

Never Give Up! Clinical Therapeutic Challenges



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Course Description

Protocols for initial debridement are well established, while the challenge for clinicians is to ensure clients with persistent bleeding points are receiving definitive periodontal therapy. To achieve this, we must continually assess our treatment effectiveness by examining outcomes and addressing its limitation on disease progression. This practical session will help to expand your armamentarium and provide tools and techniques to boost your confidence in making evidence-based decisions on new approaches to deliver and manage “remedial maintenance instrumentation.”

Learning Objectives

- Identify the potential causes for persistent inflammation and bleeding points
- Understand the challenges of morphology
- Develop techniques for detection and removal of burnished calculus
- Identify and utilize an individualized combination of hand, power and subgingival air flow debridement interventions to successfully impact disease

The 4 goals of Non-surgical Periodontal Therapy

- To diminish the bacterial challenge to the client
- Establish an environment that helps prevent reinfection
- To eliminate or modify local environmental risk factors for periodontal disease
- To minimize the impact of systemic risk factors for periodontal disease

Active/Initial/Sanative Therapy Goals

- Restoration of gingival health
- Reduction in pocket depth
- Stabilization of attachment level

Goal of Re-evaluation Appointment

- Probing depths reduced
- Expected healing
- BOP should be absent

Treatment Planning Options

- Managing nonresponsive sites of disease
- Performing additional nonsurgical therapy
- Establishing a program for periodontal maintenance
- Recognizing the need for a surgical intervention

Managing Unresponsive Sites of Disease

- Noting continuing clinical signs of inflammation
- Check for biofilm if found debride and provide self-care motivation and education
- Detected calculus indicates additional debridement
- Consider contributing factors such as smoking/undiagnosed diabetes

Therapeutic goals / bleeding points resources

Gehrig, J. S., & Willmann, D. E. (2016). *Foundations of periodontics for the dental hygienist*. Philadelphia: Wolters Kluwer.

Darby, M. L., Walsh, M. M., & Bowen, D. M. (2015). *Dental hygiene: Theory and practice*. St. Louis, Mo: Elsevier/Saunders.

Fritz, P. (2010, October 1). Oral Decontamination Through Definitive Sanative Therapy: Peace in the Periodontal Regions. Retrieved from <https://www.oralhealthgroup.com/features/oral-decontamination-through-definitive-sanative-therapy-peace-in-the-periodontal-regions/>

Matsuda, S. (2015, February). A New Approach. Retrieved January, 2018, from http://www.dimensionsofdentalhygiene.com/2015/02_February/Features/A_New_Approach.aspx

Osborn, J. (2016, February). Role of the Dental Endoscope in Calculus Detection. Retrieved July, 2018, from <http://www.dimensionsofdentalhygiene.com/print.aspx?id=22770>

Smith, D. (2016, May). Facing the Challenge. Retrieved May, 2018, from <http://www.dimensionsofdentalhygiene.com/print.aspx?id=23255>

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Goal of Maintenance Therapy

- Proactively Protecting, Preserving and Preventing tooth/implant loss

Assessment for Residual Bleeding Points

Persistent perio pocket with bleeding on probing requires further evaluation

Causes may include:

- Residual subgingival calculus
- Unusual morphology
- Root fracture
- Internal or external root resorption
- Root caries

Remedial Instrumentation Maintenance

- Completed initial therapy
- Bleeding points still present
- Adjunctive therapies can help reduce inflammation
- Relapse or persistent bleeding points (delayed bleeding) and signs of inflammation indicate the source is remaining calculus
- Residual or burnished calculus is inhibiting the resolution of the infection
- Bleeding points chart for remedial instrumentation maintenance

Morphology

Maxillary Anterior

- Long concavities, deep at the CEJ
- Laterals- palatal groove that extends sub...monitor closely

Mandibular Anterior

- Long linear concavities, Concavities may be deep
- Narrow oval shape to hourglass shape, root proximity may be an issue
- Especially next to mandibular cuspid
- My fav spot to use a Goldman Fox Hoe 6

Recommended Instruments for Anterior

- 1/2 Barnhart, Younger-Good 7/8
- Columbia 2R/2L, 4R/4L or 1/2 Barnhart Rigid for tenacious calculus
- Gracey 1/2 Variations: Rigid, AF Rigid Mini, Micro-Mini
- Sickles H6/7, Nevi 1,3,4

Maxillary 1st Bicuspid (periodontally fragile)

