Maintain Your Edge

Instrumental in the preservation of the environment and each other.
Thank you....

To Toronto Academy of Dentistry
To D-Sharp and *rdhu*
Today we will ...

1. Discuss the benefits of sharpening (for the client, the clinician and the practice)
2. Discuss different maintenance options and an Operatory Instrument Management program that you can implement in your practice
3. Review the design of the most commonly used instruments and an introduction to some newly designed instruments for advanced instrumentation
4. Learn a quick and easy chair-side method to help achieve a sharp cutting edge EVERY time
The benefits of sharpening...

The Client

- Client Safety and Comfort
- Quality of care is improved
- Quality of treatment
- Less post-treatment discomfort
- Pleasant experience (clients notice the difference if the clinician is using dull instruments versus sharp instruments)
- Efficient appointment (less time in the chair)
- Decrease chance of instrument slipping and damaging tissue.
- Less chance of having burnished calculus
The benefits of sharpening...

The Clinician

- Client Safety and Comfort
- Decrease in Lateral Pressure
- Working Efficiently
- Greater instrument control
- Fewer lighter strokes to remove deposits
- Decrease in burnished calculus
- Increased tactile sensitivity
- Improved speed
- Helps prevent repetitive strain injuries
- Instruments last longer
The benefits of sharpening...

The Practice

- Client Safety and Comfort
- Increases efficiency
- Less fatigued clinicians
- Fewer sick days for the clinician (due to Repetitive Strain Injury)
- More thorough appointment (effective treatment)
- Better client experience
- Increase retention and referral rate
- Instruments last longer when properly maintained (saves money)
The goal of instrument sharpening...

- To produce a sharp cutting edge that is easily attained and sustained
- To use a method that is quick and easy and cost effective
- To maintain the original shape and design of the instrument
Instrument Maintenance: Frequently Asked Questions!

- How often should I sharpen?
- When should I sharpen?
- How often should I purchase new instruments or re-tip?
- We are so disorganized with our instruments? Which ones are sharp...which need to be replaced...what do we do with all the old instruments?
- I don’t like other hygienists sharpening my instruments. What can I do?
- My employer doesn’t want to spend money on instruments! Any suggestions?
- I am opening my own practice and need to watch what I spend on instruments, can you help me?
- I temp in many offices and I am always left with the worst...
When Should I Sharpen?

- First sign of dullness
- Prior to treatment
- During a longer appointment
- Alberta’s new Infection Control Guidelines mandates that RDH’s DO NOT sharpen chairside immediately before or during treatment
Re-Tip (Intro-Cusp: Introducing new tips to an existing handle)

- Saves money
- Save on waste (re-uses existing handle)
- Safe process
- 440A Surgical Stainless Steel tips (North American Certified Steel)
Trade-in Old Instruments

- Many companies offer trade-in specials
- Trade-in old instruments (octagonal, plastic or if you do not want to re-tip)
- Save money on new purchase
- Old instruments can be refurbished and donated to Missionary Groups
Recycle Program

- Many companies offer a recycle program
- Saves the environment: Do your part in helping to preserve our environment. Disposing of non-renewable resources, such as steel, is a waste of energy and material. More energy and resources are required to produce a complete instrument versus what is required to simply change out the tips on quality instrument handles.
- Saves on waste
Instrument Management Programs

- Designed for practices seeking to provide optimal instrumentation, to better manage their dental hygiene instruments and to reduce instrument costs.

- It is a program that will put systems in place to ensure that all the dental hygienists in the practice are always using optimal instruments.
Benefits of being on an Operatory Instrument Management Program

- Offers Best Practice
- Ensures that you are up to CDHO requirements
- Systemization
- Consistency within your practice
- Improves client care/treatment
- Reduces cost
- Low maintenance required
- Helps with ordering
- Reduces waste (reduces old instrument disposal)
- Ensures that all dental hygienists are always using optimal instruments
Within Your Own Practice:

- Team up with other dental hygienists in your practice
- Do frequent instrument inspection TOGETHER
- Frequent professional sharpening/ replacement
- A systemized approach to sharpening in the office
- Replace/sharpen ALL instruments at the same time
- No ID on instrument, therefore colour code
Let’s talk about different options of sharpening...

