

Understanding Curettes in Periodontal Therapy: A Comprehensive Review

Jilu Jessy Abraham^{1*}, Anil Melath², Nanditha Chandran¹, Fathimathu Safah³ and Keerthana S³

¹Reader, Department of Periodontics, Mahe institute of Dental Sciences, Chalakkara, Mahe, India

²Principal & HOD, Department of Periodontics, Mahe institute of Dental Sciences, Chalakkara, Mahe, India

³Final year student, Mahe institute of Dental Sciences, Chalakkara, Mahe, India

ABSTRACT

This article gives a detailed description of the periodontal curettes. The curettes are mainly used for the subgingival removal of calculus. These curettes are classified into the universal curettes and area specific curettes. Universal curettes seem to be used for all surfaces, while the area specific curettes are used for specific areas. We also go through the parts of instruments. Knowing the parts of instrument is really needed for the clinician to know about the hand grips. This article also dealt with the classification of instruments to show under which category the curette comes. Then we move on to the detailed description of the curettes both area specific and the universal curette. Their clinical uses are also explained very well so that we could get a specific knowledge about them. The designing of curettes are given so that why they are given specific function can be identified. They are differentiated from the scalers to know about specificity of the instrument.

*Corresponding author

Jilu Jessy Abraham, M.D.S., Reader, Department of Periodontics, Mahe institute of Dental Sciences, Chalakkara, Mahe- 673310, India.

Received: May 21, 2025; **Accepted:** May 27, 2025; **Published:** June 27, 2025

Keywords : Subgingival- below the Gingiva, Supragingival- above the Gingiva

Introduction

The main objective of periodontal treatment is the re-establishment and maintenance of periodontal health. The major factors for periodontal disease progression, is the local factors like plaque and calculus. To achieve the periodontal health, it is mandatory to remove these local factors to obtain clean surface. Therefore; to achieve those goals periodontal instrument has been designed specifically.

Instruments

Periodontal instruments are used for specialized functions and have specific design. Removing calculus, planning root surfaces, curetting the gingiva and removing the diseased tissue are some of the specific purposes for which periodontal instruments are designed. For the removal of subgingival and supragingival presently; there is a large number of instrument available which includes ultrasonic devices, sickles, chisels, curettes and hoes. For appropriate use of these instruments, it is mandatory to have a thorough knowledge of instruments.

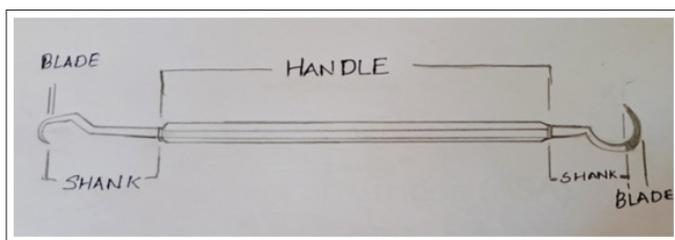
Parts of Instruments

First, we have handle of the instrument. The handle of the instrument used for grasping. They are purchasable in various heights, diameters and texture at present. The amount of pinch force or pressure needed to hold the instrument is influenced by

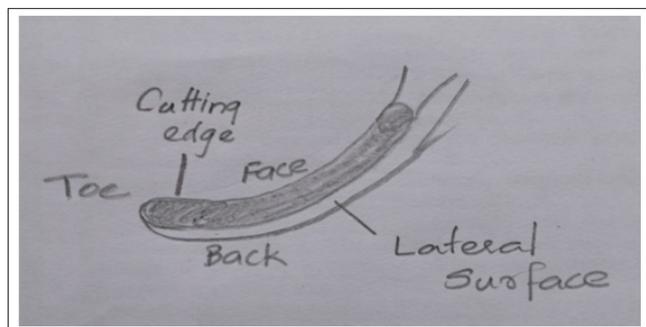
ergonomically designed instrument handle [the whether they are round, straight or angular]. Other factors are material used for handle which include stainless steel, plastic/resin and silicone. The amount of force applied can also be determined by the texture of the handle.

