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CE Course Handout

Peri-Implant Maintenance

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American
Dental
Hygienists'
Association

Demystifying Dental Implant Maintenance



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AAP Clinical Recommendations 2013:

- Identify risk factors associated with developing peri-implant diseases
- Establish radiographic baseline at time of implant placement and at final prosthesis insertion
- Monitor implant health and determine inflammatory complications as part of regular perio maint. program
- Establish an early diagnosis and intervention

In Office-Steps for Success (Susan Wingrove's book-*Peri-Implant Therapy for the DH*)

- Review MDHX
- Assess implant (see below)
- Safe instrumentation based on current research
- Home care review and suggestion

Notes:

➤ **5-Step Protocol:**

- Visual hard and soft tissue assessment
- Probe/palpate for infection
- Assess for calculus and/or retained cement
- Check occlusion and mobility/pain
- Assess bone level
 - Radiograph
 - 3-D Image

➤ Notes:

Peri-Implant mucositis-just like gingivitis, but around implants. Only soft tissue; no bone loss; easily reversible if caught early

Peri-Implantitis- Inflammatory reaction; bone loss; affects soft tissues and supporting bone; usually requires surgical intervention

Peri-Cementitis- peri-implant disease due to retained cement; today's epidemic with implants!

Radiographic Protocol

- 1-4 implants: Vertical BWX for each implant
- 5+ implant: pano or individual vertical BWX for each implant
- Abutment/Implant connection should be a clear line. NO blurry threads
- Take BWX at implant placement, cover screw, restoration, 6-months, 12-months.
- In a mouth w/ONLY implants-
 - No radiographic changes- every 2-3 years
- In a mouth w/teeth and implants
 - Every year
- If signs of pathology, clinical symptoms, mobility, or advanced bone loss
 - Diagnosis & TX should be initiated
 - X-rays every 6 months for one year after cessation

***Wingrove, S. (2013). Peri-Implant Therapy for the Dental Hygienist. Wiley-Blackwell*

Instrument (scaler) Selection

- Titanium
- Plastic/Graphite/Other

Contraindications

- Stainless steel or metal curettes
- Ultrasonic/Sonic scalers not designed for use around implants
- Coarse/abrasive polishing agents
- Acidulated Phosphate Fluoride (APH)-can erode titanium
- Metal tipped subgingival irrigators

-What are the differences? Scaling implant vs. tooth

-*Natural tooth*: instrument blade adapts to the tooth, inserted between the sulcus and side of the tooth to remove the calculus.

-*Implants*: instrument to remove microbial deposits without altering the implant surface or adversely affecting biocompatibility. *

Class I-Implant Maintenance

-Health is present in an ideal relationship between the peri-implant tissues and the restored implant

-Do not actually clean any portion of the implant fixture

-What instruments?

Class II-Implant Maintenance

-Probing depths are 4mm or greater or some moderate peri-implant soft tissue recession has occurred

-What instruments?

Class III-Implant Maintenance

-Significant recession or pocket formation; implant threads exposed; -implant has lost bone support

-What instruments?

Current Literature-2012

The results of this study indicated that changes in or damage to titanium surfaces might be more affected by the hardness of the scaler tip than by the application method. Within the limitations of this study, the newly developed metallic scaler tip might be especially suitable for peri-implant surface decontamination, due to its limited effects on the titanium surface.

*****Key point to remember when deciding about what instrument to use.....**

Look deeper into the research....

(Louropoulou A, Slot DE, Van der Weijden FA. Titanium surface alterations following the use of different mechanical instruments: a systematic review. Clin Oral Implants Res. Published Volume 23, Issue 6, June 2012, Pages: 643–658)

Look deeper into the research...

The flexibility and size of non-metal curettes may prevent their secure/exact placement & application
May result in ineffective plaque removal

Surface alteration may be of secondary concern to plaque removal

*most of the papers reviewed were before most of the current instruments hit market!