- **Chairside**
  - Better control of speed, angle and pressure
  - Minimum loss of instrument surface
  - Chairside sharpen throughout treatment or if in Alberta an easy way to sharpen in your operatory
  - Results in using sharp instruments throughout treatment

- **Power**
  - Requires training
  - Instrument surface loss is greater
  - Will go through instruments faster

- **Cost**
  - Set time aside
  - Takes up space
  - Cannot do chairside throughout hygiene treatment

- **Benefit:** Quick sharp results if used properly
Chairside Sharpening

Three Main Techniques

1. Active Stone & Stabilized Instrument
2. Active Instrument & Stabilized Stone
3. Active Instrument on Stabilized Stone
Sharpening Stone Criteria

- The grit of the stone is the most important criteria. Finer grit stones produce edges that are maintained longer. Coarse grit is need to re-shape/re-contour.

- Edges maintained with a fine stone by sharpening at the first sign of dullness, are restored to sharpness quickly with minimal burs & projections.
Sharpening Stones - Natural

Natural Sharpening Stones

- Example Arkansas or India Stone
- Conical stone – for sharpening the face of the blade – not best practice – weakens the blade
- Natural pits and voids which fill with metal shavings which creates a glassy surface, not conducive for effective sharpening
- Metal becomes lodged
- Hard on instrument edge
Sharpening Stone - Synthetic

**Sharpenator Stones/Edgemate**

- Aluminum oxide
- Consistent grit throughout
- Metal does not become lodged in stone
- Variety of shapes and sizes
- Small size for kits and the smaller hand
- Medium size for average to larger size hands
- Better grip and control of the stone with medium size
- Easily sterilized – wash/scrub and sterilize with instruments
- Variety of grits (fine, medium, coarse)
- Edge II is our most popular – coarse on one side and fine/med on the other
- Attains a sharp edge quick!
Sharpening Depends on Angulation

Sharpening is dependent on correct angulation

- Correct angulation = maximum sharpness & longevity
Sharpening Depends on Angulation

- Not enough angulation (ie <110°) (most common error) = creates sharpness but dulls rapidly and is difficult to restore to correct angle
Sharpening Depends on Angulation

- Too much angulation = (>110°) Creates weakened edge, pre-mature dulling & decreases instrument life
Sharpening Depends on Angulation

1. Correct angulation
   - Creates maximum sharpness and longevity.
   - 110°

2. Not enough angulation
   - Most common error
   - Creates sharpness initially but dulls rapidly. Difficult to restore to correct angle.
   - Less than 110°

3. Too much angulation
   - Creates weakened edge, premature dulling, and decreased instrument life.
   - Greater than 110°
Sharpening Depends on Angulation
Compare to a Master Set
Test for Sharpness...

Assess Sharpness

- To avoid over sharpening and under sharpening
- To prolong the life of the instrument
- Determine with glare test, acrylic test stick or sound test
- Use magnification
Test for Sharpness...

**Glare Test**
- A sharp edge will form a fine line and **not** reflect light
- A dull edge will reflect light because of its beveled edge

**Acrylic Test Stick**
- Adapt instrument to the test stick as you would a tooth surface
- A dull edge will slide over the test stick
- A sharp edge will grab the test stick

**Sound Test**
- On the tooth surface
The hygiene instrument consists of:

A working end(s)
Shank
Handle
Review of the Basic Instrument Design

Handle
Review of the Basic Instrument Design

Working end

- Face
- Back
- Lateral surface
- Cutting edges
Review of the Basic Instrument Design

Working end

curet

heel

tip

toe

sickle
Review of the Basic Instrument Design

Functional Shank
Review of the Basic Instrument Design

Terminal Shank
Review of the Basic Instrument

Sickle Scaler

- Cutting edge
- 90 Degrees
- Face
- Cutting edge
- Lateral surface
- Back
- Lateral surface
Review of the Basic Instrument Design

Universal Curette

- Cutting edge
- 90 Degrees
- Face
- Cutting edge
- Lateral surface
- Back
- Lateral surface
Review of the Basic Instrument Design

Gracey Curette

- Front
- Cutting edge: 70 degrees
- Lateral surface
- Back
Overall improved instrument design can increase effectiveness of instrumentation and reduce physical stress

- Extended shank instruments relieve movement restrictions
- Rigid shanks withstand the force of lateral pressure and removal of more tenacious calculus
Langer Curettes

Langer curettes differ from other universal curettes in three important respects:

• Each curette is limited to use only on certain teeth and certain tooth surfaces. For this reason, several Langer curettes are required to instrument the entire mouth.

