

Supra-Gingival Professional Mechanical Plaque Removal (PMPR) for the Orthodontic therapist.



About me.....

- 15 + years in dentistry.
- Award winning Dental Hygienist.
- Private Referral Periodontal & Implant Practices.
- BSDHT Executive Council Member & Regional Council Rep for NI regional group.
- NSK Clinical Educator.
- Clinical Representative for Young Innovations.
- PG Diploma in Education, coaching & mentoring.

Plan for today.....

- Welcome
- Periodontal anatomy.
- Screening of gingival tissues in health & disease
- Plaque indices & OHI
- Plaque Removal-Polishing & Air Polishing
- USS Piezo and hand instrumentation
Tip selection & adaptation-Hands on



Orthodontic Therapist

- Work under Prescription of a dentist.
- Trained & Competent
- Indemnified

Orthodontic therapists

Orthodontic therapists are registered dental professionals who carry out certain parts of orthodontic treatment under prescription from a dentist.

As an orthodontic therapist, you can undertake the following if you are trained, competent and indemnified:

- clean and prepare tooth surfaces ready for orthodontic treatment
- identify, select, use and maintain appropriate instruments
- insert passive removable orthodontic appliances
- insert removable appliances activated or adjusted by a dentist
- remove fixed appliances, orthodontic adhesives and cement
- identify, select, prepare and place auxiliaries
- take impressions
- pour, cast and trim study models
- make a patient's orthodontic appliance safe in the absence of a dentist
- fit orthodontic headgear
- fit orthodontic facebows which have been adjusted by a dentist
- take occlusal records including orthognathic facebow readings
- take intra and extra-oral photographs
- place brackets and bands
- prepare, insert, adjust and remove archwires previously prescribed or, where necessary, activated by a dentist
- give advice on appliance care and oral health instruction
- fit tooth separators

- fit bonded retainers
- carry out Index of Orthodontic Treatment Need (IOTN) screening either under the direction of a dentist or direct to patients
- make appropriate referrals to other healthcare professionals
- keep full, accurate and contemporaneous patient records
- give appropriate patient advice

Additional skills which orthodontic therapists could develop include:

- applying fluoride varnish to the prescription of a dentist
- repairing the acrylic component part of orthodontic appliances
- measuring and recording plaque indices
- removing sutures after the wound has been checked by a dentist

Orthodontic therapists **do not**

- modify prescribed archwires
- give local analgesia
- remove sub-gingival deposits
- re-cement crowns
- place temporary dressings
- diagnose disease
- treatment plan

as these tasks are reserved to dental hygienists, dental therapists or dentists.

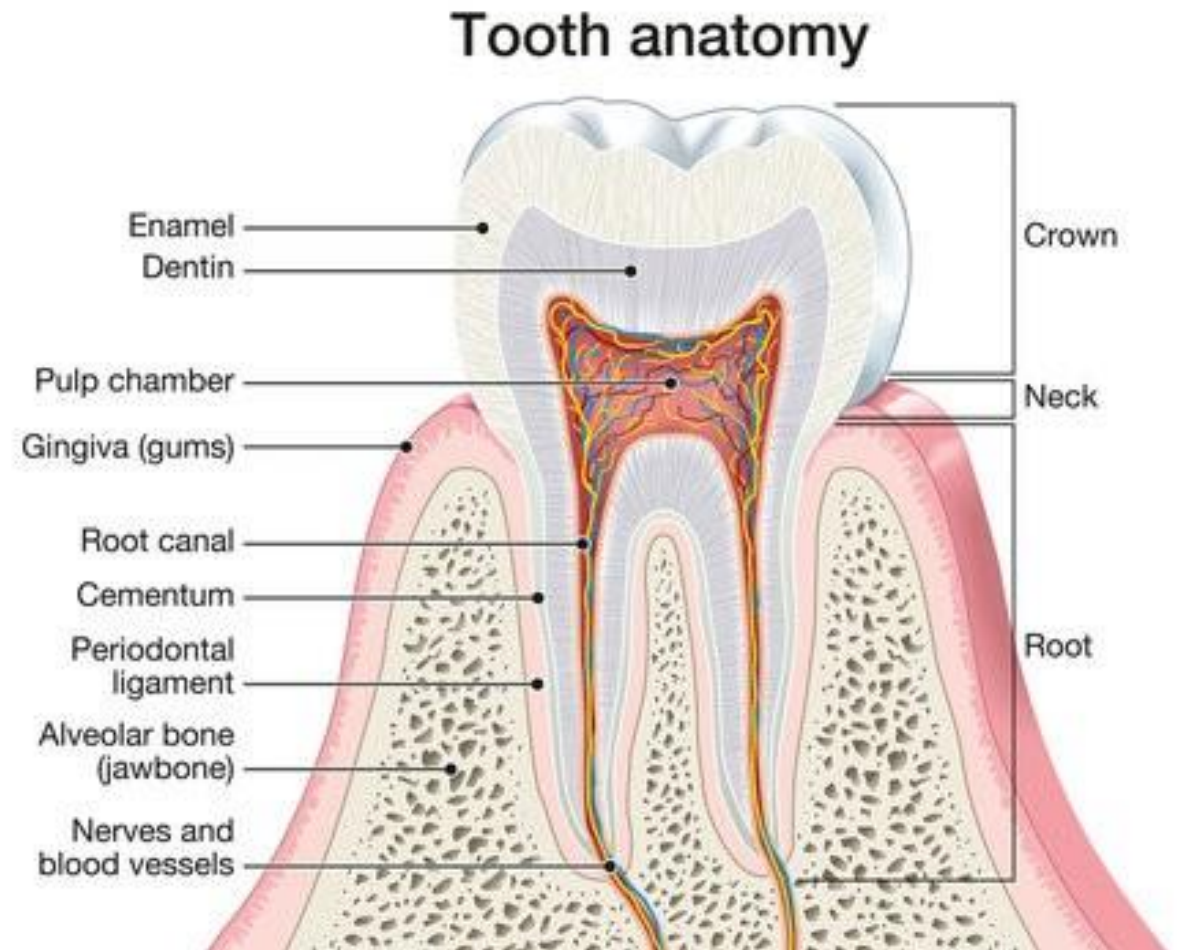
Orthodontic therapists **do not** carry out laboratory work other than that listed above as that is reserved to dental technicians and clinical dental technicians.

1. **To maintain and promote periodontal health** in orthodontic patients by reducing supra-gingival plaque accumulation.
2. **To prevent demineralisation, gingivitis, and periodontal complications** during orthodontic treatment.
3. **To support the effectiveness of orthodontic appliances** by ensuring optimal oral hygiene and plaque control.
4. **To educate and motivate patients** on the importance of oral hygiene in conjunction with their orthodontic treatment.
5. **To work collaboratively** within the dental team to enhance patient care and achieve optimal treatment outcomes.

Objectives:

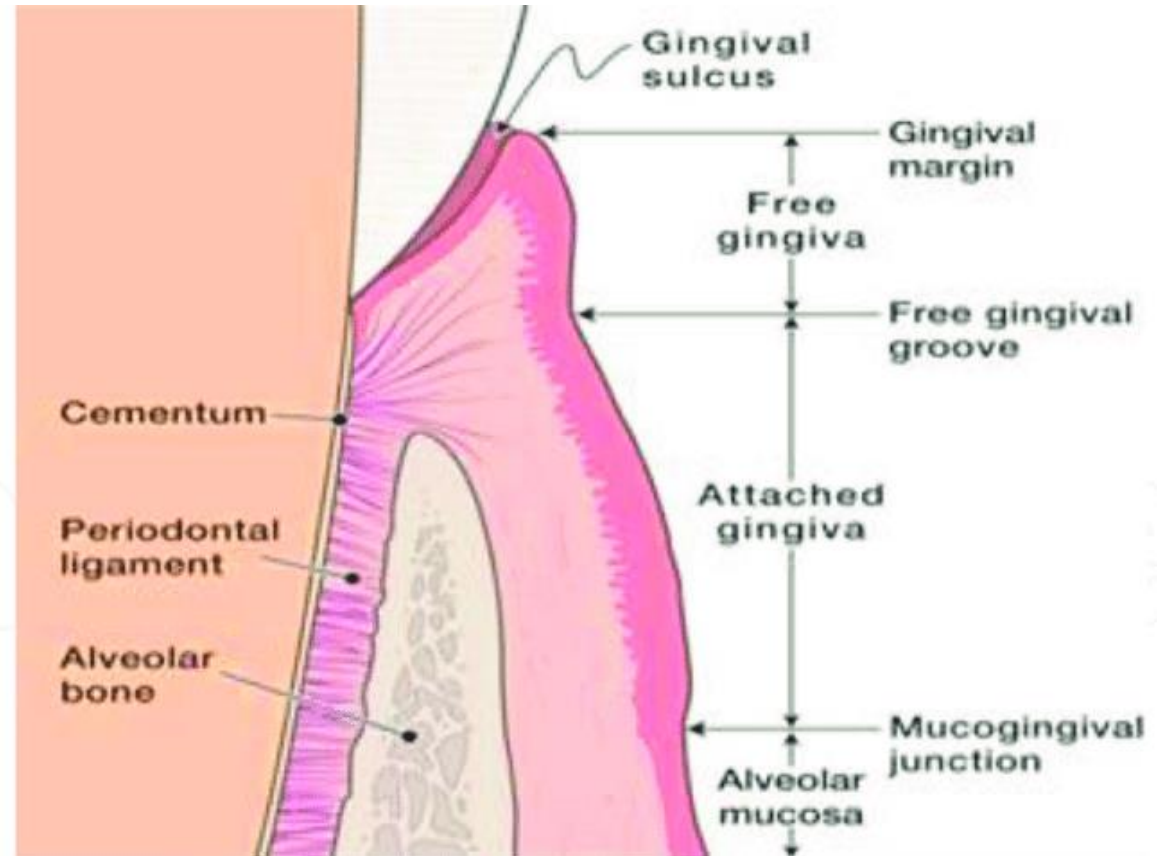
1. **Identify and assess supra-gingival plaque and calculus** using appropriate indices and clinical observation in patients with orthodontic appliances.
2. **Safely and effectively carry out supra-gingival PMPR** using ultrasonic scalers and hand instruments in line with scope of practice and GDC guidelines.
3. **Provide oral hygiene instruction (OHI)** tailored to the specific needs of patients undergoing orthodontic treatment, including advice on cleaning around brackets and wires.
4. **Document procedures and findings accurately** and communicate relevant information with the wider dental team.
5. **Recognise when to refer patients** to a dentist or dental hygienist/therapist for subgingival debridement or further periodontal care beyond the orthodontic therapist's scope of practice.
6. **Promote long-term behaviour change** by engaging patients in preventive strategies and supporting compliance with oral hygiene routines