Instrumentation on Implants:

- Titanium or Plastic?

“Although the use of a plastic curette did not significantly roughen the implant surface there was concern that some of the plastic material may have been smeared or deposited on the implant surface, perhaps altering the biocompatibility of the titanium surface.”*

(*Dmytryk JJ, Fox SC, Moriarty JD. The effects of scaling titanium implant surfaces with metal and plastic instruments on cell attachment. J of Perio 1990;61:491-496.)

Wide-Based Implants-

-Mainly posterior molar implants

-Use Universal posterior scaler with short horizontal strokes

-do not to harm perimucosal seal

- (Win Titanium B5-6)

Narrow Base Implants-

-Narrow platform used for lower incisors, congenitally missing laterals, and areas with limited horizontal bone.

-Select a longer blade instrument to stretch under the more bulbous-shaped crowns and framework of a high-water bridge or full arch fixed retained prosthesis.

-Short horizontal scaling strokes

-(Win Titanium L3-4)

Specialty areas

-Exposed threads use shorter radius blade tip in side-to-side motion.

-Around ball/under Hader clip bar use short horizontal strokes in sweeping motion.

-Check exposed screw indentations and carefully remove deposits with shorter radius tip.

-Residual cement -Win N128 end short horizontal strokes to dislodge cement

-sweep under the Hader bar to dislodge calculus

Implant Instruments

*new research and new consensus guidelines state “like metals” are key to maintaining biocompatibility on implants TITANIUM is instrument of choice, especially on roughened implant surface/thread

-use short, horizontal strokes!

American Eagle (titanium)

PDT Wingrove™ Titanium Implant Instrument “Go –To” Set

Brasseler Ti Implant Scalers

Safe instrumentation: Ultrasonic Guidelines

Plastic tip can shred on threads. **** Hu-Friedy PI tip-made of PEEK and shown to be safe around implants, autoclavable, will not shred!**

Acteon Titanium Piezo tips-excellent choice for use on implants!

Polishing Agents: nonabrasive is key!

-Toothpaste

-Tin Oxide

-Fine Prophylaxis Pastes (NEXT)

-Soft Cup

-Livionex

Contraindications:

-Stainless Steel instruments

-Ultrasonic or sonic scalers (not specifically for implants)

-Coarse or abrasive polishing pastes

-Acidulated Phosphate Fluoride (APF)

-Low PH pastes/gels/rinses

-Metal tipped subgingival irrigators

-Excessive pressure or trauma to the perimucosal seal, surface of the abutment & implant

Adjuncts

Decontamination w/antiseptic intervention

CHX-alcohol free will NOT corrode titanium abutments!

Sunstar GUM™ Paroex

Chlorine Dioxide (**CloSYS**)

Air Polishers-Glycine Powder!!

-use glycine powder only

-make sure to irrigate w/plain water after

Oral Irrigators

-Irrigate vs. Rinsing w/CHX

-Study conducted to compare rinsing with 0.12% CHX to irrigating with 0.06% CHX

-Irrigation group was 87% more effective in reducing bleeding and 3x more effective in reducing gingivitis than the rinsing group

-Irrigate vs. Floss

-study compared the use of string floss to water floss with implants.

-water flosser reduced bleeding around implants by 81% compared to 33% for flossing 2.46-fold difference

****WaterPik Water Flosser w/special tips***

Varnish by Ivoclar

*Varnish on exposed threads? (Cervitec PLUS)

- Prevention of colonization of *S. aureus* bacteria on exposed threads of implants
- a clear varnish of 1% CHX and 1% thymol
- proven studies on biocompatibility with titanium implants

Regenerative or Resective Surgery-RE-Osseo integration

-Titanium brushes-

-Salvin RotoBrush

-PeriBrush™-Tigran Technologies

-i-Brush by NeoBiotech (stainless steel)

-Emdogain-Straumann®

HOME CARE FOR PATIENTS

Product selection based on:

- Location length, & angulation of abutments
- Suprastructure design
- Anatomical limitations
- Patients habits, motivation & manual dexterity
- Plaque and calculus accumulation
- Patients general health and medications
- Keep it simple!!!

