Maintenance in the Periodontally Compromised Patient

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Charlotte Dental Hygiene Study Club
Periodontal Maintenance for Natural Teeth and Implants
What is Periodontal Maintenance?

- **Professional interventions that:**
  - Occur after active periodontal therapy (i.e. non-surgical, antimicrobial, surgical)
  - Include disruption of biofilm via scaling and polishing
  - Include review of plaque control efficiency and effectiveness
  - Include assessment of risk for future disease activity
Therapeutic Goals of Periodontal Maintenance?

- Prevent or minimize recurrence or progression of disease in patients previously treated for gingivitis or periodontitis.
- Prevent or reduce the incidence of tooth or implant loss by monitoring the dentition and prosthetic replacements of the natural teeth.
- Increase the probability of locating and treating other conditions or diseases found within the oral cavity in a timely manner.
Key Points

- **Periodic measurement** of clinical and radiographic parameters is necessary to determine when disease activity and periodontal destruction are occurring.

- **Compliance** is essential for gingival health.

- The clinician should design a specific prevention program for each patient, taking into consideration individual variations such as risk factors and architectural variations.
Different maintenance intervals are necessary based on susceptibility patterns and compliance.

Prior to re-treatment, the clinician should determine which risk factors are responsible for failure and should modify the treatment plan accordingly.
Periodic measurement of clinical and radiographic parameters is necessary to determine when disease activity and periodontal destruction are occurring.
Periodontal examination and recording of results

- Probing depths
- Bleeding on probing
- General levels of plaque and calculus
- Exudates
- Microbial testing, if indicated
- Gingival recession
- Attachment levels, if indicated
Assessment

- Examination of dental implants and peri-implant tissues and recording of results
  - Probing depths
  - Bleeding on probing
  - Examination of prosthesis/abutment components
  - Evaluation of implant stability
  - Occlusal examination
  - Other signs and symptoms of disease activity - i.e. pain, suppuration
Radiographic Examination

Radiographs should be current and of diagnostic quality. Vertical bitewings and/or PAs may be necessary to properly view interproximal bone levels.

The judgment of the clinician and the level of disease severity and progression may help to determine the need, frequency, and number of radiographs.
Assessment

- Assessment of disease status or changes by reviewing the clinical and radiographic examination findings compared to baseline or previous examinations.

- Assessment of personal oral hygiene.
The importance of site-by-site assessment of oral hygiene
Key Point #2

Compliance is essential for gingival health

- COMPLIANCE with oral hygiene regimen
- COMPLIANCE with periodontal maintenance interval
- COMPLIANCE with controlling local and systemic risk factors
The clinician should design a specific prevention program for each patient, taking into consideration individual variations such as risk factors and architectural variations.
Tried and True
Individual maintenance intervals are necessary based on risk factors, susceptibility patterns and compliance.
Prior to RE-TREATMENT, the clinician should determine which risk factors are responsible for failure and modify the treatment plan accordingly.
Recurrent vs. Refractory Periodontitis
Examples of Local and Systemic Risk Factors
...and it’s bad for your gums as well!!!
Slide courtesy of Francis G. Serio, DMD, MS, MBA
Slide courtesy of Brian L. Mealey, DDS, MS
Stress May Alter the Immune Response
Other Systemic Risk Factors

- Medications
  - Antihypertensives (Ca Channel Blockers)
  - Immunosuppressants (Imuran)
Local Factors

- Restorations
  - Marginal discrepancies
  - Overhangs

- Caries
  - Interproximal decay
  - ROOT CARIES
Remember: Assess and Address the Risk Factors!!!
Treatment Protocol for the Periodontal Maintenance Appointment
Treatment

- Oral cancer screening

- Removal of supragingival and subgingival plaque and calculus

- Behavior modification
  - Oral hygiene reinstruction
  - Adherence to suggested PM intervals
  - Counseling on control of risk factors- i.e. smoking cessation, diabetic control
Selective scaling and root planing as indicated
- Ultrasonic and hand instrumentation

Occlusal adjustment, if indicated

Use of systemic antibiotics, local antimicrobial agents, or irrigation procedures, as indicated