The next part is shank. The working end is connected to the handle using the shank. They can be functional or terminal. The functional shank differs in length and angle. Extending from the blade to the first bend in the shank is the terminal shank. To provide a visual hint to the base of the pocket the terminal shank should be positioned parallel. For patients with deep periodontal pockets and/or clinical attachment loss extended is more favourable. In patients with shallow pockets, supragingival calculus, and little or no attachment shorter shank can be chosen. The position of the blade and the flexibility to the surface being scaled will decide the angle of the terminal shank. Another feature of shank design is the flexibility and thickness of the instrument. Shanks vary from flexible, moderately flexible, rigid and extra-rigid.

At least we have working end. It is also known as blade. It is made of several components such as face, cutting edge, back and toe, whereas a pointed working end is called the tip. The range of the blade begins from long to short [standard, mini and micro-mini bladed]. With horizontal and vertical strokes, the large quantity of calculus on surface can efficiently be broken or removed using longer blade.



Parts of Instruments



Curette Design

- Rubber cups
- Bristle brushes
- Dental tape
- Air powder polishing
- Surgical instruments
- Excisional & incisional instruments
- Periodontal knives - (Gingivectomy knives)
- Interdental knives
- Surgical blades
- Electrosurgical instruments
- Electro suction – use to incise, cutting, and tissue planning
- Electrocoagulation – coagulation or haemorrhage control
- Electrofulguration – not generally used in dentistry
- Electrodesiccation – not generally used in dentistry
- Surgical curettes and sickles
- Keamer curettes # 1,2,3 & langer curettes
- Kirkland surgical instruments
- Ball scaler B2 – B3
- Periosteal elevator
- Goldman fix # 10 scissors
- Castroviejo scissors
- Needle holder
- Castroviejo needle holder

Classification of Instruments

Periodontal instruments are classified into the following categories:

- Diagnostic instrument
- Mouth mirror
- Probe
- Explorer
- Periodontal endoscope
- Scaling instruments
- Manual
- Supragingival scalers
- Sickle scalers
- Surface scalers
- Jacquet scalers
- Subgingival scalers
- Hoe scalers
- Chisels scalers
- Root scalers
- Power driven
- Sonic scalers
- Ultrasonic scalers
- Piezo - electric scalers
- Magnetostrictive scalers
- Root planning and curetting instrument
- Area specific curettes
- Gracey curettes
- Kramer curettes
- Turgeon series
- After fine series
- Mini fine series
- Curvette series
- Furcation curettes
- Universal curettes
- Columbia curettes
- Indiana universal curettes
- Bamhart curettes
- Gothamberg curettes
- Younger good curettes
- Mc call's curettes
- Cleaning and polishing instruments

Periodontal Curettes

An instrument utilized for curettement of periodontal pockets, tooth roots and bone. They are preferred instrument for eliminating deep subgingival calculus, for root planning the contaminated cement and resection of soft tissue lining the periodontal pocket. Modern techniques recommend multiple light strokes to remove plaque, to degrade the biofilm and calculus without excessive tooth structure removal. These are considered as treatment instrument. The blade of the curette is semi-circular in cross section. The curette is allowed to be placed within a periodontal pocket with minor discomfort and laceration to the patient is due to its rounded and convex back. Compared to other scaling instruments the, most of the curettes are smaller and finer. The feature that minimizes gouging of the root surface and improves intact feedback is that they end in a rounded toe.

Types of Curettes

Curettes are mainly of two types:

Universal curettes

- Barnhart curettes # 1-2 and 5-6
- Columbia curettes # 13-14, ₂R – ₂L and ₄R – ₄L

Area specific curettes

- Gracey curettes
- Double – ended gracey curettes
- Extended shank curettes
- Mini – bladed curettes
- Langer and mini langar curettes

Universal curettes are created in such a way that the single instrument can be adapted to all tooth surfaces using both cutting edge of each blade. The adaptation to various areas is done by altering figure rest, hand position and fulcrum. Whereas area specific curettes are designed in a way that each blade adapts to a specific tooth surface or area.