Client Education begins with MOTIVATION!

- We are educators, not just care providers
- We must find a way to *MOTIVATE* our clients
- Without motivation, how can learning occur?

Client Education begins with MOTIVATION!

It begins at the first visit and continues throughout the treatment of the client

The motivation level of your client plays an integral factor in the success or failure of treatment!

****{O'Leary, T., Periodontal Abstr. 1968}**

Oral Hygiene Options-Keep it SIMPLE

Sunstar GUM® Implant Care Kit

Power & Manual Toothbrush

Specialty Floss

Interdental Brush- Sunstar GUM® SoftPicks or Go Between Ultras

Oral Irrigators-**WaterPik has the research to back up their claims!**

CloSYS-stabilized Chlorine Dioxide, alcohol-free, SAFE around implants!

Fluoride and Implants

High FL concentrate and a low PH (acidic) will remove the oxide layer on implants which can make the titanium anti-corrosive. Once this layer is removed then the implant is prone to corrosion. *

PH is Key!

Home Care Recommendation/Protocol for Patients

Implant Type	Oral Home-Care Summary
Single implant, ball/locator attachment, bar-retained implants	Brush twice daily with low-abrasive dentifrice Floss with dental tape once daily (mesial/distal and facial/lingual) If recommended, use, soft pick, sulcabrush and/or proxybrush, non-alcohol antimicrobial rinse, or water irrigation unit.
Full Fixed Prosthesis/Supra Structures (e.g. All-on-4™)	Brush twice daily with low-abrasive dentifrice Floss once daily with threaded floss or implant specific floss Use water irrigation unit, one to two times daily, and on low power. Direct ¼ inch from flat surface, horizontally on low setting to avoid the Per mucosal seal. If inflammation is present add a non-alcohol antimicrobial rinse in 1:10 dilution.
Removable Prosthesis' (e.g. Overdenture)	Soak prosthesis (Overdenture) in specified cleaner for recommended time, brush with denture brush to clean, being careful of underside, and rinse. Check clips or O-rings. If worn or missing, see a dental professional to replace per recommendations.
Implants with Mucositis and/or Implantitis	Follow specific home-care protocol according to prosthesis and add antimicrobial therapy. Use sulcabrush, soft pick, or proxybrush dipped in non-alcohol antimicrobial rinse, soak area of infection twice daily. Re-evaluate in six weeks-possible surgical intervention is necessary.

➤ **Your ACTION PLAN/Notes:**

[illegible]

Classifications of peri-implantitis

Early

PD $\geq 4\text{mm}$ (bleeding and/or suppuration on probing-2 or more sites)

Bone loss $< 25\%$ of implant length*

Moderate

PD $\geq 6\text{mm}$ (bleeding and/or suppuration on probing-2 or more sites)

Bone loss 25-50% of implant length*

Advanced

PD $\geq 8\text{mm}$ (bleeding and/or suppuration on probing-2 or more sites)

Bone loss $> 50\%$ of implant length*

*compare bone loss on x-ray from definitive prosthesis placement to current

Froum, S & Rosen P, 2012. A proposed classification for peri-implantitis. *Int J Perio Rest Dent* 32:533-540.

Health	Mucositis	Implantitis
No bleeding	Possible bleeding	Bleeding present
No exudate	No exudate	Exudate present
Pocket depths $< 4\text{mm}$	Pocket depths $> 4\text{mm}$	Pocket depths $> 5\text{mm}$
No bone loss	No bone loss	$> 2\text{-}3\text{ mm}$ bone loss
4-6 month recare	3-4 month recare	Refer for evaluation

Butler Perio Implant Protocol ©2015