

bottom row (flow)  
top row (flow)

# 11

## Endodontic Instruments



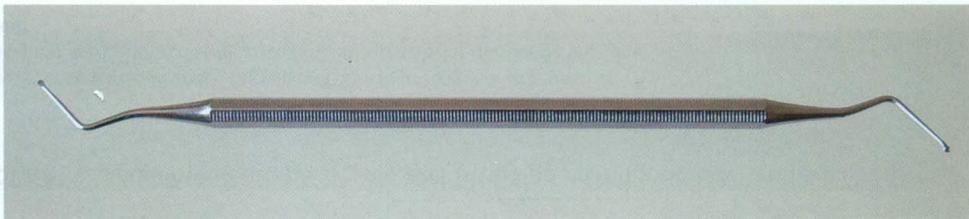


## INSTRUMENT Endodontic Explorer

- Function** ▶ To locate opening of small canal orifices for endodontic procedure
- Characteristics** ▶ Double ended  
Working end—Longer than regular Explorer to reach opening of canals
- Practice Note** ▶ Endodontic Explorer is used exclusively on endodontic tray setups.



**S** Endodontic Explorer must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping.



## INSTRUMENT

### Endodontic Long-Shank Spoon Excavator

- Function** ▶ To curet inside of tooth to base of pulp chamber
- Characteristics** ▶ Long shank to reach deep into cavity preparation  
Double ended  
Range of sizes available
- Practice Note** ▶ Endodontic Long-Shank Spoon is used exclusively on endodontic tray setups.

**S** Endodontic Long-Shank Spoon Excavator must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping.



## ■ INSTRUMENT Endodontic Locking Forceps (Pliers)

- Function** ▶ To grasp and lock material for transfer into and out of oral cavity
- Characteristic** ▶ Similar to regular cotton forceps except for locking mechanism to secure material on the working end of the forceps (pliers)
- Practice Note** ▶ Endodontic Locking Forceps are used on endodontic tray setup and could also be used on restorative tray setups.

**S** Endodontic Locking Forceps must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping. Hinged instruments should be processed open and unlocked.



Photo courtesy SybronEndo, Orange, CA.

## ■ INSTRUMENT Vitalometer/Pulp Tester

**Function** ▶ To test vitality of pulp in teeth

**Characteristics** ▶ Two types—Electronic, digital (digital readout)  
Electric or battery operated

**Practice Notes** ▶ The tester sends an impulse of electric current to the pulp, causing a reaction. The current is increased by small increments until the patient indicates feeling a sensation. Toothpaste is applied to the tip of the electrode to conduct electricity. The tip is placed on the coronal part (facial or lingual) of a natural tooth. Each root/pulp on the tooth is tested. Vitalometer is used exclusively with endodontic tray setups.

**S** Vitalometer tip must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping. Barriers should be used on the unit and/or the manufacturer's recommendation for sterilization of Vitalometer tip and disinfection of unit should be followed.





## INSTRUMENT Broach

- Function** ▶ To remove pulp tissue from canal(s)
- Characteristics** ▶ Working end—Barbed wire protrusions on shaft grab and remove vital or nonvital pulp fibers.  
 Handles—Color coded according to size  
 Range of sizes—Diameter increases with size.
- Practice Note** ▶ Broach is used exclusively on endodontic tray setups.

**S** Endodontic Broach must be disposed of in a Sharps container. For single use only.

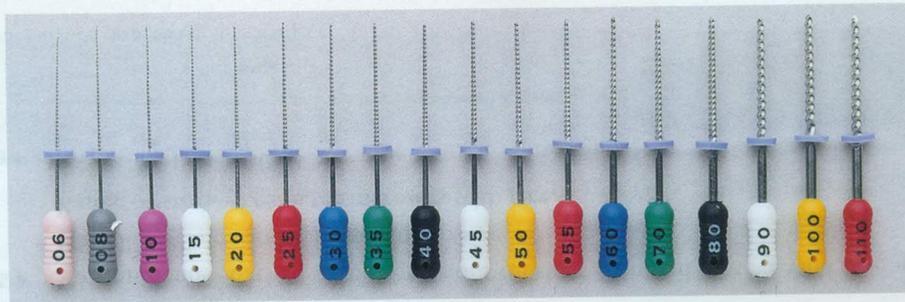


Photo courtesy: Premier Dental, Plymouth Meeting, PA.

