



Non-Surgical Periodontal
Instrumentation Techniques

Hand Instrumentation Revision

INTERACTIVE & REFLECTIVE WORKBOOK

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PRINCIPLES OF SCALING

Objective

The removal of bacterial plaque and calculus deposits from coronal and root surfaces to promote periodontal healing and repair.

Supragingival debridement is the mechanical removal of bacterial plaque, its byproducts, and plaque retentive factors (such as calculus) from the clinical crowns of the teeth.

Supragingival calculus deposits are visible to the naked eye when dried with compressed air.

TECHNIQUE FOR CALCULUS REMOVAL

For calculus removal, it is vital to establish the correct angle between the instrument face and the tooth surface. The face-to-tooth angulation for calculus removal is an angle that is greater than 45-degrees and less than 90-degrees. The ideal angulation is between 80-90 degrees where possible.

EFFECTIVE TECHNIQUE

The procedure should be undertaken in a methodical way, working around the mouth and around each tooth in an orderly manner. It is also important to select the correct instrument for the task you wish to carry out.

EACH STROKE SHOULD BE DELIBERATE AND EFFECTIVE.

A firm finger rest (fulcrum) is essential for controlled use of the instrument. The movement of the instrument can be divided into two phases.

- The exploratory stroke – this will determine the size and location of the deposit.
- The working stroke – which will remove the deposit. The blade is positioned apically until the calculus is felt. Do not press hard at this point. Slide the blade over the deposit until you feel that the instrument has passed it. Once apical to the deposit, press down firmly on your finger rest and apply lateral pressure against the

tooth surface. Ensure the terminal shank is parallel with the long axis of the tooth to establish the correct angle of the cutting edge (this is referred to as parallelism).

Using lateral pressure, move the blade in a coronal direction to remove the calculus deposit in its path. Relax your muscles briefly and repeat the process on all sites as required.

To achieve lateral pressure, the fulcrum finger must be straight to support the weight of the hand. Press the fulcrum finger firmly against the occlusal or incisal surface. Apply pressure inward against the instrument handle using the index finger and thumb. This will engage the cutting edge against the tooth surface. This pressure should be maintained throughout the working stroke to achieve calculus removal.

TECHNIQUE FOR SUPRA-GINGIVAL CALCULUS DEPOSITS

For calculus removal, it is vital to establish the correct angle between the instrument face and the tooth surface. The face-to-tooth angulation for calculus removal is an angle that is greater than 45-degrees and less than 90-degrees. The ideal angulation is between 60-80 degrees where possible.

The instrument of choice is a mini-sickle scaler. It is a universal instrument with two cutting edges and the face is offset at a 90 degree angle to the terminal shank. This makes it easier for placement and to achieve a blade to tooth angle of 90 degrees. Once 90 degrees is achieved it is easier to adjust to the required 60-80 angulation for calculus removal stroke.

Supragingival debridement is the mechanical removal of biofilm, its byproducts, and plaque retentive factors (such as calculus) from the clinical crowns of the teeth. Supragingival calculus deposits are visible to the naked eye when dried with compressed air.

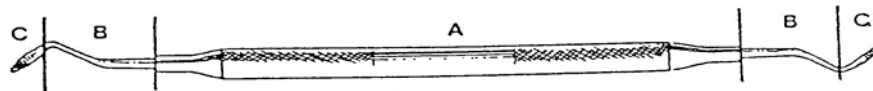
Things to consider:

1. Sitting correctly
2. Patient in correct position for arch to be instrumented
3. Correct instrument (inspect for sharpness)

4. Grasp of instrument
5. Establish where you will position a finger rest (adjacent tooth is best where possible: Basic Intra-oral Fulcrum)
6. Is the terminal shank parallel? Are you struggling to achieve this? Stop and try to figure out why this is the case? Wrong end? Incorrect patient position? What arch are you instrumenting?
7. Mouth mirror in non-dominant hand and a finger rest for stability & control
8. Identify the correct end of the instrument and adapt the cutting edge.
9. Position the blade against the surface you wish to debride just above the gingival margin
10. Press inward and activate the blade towards the incisal edge. This called a 'Pull Stroke'
11. Relax, repeat until deposit is removed (2-3 effective strokes should be sufficient)
12. The first stroke, if executed well, should 'pop' off the majority of the deposit leaving behind fine deposits that are still easily detectable.
13. Check for residual calculus by drying the surface with air & explore using a light, relaxed technique.

