
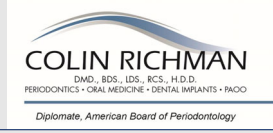



Mitigating - Managing Periodontitis + Peri-Implantitis.  
Diagnostics and Therapeutics.  
State of the Art - Standard of Care (2024 and beyond).



Teeth

Implants

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Traditional Flap Surgical Periodontitis Therapy

■ **Longevity study** (in our office)

1. > 20 years, consecutive patients, consistent findings
2. Consistent alternating PMT;
3. Daily use of an inter-dental aid
4. Daily use of stannous fluoride, or a similar agent
5. Gi. <0.4; Pi. < 0.4
6. Intact dentition; no pending treatment (supervised neglect)
7. No mobility or minimal fremitus – occlusal guard, if indicated
8. One providing primary care dentist – One periodontist
9. Patient satisfied with value of care and practice – optimism
10. No major medical or uncontrolled metabolic diseases

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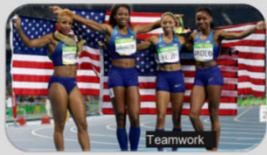

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Stuff



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'Passionately Striving for Excellence in Comprehensive/Interdisciplinary Dental Care'



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L.D. Pankey  
"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"

Consequence - enhanced quality of life in the senior years.  
Physical, social, emotional – **Literature based.**

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"Promoting good health and wellness, healthy, active and **Productive Ageing!**"  
Caribbean Senior Games

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Appropriate Periodontal Treatment is Successful – 92%

**Key words**

*Journal of Clinical Periodontology*  
 Key words: Maintenance care – periodontitis  
 Accepted for publication August 10, 1983

- Extremely advanced periodontitis
- 14 years
- 1969
- SRP +surgical elimination of deep pockets
- PMT Q 3-6 month
- No age discrimination
- Few sites lost most attachment ?RPPD
- No better recent long-term studies (SRP)

**Long-term results for advanced periodontitis**

JAN LINDHE AND STURE NYMAN  
 Department of Periodontology, Faculty of Odontology, University of Gothenburg, Gothenburg, Sweden

Colin Richman DMD; [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net)

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7

JAN EGELBERG

**Periodontics**  
 THE SCIENTIFIC WAY  
 Synopses of Human Clinical Studies

THE JOURNAL OF  
**EVIDENCE-BASED DENTAL PRACTICE**

**PERIODONTICS**  
 Throw away journals – opinion based.  
 Antimicrobial Host Response Therapy  
 Periodontics  
 A Modern Way to Manage Disease

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**Take Home Message – 4 Themes**  
 'Periodontitis/Peri-implantitis, the Diseases'

Infection - Inflammation  
 Multi-rooted teeth  
 Plaque control is essential  
 Interdental disease



**Note Icon Designations**

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Achieving predictable, satisfying, consistent 'Big Case Dentistry'



### Essential Diagnostic Records

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# PROGRAM

Examination, Diagnosis and Treatment Planning  
Therapeutic Considerations  
Disease Control  
*Enhanced Root Surface Debridement (ERSD)  
and Pocket Reduction Therapy (PRT)*  
Maintenance Periodontal/Peri-implant Therapy  
Discussion

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**Gingivitis (mucositis):**  
Gingival inflammation without alveolar  
bone loss

**Periodontitis (peri-implantitis):**  
Gingival inflammation with  
alveolar bone loss



Examination

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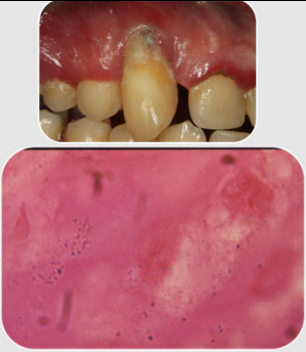
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Theme 1

Periodontitis +  
Peri-implantitis  
=  
Infection  
+  
Inflammation



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Etiology-Disease Defined as an Infection

Bacterial etiology  
Immune response  
Bacterial products in tissues  
Possible invasion of tissues by bacteria  
Destruction of tissues

RUBOR (redness) CALOR (heat)  
DOLOR (pain)



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In **1683**, Anthony van Leewenhoek noted that although he cleaned his teeth by rubbing them with salt  
“Yet notwithstanding, my teeth are not so cleaned thereby, but what there sticketh on growth between some of my front ones and my grinders “A LITTLE Batter”. (**Plaque**)  
He collected this ‘White Matter’, mixed it with rainwater, examined it microscopically and exclaimed  
“I then most always saw, with great wonder, that in the said matter there were many “little living animalcules” very prettily moving”  
He observed Spirochetes and Motile rods 328 years ago

- Ongoing Spirochetal research-2011



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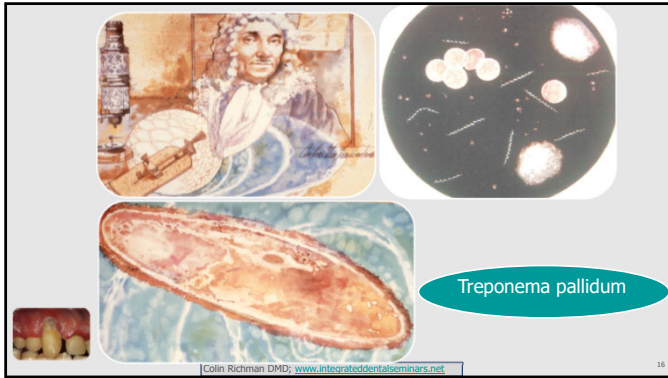
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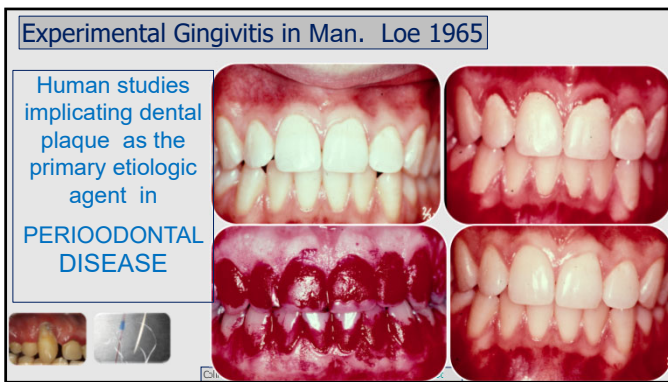
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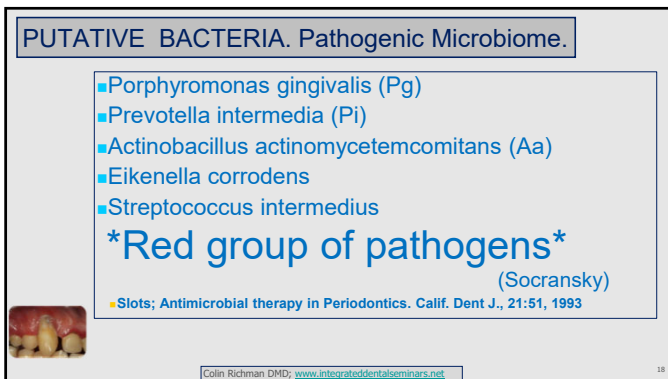
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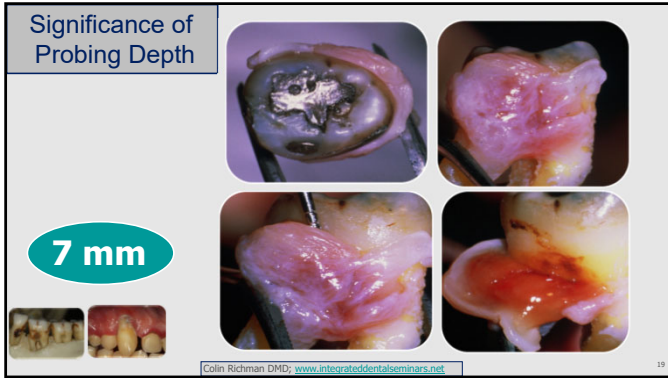
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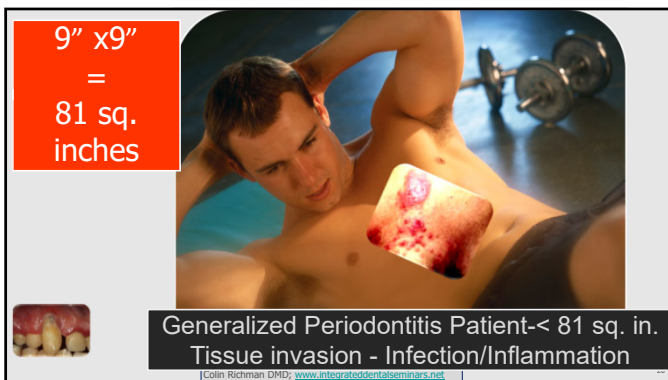
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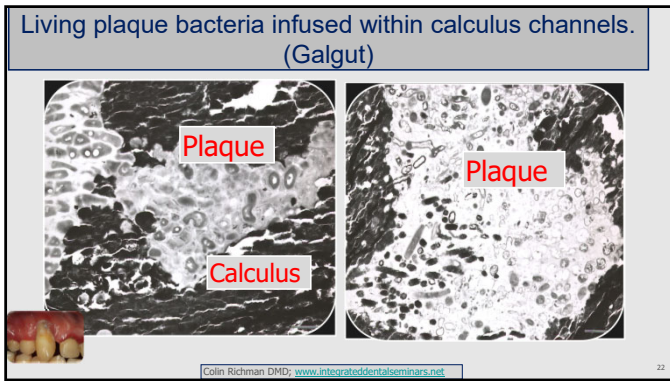
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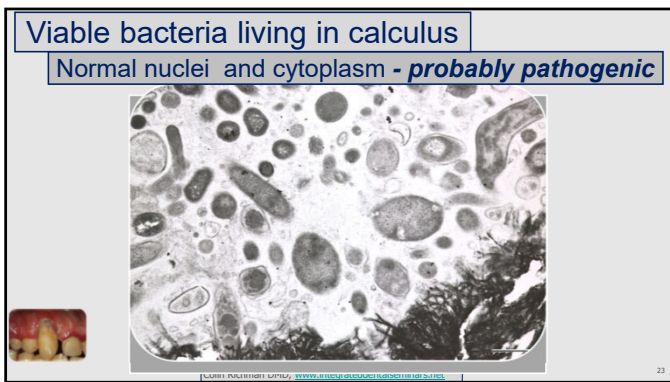
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Perio-Systemic Link/s

inflammation.  
Incriminating data continue to appear!