## INSTRUMENT Endodontic File—K Type

**Functions** ▶ To clean inside walls of canal  
To contour inner walls of canal

**Characteristics** ▶ Twisted design—More twists per millimeter than reamer  
Used with push-pull motion  
Handles—Color coded according to size  
Range of sizes—To accommodate width of canal; diameter increases with size.  
Available in different lengths  
*Examples:* 21 mm, 25 mm, 31 mm

**Practice Note** ▶ Endodontic File—K Type is used exclusively on endodontic tray setups.

**S** Endodontic File—K Type must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping, or used file must be disposed of in a Sharps container. Rubber stopper on the file should be disposed of in the garbage.

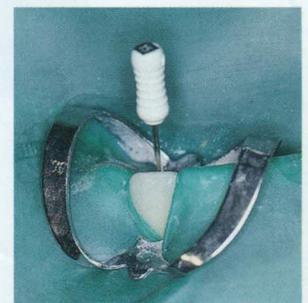
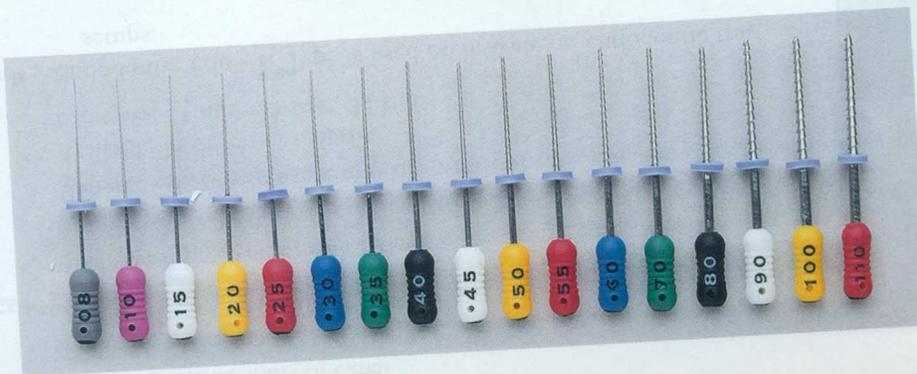


Photo courtesy Premier Dental, Plymouth Meeting, PA.



## INSTRUMENT Endodontic File—Hedstrom

**Functions** ▶ To clean inside walls of canal  
To enlarge and smooth inner walls of canal

**Characteristics** ▶ Triangular cutting edge  
Handles—Color coded according to size  
Range of sizes—To accommodate width of canal; diameter increases with size.  
Available in different lengths  
*Examples:* 21 mm, 25 mm, 31 mm

**Practice Note** ▶ Endodontic File—Hedstrom is used exclusively on endodontic tray setups.

**S** Endodontic File—Hedstrom must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping, or used file must be disposed of in a Sharps container. Rubber stopper on the file should be disposed of in the garbage.

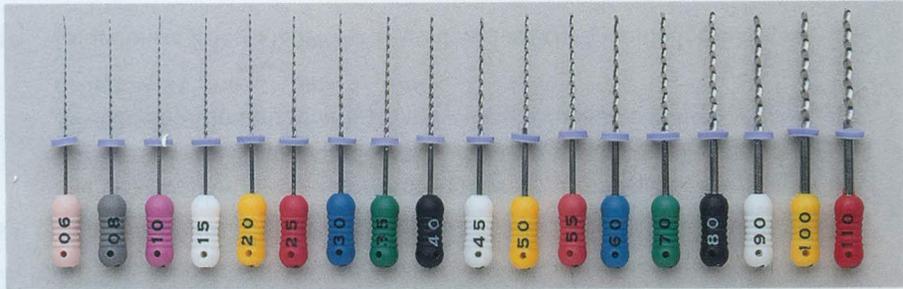


Photo courtesy Premier Dental, Plymouth Meeting, PA.