- Bifurcated, deep linear concavity on M, concavity on D
- Single Root, long mesial longitudinal groove shallow to deep
- Mesial 1/2 Barnhart rotate toe into concavity
- Mesial-Nevi 4 sickle from the lingual to access the M

Mandibular Bicuspid

- Large crown narrow roots, concavities on M/D
- Single rooted as is maxillary 2nd Bicuspid

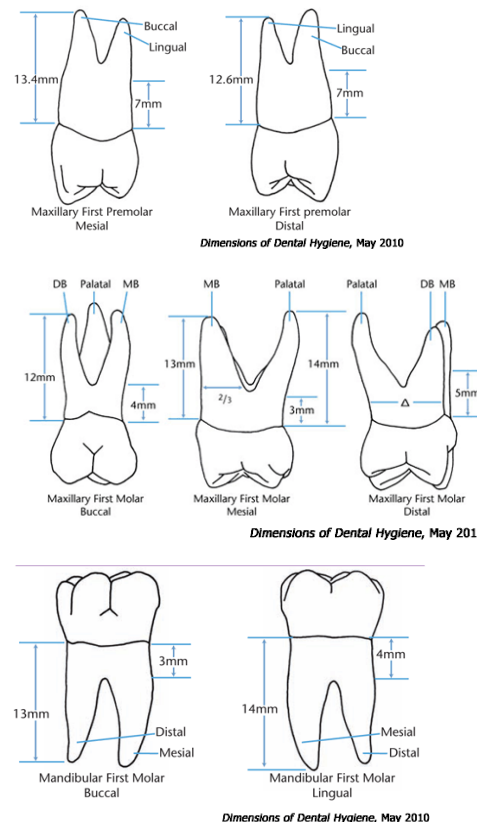
Morphology resources

App Bone Box Dental

Hodges, K. (2014, September). ANTERIOR INSTRUMENTATION. Retrieved June, 2018, from http://www.dimensionsofdentalhygiene.com/2014/09_September/Features/Anterior_Instrumentation.aspx

Kiehl, N. (2012, November). Instrumenting Periodontally Involved Anterior Teeth. Retrieved June, 2018, from http://www.dimensionsofdentalhygiene.com/2012/11_November/Features/Instrumenting_Periodontally_Involved_Anterior_Teeth.aspx

Hodges, K. (2017, November). Instrument Selection for Premolar Teeth. Retrieved January, 2018, from http://www.dimensionsofdentalhygiene.com/2017/11_November/Features/Instrument_Selection_for_Premolar_Teeth.aspx



Recommended Instruments for Premolars

- 1/2 Barnhart (Rigid for tenacious deposits) or Younger-Good 7/8
- Columbia 2R/2L
- Gracey 5/6, 7/8 (facial and lingual) AF Mini, Micro-Mini with shanks standard, rigid and extended rigid

Maxillary Molars

- Concavities on mesial & distal, extending from furc to cervical
- Mesial furc is more toward the lingual
- Distal furc more centered
- On the mesial of 1st molar deepest concavity rotate toe in
- Goldman-Fox Hoe 6 excellent distal line angle and palatal root (5)

Mandibular Molar

- Bifurcated, narrow furcas (challenging to instrument)
- 1st for furc involvement
- Deep concavity on the root facial and lingual from root trunk extends into the furcation
- Mesial root is wide and has a shallow concavity

Recommended Instruments for Molars

- Columbia 4R/4L, Barnhart 1/2 and 5/6 moderate to fine calculus
- Columbia, Barnhart 1/2 Rigid, Barnhart 5/6 Rigid for large tenacious
- Root proximity Bates 13/14
- Gracey rigids 11/12 & 13/14 or
- Gracey 11/14 ,12/13 for sextant positioning
- 13/14 backwards to come up mesial using the toe down technique and the same on the distal
- 11/12 use the opposite end on the distal

Techniques for detection and removal of burnished calculus

Where We Leave Calculus

- In deep pockets
- Furcation
- Around complex dentistry
- Our opposite operating side
- Line Angles
- Difficult morphology

Causes for Burnished Calculus

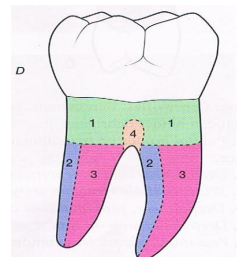
Knowledge Translation

- Morphology
- Signs of inflammation
- Treatment Planning

Armamentarium & Technique

- Ultrasonic
 - Power is low
 - Stroke is fast
 - Round tip
- Hand Instruments
 - Worn or dull
 - Grasp, pressure, angulation
 - Depth of stroke

How to work a furc



picture from resource below
Gehrig, J. S., Sroda, R., & Saccuzzo, D. (2017). *Fundamentals of periodontal instrumentation & advanced root instrumentation* (Eighth ed., Chapter 18-21). Philadelphia: Wolters Kluwer.

