibers
Cementum
PDL
Bone



Implant

Sulcus
Junctional epithelium
Supracrestal adherence
No PDL
No Cementum
Bone

Mucositis versus Implantitis



**Outcomes of implants and restorations placed in general dental practices
A retrospective study by the Practitioners Engaged in Applied Research and
Learning (PEARL) Network**
DaSilva, et al.

The Journal of the American Dental Association (July 1, 2014) 145, 704-713

- When excessive bone loss was included, 18.7 percent were classified as failures.
- A history of severe periodontitis, sites with preexisting inflammation or type IV bone, cases of immediate implant placement and placement in the incisor or canine region were associated with implant failure.
- Implant survival and success rates in general dental practices may be lower than those reported in studies conducted in academic or specialty settings.

Implant Survival Characteristics

- Failures occur in first year
- Average 94%
- Length and width not factors
- Anatomical zone a factor
- Smoking significant in failure
- Occlusion a variable

Implant Failure

- Plaque: Perio-implantitis
- Nicotine ingestion
- Lack of attached gingivae
- Occlusion?
- Size of implants
- Anatomy

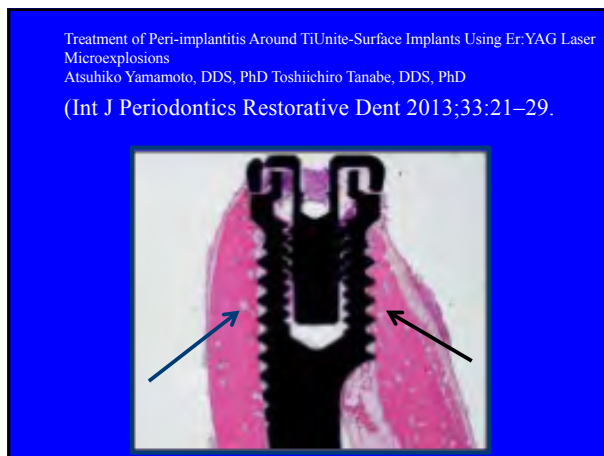
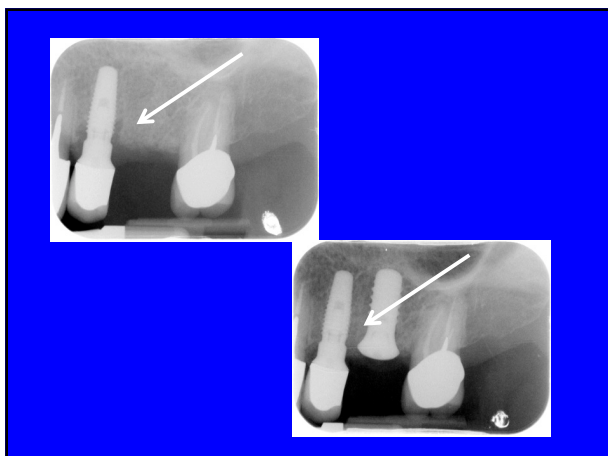
Prostheses

- Restorations:
 - Crown
 - Bridge
- Retention:
 - Cement
 - Screw



Cavitron® SofTip™ Ultrasonic Implant Insert





Treatment plan periodontal regeneration (1-3 hours)

• 4261 Osseous surgery	\$950
• 4263 Bone graft	\$475
• 4265 EMD	\$350
• 4266 GTR	\$400
• 4910 Perio maintenance	\$195
• Total	\$2370.

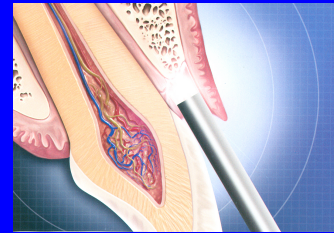
Treatment Plan Extraction and Replacement (3-9 months)

• 7140 Extraction	\$300
• 6104 Bone graft	\$450
• 4266 GTR	\$400
• 6010 Implant	\$2,250
• 6057 Custom abutment	\$975
• 6059 implant crown	\$1,850
• 4910 Perio maintenance	\$195
• Total	\$6420

Peri implantitis Surgery (1-2 years)

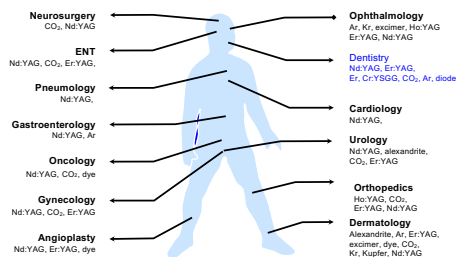
• 6100 Implant removal	\$500
• 6101 Debridement of defect	\$350
• 6102 Debridement Bone	\$475
• 6103 Bone graft	\$675
• 6080 implant maintenance	\$300
• Cost for implant	\$6,420
• Total cost	\$8,720

Potential laser applications for periodontal therapy.....



Lasers

Fields of application in medicine



Basics | Wavelengths | Product Info | Indications

Diode lasers



Diode Soft-Tissue Lasers

- Advantages:
 - Can cut and coagulate gingiva with virtually no 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



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

1. When a patient has site specific periodontal scaling (D4342) do they get put on a periodontal maintenance (D4910) or a prophy recall (D1110)?

Could this be individually based?

2. Should we charge more for perio maintenance (D4910) than we do for a prophy (D1110), if the same amount of time is scheduled?

3. After a full mouth debridement (D4355) can a patient schedule back in 2 weeks for a prophy (D1110)? What if they need a D0180 in place of a D0150?

4. Which do you recommend for patients, oral irrigator or water pik?

5. When is it recommended or optional to convert a D4910 to a D1110?

6. How do you handle patients that decline perio treatment in a general practice? Do you continue to schedule D1110 or dismiss patient?

7. Does a patient with a few 5mm pockets with no presence of inflammation automatically make a patient perio involved?

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

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

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

- Probing depths $\geq 5\text{mm}$.
- Probing depths deepening
- Request dental implants
- Requires special periodontal surgery
- Atypical forms of periodontal disease

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

Patients who refuse a “root planing” treatment plan

- Document in records
- Attempt to establish rapport through education
- Education equals treatment acceptance
- Dismiss from practice if “prophy” is last resort

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

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

Documentation...

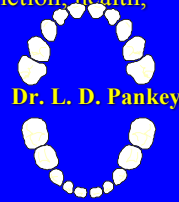
“ Patient has been informed of the diagnosis of severe periodontitis and the threat of tooth loss...

“Due to non-compliance with oral hygiene, frequency of recare, refusing to be appointed with a periodontist, not accepting a surgical treatment plan, patient is placed on a compromised recare treatment plan.”

Marketing to Boomers

- Desire information based on outcomes
- Frequent users of social networks and blogs
- Look to Google for health information
- Face to face is still the most credible to them
- Relationships attract patients who put emphasis their oral care and are willing to pay for dentistry of a high quality....

- “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”



Sam@drsamlow.com

www.drssamlow.com

- Speaker
- Industry adviser
- Consultant to today's dental practice who desires to enhance periodontics