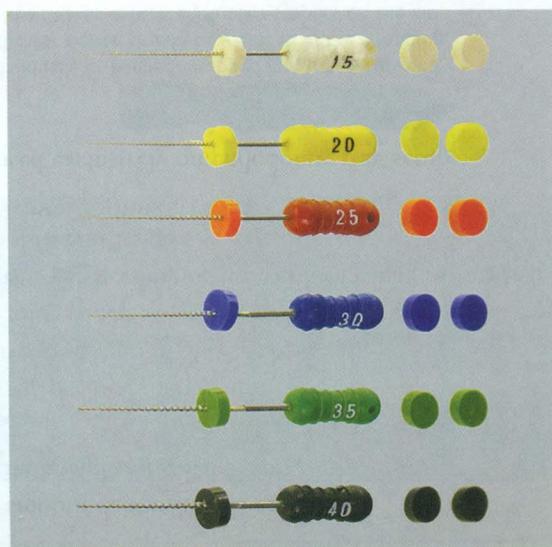
## INSTRUMENT Reamer

**Functions** ▶ To cut and smooth dentinal walls of canal  
To enlarge inner walls of canal

**Characteristics** ▶ Twisted triangular cutting edge (similar to K-type file, but cutting edge is farther apart and has fewer twists per millimeter)  
Used with twisting motion  
Handles—Color coded according to size  
Range of sizes—To accommodate width of canal; diameter increases with size.  
Available in different lengths  
*Examples:* 21 mm, 25 mm, 31 mm

**Practice Note** ▶ Reamer is used exclusively on endodontic tray setups.

**S** Reamer must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping, or used reamer must be disposed of in a Sharps container. Rubber stopper on the file should be disposed of in the garbage.



## INSTRUMENT Endodontic Stoppers

**Function** ▶ To place onto an intracanal instrument such as a file or reamer to help determine length of canal

**Characteristics** ▶ Files or reamers are measured from stopper to apex of root to determine length of canal. (Radiographs also help determine length.)  
Stoppers are made from rubber, silicone, or plastic.

**Practice Notes** ▶ Endodontic Stoppers are color coded to correspond to a particular file or reamer, or a single color of stopper is used for all files or reamers.  
Endodontic Stoppers are used exclusively on endodontic tray setups.

**S** Endodontic Stoppers should be disposed of in the garbage. Single use only.

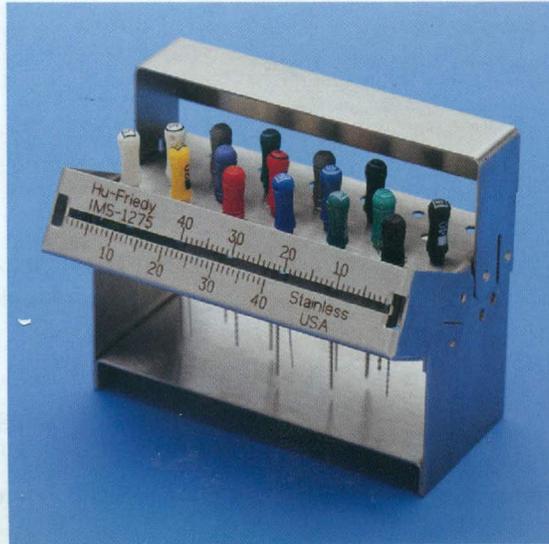


Photo courtesy Hu-Friedy Mfg. Co., LLC, Chicago, IL.

## INSTRUMENT Endodontic Stand

- Functions** ▶ To hold endodontic files and reamers  
To measure endodontic files and reamers with millimeter ruler etched in container; may be measured from right or left side of stand
- Characteristic** ▶ Container closes with endodontic files and reamers for sterilization processes.
- Practice Note** ▶ Endodontic Stand is used exclusively with endodontic tray setups.

**S** File or Reamer in Endodontic Stand and Endodontic Stand must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping, or used file or reamer must be disposed of in a Sharps container. Rubber Stopper on the file should be disposed of in the garbage. Single use only.



## INSTRUMENT Endodontic Millimeter Ruler

- Function** ▶ To measure files, reamers, other instruments, and materials in millimeter increments
- Characteristic** ▶ Variety of designs
- Practice Note** ▶ Endodontic Millimeter Ruler could be used in areas of dentistry other than on endodontic tray setups.