Sharuga, C. (2010, May). Furcation Anatomy. Retrieved May, 2018, from http://www.dimensionsofdentalhygiene.com/2010/05_may/features/furcation_anatomy.aspx

Hodges, K. (2018, May). Hand Instrumentation of First Molars. Retrieved June, 2018, from http://www.dimensionsofdentalhygiene.com/2018/05_May/Features/Hand_Instrumentation_of_First_Molar_Teeth.aspx

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Remedial Instrumentation Maintenance-Planning

- Tracking BOP
- Educating our clients on the need for RIM
- Detecting
- Implementing site remedial instrumentation
- Educating and encouraging selfcare and re-evaluating for healing

Remedial Instrumentation Kit

Detecting Burnished Calculus

- Magnification/light
- Explorer 11/12 AF or 3A
- Air /Water Syringe
- Removal of biofilm

Technique

- Rotate the tip of the explorer
- Using the sharp tip
- Relaxed grasp with moderate pressure
- Vertical strokes

Best Technique for Instrumentation of Burnished Calculus

Sequence

1. Fracture with Hirschfeld file
 - a. Pull stroke perpendicular to the blades
2. Sickles used to crush and fracture
3. Universal curettes-to debride calculus and pathogenic material
4. Specific-areas curettes
5. Finishing: diamond files, ultrasonics and Air Flow
6. Re-evaluate with explorer

Stroke

- 1mm channels
- Short, firm, powerful and overlapping
- Vertical, oblique horizontal directions

Remedial Instrument Kit for the removal of burnished calculus

Hirschfeld files

- 3/7 Buccal/Lingual 5/11 Mesial/Distal

Activated in a pull stroke -short and directed into the calculus

Feature	Purpose	Outcome
Multi cutting edges Angulations' of cutting edges is 90-105 degree to the shank	Supra or sub where tissue allows Entire blade must be adapted to avoid gouging	Successful removal of burnished and or tenacious calculus

Sickle

- Nevi 4 204SD (increased access to distal)

Feature	Purpose	Outcome
Tapered dueling cutting blades Increased shank Rigid Strength	Removal of heavy tenacious calculus Supra or sub where tissue allows	Maximized torque to successful removal of burnished and or tenacious calculus

Free Webinar

Solving the Mystery of Accurate Instrument Sharpening
Presenter: TAMI WANLESS, RDH MED
https://eventsna8.adobeconnect.com/content/connect/c1/1120425868/en/events/event/shared/1130315930/event_landing.html?sco-id=121268

Techniques for detection and removal of burnished calculus resources

Brookman, L., & Smith, D. (2017, February). The Bane of Burnished Calculus. Retrieved May, 2018, from http://www.dimensionsofdentalhygiene.com/2017/02_February/Features/The_Bane_of_Burnished_Calculus.aspx

Hodges, K. (2004, November). Using Flies in periodontal therapy. Retrieved February, 2014, from http://www.dimensionsofdentalhygiene.com/2004/11_november/features/using_files.aspx

Hodges, K. (2012, February). Restore Periodontal Health. Retrieved January, 2014, from http://www.dimensionsofdentalhygiene.com/2012/02_February/Features/Restore_Periodontal_Health.aspx

Matsuda, S. (2016, January). Strategies for Success. Retrieved June, 2018, from http://www.dimensionsofdentalhygiene.com/2016/01_January/Features/Strategies_for_Success.aspx

Matsuda, S. (2015, February). A New Approach. Retrieved March, 2018, from http://www.dimensionsofdentalhygiene.com/2015/02_February/Features/A_New_Approach.aspx

Smith, D. (2016, May). Facing the Challenge. Retrieved May, 2018, from <http://www.dimensionsofdentalhygiene.com/print.aspx?id=23255>

Hu-Friedy Website-Posted Webinars
https://www.hu-friedy.com/education/continuing_education_classes