Heart  
Lungs  
Vessels  
Bacteremia  
Pregnancy  
Stroke  
Dementia  
R. arthritis

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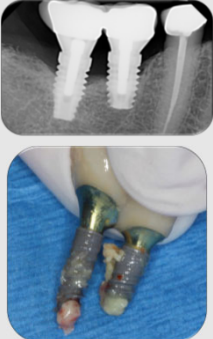
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...and how about the Perio-Systemic Link for Peri-Implantitis – latest strong data – ALZHEIMERS!



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Theme 2: Multi-rooted teeth



Long-term studies  
Hirschfield – 21 years, McFall 12 years  
>30 EB Long Term Studies.



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Dead tooth collection



Amputated body parts



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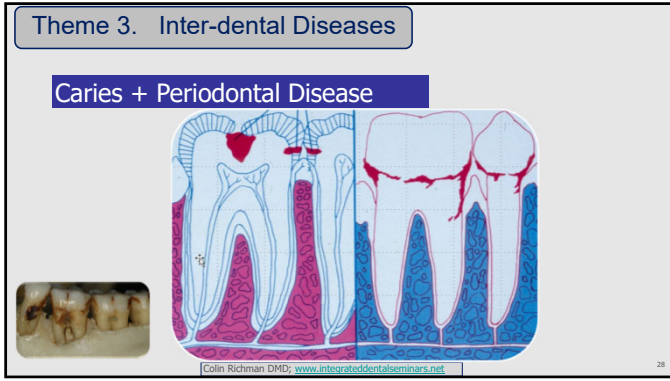
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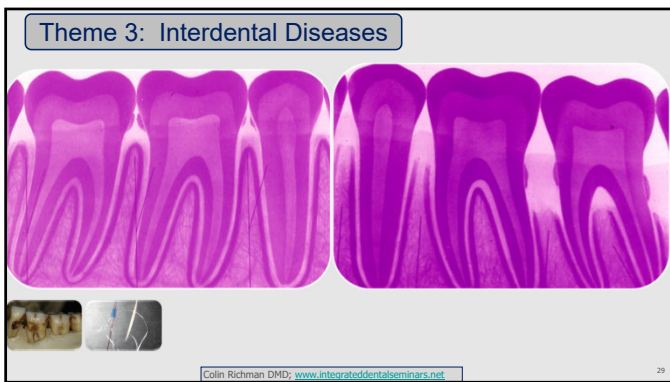
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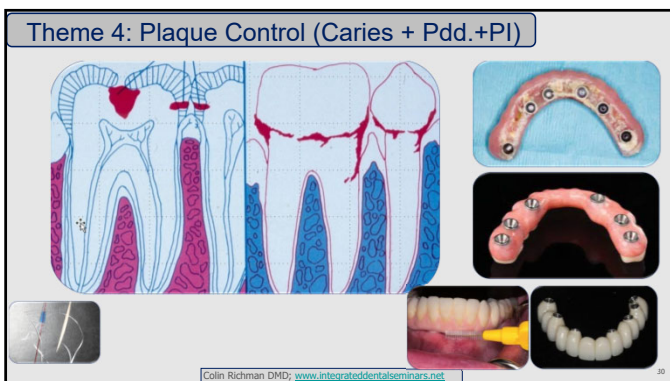
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**PROGRAM**

**Examination, Diagnosis, Treatment Planning**  
*Therapeutic Considerations*  
 Disease Control  
*Enhanced Root Surface Debridement (ERSD) and  
 Pocket Reduction Therapy (PRT)*  
 Maintenance Periodontal/Peri-implant Therapy  
 Discussion

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**Insert this narrative into your medical/dental history,  
 Warning Signs of Periodontal Disease ([www.perio.org](http://www.perio.org)).**

Periodontal disease/s are often silent, meaning symptoms may not appear until the disease has progressed to advanced stages.

1. Red, swollen, or tender gums or other pain in your mouth
2. Bleeding while brushing, flossing, or eating hard food
3. Gums that are receding or pulling away from the teeth, causing teeth to look longer than before
4. Loose or separating teeth
5. Sores in your mouth
6. Persistent bad breath
7. A change in the way your teeth or appliances fit together when you bite
8. Share with **physician colleagues**



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**Biologically Driven Comprehensive/Interdisciplinary  
 Dental Care includes**

**DATA** -Examination, Diagnosis, Etiology, Treatment Planning  
**Biology**, include Perio., Endo, mucosal, etc.  
**Structural** - Teeth  
**Myo-functional** – Components working in harmony  
**Esthetic**



**Kois, Spear, Levine.**

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**Pocket Depth vs. Bleeding on Probing**

**Pocket depth:** Historical record of tissue destruction - *periodontal infection + caries*

**Bleeding on probing:** Dynamic indicator of ongoing *periodontal infection inflammation*



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**Periodontal Charting + re-Evaluation (SRP)**



**BOP**

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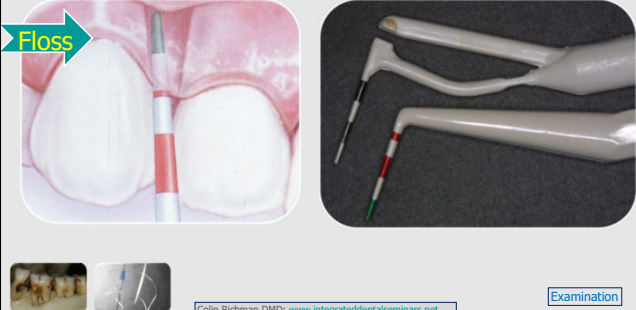
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**Floss**

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**BOP-EIBI. Eastman Interdental Bleeding Index**



**Lactona Sticks: 215/692-9000**

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**BoP and tooth survival**

1. Norwegian, males, 50-year study
2. Constant BoP. – 70% more attachment loss than healthy sites
3. No BoP. long-term 99.9% survival over 50 years
4. Long term GI > 2, 63.4% survival rate over 50 years.

Schatzle, Loe Lang Anerud J CI P 2004. Clinical course of chronic periodontitis

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**RADIOGRAPHIC EXAMINATION**

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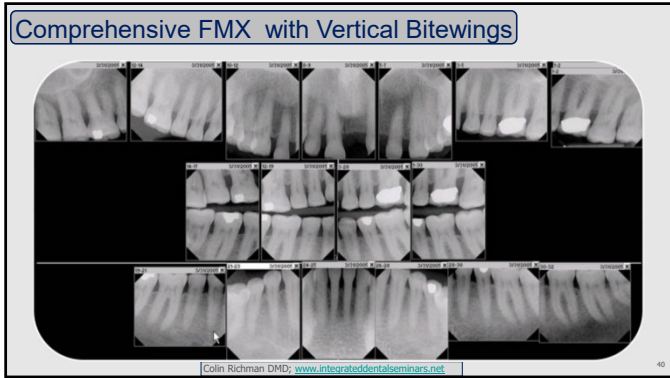
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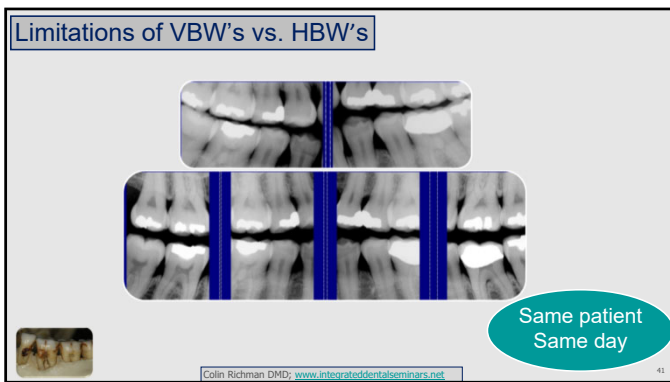
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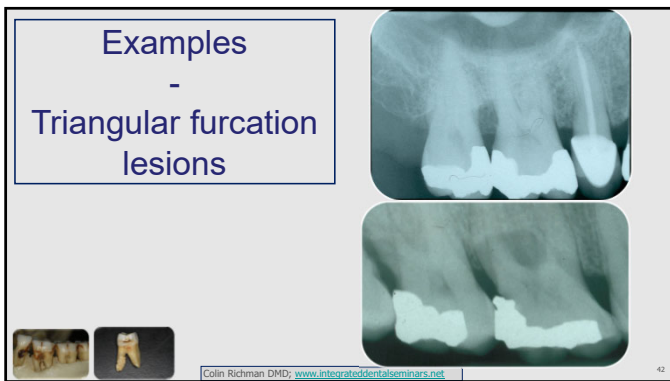
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Furcation defect  
radiographic calculus  
angular bony defect  
furcation defect.