Tooth Anatomy



Periodontium

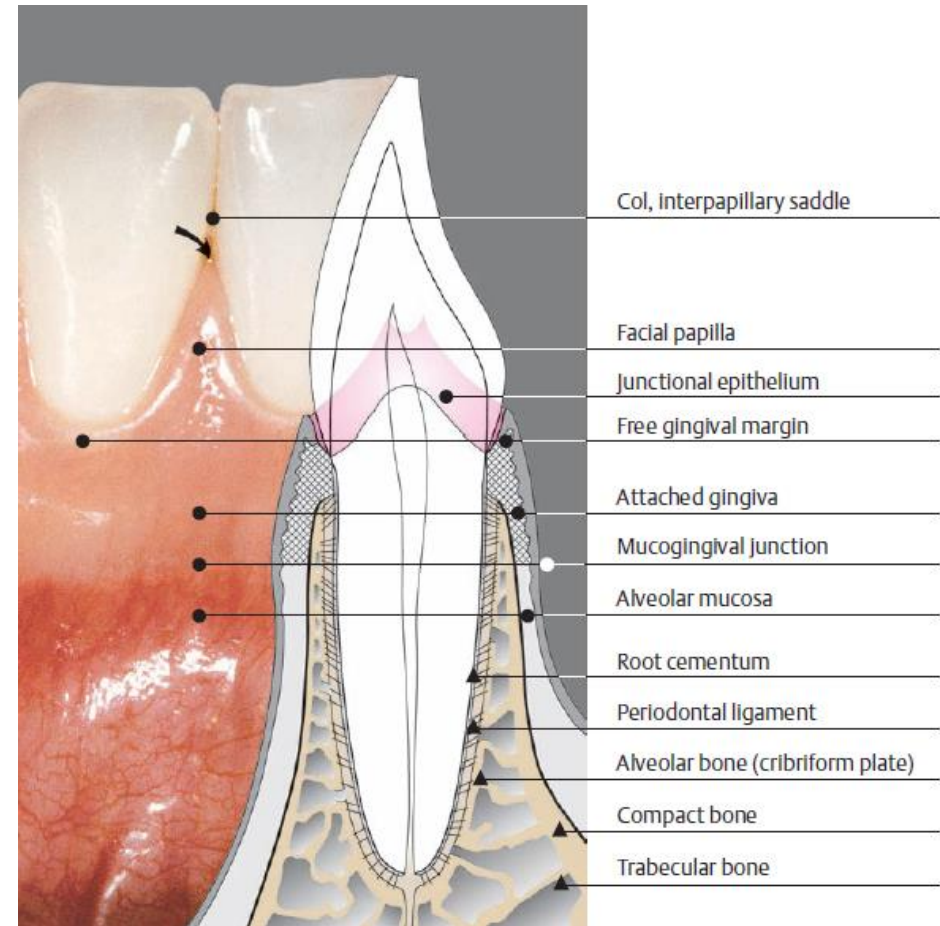
- **Supportive Function** - Anchors the teeth in the jaw and absorbs/distributes occlusal forces via PDL
- **Protective Function** - Acts as a barrier to bacterial invasion and mechanical damage via gingival tissues
- **Sensory Function** - contains nerve endings that detect pressure and pain
- **Nutritive Function** - Blood vessels within provide nutrients to the Alveolar bone, PDL and Cementum
- **Remodelling Function** - PDL & Alveolar Bone can model in response to stress allowing tooth movement & repair
- *****important in orthodontics*****



Gingiva

Types of Gingiva

- **Free Gingiva:**
 - Surrounds the tooth but is not directly attached
 - Forms the wall of the gingival sulcus
- **Attached Gingiva:**
 - Firmly bound to the underlying bone
 - Lies between the free gingiva and alveolar mucosa
- **Interdental Gingiva:**
 - Fills the space between adjacent teeth
 - Has a pyramidal or col-shaped form depending on the presence of contact between teeth



Why do we need to assess?

It will determine our choice of treatment modality!

It will help with early detection of dental disease!

	Healthy Gingiva	Diseased Gingiva
Color	Coral pink (varies with pigmentation)	Red, bluish-red, or magenta (due to inflammation)
Contour	Scalloped, knife-edged, snug to teeth	Rolled, rounded, or swollen margins; enlarged interdental papillae
Consistency	Firm, resilient	Spongy, soft, edematous or fibrotic (in chronic inflammation)
Surface Texture	Stippled (like orange peel), especially attached gingiva	Smooth, shiny (in acute); may be fibrotic (in chronic)
Position	At or slightly above CEJ	May be swollen (coronal to CEJ) or receded (apical to CEJ)
Bleeding on Probing	None	Bleeding common during brushing or probing
Pain	Usually none	May be painful, especially in acute infections
Sulcus Depth	1–3 mm (normal)	>3 mm (pocket formation in disease)
Exudate (pus)	None	Possible in advanced disease (especially periodontitis)

How to examine the gingiva

1. **Patient Preparation**- Explain the procedure/consent/PPE/Instruments
2. **Visual Examination** -Colour, Contour, Consistency ,Surface texture ,bleeding?
3. **Probing**- Gently assess the gingiva sulcus with relevant probes to record depth and bleeding.
4. **Assess Plaque and PRF's** – Calculus deposits
5. **Record** findings in your clinical notes and inform patient



Let's have a look!







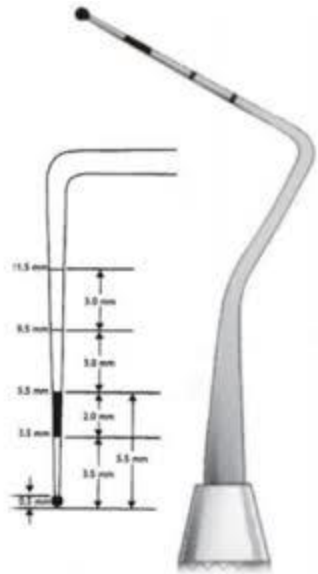


Why are we probing?

- Plaque and bleeding detection
- Calculus detection
- Incidental findings
- BPE screening tool



Probes



BPE/WHO



UNC 15 Probe



Williams Probe

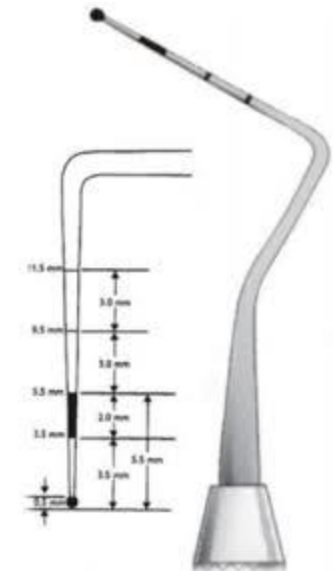
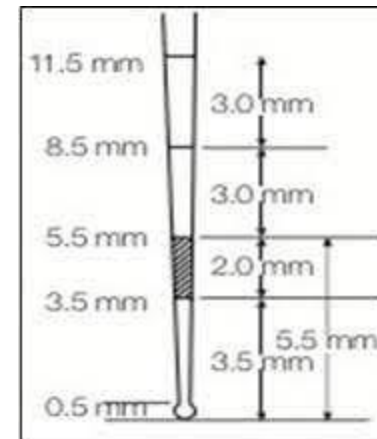


Explorer

Basic Periodontal Examination

Carried out in orthodontic assessment prior to bonding

- Screening tool used to indicate level of further examination needed & provide basic guidance on treatment needed.
- 6 sextants (highest score recorded)
- 3rd molars /wisdom teeth excluded (unless 1st &/or 2nd molar missing)
- A WHO probe should be “walked around” the sulcus/pockets of all sites in each sextant with light probing force (20-25 grams), and the highest score recorded.



The British Society of Paediatric Dentistry and British Society of Periodontology guidelines for periodontal screening and management of children and adolescents

****A simplified BPE should be undertaken prior to commencing orthodontic treatment in the Under 18s.**

Basic Periodontal Examination

- Periodontal screening for children and adolescents assesses six index teeth (UR6, UR1, UL6, LL6, LL1 and LR6) using a simplified BPE.
- BPE codes 0-2 are used in 7-11 year olds to avoid problems with false pocketing.
- The full range of codes 0, 1, 2, 3, 4 and * can be used in 12-17 year olds.

Figure 1a Simplified BPE for the Under 18 years

- Simplified BPE (sBPE)
- Based on FDI recommendation in 1986 for a quick, dependable method of periodontal screening in practice
- Assess Index teeth (based on WHO partial recording for adolescents)

UR6, UR1, UL6

LR6, LL1, LL6

- Assess 6-points per tooth using WHO probe:

db, b, mb, dl, l, ml

FDI. A simplified periodontal examination for dental practices based on the Community Periodontal Index of Treatment Needs – CPITN. Paris: FDI, 1986

Ainamo J, Nordblad A, Kallio P. Use of the CPITN in populations under 20 years of age. Int Dent J 1984; 34: 285-91

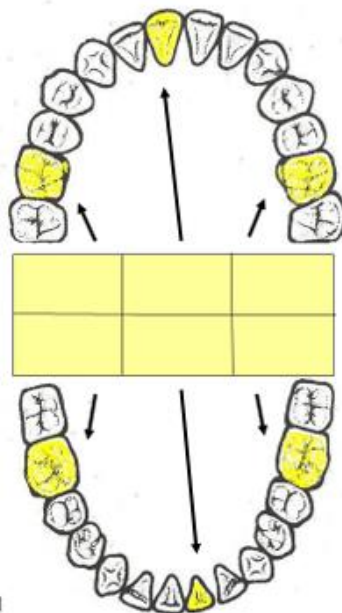


Table 1 Summary Guidance on Interpretation

sBPE Code	Summary Guidance on Interpretation of the Simplified BPE Codes
0	No periodontal treatment Screen again at routine recall or within 1 year, whichever sooner
1	Oral hygiene instruction (OHI) Screen again at routine recall or within 6 months, whichever sooner
2	OHI as for Code 1. Supragingival/subgingival professional mechanical plaque removal (PMPR). Remove/manage plaque retention factors Screen again at routine recall or within 6 months, whichever sooner
3	OHI as for Codes 1 and 2. Supragingival/subgingival PMPR, with particular emphasis on subgingival PMPR in shallow 4 mm – 5 mm pockets. Remove/manage plaque retention factors After 3 months, do a full periodontal assessment, including 6-point probing pocket depth (PPD) chart, in affected sextants
4 or *	Unusual in young patients. Do a full periodontal assessment, including 6-point PPD chart, throughout the entire dentition Consider referral to a Specialist, while do initial therapy, as Code 3

Source British Society of Periodontology

BPE Codes- What do they represent?