Explore to Enhance your Clinical Results
Presenter: Mary Jacks RDH, MS

Notes _____

Universal Curette

- Rigid Barnhart 1/2 Barnhart 5/6 Columbia 4R/4L Younger-Good7/8

Feature	Purpose	Outcome
Two parallel edges Increased shank Rigid	Versatile- ant / post Removal of: supra /sub + curettage of soft tissue lining the periodontal pocket	Effective debridement & inadvertent curettage Removal of pathogenic materials

Gracey Curette

- 1/2 Anterior 7/8 Buccal/Lingual 11/12 Mesial 13/14 Distal

Feature	Feature	Outcome
Rigid Mini Five Longer +3mm Increased shank Blade - by 50%	Micro Mini Five Longer +3mm Increased shank Blade - by 50% Blade width -20% compared to Rigid Mini Five	Debridement of deep narrow pockets



Vision Cuvette Mini Curette

- Sub-Zero Facial/Lingual 1/2 Anterior & premolar
- 11/12 Mesial 13/14 Distal

Feature	Purpose	Outcome
50% shorter blade 5mm & 10mm shank markers Curved blade Thicker shank	All are easy to adapt Sub-Zero-long shank 11/12 & 13/14 easy to adapt to surfaces and furcation	Increased access narrow Pockets *Be careful of gauging with curved blade

Que'tin Furcation Curette

- Que'tin 1 Buccal /Lingual & Que'tin2 Mesial/Distal

Feature	Purpose	Outcome
Miniature working end with mini hoe Curvature of the tip increases accessibly Thicker shank Rounded back to reduce the potential for gauging Blade width .09 or 1.3 mm	Strong and mighty Specialized for the debridement of furcation and developmental depression areas Increased access Fits in the roof or floor of furcs	Increased access to furcation Fits in the roof or floor of furcs Less strokes =more effective

My Wish List of Remedial Instruments

Preventing burnished calculus

- Increased knowledge of morphology
- Increased awareness of the signs of inflammation
- Treatment Planning STG and LTG

Ultrasonic

- Check recommend power for tip being used
- Check stroke speed
- Choose a tip with an edge
- Evaluate tip wear

Hand Instruments

- Evaluate hand instruments
- Sharpen frequently
- Grasp firmly, evaluate pressure, check angulation
- Check depth of stroke in pocket

Hand, power and subgingival air flow debridement interventions to impact disease resources

Hu-Friedy Website-Posted Webinars

https://www.hu-friedy.com/education/continuing_education_classes

Conquering Biofilm in the Subgingival Battlefield
Karen Davis RDH, BSDH

Magical Minutes... The Efficiency of Air Polishing!
Karen Davis RDH, BSDH

Tackling Biofilm with Air Polishing and Ultrasonics
Presenter: KAREN DAVIS, RDH and SAMUEL B. LOW, DDS,
MS, M.ED

Hu-Friedy Diamond Tec Files

➤ Nabers & Mesial / Distal

Feature	Purpose	Outcome
The 360 degrees of diamond coating Shaped like a probe Finishing instrument	Removal of: residual or burnished calculus embedded in root surfaces, root depressions, concavities developmental grooves Furcation Flash from restorations Residual cement	Successful removal of burnished, tenacious calculus and restorative materials Enhanced debridement of the furcation between the mesiobuccal and distobuccal roots and the furcation roof

Davis K. Biofilm removal with air polishing and subgingival air polishing. Available at: www.ineedce.com/courses/2507/PDF/1309cei_da_vis_web.pdf.

Barnes C. Air polishing: a mainstay for dental hygiene. Available at: www.ineedce.com/courses/

Hand, power and subgingival air flow debridement interventions to impact disease

Planning

- Educating your Client on their individual needs
- Selecting modalities with results in mind
- Evidence-based decisions

Implement

Air Flow Supra and Sub debridement (up to 10mm sub)

- Glycine (amino acid) 24 Microns
- Erythritol (sugar alcohol) 14 Microns
- Both powders do not harm any dental structures, tissue, restorative material, implants, orthodontic materials

Remedial Instrumentation Maintenance

- Protocol for treating periodontal maintenance clients who have completed the sanative phase but still have bleeding points
- Is it self-care? Or do they have control in most areas with reportedly good self-care regimes
- Devote time to address bleeding points especially those with delayed bleeding
- Results of your RIM will be seen immediate if you find and remove pieces of burnished tenacious calculus

Re-evaluate in 4-6 weeks

- If needed re-address
- If pocketing progresses referral to a periodontist is indicated

Critically evaluate periodontal tissues and therapeutic outcomes and achieve optimal client centered care.

NEVER GIVE UP!