Surgical case.  
Pocket Reduction  
Therapy



(Anderegg) Comparison of Pre-surgical and Surgical Measurements of Molar Furcations (Anderegg)



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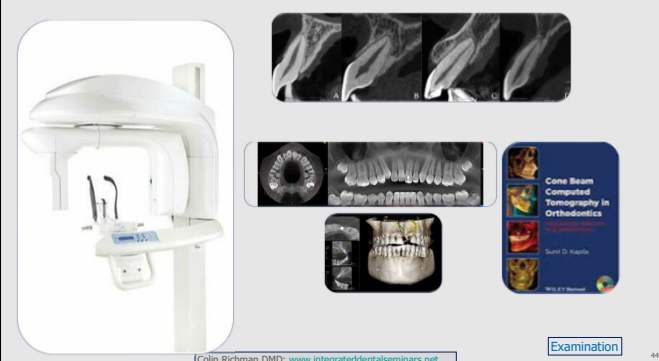
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Examination

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■ EXAMINATION

■ ***Etiology - DIAGNOSIS***

■ TREATMENT PLAN



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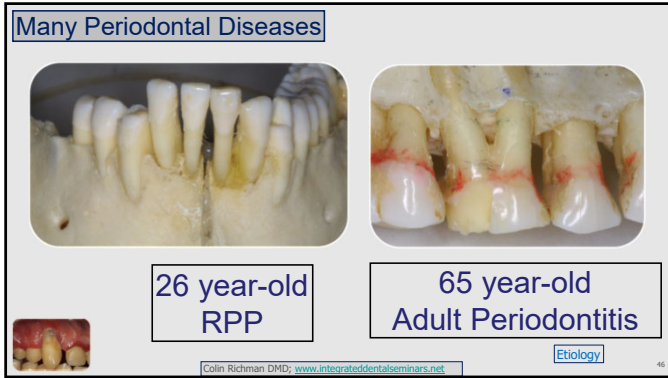
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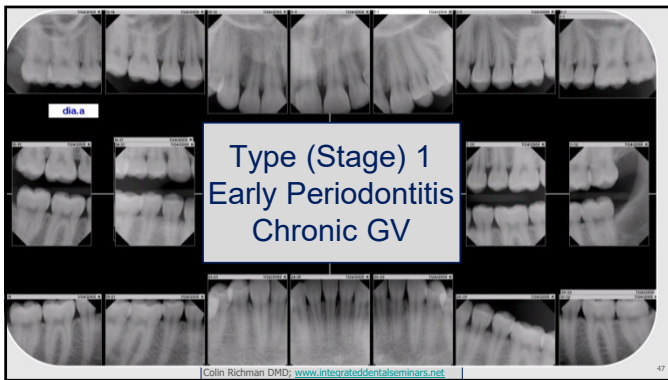
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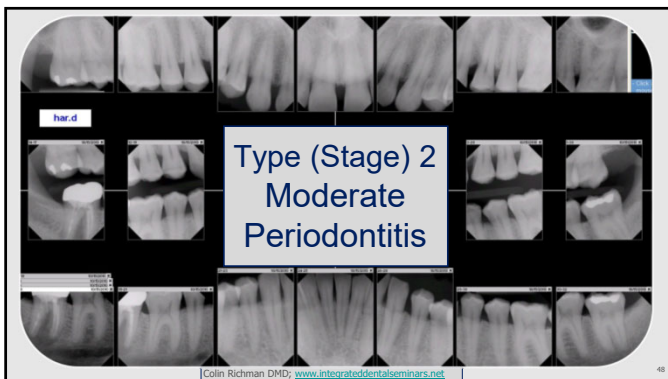
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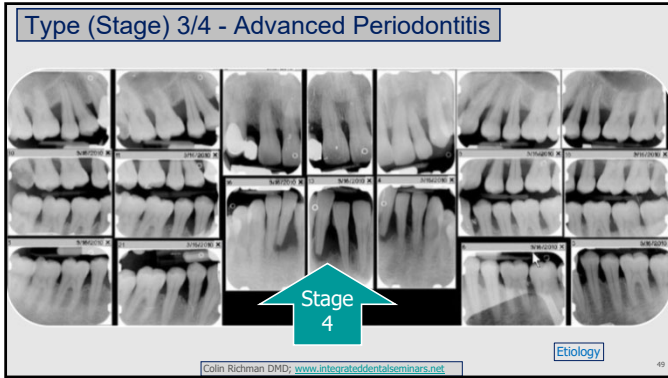
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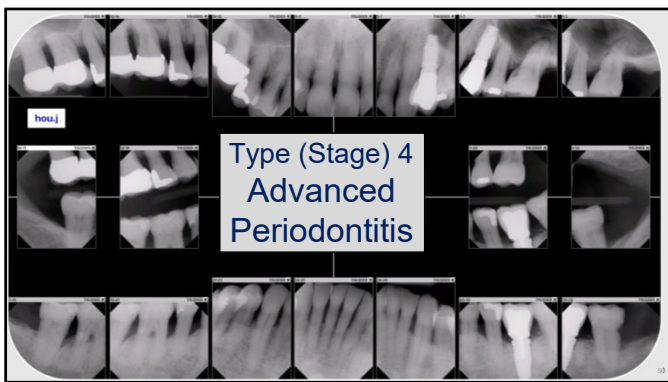
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## EXAMINATION - DIAGNOSIS TREATMENT PLANNING

Predictability vs. risk  
-  
Short term vs. long term  
Treatment Plan in the 4<sup>th</sup>  
Dimension

|               | Low | Moderate | High |
|---------------|-----|----------|------|
| PERIODONTAL   | ●   | ●        | ●    |
| BIOMECHANICAL | ●   | ●        | ●    |
| FUNCTIONAL    | ●   | ●        | ●    |
| DENTOFACIAL   | ●   | ●        | ●    |

**Kois: Risk profile**

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Treatment Planning

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### Histology Periodontitis (NIDR 2016)

Healthy (left panel) and periodontitis (right panel) gingival tissue taken from biopsies of study participants. Large numbers of immune cells (dark purple) are

**Immunology/Chronic diseases.**

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### Comprehensive Interdisciplinary Dental Care

- Diagnostics**
  - Data, analysis, etiology, pathogenesis, treatment plan, treatment presentation
- Disease control**
  - OHI/Microbial evaluations/Occlusal evaluations
  - SRP/Selected Extractions/Occlusal adjustments
  - Re-evaluation
- Reconstructive Dentistry**
  - Tooth/Teeth, Bridges, partials, crowns, implants
  - Periodontal: pocket reduction, regeneration, normal periodontal architectural configuration
  - Esthetic enhancement
- Phase 3 - Maintenance**
  - Professional and patient

Phase One  
Phase Two  
Phase Three

Treatment Planning

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### Saving teeth versus Implant replacement.

| Saving Teeth                            | Replacement implants.   |
|---|---|
| History of Periodontitis                | Highly caries susceptible                                       |
| Proprioception, retention of some teeth | Crown, endo, FCL with bone removal                              |
| Maintaining vertical dimension          | Tooth is a liability to a comprehensive reconstruction with DI. |

Treatment Planning

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- Treatment Planning – 4 Categories. (Kois, Spear, Levine).
- What type of case is this?
- Must include: Diagnosis, Etiology-Pathogenesis, Management.

- Biology: All non-tooth structures, including periodontium, mucosal surfaces, intra-oral and extra-oral including periodontitis susceptibility.
- Structure: Structural integrity of teeth, including endo and caries susceptibility.
- Myo-function.
- Esthetics.
- Medical.



**Comprehensive Interdisciplinary Treatment Planning – all dentists, generalists or specialists.**

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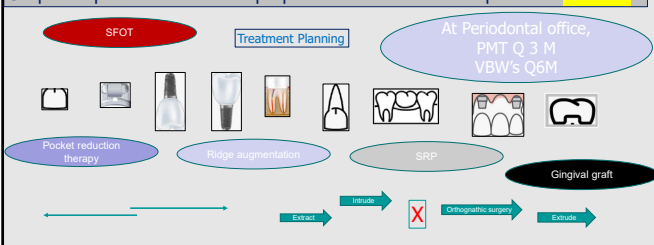
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Graphic representation of the proposed treatment for this patient – **Visual.**



A graphic representation of your proposed treatment plan is valuable for:

- Interdisciplinary case planning and commitment;
- Patient education and communication;
- Insurance company and other third-party communication;
- Records and Medico-legal issues.

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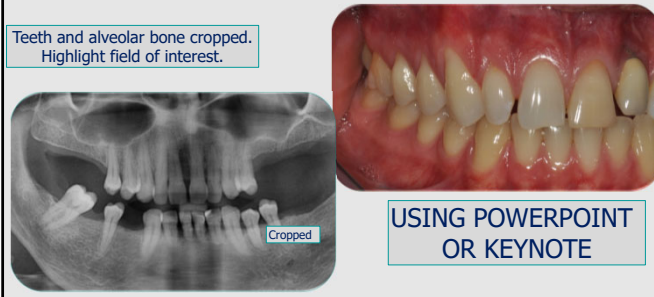
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Pan, or FMX + anterior retracted view. Example

Teeth and alveolar bone cropped. Highlight field of interest.