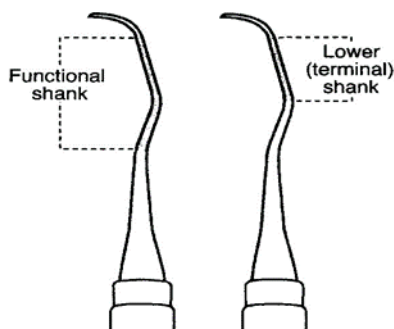
BASIC PERIODONTAL INSTRUMENT DESIGN

Periodontal instruments comprise of 3 main parts, the handle (A), the shank (B) and the working end (c).



THE HANDLE (A)

- The part of the periodontal instrument used for grasping the instrument
- The handle can be hollow or solid, slim or thick
- Thicker handles cause less fatigue because they require a less tight grip than a thinner handle
- Tactile sensation is improved by using hollow handled instruments
- The handle transmits vibrations from the tooth surface to the clinician's fingers
- These vibrations are necessary to evaluate the root surface and the position of calculus deposits

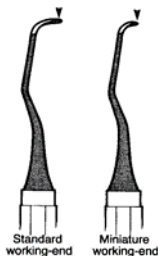


THE SHANK (B)

- A rod shaped length of metal that attaches the working end to the handle.
- Usually circular and smooth, much smaller in diameter than the handle
- Straight shanks are used on the anterior teeth, curved or bent shanks are usually used in posterior areas
- Longer shanks allow better access to deeper pockets and to posterior teeth

THE WORKING END (C)

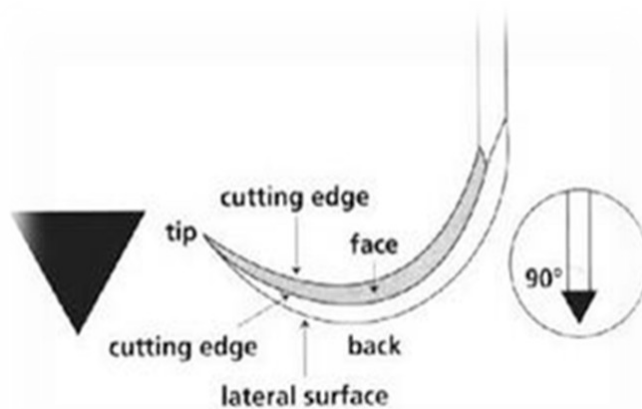
- The part of the instrument with the cutting edge - does the work of the instrument!
- Thin or wire like and have a single or double working end
- May terminate in a sharp point or a rounded surface, Shaped or flattened on some of its surfaces.
- This section is referred to as the working end, cutting edge or blade.



SCALERS: SICKLES

A sickle scaler is a debridement instrument with a pointed back and two cutting edges that meet at a point. Sickle scalers are confined to supragingival use and should NOT be used on root surfaces. Sickles are available in either anterior or posterior designs and may be single or double ended. The primary function of the sickle scaler is to remove medium-large deposits of supragingival calculus.

Design features of sickle scalers include: Pointed back, pointed tip, triangular in cross section, two cutting edges per working-end and the face is perpendicular to the lower shank



Design highlights of sickle scalers:

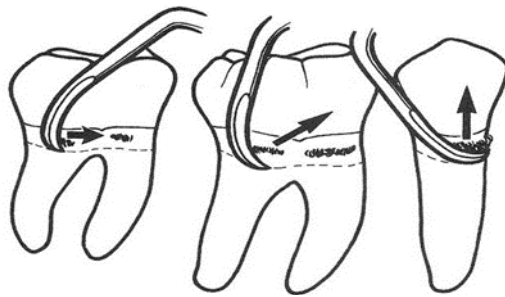
- Pointed back
- Pointed tip
- Triangular in cross section
- Two cutting edges per working end
- Face is perpendicular to the lower shank

ACTIVITY 1: SICKLE SCALERS

Q. What is the name & number of the sickle scaler you are currently using?

Can you name any other versions of the sickle scaler? List them

ACTIVITY 2: CALCULUS REMOVAL STROKES



A

B

C

Name this type of Stroke: A=

B=

C=

ACTIVITY 3: INSTRUMENT MAINTENANCE & CARE

Q. List the equipment/materials you currently use for instrument maintenance:

ACTIVITY 4: INSTRUMENT MAINTENANCE & CARE

Q. List the reasons for maintaining hand instruments:

ACTIVITY 5: CALCULUS DETECTION

Q. List the techniques & / instruments you use to detect / locate calculus deposits:

REFLECTION:

What have you learned from this training that will benefit your patients and improve your clinical practice?