**S** Endodontic Millimeter Ruler must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping.

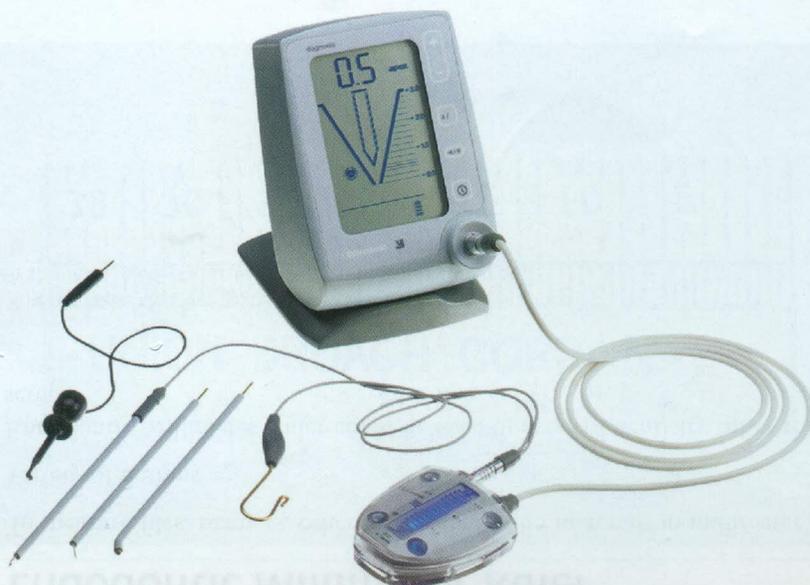
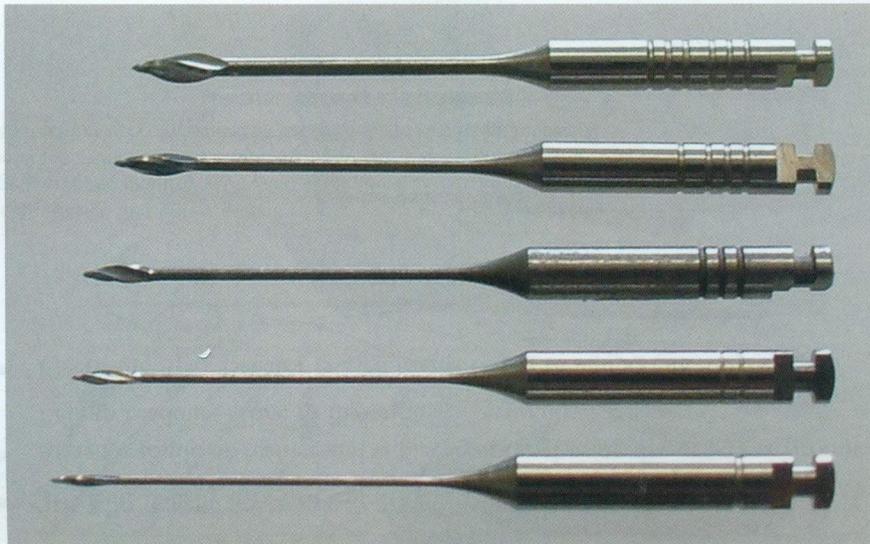


Photo courtesy SybronEndo, Orange, CA.

## ■ INSTRUMENT Electronic Apex Locator

- Function** ▶ To electronically measure length of canal to apex of tooth
- Characteristics** ▶ Attaches to file or reamer and is placed in canal using dry or wet environment  
Length readout—Tone or digital
- Practice Note** ▶ Electronic Apex Locator is used exclusively with endodontic tray setups.

**S** Electronic Apex Locator device that enters patient's mouth must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping. Barriers should be used on the unit, and/or the manufacturer's recommendation for sterilization should be followed.