USING POWERPOINT OR KEYNOTE

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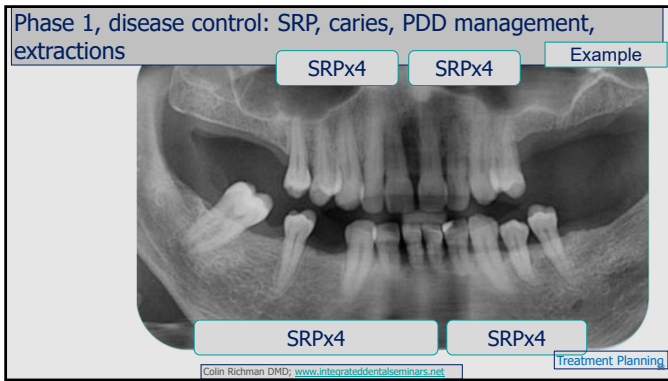
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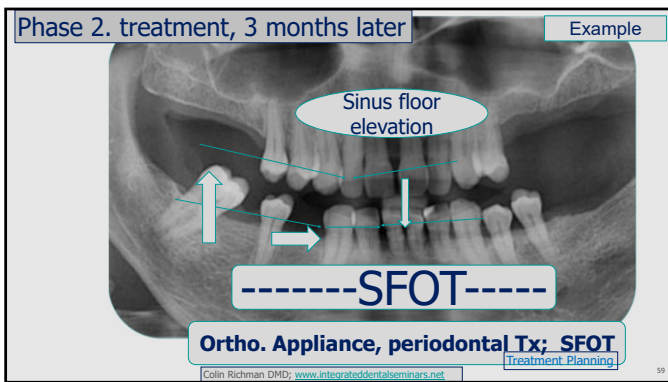
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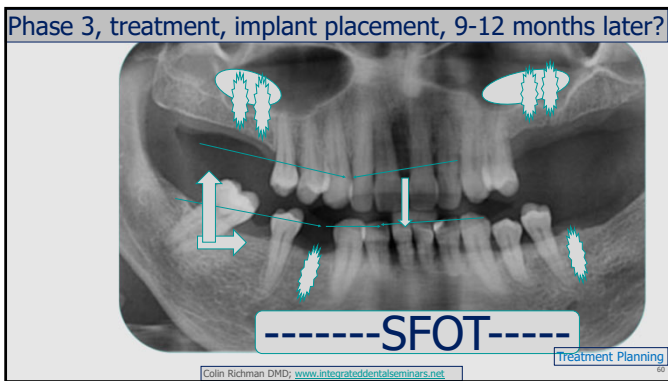
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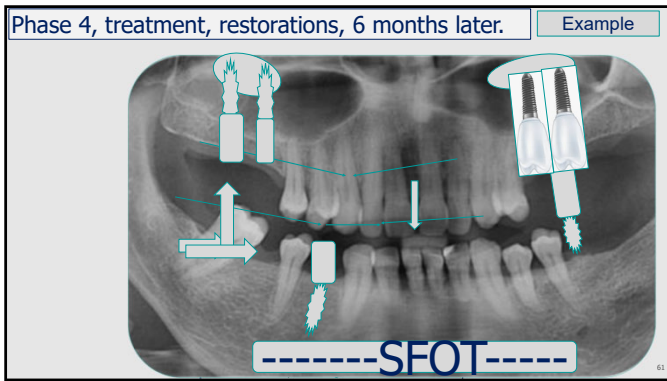
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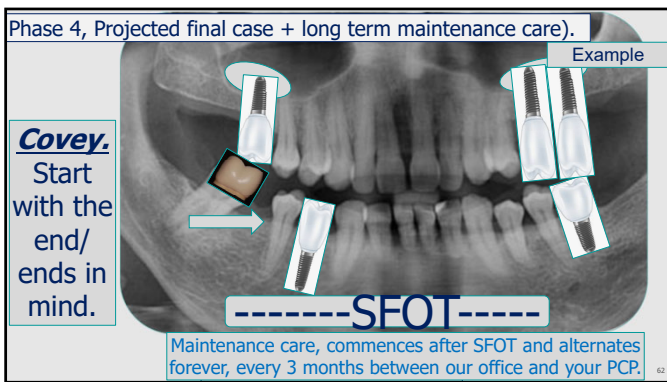
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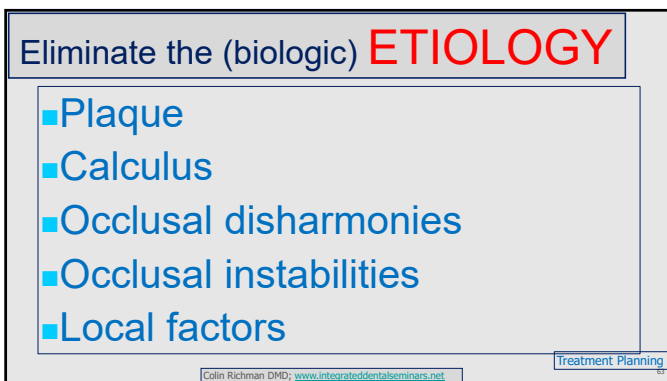
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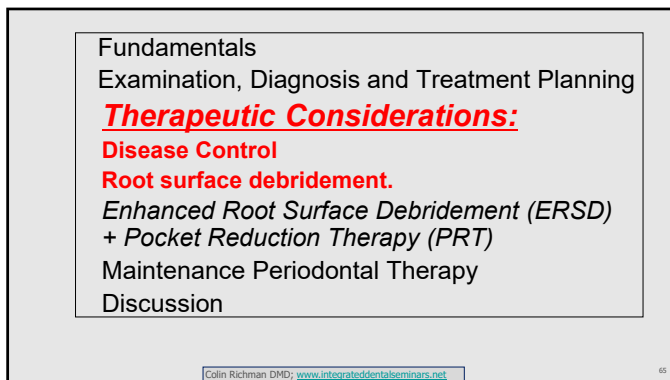
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**Richman's Home Care Protocol**  
**5 activities in a 24- hour cycle**

**WEBSITE**

Sonicare – 2.5 minutes per arch, start lingual  
 Braun Oral B – 2.5 mins. per arch, start lingual  
 Sensodyne disclosing solution prior to cleaning  
 Dental Tape (Glide)  
 Interdental Sticks and/appropriate Interdental Brush  
 “the biggest thing you can **shove** into the embrasure space, except 6-11” “anticipate embrasure space opening as tissue shrinks”  
 Use of gauze or a baby's wash cloth for gingival massage/debridement.

**Carwash - Detailing**

**Disease control**

Colin Richman DMD; www.integrateddentalseminars.net

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Enhance oral hygiene efficiency for long-term success.  
 Otherwise, dentistry has a **POOR** prognosis!

**Same for Implants**



**Lactona Interdental Sticks/Brushes: 888/522-8662**

Colin Richman DMD; www.integrateddentalseminars.net

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Lab. to make cleansable restorations  
 Wide embrasure spaces  
 Long term predictable success



**Teeth + Implants.**

**Disease control**

Colin Richman DMD; www.integrateddentalseminars.net

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**Form + Function**



Tension: **Esthetics** (Immediate/ short term, wants/needs vs. **Cleansability** (long term predictability) vs. **Food Impaction** (patient)



Colin Richman DMD: [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net) Disease control 70

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**Eastman Interdental Bleeding Index - EIBI**

**Lactona Interdental Sticks/Brushes: KleenTeeth.**



Colin Richman DMD: [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net) Disease control 71

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**Oral hygiene products. Search Amazon.com Richman's preferences, minimal supporting data.**

- o Picksters, size 4, Size 5 or Size 6 or
- o TePe Interdental Brushes, Size 5 or 6.
- o Para Pointed Wooden Toothpicks. 12 pack.
- o Baby's washcloth or 4x4 unfilled gauze pads
- o Braun Oral B double headed brush.
- o Oral B Satin Dental Tape or
- o Amazon basics dental flossers, adult.
- o Amazon kids flossers.
- o Paradontax toothpaste and rinse.
- o Para triple headed toothbrush.



Education Videos



Colin Richman DMD: [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net) 72

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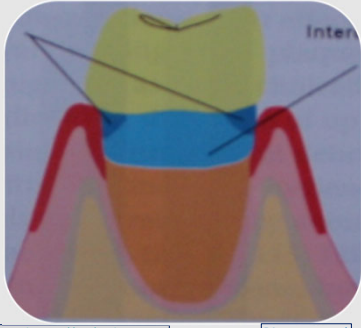
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|   |   |
|---|---|
| Tooth brushes<br><1.5 mm<br>Sub-gingival penetration  |  |
| ID brush/floss<br><3.5 mm<br>Sub-gingival penetration |   |

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|   |   |
|---|---|
| Floss Limitations   | Fractured Calculus. Lee Sheldon DDS   |
|   |   |
|  |  |

Disease control 74

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|  |   |
|--|---|
| Human Learning – Benjamin Franklin   |  |
| How about an immediate load implant placement into this patient?                 |   |
| Tell me and I forget!<br>Teach me and I may remember!<br>Involve me and I Learn! |   |

Disease control 75

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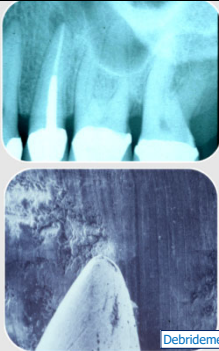
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Limitations of SRP

- Furcation defects
- Over-contoured restorations
- Angular bony defect
- Deep sub-gingival calculus
- Previously burnished calculus



Debridement

Colin Richman DMD; [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net)

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Root Proximity, Physical Access



Debridement

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Time Constraints



Debridement

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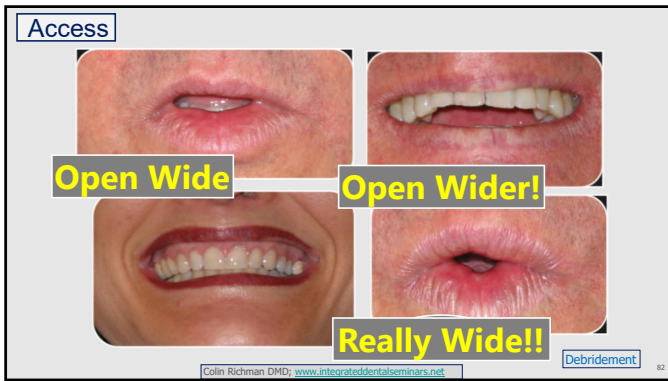
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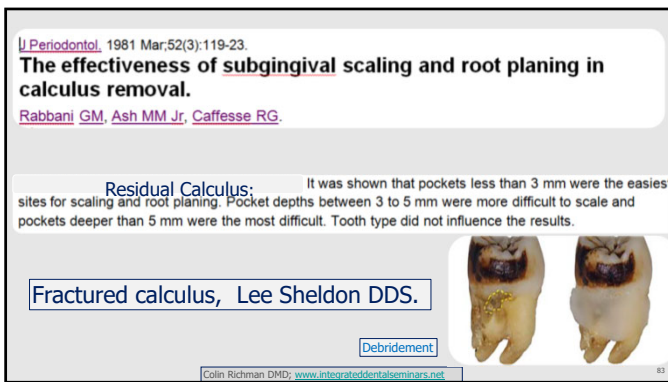
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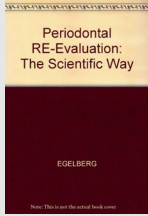
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Periodontal  
RE-Evaluation:  
The Scientific Way  
EGELBERG

Full mouth charting  
Probing depths,  
Furcations,  
Mobility,  
BOP  
Suppuration

Ideal, 6 weeks.