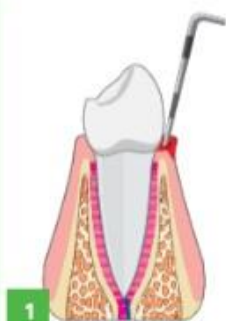
→ Scoring Codes



0

**Pockets
<3.5mm**

No calculus/overhangs,
no bleeding on probing
(black band entirely
visible)



1

**Pockets
<3.5mm**

No calculus/overhangs,
bleeding on probing
(black band entirely
visible)



2

**Pockets
<3.5mm**

Supra or subgingival
calculus/overhangs
(black band entirely
visible)



3

**Probing depth
3.5-5.5mm**

(Black band partially
visible, indicating
pocket of 4-5mm)



4

**Probing depth
>5.5mm**

(Black band disappears,
indicating a pocket of
6mm or more)



5

**Furcation
involvement**

Source British Society of Periodontology

Code 3's

- Supervisor needs to be involved and other team members e.g. Dental Hygienist/.Therapist or specialist referral
- Radiographs required to assess -Crestal bone levels need to be visible (BW's or IOPA's)
- False pockets ??

****NB- record findings of plaque retentive factors***



Code 4's

- Supervisor needs to be involved and other team members e.g. Dental Hygienist/Therapist or specialist referral



Orthodontic Therapist do not carry out a full periodontal assessment or diagnosis!

However, BPE is a screening tool & important to know when to refer and get other dental team members involved.

Supra Gingival Assessment of Plaque and Calculus (PRF's), Why ?

1. Prevent Gingival Inflammation and Disease

- **Plaque** is a sticky biofilm full of bacteria. If left on teeth, it causes **gingivitis** (gum inflammation) and can progress to **periodontitis** (serious gum and bone infection).
- **Calculus** (hardened plaque) further irritates gums and acts as a breeding ground for more plaque

2. Ensure Proper Bracket Bonding

- Brackets are glued to the enamel. Plaque and calculus **interfere with the adhesive**, weakening the bond.
- Weak bonds increase the risk of **bracket failure**, slowing down treatment and requiring more repairs.

3. Reduce Risk of White Spot Lesions

- Plaque trapped around brackets causes **demineralization** of enamel, leading to **white spot lesions** (early cavities).
- Starting with clean teeth reduces this risk and helps maintain enamel integrity throughout treatment.

4. Improve Treatment Efficiency

- Inflamed or overgrown gums (caused by untreated plaque/calculus) can:
 - **Obscure brackets**
 - **Complicate tooth movement**
 - Lead to **longer treatment times** or interruptions for periodontal care

Supra Gingival Assessment of Plaque and Calculus -How?

Prior and during to fixed orthodontic therapy

- Visual examination (PPE/Light/Mirror)
- Disclose patient (clinical and motivation tool for behaviour change)
- Record plaque and bleeding score (additional skill)
- OHI- tailored to each patient



Supra Gingival Assessment Plaque and Calculus - How?

- Visual examination
- Use probe- tactile
- Use 3 in 1 -chalk like appearance
- Use Floss to detect calculus deposits
- Radiographs



Indices

Bleeding on Probing- Ainamo & Bay 1975

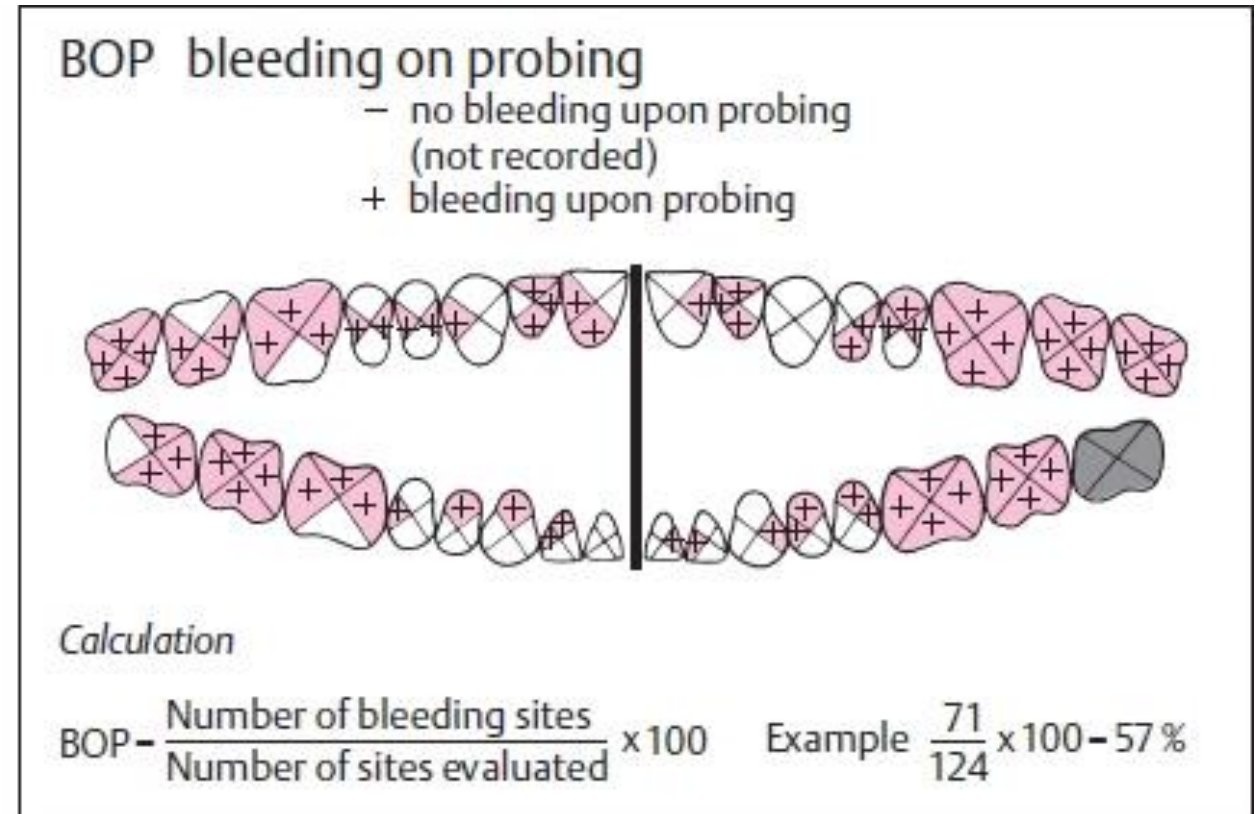
Plaque Indices- O'Leary et al. 1972

e.g. 32 present bop site/ 128 x 100

e.g 28 present bop site 112 x100

Computerised system e.g.Exact/Dentally

*Additional Skill for Orthodontic Therapist



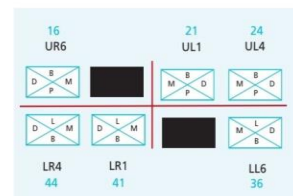
Indices

Modified Bleeding and Plaque scores

Ramfjord's teeth

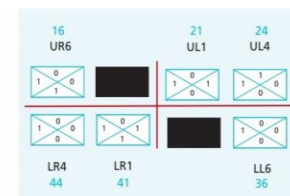
Modified Bleeding Score

Ramfjord's Teeth



Code	Description
0	Absence of bleeding on probing
1	Presence of bleeding on probing (marginal bleeding)

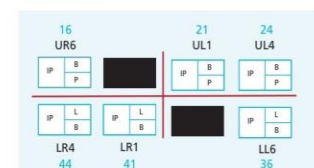
An Example of a Modified Bleeding Score



Total Score = 11
 Bleeding Score:
 $\frac{11}{24} \times 100 = 45.83 = 46\%$
 Modified Bleeding Score = 46%

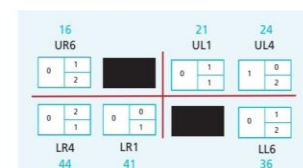
Modified Plaque Score

Ramfjord's Teeth



Code	Description
0	No plaque visible, even when a probe is used
1	Some plaque visible only when a probe was used to skim the tooth surface
2	Visible amount of plaque which can be seen without use of a probe
N	No measurement could be made for this surface/tooth

An Example of a Modified Plaque Score



Total Score = 15
 Plaque Score:
 $\frac{15}{36} \times 100 = 41.66 = 42\%$
 Modified Plaque Score = 42%

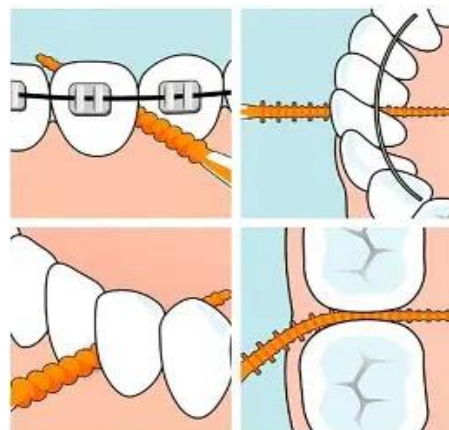
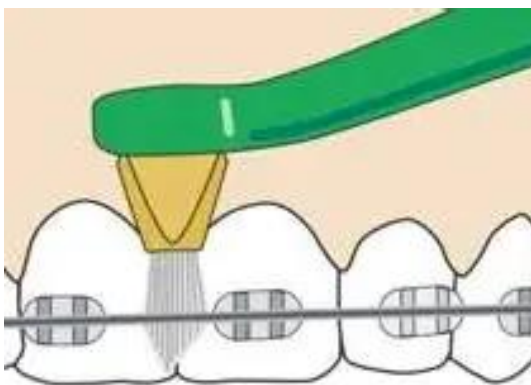
<https://www.periodontalcare.sdccep.org.uk/supporting-tools/monitoring-plaque-and-bleeding/>

What's the next step?