## INSTRUMENT Gates Glidden Bur or Drill

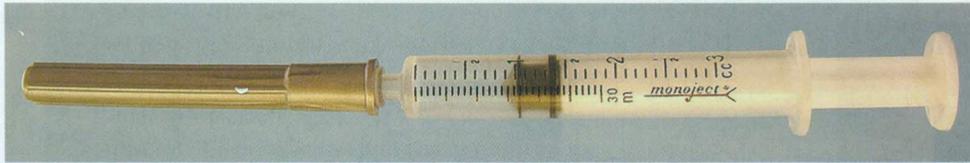
**Functions ▶** To enlarge walls of pulp chamber  
To open canal orifice

**Characteristics ▶** Long-shank bur  
Elliptical or flame-shaped cutting edge  
Latch type—Used with slow-speed contra-angle handpiece (air driven or electric)  
Range of sizes—Size identified by number of grooves on shank  
Two lengths—Shorter for posterior teeth, longer for anterior teeth



**Practice Note ▶** Gates Glidden Burs are used exclusively on endodontic tray setups.

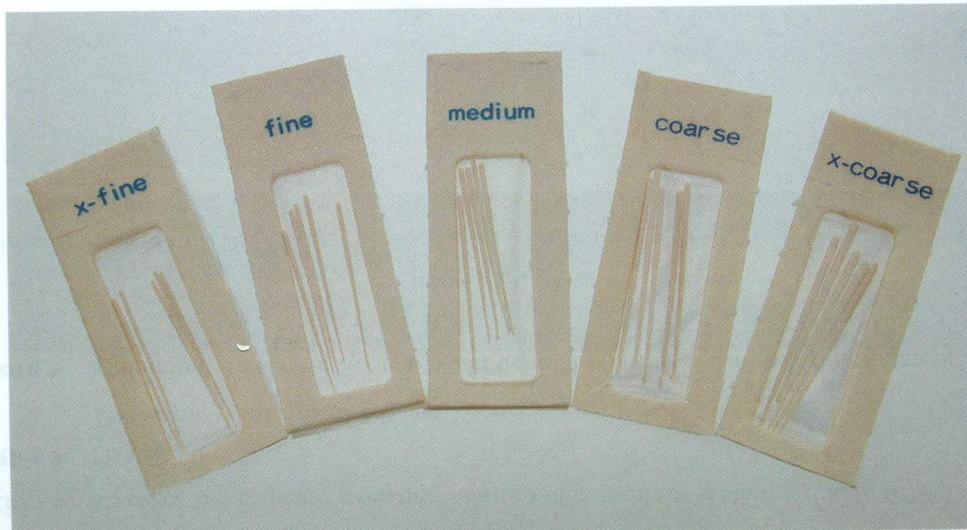
**S** Gates Glidden Bur or Drill must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping, or used Gates Glidden Bur must be disposed of in a Sharps container.



## ■ INSTRUMENT Endodontic Irrigating Syringe

- Function** ▶ To carry and dispense irrigating solution into canal for cleansing during débridement of canal
- Characteristics** ▶ Disposable  
Two sizes—3 mL (pictured) and 12 mL
- Practice Note** ▶ Endodontic Irrigating Syringe could be used in areas of dentistry other than on endodontic tray setups.

**S** Endodontic Irrigating Syringe should be disposed of in a Sharps container. For single use only.



## ■ INSTRUMENT Sterile Absorbent Paper Points

- Function** ▶ To dry pulp chambers of canal—New points inserted repeatedly until pulp chamber is completely dry
- Characteristics** ▶ Size of point corresponds to width of canal  
Range of sizes available
- Practice Notes** ▶ The length of the paper point is measured to ensure that it corresponds to the length of the canal.  
Paper Points are used exclusively on endodontic tray setups.

**S** Sterile Absorbent Paper Points should be disposed of in the garbage.



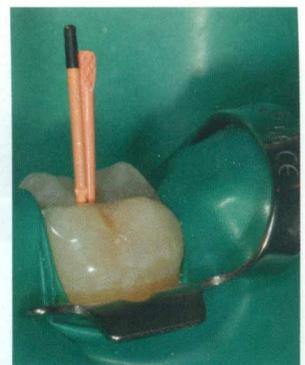
Photo courtesy Coltene/Whaledent, Cuyahoga Falls, OH.

## ■ INSTRUMENT Gutta-Percha

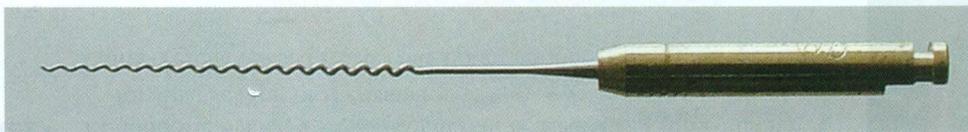
**Function** ▶ To fill pulp chamber after completion of canal preparation (called *obturation*)

**Characteristics** ▶ Solid at room temperature; becomes soft and pliable when heated  
 May be heated in a cartridge and then dispensed into canal  
 Range of sizes—To correspond to size of canal

**Practice Notes** ▶ Endodontic Sealer, a cement material, is used with Gutta-Percha for final sealing of the canal.  
 Gutta-Percha is used exclusively on an endodontic tray setup.