Colin Richman DMD; [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net) Debridement 85

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**With appropriate treatment anticipate**

Decreased inflammation pain,  
tenderness, swelling,  
Less mobility  
Elimination of halitosis  
Enhanced esthetics  
*Enhanced dental longevity/predictability*

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**6 weeks following efficient SRP**

Pockets 4-6 mm – 1 mm reduction  
Pockets 7-12 mm – 2 mm reduction  
50% due to resolution of gingival edema +  
marginal recession  
50% due to gain of soft tissue attachment apex  
of the pocket



(Short Term Effects of Initial Periodontal Therapy – Hammerlee (91); Ramfjord (80, 91)  
Cobb Lit review 2002, 4-6mm pockets -1.3mm -1mm greater for >7mm PD

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**JADA**  
The Journal of the American Dental Association

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Previous Article July 2019 Volume 146, Issue 7, Pages 508-524 Next Article

Systematic review and meta-analysis on the nonsurgical treatment of chronic periodontitis by means of scaling and root planing with or without adjuncts

**LDA ???**

**Chemo-therapeutics**  
Arestin, Atridox,  
Periochip, Periostat

Colin Richman DMD; [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net)

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**Disease Masking: A Hazard of Nonsurgical Periodontal Therapy**

**Henry Greenwell, DMD, JD, MSD**  
Associate Professor and Director of Graduate Periodontics, University of Louisville, Louisville, Kentucky

**Nabil F. Bissada, DDS, MSD**  
Professor, Chairman, and Director of Graduate Periodontics, Case Western Reserve University, Cleveland, Ohio

**John R. Dodge, DMD, MS**  
Private Practice, Boulder, Colorado

**End Point of Treatment with LDA's?**

Debridement

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**Study 2**

Gain clinical attachment  
0.5 mm <50% patients  
Atridox - Arestin

**>70% >3 mm CAL**  
**>70% of patients**  
**Regenerative Agents**

Debridement

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Evidence. Treatment plan in the 4<sup>th</sup> dimension

Meta analyses  
Systematic reviews.

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AAP guidelines: Management of PDD

“If results of initial therapy do not resolve the periodontal condition,  
**Enhanced Root Surface Debridement (ERSD) +  
Pocket Reduction Therapy (PRT)**  
must be considered to correct anatomic defects”

*J Perio. Sept 2006. J Perio; Supp to Vol. 71, #5, May 2000*

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# PROGRAM

Fundamentals  
Examination, Diagnosis and Treatment Planning  
**Therapeutic Considerations**  
Disease Control  
**Enhanced Root Surface Debridement (ERSD)  
and Pocket Reduction Therapy (PRT)**  
Maintenance Periodontal Therapy  
Discussion

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- Type (Grade) 3 and 4 cases, the majority of time, require **advanced periodontal care**, beyond Scaling and Root Planning.
- Objectives, ERSD, PRT

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ERSD - PRT

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**ERSD - PRT. Predictability**

18. Hirschfeld L, Wasserman B. tooth loss in 600 treated patients. *Periodontol* 1978;49:225-237.

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25. Goldman MJ, Ross IF, Goleiser D. Effect of periodontal therapy on patients maintained for 15 years or longer. A retrospective study. *J Periodontol* 1986;57:347-353.

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Hundreds more on Pubmed or Google Scholar.

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**An Evidence-Based Scoring Index to Determine the Periodontal Prognosis on Molars**

Preston D, Miller Jr,\* Mark L, McEntire,\* Nicole M, Marlow,† and Robert G. Gellin\*

816 Molars, first/second  
102 patients  
Moderate to severe periodontitis

**Age/Smoking/Mobility/A1C  
Furcation/Molar type/ PD**

15 - 40 years

J Perio. Feb. 2014; Vol. 85; No2, 214-225

COLIN RICHMAN DMD; www.integrateddentalseminars.net

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Miller McEntire Periodontal Prognosis Index

Your goal is a score of < 5

| Factor            | # | # | # | # | Score | 15 Year | 30 Year |
|-------------------|---|---|---|---|-------|---------|---------|
| Fracture          |   |   |   |   | 1     | 95%     | 94%     |
| Diabetes          |   |   |   |   | 2     | 95%     | 93%     |
| Mobility          |   |   |   |   | 3     | 95%     | 89%     |
| Probing Depth     |   |   |   |   | 4     | 95%     | 85%     |
| Molar Type        |   |   |   |   | 5     | 93%     | 80%     |
| Smoking           |   |   |   |   | 6     | 90%     | 74%     |
| Age               |   |   |   |   | 7     | 86%     | 65%     |
| TOTAL             |   |   |   |   | 8     | 81%     | 56%     |
| 15 Year Prognosis |   |   |   |   | 9     | 73%     | 45%     |
| 30 Year Prognosis |   |   |   |   | 10    | 67%     | 33%     |
|                   |   |   |   |   | 11    | 53%     | 22%     |

Statistically, a score under 4.5 means you should never lose a tooth to periodontal disease

Smoking increases your chance of losing teeth to periodontal disease by 246%

| Fracture | ATC Levels    | Mobility | Probing (mm) | Molar Type  | Smoking        | Age        |
|----------|---------------|----------|--------------|-------------|----------------|------------|
| None = 0 | < 6 = 0       | None = 0 | < 5 = 0      | Max 1st = 0 | Non-smoker = 0 | 1 - 39 = 0 |
| 1 = 1    | 6.1 - 7.0 = 1 | 1 = 1    | 5 - 7 = 1    | Max 1st = 1 | Smoker = 4     | > 40 = 1   |
| 2 = 2    | 7.1 - 8.0 = 2 | 2 = 2    | 8 - 10 = 2   | Max 2nd = 2 |                |            |
| 3 = 3    | 8.1 - 9.0 = 3 | 3 = 3    | > 10 = 3     |             |                |            |
| T = 3    | > 9.1 = 4     |          |              |             |                |            |

Keys to Success:

- Brush, floss, clean your teeth and tongue daily
- Complete recommended treatment
- Adhere to the recommended maintenance schedule
- Control your blood sugar (if diabetic)
- Stop smoking or at least cut back to under 5/day

Fig. 1.1 MMPP (Miller, Levine, Fava 2017)

Colin Richman DMD; [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net)

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survival rates ranged from 98% to 96%.

middle scores (scores 4-6), the 15-year survival rates ranged from 95% to 90%, and, for molars with higher scores (scores 7-10), the survival rates ranged from 86% to 67%.

**An Evidenced-Based Scoring Index to Determine the Periodontal Prognosis on Molars**

Preston D. Miller Jr.,\* Mark L. McEntire,\* Nicole M. Marlow,<sup>†</sup> and Robert G. Gellin\*

Colin Richman DMD; [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net)

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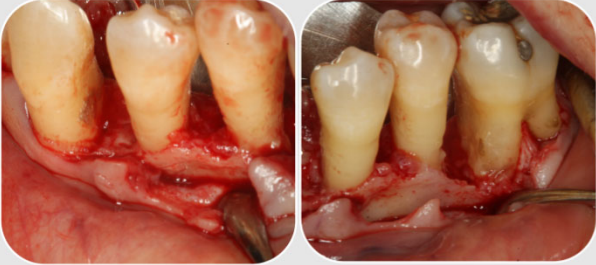
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Fractured calculus following scaling and root planning.

Lee Sheldon DDS.



Colin Richman DMD; [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net) ERSD - PRT

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**The effectiveness of subgingival scaling and root planing in calculus removal**  
AP, Reynolds, M, et al. Journal of periodontology, 1997; 68(7): 607-610  
 The effectiveness of subgingival scaling and root planing in removing plaque and root surface deposits...  
© 1997, AP, Reynolds, M, et al.

**Scaling and root planing effectiveness: the effect of root surface access and severity of periodontitis**  
AP, Reynolds, M, et al. Journal of periodontology, 1997; 68(7): 607-610  
 The study evaluated the effectiveness of scaling and root planing in a class III case...  
© 1997, AP, Reynolds, M, et al.

**The clinical effectiveness of open versus closed scaling and root planing on tooth root surface**  
AP, Reynolds, M, et al. Journal of periodontology, 1997; 68(7): 607-610  
 The study evaluated the effectiveness of scaling and root planing in a class III case...  
© 1997, AP, Reynolds, M, et al.

**Scaling and root planing vs. conservative surgery in the treatment of chronic periodontitis**  
AP, Reynolds, M, et al. Journal of periodontology, 1997; 68(7): 607-610  
 The purpose of this study was to compare the effectiveness of scaling and root planing...  
© 1997, AP, Reynolds, M, et al.

**The effectiveness of scaling and root planing with curets designed for deep pockets**  
AP, Reynolds, M, et al. Journal of periodontology, 1997; 68(7): 607-610  
 A study was conducted to evaluate the effectiveness of scaling and root planing...  
© 1997, AP, Reynolds, M, et al.