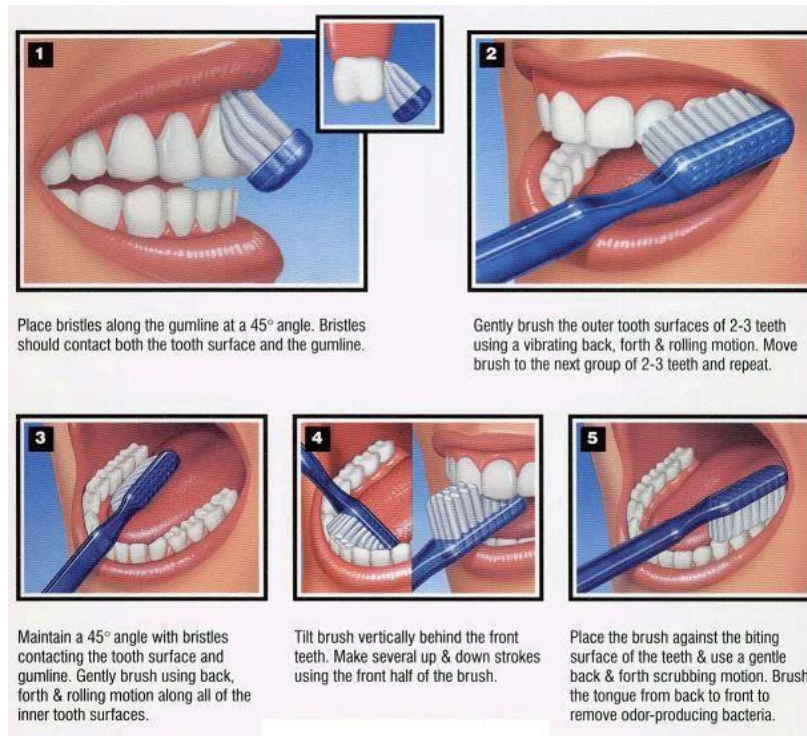
Oral hygiene advice

- The Department of Health's 'Delivering better oral health: an evidence-based toolkit for prevention' outlines preventative care and advice for the dental team to help patients maintain good oral health. The toolkit provides information on caries prevention. For patients aged 7 years and over, and adults, the following is recommended:
 - Brush at least twice a day with fluoridated toothpaste. Brush last thing at night and at least on one other occasion.
 - Use fluoridated toothpaste with 1350-1500ppm fluoride.
 - Spit out after brushing and do not rinse to maintain fluoride concentration.
 - Reduce the amount and frequency of sugary food and drinks. • Professional application of fluoride varnish (2.26% NaF) twice a year.
 - Patients with increased caries risk should use a fluoride mouthrinse (0.05% NaF) daily at a different time to brushing.
 - For patients aged 12 years and over, interdental plaque control is recommended using an interdental or single-tufted brush where there is sufficient space between teeth to allow use of these brushes. For small spaces between teeth, use of dental floss or tape is recommended.





Modified Bass Technique



What does the evidence say?

Key Studies

- **8-week RCT (PubMed 9793284):**
Comparing electric (with orthodontic head) vs. manual brush in 41 vs. 43 orthodontic patients. Both groups improved, but the electric group had significantly less interdental gingival bleeding at 4 and 8 weeks ($p \leq 0.004$), and most preferred electric brushing [pmc.ncbi.nlm.nih.gov+15pubmed.ncbi.nlm.nih.gov+15angle-orthodontist.kglmeridian.com+15](https://pubmed.ncbi.nlm.nih.gov/9793284/).
- **Single-brush RCT (PubMed 23726325):**
In a crossover of 46 patients, oscillating-rotating electric brush with ortho head removed 6% more plaque than manual (vs. 3.8% with regular electric head), both $p < 0.001$ [pubmed.ncbi.nlm.nih.gov+1angle-orthodontist.kglmeridian.com+1](https://pubmed.ncbi.nlm.nih.gov/23726325/).
- **3-month trial (PubMed 21250772):**
Teens aged 10–14 using electric oscillating-rotating brushes saw more plaque and gingivitis reduction over 8 weeks compared to manual brushes (significant differences from week 4) [pubmed.ncbi.nlm.nih.gov+1livescience.com+1](https://pubmed.ncbi.nlm.nih.gov/21250772/).
- **4-week longitudinal study (PubMed 12116723):**
Among 80 adolescents (13.5 years old), powered brushes achieved significantly better plaque control ($p = 0.0001$) and reduced gingival inflammation ($p < 0.05$) compared to manual brushes [en.wikipedia.org+13pubmed.ncbi.nlm.nih.gov+13angle-orthodontist.kglmeridian.com+13](https://pubmed.ncbi.nlm.nih.gov/12116723/).

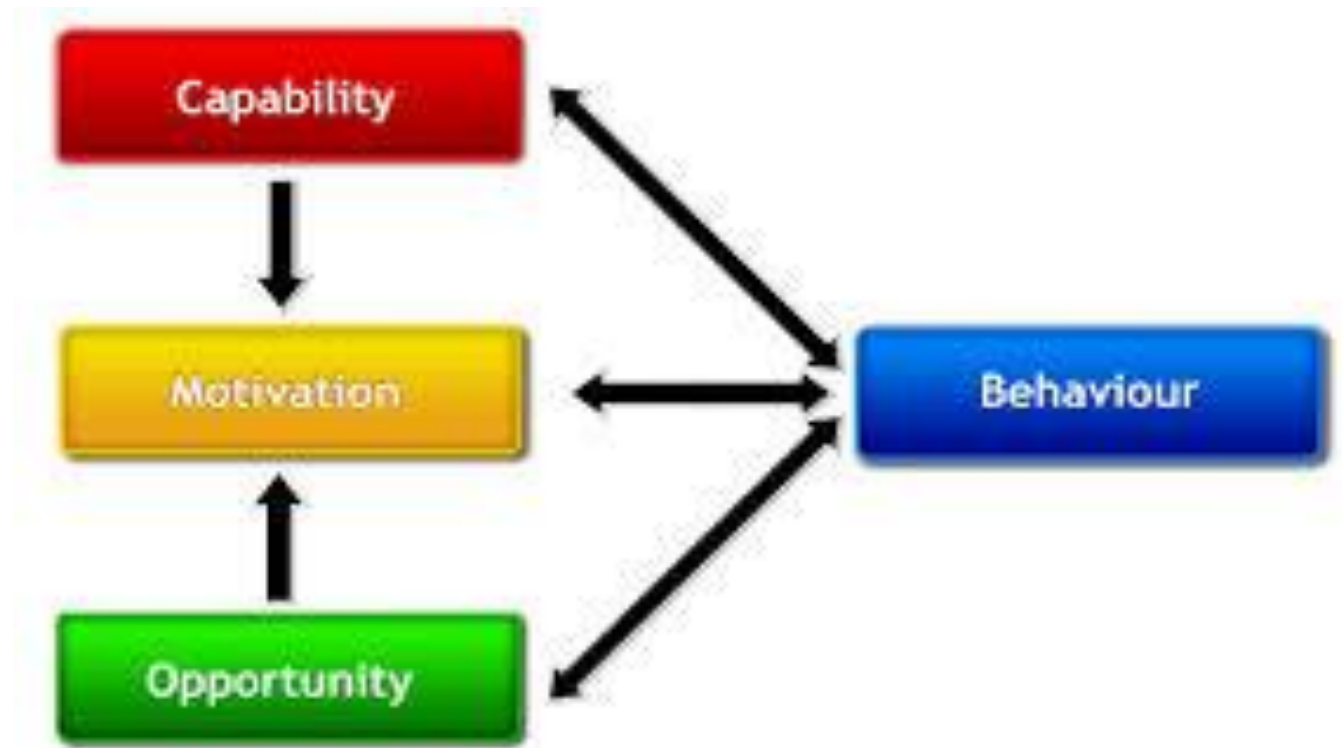
Oral B Test Drive



TIPPS Behaviour Change Strategy



COM- B Behaviour change framework



Treatment Modalities for Supra gingival PMPR

- Plaque (soft deposits) removal with Oral Hygiene aids
- Plaque (soft deposits) removal with Polishing
- Plaque (soft deposits) and Calculus (hard deposits) removal mechanically
- Calculus (hard deposits) removal with mechanical and/or hand instruments

Introduction to polishing

- Historically, all teeth were polished at the completion of the dental hygiene appointment but coronal polishing is a cosmetic procedure with no health benefits.
- It is a **selective** procedure
- Patient's needs should be evaluated on an individual basis to determine if polishing is indicated or contraindicated

Types of polishing

- **Biofilm removal!** Prior to bonding fixed appliances
- **Coronal polishing** is a cosmetic procedure to remove extrinsic stains from the enamel surfaces of the teeth.
- **Stain removal** is a nonessential aesthetic procedure undertaken for cosmetic reasons—to improve the appearance.



INDICATIONS

Biofilm removal
To improve the aesthetic
Removal of Extrinsic stain
Selective polishing

CONTRAINDICATIONS

Lack of Stain
Exposed Cementum or Dentin ??
Restored Tooth Surfaces ??
Newly Erupted Teeth
Areas of Demineralisation /Dental Caries
Gingiva that Is enlarged, soft, spongy, or bleeds easily

Systemic Contraindications for Rubber Cup Polishing

- Communicable Disease.
- Susceptibility to Infection.
- Allergic Reactions e.g. latex

ADVERSE EFFECTS OF CORONAL POLISHING

- Aerosol Production and Splatter
- Creation of Bacteraemia (inflamed Gingiva)
- Iatrogenic Damage
- Tooth surface abrasion
- Damage to restorations - gold, composites
- Heat production (primary teeth)
- Gingival tissue trauma



MINIMIZING LOSS OF TOOTH STRUCTURE

- To minimize the loss of tooth structure during the polishing procedure, there are **five factors** that can be controlled:
 1. Abrasiveness of the prophylaxis paste
 2. Adaptation of rubber cup
 3. Pressure
 4. Speed
 5. Application time.