• A Langer curette has a long complex functional shank design like that of a Gracey curette.

• A set of three Langer curettes – the Langer 5/6, 1/2, 3/4 – is needed to instrument the entire dentition. The Langer 17/18 – which facilitates access to the posterior teeth – may be used on molar teeth.
Indications and Contraindications:
1. Langer 1/2 for mesial and distal mandibular posterior surfaces
2. Langer 3/4 for mesial and distal maxillary posterior teeth
3. Langer 5/6 for mesial and distal maxillary and mandibular anterior surfaces
4. Langer 17/18 for mesial and distal 2nd and 3rd molars - an adaptation of the Langer 1/2 (For the client that has difficulty opening wide. The L 17/18 makes it easier to position the lower shank parallel to the mesial surface of molar teeth)
Langer Curettes

- Cutting edges
- Long, complex shank
- 90°
Langer Curettes
The O’Hehir Debridement curettes are a new type of area-specific curette designed to remove light residual calculus deposits and bacterial contaminants from the entire root surface.

Used with a gentle stroke pressure with either push or pull strokes.

**Shape of Working-End**
The working-end is a tiny circular disk.
O’Hehir Curettes

Indications and Contraindications:
Entire edge is a cutting edge enabling a push or pull stroke in all directions: vertical, horizontal or oblique.

Shanks are extended for easy access into deep pockets:
- **OH 1/2** Facial and lingual surfaces of posterior teeth
- **OH 3/4** Mesial and distal surfaces of posterior teeth
- **OH 5/6** Anterior teeth
- **OH 7/8** Anterior teeth with deep pockets
O’Hehir Curettes

Cutting edges

Continuous cutting edge
What’s needed?

- Stable work surface
- Magnification – many dental hygienists are not aware of magnification in instrument sharpening. It speeds both assessment of edge quality & attainment of edge sharpness. A small light microscope provides optimal vision but any magnification is better than none!
- A good lighting source
- Chair-side Guide
- Sharpening Stone
- Test stick
- Protective wear (gloves, mask, eyewear)
The Basics of Sharpening

- Position the instrument (use a sharpening guide)
- Hold and stabilize the instrument in non-dominant hand
- Hold the stone in dominant hand at 110°
- Toe of blade facing toward you
- Face of the blade parallel to the floor
- Move the stone in short rhythmic strokes (0.5” – 1”) up and down motion from heel, to middle to toe keeping the design of the blade in mind
- Applying light pressure (slightly heavier pressure on the down stroke)
- Never lose contact of instrument and stone
- Ending at tip of toe for sickles and opposite side for rounded toe for curettes on a down stroke
Positioning the Instrument

Sickle Scaler:
- Terminal shank is at the 90° (face is parallel to the floor)

Universal Curette
- Terminal shank is at the 90° (face is parallel to the floor)

Gracey Curette
- Terminal shank is at the 110° (face is parallel to the floor)
Positioning the Instrument

Sickle Scaler:

Terminal shank is at the 90° (face is parallel to the floor)
Positioning the Instrument

Universal Curette

Terminal shank is at the 90° (face is parallel to the floor)
Positioning the Instrument

Gracey Curette

Terminal shank is at the 110° (face is parallel to the floor)
References:

- Clinical Practice of the Dental Hygienist, Wilkins, 10th Edition
- CRDHA Protocol for Sharpening Dental Hygiene Instruments, 2011
- Dental Hygiene Theory and Practice, Darby & Walsh, 2nd Edition
Thank you!!!

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