**Effectiveness of scaling and root planing with and without adjunct antibiotic therapy in the treatment of chronic periodontitis among gram-negative and non-gram-negative**  
AP, Reynolds, M, et al. Journal of periodontology, 1997; 68(7): 607-610  
 The purpose of this study was to evaluate the effectiveness of scaling and root planing...  
© 1997, AP, Reynolds, M, et al.

**Effectiveness of systemic antibiotics therapy in combination with scaling and root planing in the treatment of periodontitis: a systematic review**  
AP, Reynolds, M, et al. Journal of periodontology, 1997; 68(7): 607-610  
 The purpose of this review was to evaluate the effectiveness of scaling and root planing...  
© 1997, AP, Reynolds, M, et al.

**Scaling and root planing efficacy in multibovine teeth**  
AP, Reynolds, M, et al. Journal of periodontology, 1997; 68(7): 607-610  
 The purpose of this study was to evaluate the effectiveness of scaling and root planing...  
© 1997, AP, Reynolds, M, et al.

**Grade ¾ cases**  
**Radiographic bone loss**  
**Radiographic calculus**  
**Angular (vertical bony defects)**  
**Radiographic furcation defects**

Colin Richman DMD; [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net)

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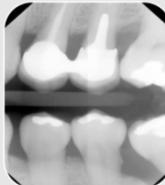


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**Limitations SRP - Deep Pockets - ERSD**

Colin Richman DMD; [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net) ERSD - PRT

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**Root Surface Access**



Colin Richman DMD; [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net) ERSD - PRT

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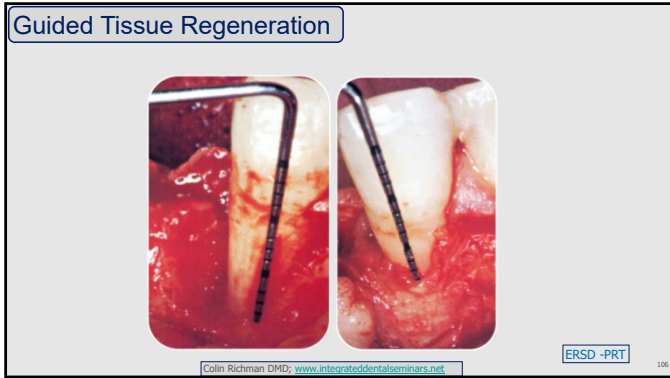
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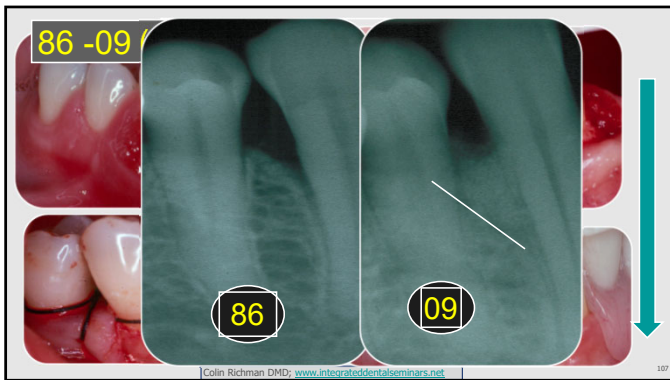
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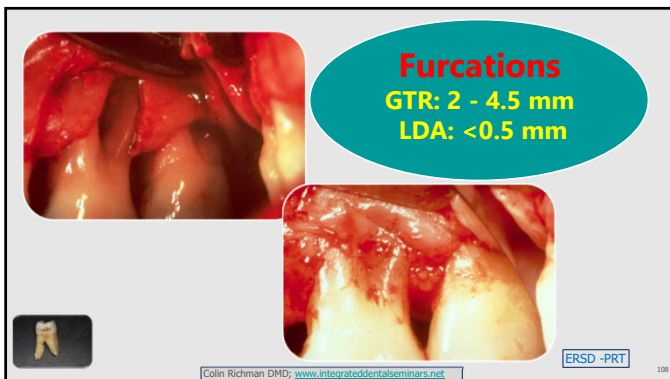
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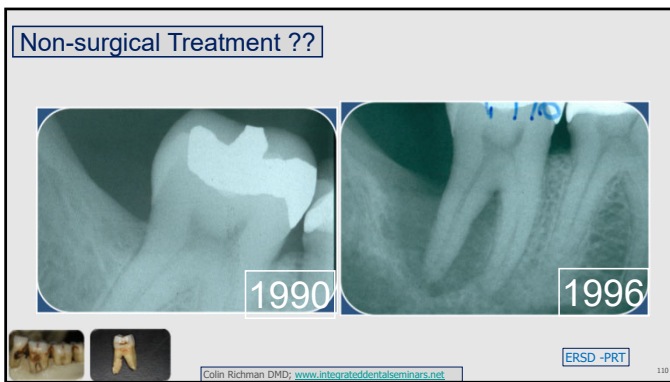
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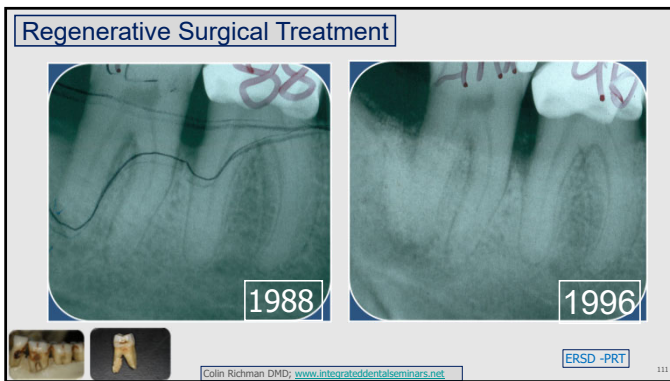
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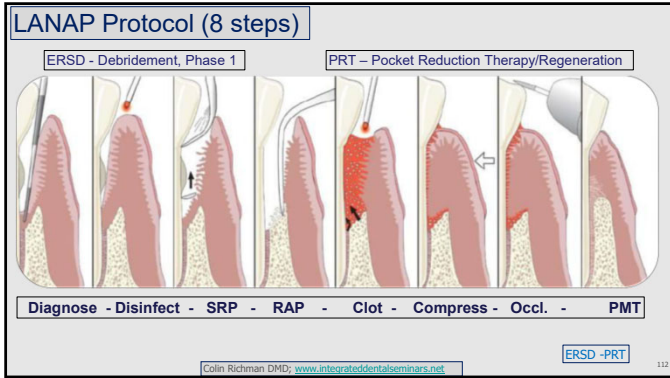
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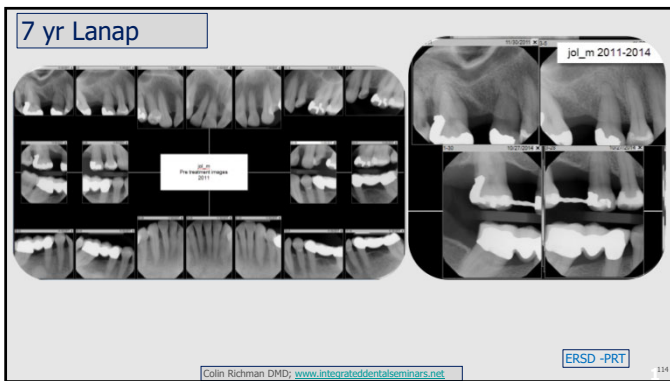
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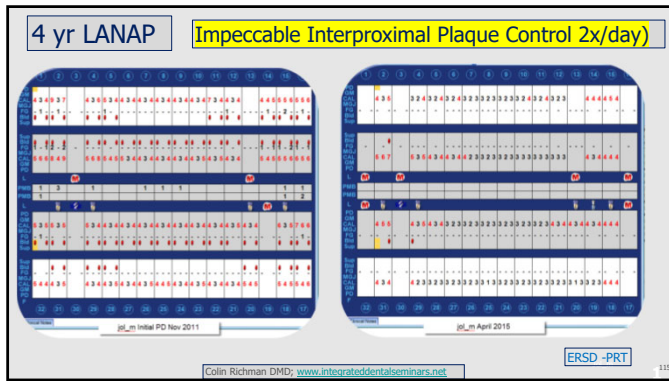
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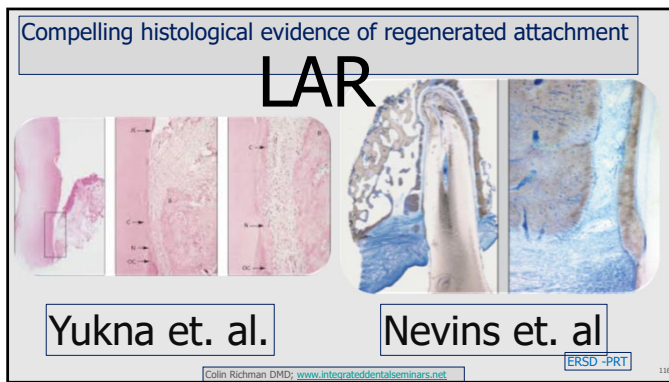
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LASERS IN PERIODONTICS

## Effectiveness of LANAP over time as measured by tooth loss

Lloyd V. Tilt, DDS, MS

107 moderate to advanced periodontitis (Type 3/4)  
Compared with other long-term definitively treated periodontitis patients  
6.7 year follow up  
Equivalent results - tooth loss + periodontal stability  
Reduced post-operative mobility

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Courtesy Dr Lin Kim, Periodontist, California



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ERSD -PRT

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# Relative to Dental Implants.

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**Implant Disease Risk Assessment IDRA—a tool for preventing peri-implant disease**  
<https://doi.org/10.1111/clr.13585>  
 Lisa L.A. Stoltz-Marklin

**History of periodontitis**  
 Enter the % of sites with a history of periodontitis. The history of periodontitis can be evaluated by reviewing the presence of periodontal bone loss on radiographs, or by reviewing periodontitis in 10 percent of teeth have been lost due to periodontitis. The patient may also be able to provide the reason for tooth loss.