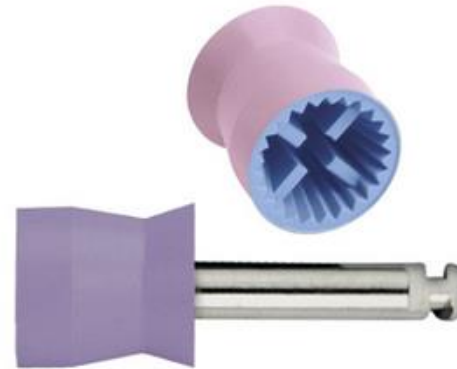
Polishing Agents

- Various abrasive grits
- Larger the particle, the more abrasive and less polishing ability
- Finer particles achieve a glossier finish
- Low RDA (Relative Dentin Abrasion)



Prophylaxis Angle Head Designs

- The head of a prophylaxis angle can have a
 - latch design
 - threaded head
 - button-ended head
- Bristle brush – occlusal surfaces only
- Soak stiff in hot water to soften



Summary

- When cleaning and polishing are indicated after patient evaluation, the following are observed:
- Use wet agents (polishing paste/agent)
- Apply a rubber cup, using a low speed
- Use a light intermittent touch
- Observe where stain removal is needed



Hands on!

Principles of Ultrasonic Scaling: Tip Selection & Techniques

Aims & Objectives

Broaden the dental health professionals understanding of the scientific and the practical use of debridement tools

Objective

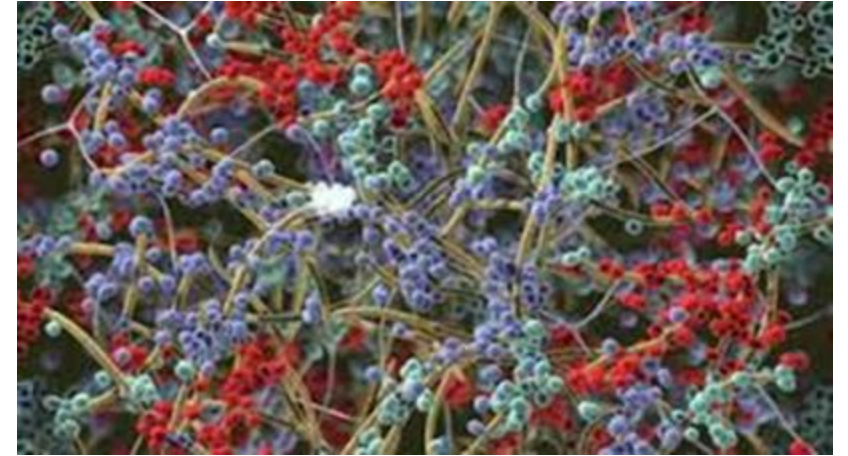
Compare the differences between Magnetostrictive and Piezoelectric ultrasonic scalers

Objective

Demonstrate effective piezo tip techniques & tip selection

Biofilm

Dental plaque is a biofilm that builds up on the teeth.



Biofilms contain communities of disease-causing bacteria and their uncontrolled accumulation is associated with cavities and gum disease (both gingivitis and periodontitis)



Magnetostrictive



Magnetostrictive



Piezo Electric



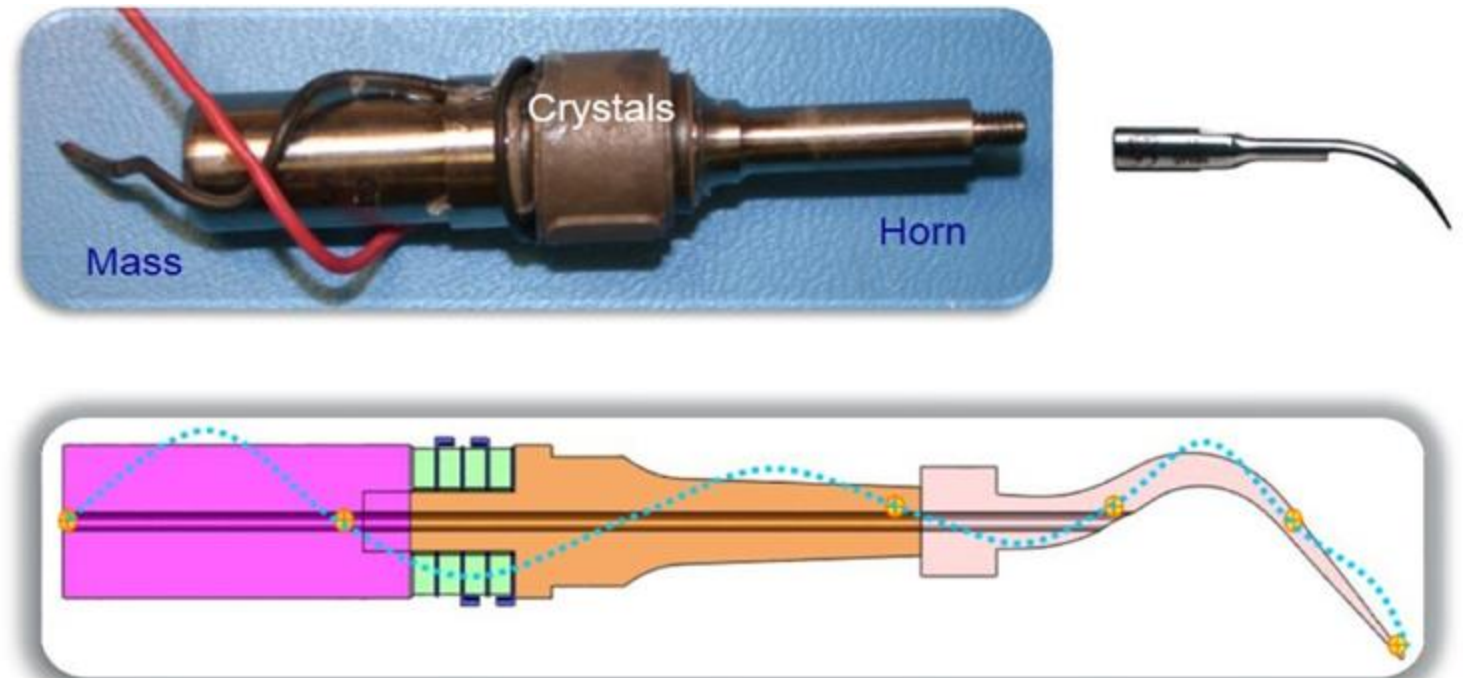
Piezo Electric



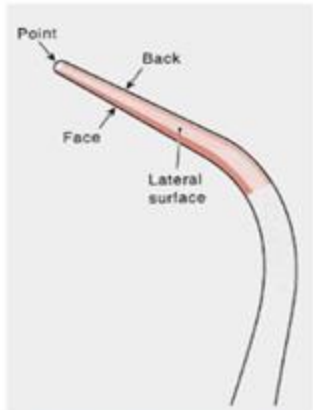
Ultrasonic debridement mechanism of action

Mechanical	Vibratory action of the oscillating metal tip against the deposit ablates/breaks the deposit from the tooth surface
Irrigation	Lavage action of water flowing over tip flushes biofilm from the tooth surface and debris from the treatment site
Cavitation	Removal/disruption of biofilm by shock waves resulting from the implosion of bubbles
Acoustic microstreaming	Removal/disruption of biofilm by turbulent currents of water surrounding the tip