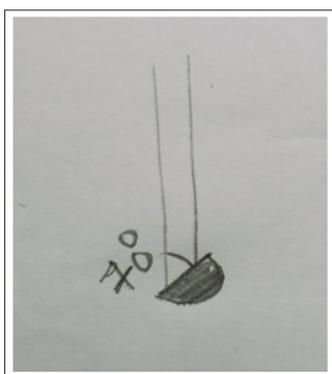
Curette Designs

Universal Curette Design: these curettes are designed so that with one double-ended instruments, we can adopt the working ends to all the tooth surfaces of all the region of mouth. To the lower shank, the

blade of the universal curette is honed at 90°. All the universal curettes are designed in such a way that, the lower shank is automatically tilted towards the tooth, when the handle is parallel to the root surface being instrumented to provide proper working angulation. By simply tilting the instrument one way or the other, on each blade both cutting edges can be used. Two cutting edges are straight and parallel to each other except for the curve from the shank to the toe, there is no curvature of the blade.

Department of Periodontics, Mahe institute of Dental Sciences

Gracey Curette Design: they are area specific instruments. In a full set, there are seven mirror image of pair of curettes; Gracey 1-2: anterior surface, Gracey 3-4: anterior surface, Gracey 5-6: anterior and bicuspid surface, Gracey 7-8: posterior-buccal and lingual surface, Gracey 9-10: posterior-buccal and lingual surface, Gracey 11-12: posterior-mesial surfaces, and Gracey 13-14: posterior-distal surfaces.



Clinical Uses of Curettes

The curettes are used for root planning, periodontal scaling and calculus debridement. Universal curette’s purpose is to take out medium or small calculus from both subgingival and supragingival. As these can be used in all surfaces, they are very versatile.

Specific curettes used for removal of subgingival and supragingival calculus are gracey curettes. These are also one of the main instruments used for scaling and root planning along with universal curettes. As the design of the gracey curettes allows better adaptation to the root anatomy they are mainly preferred for subgingival calculus

Difference from Scalers

Scalers	Curettes
Scalers are heavier instruments.	Curettes are finer versatile instruments.
The use is supragingival scaling.	The uses are sub and supra gingival scaling, curettage and root planning.
The design is not suitable for root surface.	The design is suitable for root surface.
Cross section shows triangular in shape.	Cross section shows semi-circular in shape.
All the scalers have two cutting edges.	Here area specific curette has one cutting edge and the universal curette have two cutting edges.
The toe is pointed.	The toe is rounded.
They cannot be used subgingivally as they can traumatize the tissue due to sharp edges.	These can be used subgingivally as they have rounded edges and do not traumatize the tissue.

Conclusion

In this article we deal about the periodontal curettes. It is important to know very well about this instrument because the most used in removal of the supra and subgingival calculus. Also, they are used for the root planning, scaling, pockets and to remove the soft tissue lining. To know how to use the curettes, the knowledge of the designing of the curette should be known. There are mainly two types of the curette; i.e. Universal and Area Specific. The detailed description is given in this article so that the actual use can be explained to the clinician which is very important to be known.

References

1. Article On Periodontal Instruments By Periobasics <https://periobasics.com/periodontal-instruments/>.
2. Essentials Of Periodontology And Oral Implantology By Dr Syed Wali Peeran And Dr Karthikeyam Ramalingam https://www.researchgate.net/publication/314116069_Essentials_of_Periodontics_and_Oral_Implantology.
3. Wikipedia About Periodontal Curettes https://en.wikipedia.org/wiki/Periodontal_curette#:~:text=The%20periodontal%20curette%20is%20a,universal%20curettes%20and%20Gracey%20curettes.

Copyright: ©2025 Jilu Jessy Abraham. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.