**Number of sites with BOP**  
 Enter the number of teeth and implant sites with probing depths of 5 mm or more.

**PD>5mm**  
 Enter the number of teeth and implant sites with probing depths of 5 mm or more.

**% Alveolar bone loss**  
 Enter the % of sites with alveolar bone loss at the worst affected tooth site. The estimation of the loss of alveolar bone is performed in either panoramic radiographs or which the most tooth site affected is given estimated as 1/4 the root length or an oblique radiograph in which the worst site affected is estimated as one. On oblique radiographs 1 mm is considered to equal to 10% bone loss.

**Periodontitis susceptibility**  
 Enter the Stage and Grade according to the 2017 World Workshop on Classification of Periodontal Diseases (see reference Table 1A and 1B).

**Supportive Periodontal Therapy (SPT)**  
 Enter the compliance and supportive care frequency of the patient. Options are Compliance with SPT, local interval 3 months, local interval 6 months, casual periodics no supportive therapy.

**Restorative margin (RM) to bone (mm)**  
 Estimate the distance from the restorative margin of the implant supported prosthesis to the bone crest in mm. This is determined from a radiograph made at the time of restoration. If a radiograph of the time of prosthesis delivery is not possible a radiograph should be taken at the time of examination and risk assessment. If there are multiple implant restorations choose the one with the least distance from the restorative margin to the bone crest.

**Implant Prosthesis**  
 Enter an assessment of prosthesis-related factors. Options are cleanable gear for both supracrestal margins, gear fit with subcrestal margins, recessed cement, not cleanable.

**www.ircohe/IDRA/**

**Your overall risk rating is High**

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### Laser Assisted Peri Implantitis Procedure - LAPIP

3 MILLION implants are placed in the US each year!!  
10% failure rate - 300,000 fixtures going to need LAPIP treatment.

Peer reviewed data indicates the failure rates are much higher—closer to 50%. Peri-mucositis isn't even in the data sets.



**Biology Overrides Technology.**  
**Technology Facilitates Biology.**

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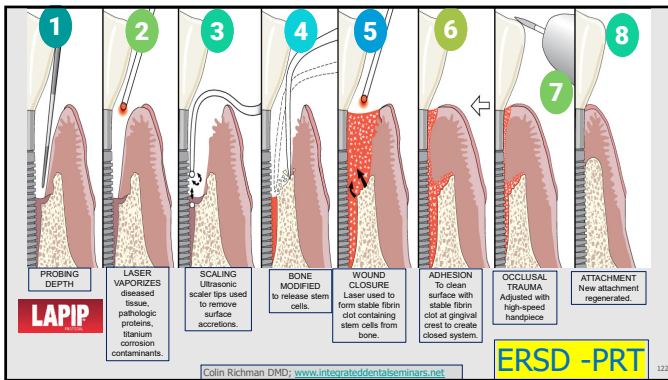
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ERSD -PRT

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### Advantages of LAPIP vs. Flap and Graft (GTR)



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ERSD -PRT

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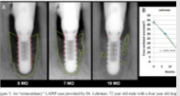
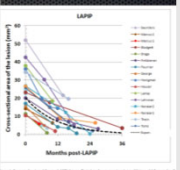
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### The Literature, LAPIP

**Pulsed Nd:YAG Laser Treatment for Failing Dental Implants Due to Peri-implantitis.**

Diana Nicholson<sup>1</sup>, Eric Rhoades<sup>2</sup>, Brenton, OR, Charles Bagg<sup>3</sup>, Newmarket, NH  
 Larry Hochman<sup>4</sup>, Colorado Springs, CO, James Frazier<sup>5</sup>, Seaside Beach, SC  
 John George<sup>6</sup>, Pittsfield, MA, Robert Gregg, III<sup>7</sup>, Alisa Hougum<sup>8</sup>, Gilbert, AZ  
 Bruce Besser<sup>9</sup>, Avondale, AZ, William Lemp<sup>10</sup>, Miami, FL, Neal Lerman<sup>11</sup>, New York, NY  
 Eric Linder<sup>12</sup>, Woodliff Lake, NJ, Dawn McCarthy<sup>13</sup>, Tom McCawley<sup>14</sup>, Ft. Lauderdale, FL  
 Randy McCann<sup>15</sup>, Tulsa, OK, Ed Marano<sup>16</sup>, Vanhook, PA, Kirk Norman<sup>17</sup>, Birmingham, IL  
 Peter Rabjohn<sup>18</sup>, N. Miami Beach, FL, Maurice Sabenz<sup>19</sup>, Atlanta, GA  
 Steve Sandner<sup>20</sup>, Harrisburg, VA, Rochelle Seaman<sup>21</sup>, Honolulu, HI  
 David Thiel<sup>22</sup>, Overland Park, KS, Michael Tuma<sup>23</sup>, Cincinnati, OH, George Vanzo<sup>24</sup>, Agawam, MA,  
 David M. Harari<sup>25</sup>

<sup>1</sup> Institute for Advanced Laser Dentistry, Carlin, CA 95930  
<sup>2</sup> Private Dental Practice  
<sup>3</sup> Bio-Medical Consultants & Associates, Inc., Pasadena CA 91109

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### Laser-Assisted Peri-Implantitis Implant Protocol (LAPIP™)

#### Retrospective Analysis of 222 patients from a Private Practice

General Dentistry | May 2020

- 94% of implants with peri-implantitis saved with the LAPIP protocol
- 11% required 2 treatments
- 7% required 3 treatments
- 6% of implants were removed



Gary Schwarz, DDS | OMS & David Harris, PhD

Colin Richman DMD; [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net)

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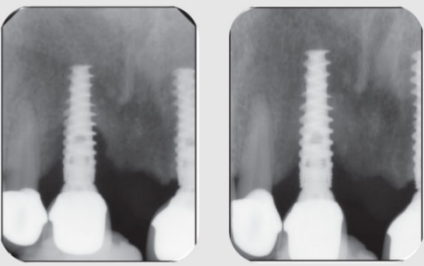
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### Cases- Strauss

**Pre-Op. Bone loss of 7-8mm**      **Post-Op. Bone GAIN 4-5mm**



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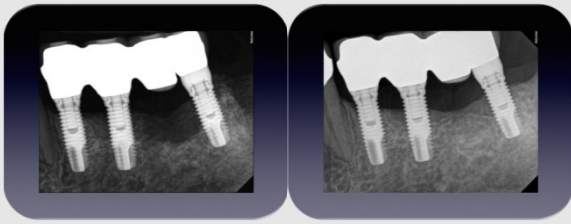
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Dr Neal Lehrman, NY.



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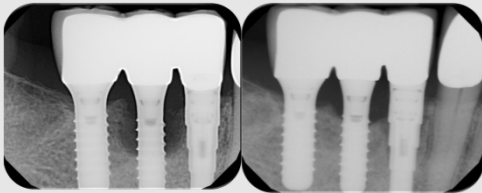
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Dr. Robert Levine



Full mouth LAPIP treated -2014  
 FMX 2018, excellent bone healing in the defect  
 Patient still smokes - compliant every 3 months.

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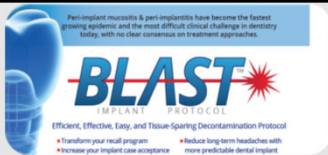
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- Benefits of Laser pocket disinfection or LPD to the patient:
- Bacterial reduction (less is better),
- Reduction of inflammation,
- Inducement of collagen formation (fibrosis),
- Activation of growth factors,
- Nd:YAG laser as a possible adjunctive treatment of oral malodor (halitosis)
- The use of an Nd:YAG laser to treat hypersensitive dentin has a long history of investigation, with published reports dating at least from 1993

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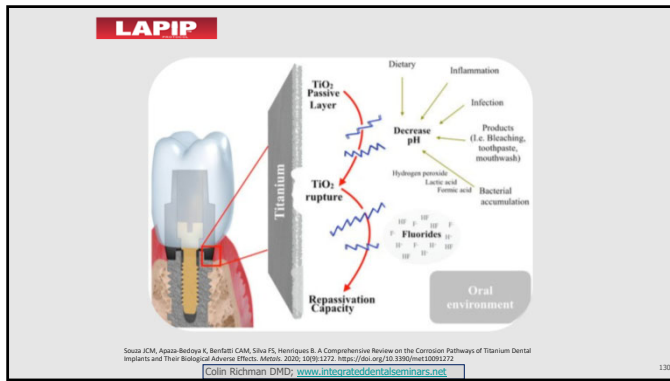
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Mitigating Peri-Implantitis.

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Esthetics vs. Cleansability  
Costs and time and frustration of implant complications  
Frustration, patient disposition  
Interdisciplinary treatment planning  
Experience and surgical training  
Quality and long-term components

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Supra gingival margins, Titanium or Zirconium to enable removal of cement if final restoration is cemented.



Zero Bone Loss Concepts. Tomos Linkevicius

Colin Richman DMD; www.integrateddentalseminars.net

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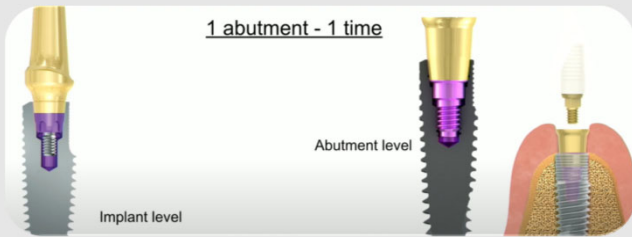
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One Abutment One time.