Piezo
Handpiece



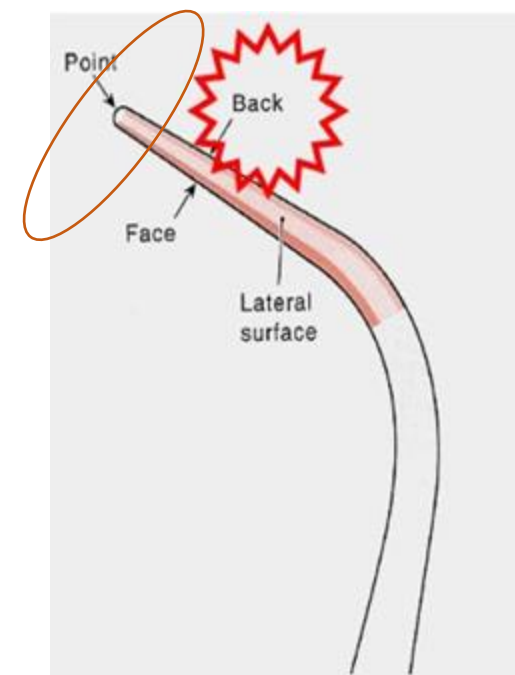
Linear Stroke



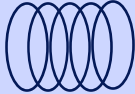
Magnetostrictive Handpiece



Elliptical Stroke Pattern

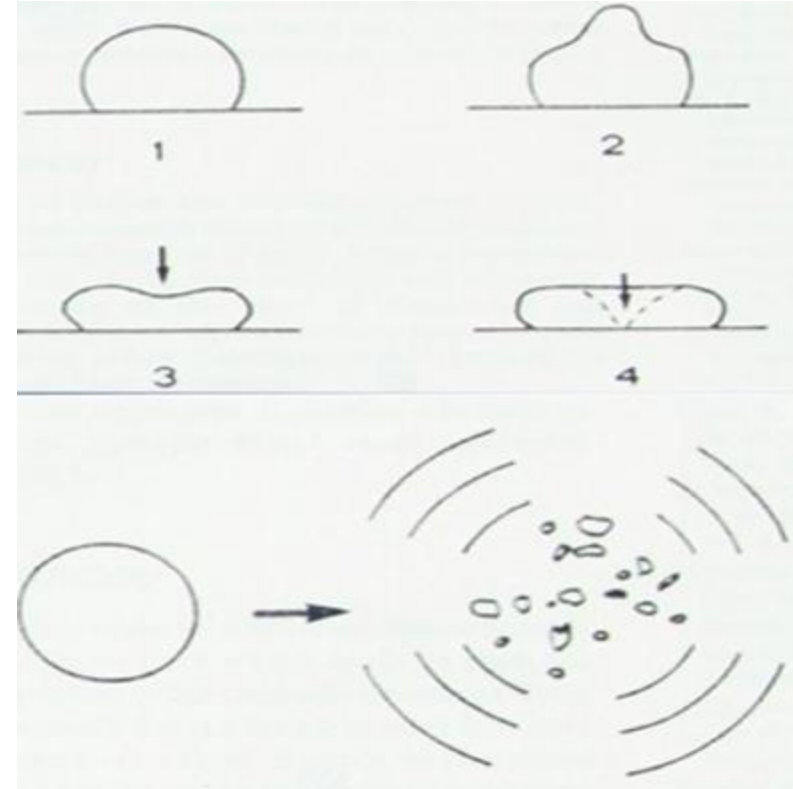


COMPARISON OF ULTRASONIC SCALERS

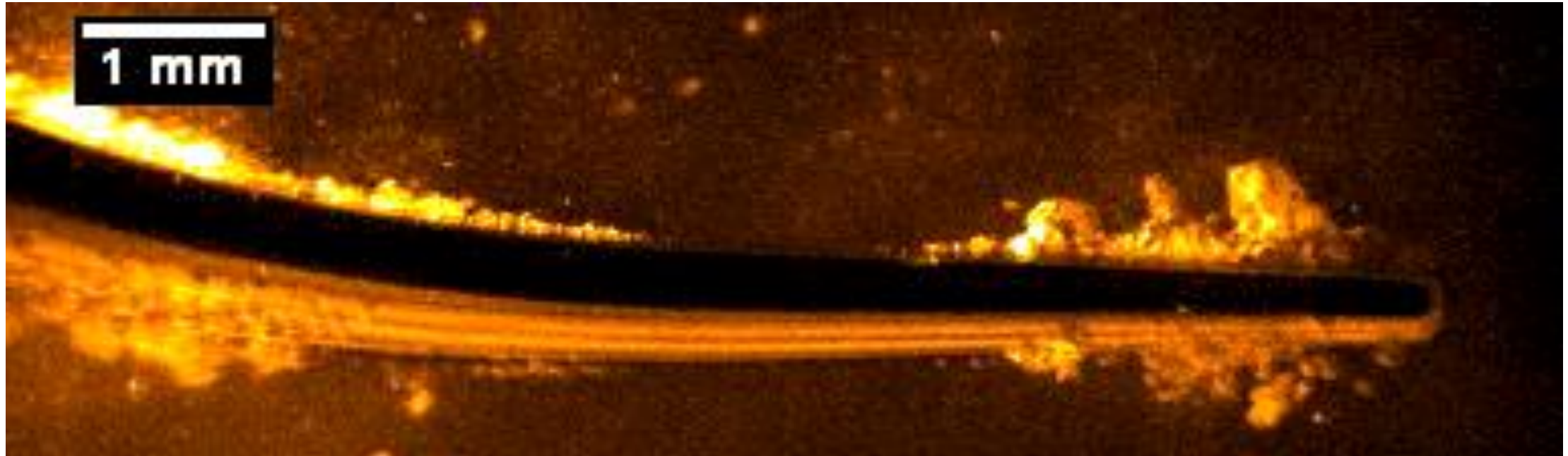
	MAGNETOSTRICTIVE	PIEZOELECTRIC
FREQUENCY	20-40 KHZ	29-50 KHZ
STROKE PATTERN	ELLIPTICAL 	LINEAR 
ENERGY CONVERSION	METAL ROD OR STACK OF METAL SHEETS	CRYSTALS ACTIVATED BY CERAMIC HANDPIECE
POWER DISPERSION	ALL SURFACES ACTIVE	ONLY ACTIVE ON LATERAL SURFACES

Cavitation

- Bubbles collapse inward, releasing energy
- Enhances biofilm removal
- Potential to disrupt bacterial cell walls?



Walmsley, (1984, 1986); Laird et al., (1991); Parini et al., (2005); Parini et al., (2005); Pitt, (2005)



Cavitation clouds are seen occurring at the bend and at the free end of the tip. Video taken at 90,000 fps and played at 10 fps.

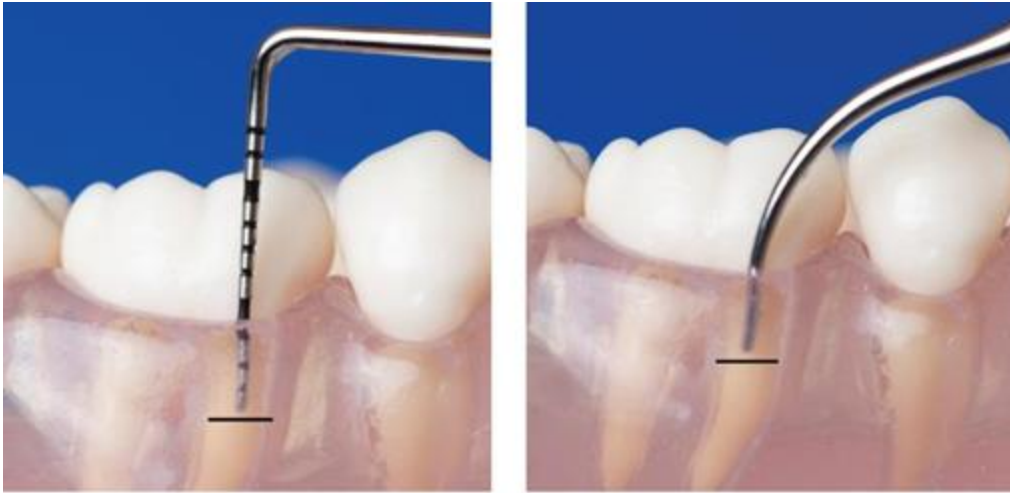
Vyas N, et al. (2016)

<http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0149604>

Working with

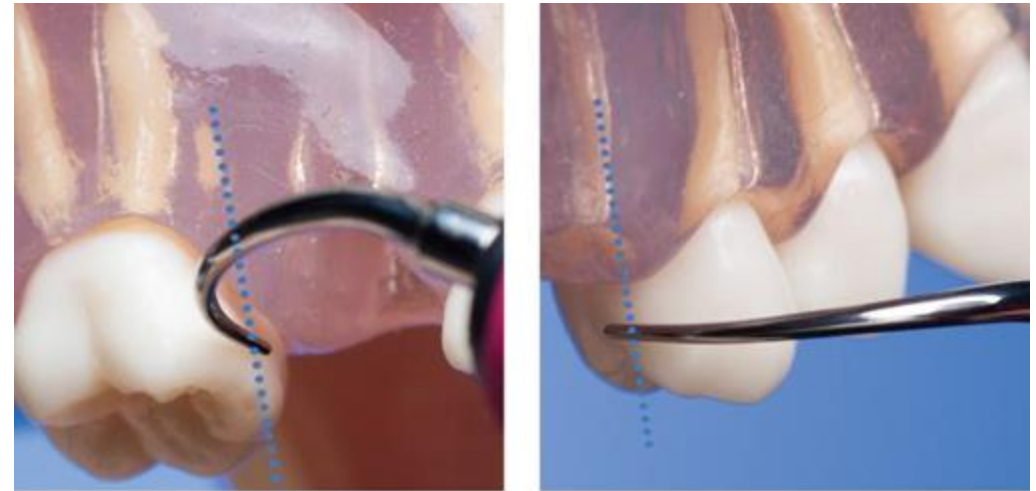


Tip Orientation



Vertical

Supra and subgingival of all
surfaces
Shown to be most effective



Horizontal

Interproximal spaces if
required

Reducing Aerosol

“A FLOW RATE THAT EFFECTIVELY COOLS AND MAXIMIZES CAVITATION AND MICROSTREAMING ACTIVITY IS ONE THAT PRODUCES INTERMITTENT DROPLETS AT THE ACTIVATED TIP”

Evidence supports the use of a rapid, intermittent drip.



George M, Donley T, Preshaw P. *Ultrasonic Debridement, Theory and Technique*. John Wiley and Sons; 2014: 52-55

MAINTENANCE AND STERILISATION

BEFORE USE:

CHECK THE HANDPIECE
FOR ANY ABNORMAL
NOISE, HEAT OR
VIBRATION WHICH MAY
INDICATE A FAULT

Run waterlines through
to flush and check for
leaks

Check for bends or
fracture of tip

DURING USE:

ENSURE THE CORRECT
POWER SETTING FOR
THE TIP YOU ARE USING

Ensure enough water
flow to prevent
overheating

AFTER USE:

FLUSH WATERLINES AS
PER
MANUFACTURER'S
INSTRUCTIONS

Disinfect machine
with suitable wipes –
unsuitable chemicals
may cause damage

Autoclave sterilisation
of handpiece and tip

MAINTENANCE AND STERILISATION

CHECK TIPS AGAINST TIP CARD - REPLACE
IF REQUIRED

PERIODICAL MAINTENANCE REQUIRED
(ONCE A MONTH)

CHECK O-RINGS FOR SIGNS OF DAMAGE



REFERENCES

- Drisko, C.L et al., 2000. Position paper: sonic and ultrasonic scalers in periodontics. Research, Science and Therapy Committee of the American Academy of Periodontology. *Journal of periodontology* (1970), 71(11), pp.1792–1801.
- Magnetostrictive vs. Piezoelectric: Survey compares merits of ultrasonic scalers Sebero K & Kelly R. 2016 RDH Magazine
- Walmsley, A.D., 2015. Ultrasonics in dentistry. *Physics Procedia*, 63, pp.201-207.
- Trenter, S.C. and Walmsley, A.D., 2003. Ultrasonic dental scaler: associated hazards. *Journal of clinical periodontology*, 30(2), pp.95-101.
- Lea, S.C., Felver, B., Landini, G. and Walmsley, A.D., 2009. Ultrasonic scaler oscillations and tooth-surface defects. *Journal of dental research*, 88(3), pp.229-234.
- Pecheva, E., Sammons, R.L. and Walmsley, A.D., 2015. The performance characteristics of a piezoelectric ultrasonic. *Medical Engineering and Physics*, 5(22), p.22.
- George M, Donley T, Preshaw P. *Ultrasonic Debridement, Theory and Technique*. John Wiley and Sons; 2014: 52-55

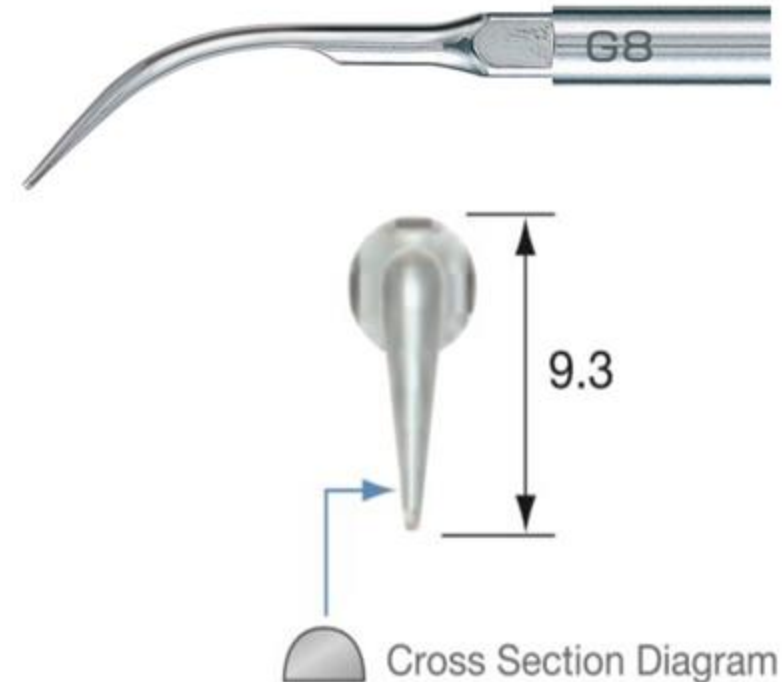
Tip Selection

WHAT ARE YOU TRYING TO ACHIEVE?
BIOFILM DISRUPTION & REMOVAL OF PRFS?