**S** Gutta-Percha should be disposed of in the garbage.



## INSTRUMENT Lentulo Spiral

- Function** ▶ To place endodontic sealer or cement in canal for final seal before placement of gutta-percha
- Characteristic** ▶ Latch-type Shank—Used with slow-speed contra-angle handpiece (air driven or electric)
- Practice Note** ▶ Lentulo Spiral is used exclusively on endodontic tray setups.



**S** Lentulo Spiral must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping, or used Lentulo Spiral must be disposed of in a Sharps container.



Photo courtesy: Obtura Spartan, Fenton, MO.

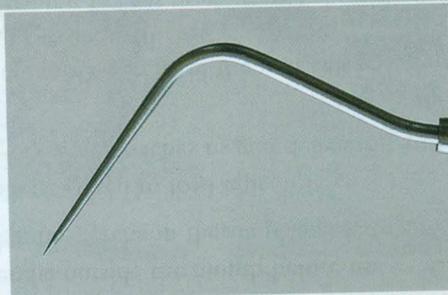
## INSTRUMENT

### Gutta-Percha Warming Unit

- Functions** ▶ To heat gutta-percha outside the mouth before use  
To inject heated gutta-percha in thermoplastic state into prepared canals
- Characteristics** ▶ Gutta-percha pellets—Used to load unit  
Delivery system—Needle attaches to gun delivering gutta-percha into canal
- Practice Notes** ▶ Temperature of the gutta-percha in the unit can be adjusted to control the viscosity of the material.  
Gutta-Percha Warming Unit is used exclusively with endodontic tray setups.



**S** Gutta-Percha Warming Unit Needle attached to the Gutta-Percha Warming Unit gun must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping. Needle must be disposed of in a Sharps container. Gutta-Percha Warming Unit must be disinfected according to the manufacturer's recommendation.



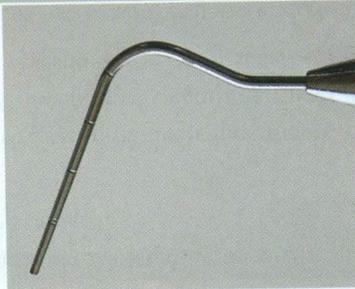
## INSTRUMENT Endodontic Spreader

**Functions** ▶ To help condense gutta-percha laterally in canal  
To use for final filling of canal

**Characteristics** ▶ Pointed tip  
Working end—Has rings in millimeter increments  
Two handle styles—Conventional (pictured), finger spreader  
Range of sizes—To correspond to size of canal

**Practice Note** ▶ Endodontic Spreader is used exclusively on endodontic tray setups.

**S** Endodontic Spreader must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping.



**INSTRUMENT** Endodontic Plugger

**Functions** ▶ To help condense gutta-percha vertically in canal  
To use for final filling of canal

**Characteristics** ▶ Flat tip  
Working end—Has rings in millimeter increments  
Two handle styles—Conventional (pictured), finger spreader  
Range of sizes—To correspond to size of canal

**Practice Note** ▶ Endodontic Plugger is used exclusively on endodontic tray setups.

**S** Endodontic Plugger must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping.





## INSTRUMENT

### Glick Instrument

- Functions** ▶ To condense gutta-percha into endodontically prepared teeth, using plugger end  
 To sever excess gutta-percha after plugger end is heated  
 To carry and place material into tooth, using paddle end

- Characteristics** ▶ Double ended:

- 1 Plugger end—May have rings in millimeter increments
- 2 Paddle end

- Practice Note** ▶ Glick Instrument is used exclusively on endodontic tray setups.

**S** Glick Instrument must be cleaned, bagged individually or bagged/wrapped in a tray setup, and then sterilized. A chemical/steam indicator device should be included in the wrapping.