Zero Bone Loss Concepts. Tomos Linkevicius

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Ceramic polish ability. Note sub-gingival emergence contours



Zero Bone Loss Concepts. Tomos Linkevicius

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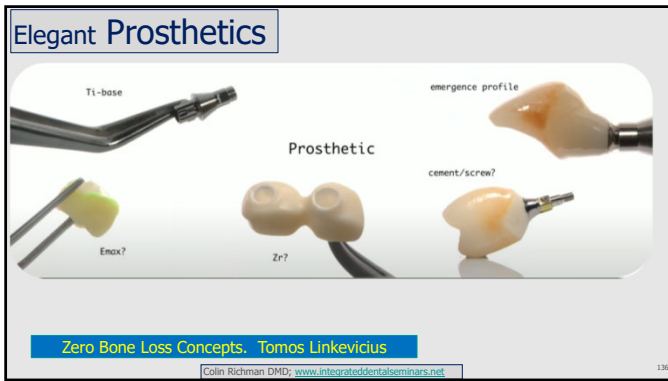
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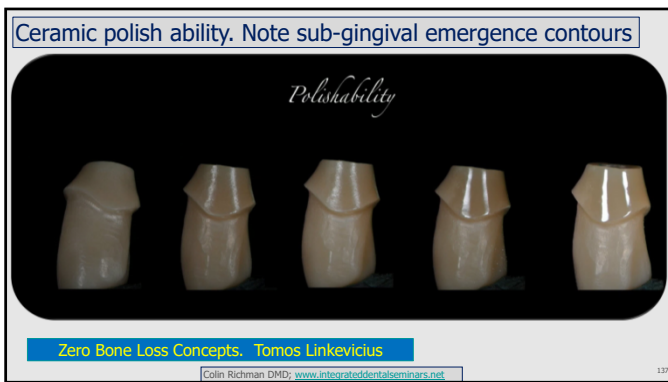
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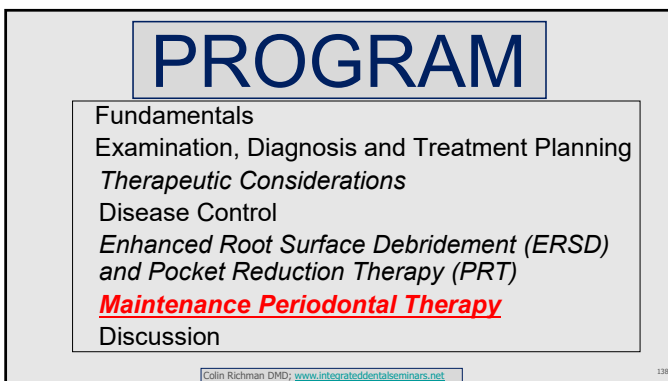
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Periodontal +  
Peri-implant  
Maintenance  
Therapy  
(PMT – PIMT)



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I ask myself, "What went wrong?"



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*Journal of Clinical Periodontology* 1984; 11: 504–514  
Key words: Maintenance care – periodontal disease – periodontal therapy – plaque control.  
Accepted for publication August 10, 1983



**Long-term maintenance of patients treated  
for advanced periodontal disease\***

JAN LINDHE AND STURE NYMAN  
Department of Periodontology, Faculty of Odontology, University of Gothenburg, Gothenburg, Sweden

Colin Richman DMD; [www.integrateddentalseminars.net](http://www.integrateddentalseminars.net) PMT-PIMT 141

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**Key words:**

- Extremely advanced periodontal disease
- 14 years
- 1969 – no regenerative technologies
- SRP +surgical elimination of pathological pockets
- PMT every 3-6 month***
- No age discrimination for success
- Few sites lost most attachment
- 16 teeth lost in 7 patients (61 treated)

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Paradontax / Listerine Toothpaste and Oral Rinse

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Long-term *implant* prognosis in patients with/without a history of chronic periodontitis, 10-year prospective study

History of periodontal disease  
With/without smoking  
>risk of biological complications  
Lower survival rates with implants

***PMT Essential***

Lang et al. Clin Oral Impl Res 2003

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| STAGING   | GRADING   | TREATMENT (MAY INCLUDE)   |
|---|---|---|
| <b>Stage 1. Early</b><br>Gingivitis, and localized Early Periodontitis  | <b>Grade 1.</b><br>Early to moderate risk, good prognosis predicted for all teeth | OHI, OEA, SRP, Re-eval.   |
| <b>Stage 2. Moderate</b><br>Localized or Generalized Early to moderate Periodontitis. Dentition mostly intact | <b>Grade 2.</b><br>Moderate risk, good prognosis predicted for most teeth         | OHI, OEA, SRP. Possible Localized PRT and/or Localized LANAP/GTR. |
| <b>Stage 3. Severe</b><br>Localized or Generalized Moderate to severe Periodontitis. Dentition mostly intact  | <b>Grade 3.</b><br>High risk. Prognosis may be guarded to poor for some teeth.    | OHI, OEA, SRP, Re-eval, PRT, LANAP, GTR                           |
| <b>Stage 4. Advanced</b><br>Localized or Generalized Includes missing teeth and at risk                       |   | OHI, OEA, SRP, Re-eval, PRT, LANAP, GTR                           |

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## In conclusion

- Fundamentals
- Examination, Diagnosis and Treatment Planning
- Therapeutic Considerations*
- Disease Control
- Enhanced Root Surface Debridement (ERSD) and Pocket Reduction Therapy (PRT)*
- Maintenance Periodontal Therapy
- Discussion

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### Take Home Message – 4 Themes ‘Periodontitis, the Disease’

- Infection - Inflammation 
- Multi-rooted teeth 
- Plaque control is essential 
- Interdental disease 

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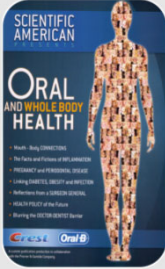
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**Perio-Systemic Links**



Every organ system in the body is negatively impacted by inflammation. Periodontitis is a major contributor to systemic inflammation. Incriminating data continue to appear!

**Heart  
Lungs  
Vessels  
Bacteremia  
Pregnancy  
Stroke  
Brachial Artery  
Dementia  
R. arthritis**

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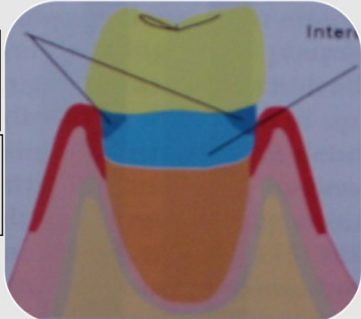
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**Tooth brushes <1.5 mm Sub-gingival penetration**

**ID brush/floss <3.5 mm Sub-gingival penetration**



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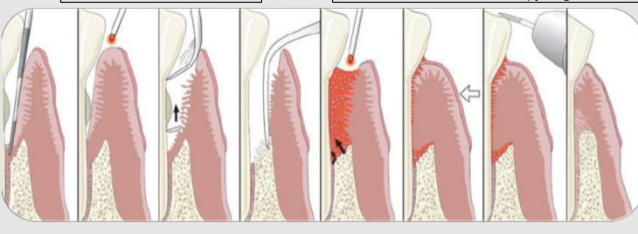
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**ERSD - Debridement, Phase 1**

**PRT - Pocket Reduction Therapy/Regeneration**



**Perioscopy  
LANAP  
Flap surgery**

**LANAP  
Flap surgery  
Resect/ Regenerate**

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Journal of Clinical Periodontology  
Early View  
Online Version of Record before inclusion in an issue

ORIGINAL ARTICLE

**Wide Restorative Emergence Angle Increases Marginal Bone Loss and Impairs Integrity of the Junctional Epithelium of the Implant Supracrestal Complex: A Preclinical Study**

Franz J. Strauss, Jin-Young Park, Jung-Seok Lee, Lucia Schiavon, Rawen Smirani, Sonja Hitz, Jennifer G. M. Chantler, Nikos Mattheos, Ronald Jung, Dieter Bosshart, Jae-Kook Cha, Daniel Thoma

Version of Record online: 09 October 2024

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19. Fardal O, Johannessen AC, Linden GJ. Tooth loss during maintenance following periodontal treatment in a periodontal practice in Norway. *J Clin Periodontol* 2004;31:550-555.

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Courtesy Dr Lin Kim Periodontist, California

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Perio- Plastic Surgery  
Surgically Facilitated  
Orthodontic  
Treatment (SFOT)  
Etc. Etc.



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'Passionately Striving for Excellence in  
Comprehensive/Interdisciplinary Dental  
Care'



Evaluation Sheet

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**COLIN RICHMAN**  
Periodontal Tissue Bio-engineer  
Diplomate, American Board of Periodontology

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richmancs@gmail.com

**Alveolar Bone Monger.** We deal in New and Used Bone.  
**Foundations Built to Last!** Human Porcine, Equine, Bovine.  
**Guaranteed Termite Free.**

Teeth with Moderate to Advanced Periodontal Disease can, most of the time be SAVED with Predictable Periodontal Therapy, including **ERSD and PRT**. These patients are at a much greater risk for Implant Disease, than the patient losing teeth from advanced caries and failing tooth reconstruction.  
**PERIODONTISTS PREDICTABLY SAVE TEETH!**

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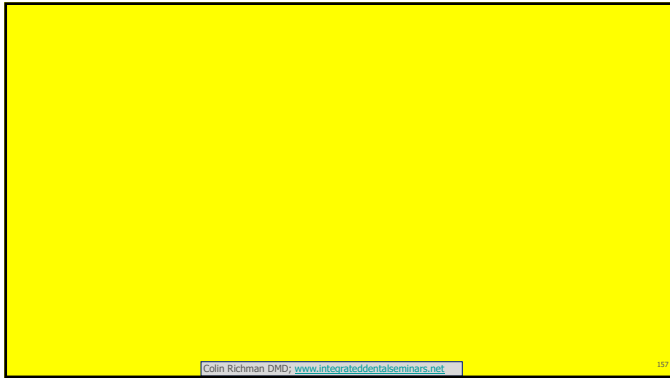
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