Supra PMPR: Model: G8

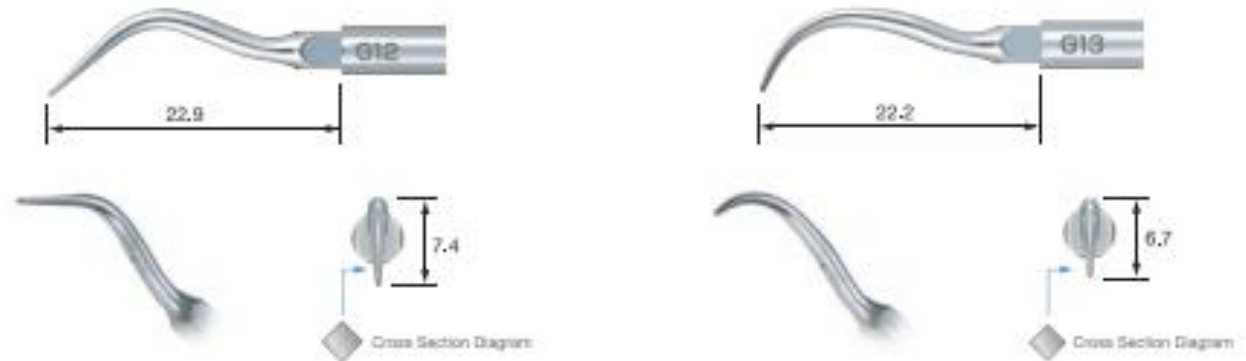
Removal of gross supragingival calculus

Removal of supragingival calculus in narrow
Interdental spaces



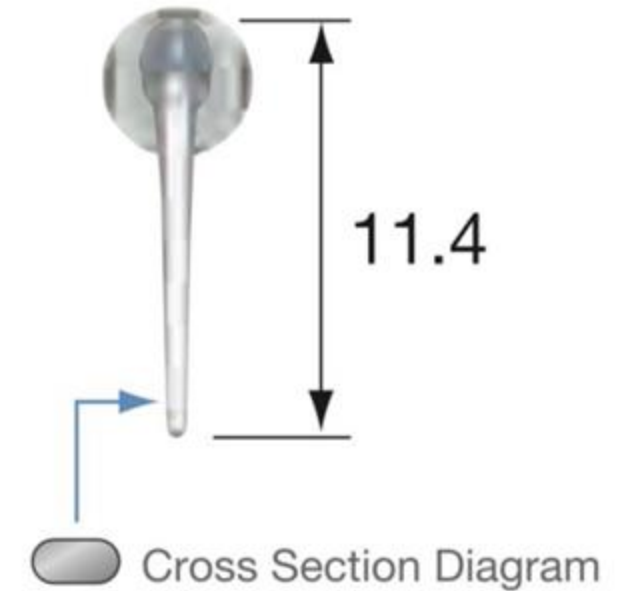
Supra PMPR: Model: G12/G13

Removal of gross supragingival calculus
Removal of supragingival calculus in
Interdental spaces posteriorly



Supra PMPR: Model G6

- Removal of gross supragingival calculus
- Removal of calculus in narrow interdental spaces
- Removal of calculus along gingival margin



Hands on!

Hand Instrumentation

To remove calculus (hard deposits) supra gingivally

Instrument Choice



Choose the right instrument

- Ergonomic
- Design
- Weight
- Balanced
- Feel



Anatomy of an Instrument

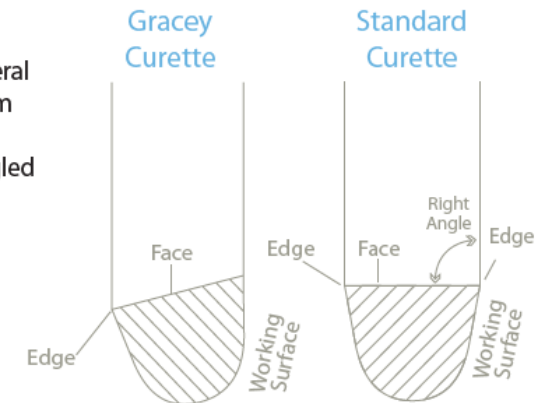


Anatomy of an Instrument

Curettes are identified by the curve of the toe. The toe of a scaler is always pointed.



The blade comprises a facial surface, working surface (also known as the 'lateral surface') and cutting edges. The diagram shows cross-sections of the 2 types of curettes. Gracey curettes feature an angled facial surface.



Scalers

Are indicated for the removal of calculus from supra-gingival areas.

Scalers

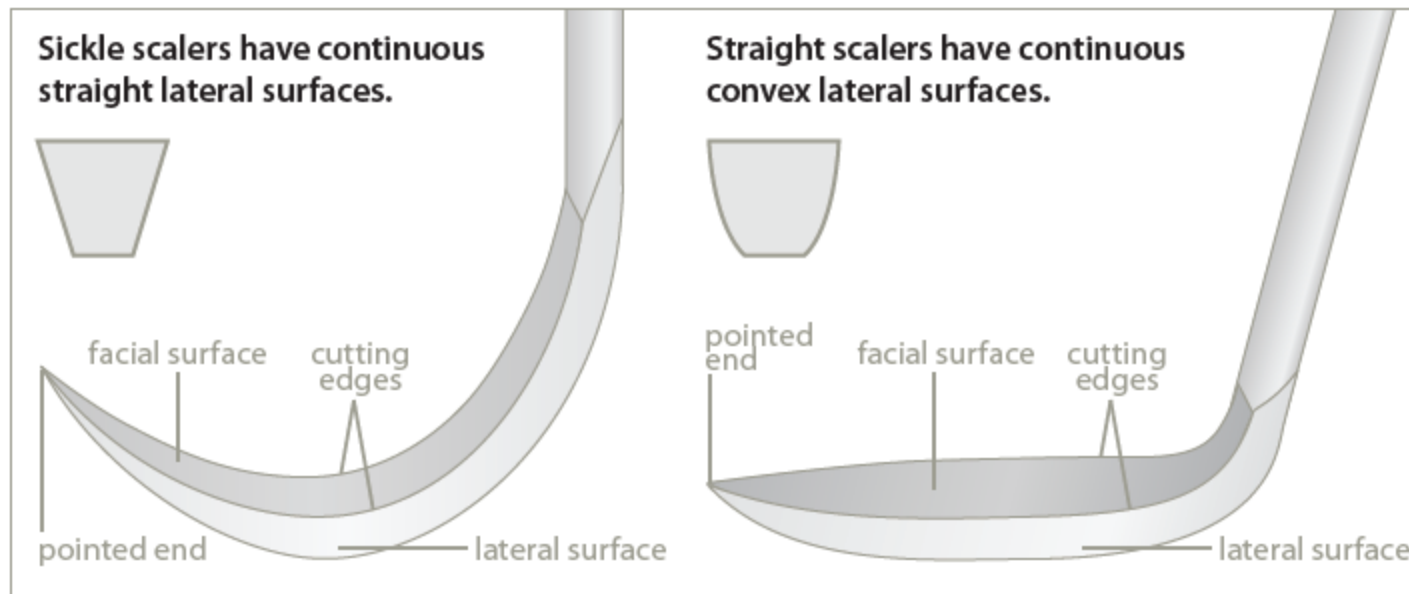
Features	Indication
• Pointed working end/toe • 2 cutting edges • Angled back/lateral surface	• Supra-gingival



E.g.: Scaler 204S

The specifications of a scaler

There is a difference between straight and sickle scalers. The working end of a straight scaler has no bend. The working end of a sickle scaler is curved.



UNIVERSAL CURETTES

Universal Cures

Features	Indication
• Rounded working end/toe • Rounded back/lateral surface • 2 cutting edges	• supra- and sub-gingival



E.g.: Columbia 4L

Gracey Curette

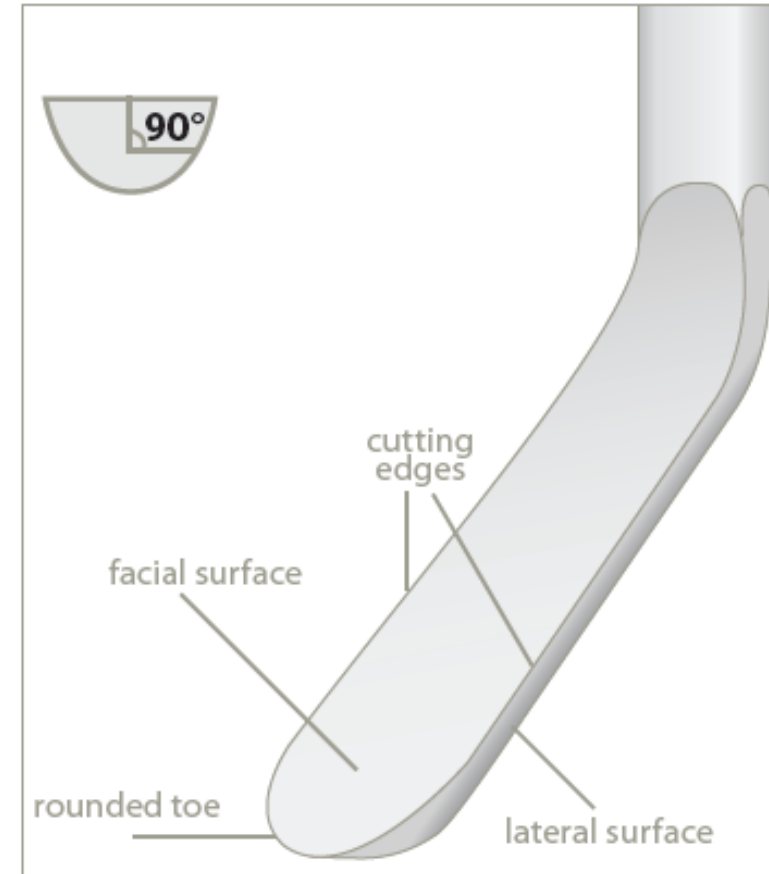
Features	Indication
• Curved w • Rounded back • 1 cutting • Angled working surface • Area specific	• supra- and sub-gingival