Root desensitization, if indicated

Surgical therapy or reinstitution of active therapy
Adjunctive Therapies

- Systemic Antibiotics
  - Low dose doxycyclines

- Locally Delivered Antibiotics
  - Arestin™
Systemic Antibiotics

- Tetracyclines
  - Doxycycline
  - Minocycline
  - Metronidazole
  - Ciprofloxacin
  - Penicillin
  - Amoxicillin
  - Amoxicillin / Clavulanate
  - Clindamycin

- Erythromycin
- Spiramycin
- Ofloacin

- Combination Therapy
  - Metronidazole + Amoxicillin
  - Metronidazole + Tetracycline
  - Metronidazole + Spiramycin
  - Amoxicillin + Doxycycline
Low Dose Doxycycline

- PERIOSTAT®
  (doxycycline hyclate)
  20 mg capsules
Summary

- Certain patients possess non-microbial risk factors which are difficult to reduce or eliminate (e.g., smoking, diabetes) or are beyond the clinician’s ability to control (e.g., genetic predisposition)

- The use of host modulatory therapy in conjunction with scaling and root planing may prove to be advantageous.

Research, Science, and Therapy Committee of the AAP 2002
Journal of Periodontology 73;460-470.
Low Dose Doxycycline (LDD)

- Periostat™ acts as an Enzyme Suppressor

- Studies show that doxycycline hyclate 20 mg bid has no antimicrobial action
- No change in bacterial flora after 18 months
- No induction of resistance after 18 months
Summary

Pocket Depth Reduction

- 0.48mm improvement with scaling and root planing AND Periostat vs. 0.26mm improvement with scaling and root planing alone

Attachment Level Gain

- 0.38mm improvement with scaling and root planing AND Periostat vs. 0.17mm improvement with scaling and root planing alone
Locally Delivered Antimicrobials

Objectives

- Deliver antimicrobial agent directly to site of infection
- Achieve adequate therapeutic concentration; therefore, reducing levels of pathogenic bacteria
- Maintain therapeutic levels over time
Locally Delivered Antimicrobials

Scaling and Root Planing

- Highly effective in the treatment of chronic periodontitis
- The standard approach to non-surgical periodontal therapy.

J Periodontol 2006
Indications-

- When localized recurrent and/or residual PD $\geq 5\text{m}$ with inflammation is still present following conventional therapies

J Periodontol 2006
Locally Delivered Antimicrobials

**Not indicated:-**

- Multiple sites with PD ≥5 mm exist in the same quadrant
- The use of LDAs has failed to control periodontitis (e.g., reduction of PD)
- Anatomical defects are present (e.g., intrabony defects)
Implant Instrumentation
Implant Instrumentation

- Plastic, metal, air-powder abrasives, or polishing with a rubber cup

- How effective are these instruments?
- What instruments best clean the implant without damaging it?
- Do scratches or pits caused by cleaning the implant lead to enhanced plaque accumulation and/or implant failure?
Communication

- Informing the patient of current status and the need for additional treatment, if necessary
- Consultation with other health care practitioners as needed
Treatment

- When to consider referral?
- What information is important when referring?
Setting the Maintenance Interval
PM Practice Patterns

- Frequent PM visits (< 3 months) may be necessary for the hard-to-control patient

- Alternate PM appointments between periodontist and GP

- Non-alternating PM with periodontist in refractory or more severe cases

- Periodic restorative exams with general dentist
Communication is critical between therapists and among the therapists and patient
Types of Maintenance

- Preventive- Performed in healthy patients to prevent disease onset
- Trial- To maintain borderline conditions while assessing the need for corrective therapy (e.g. furcation defects, pockets, awaiting restorative plan, time constraints, financial limitations)
- Compromised- Intended to slow progression of disease in patients unable to undergo corrective therapy
- Post-Treatment- Aimed to prevent recurrent disease and maintain improvements and health achieved during therapy

Schallhorn, 1981
**Periostat Prescribing Information**

- **Dosage** – one 20 mg capsule twice a day

- **Duration of therapy** – based upon clinician’s judgement of patient’s risk for further breakdown

- Efficacy data supports min 3 mo, max 9 mo continuous use; safety data supports up to 12 mo continuous use

- **Periostat®** is a 20 mg form of doxycycline hyclate. Traditional tetracycline contraindications, precautions and warnings must be considered prior to its use