E.g.: Gracey 7

UNIVERSAL CURETTES

- Universal curette
- Supra and subgingival access (Supra only for Orthodontic Therapists)
- Rounded Toe (less risk of gingival trauma)
- 2 cutting edges on lateral surfaces



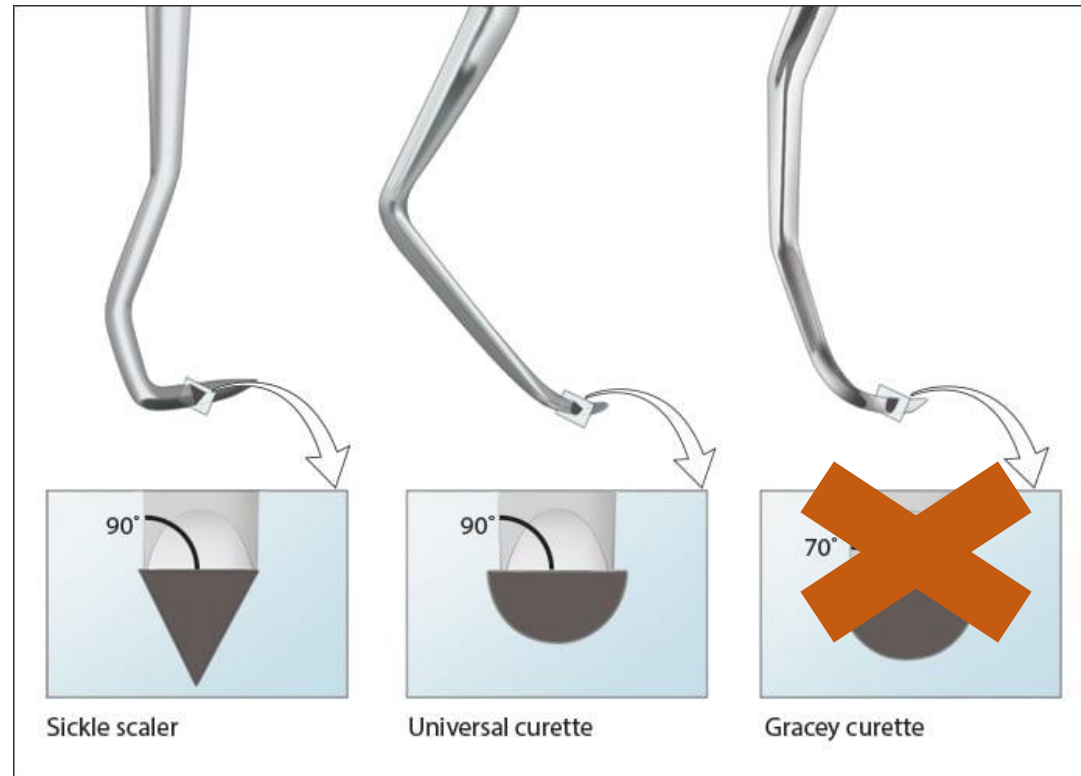
Barnhart 5-6 Thin

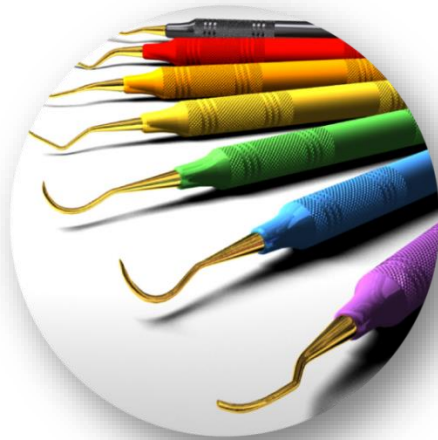


- Universal curette
- Supra and subgingival access (Supra only for Orthodontic Therapists)
- Thinner working end
- Longer lower shank than Columbia 13-14



Comparison of angles and cutting edge



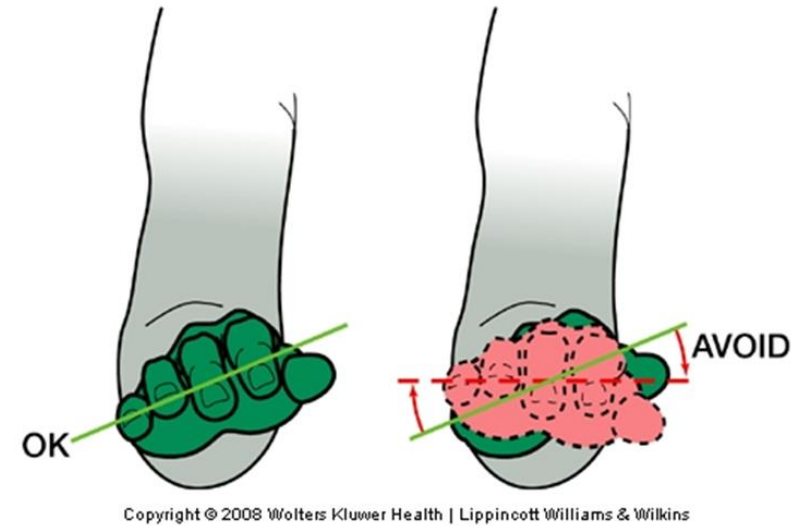
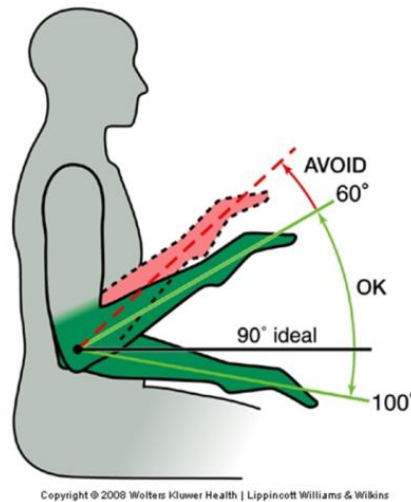
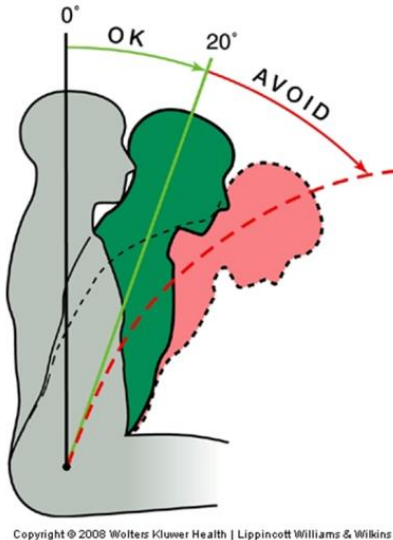


Posture



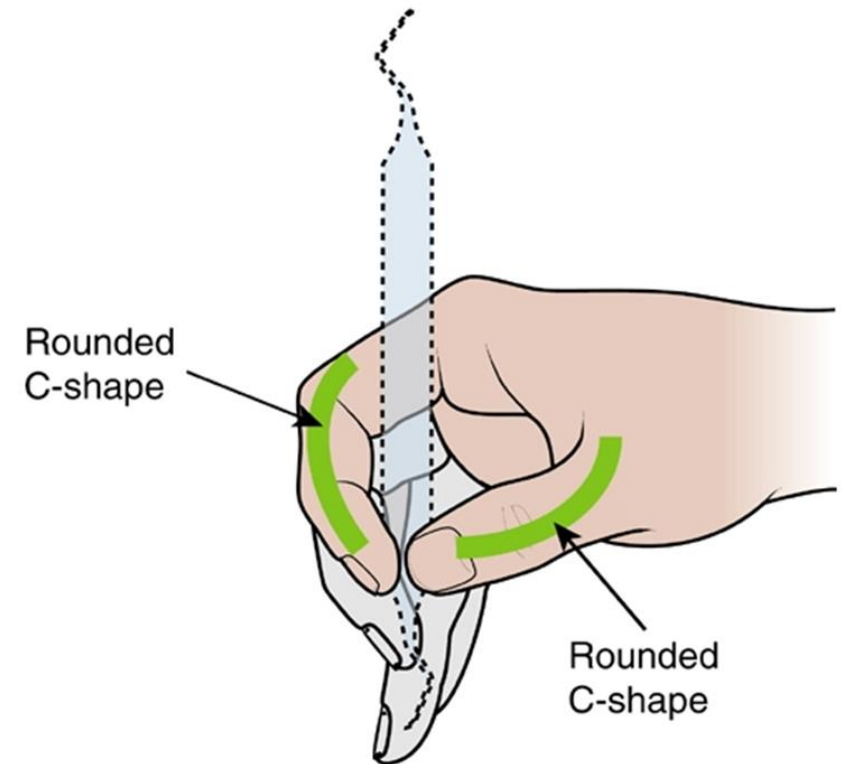
An applied science concerned with the “fit” between people and technological tools and environment

- Focuses on making tasks comfortable and efficient for user
- Equipment should fit the user instead of forcing user to fit equipment
- Efficiency makes tasks easier to do



Benefits of Proper Grasp

- Facilitates precise control of instrument
- Allows detection of rough areas on tooth surface
- Lessens musculoskeletal stress



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Adaptation

- Fulcrum (ring finger)
- Terminal shank parallel to long axis of the tooth.
- Adapt the working end (toe to tooth surface).
- Below the calculus deposit and exploratory strokes supra gingivally.



Hands on!

Summary



What's deposits are clinically present? Soft, hard or both?



What treatment modality or combination do I need to achieve PMPR?
Contraindications?



Safe, effective and minimally invasive

Thank you