

Virtuosity  
is in your hands

**PROTAPER<sup>®</sup>**

FOR HAND USE

*The Multi-tapered  
Niti Instrument*

*Speed up your Endo*



# Design Features and Advantages compared to stainless steel files

The new *PROTAPER*® instruments represent a revolutionary progression in root canal preparation procedures.



Convex triangular Cross Section

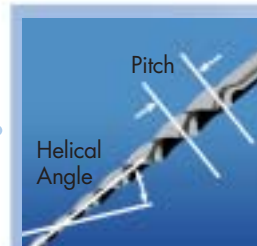


Specially designed Guiding Tip

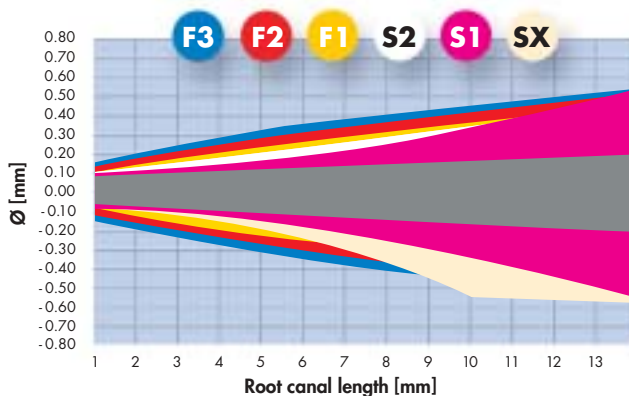


Variable Helical Angle and Pitch

1. Fewer instruments to complete preparation
2. Less time to prepare the entire canal
3. High cutting efficiency
4. Full tactile control
5. Less debris in the apical region
6. File stress is minimized



*PROTAPER*® instruments have a convex triangular cross-section which reduces the contact area between the file and dentin. This greater cutting efficiency has been safely incorporated through balancing the pitch and helical angles.



## Multiple and Progressive Tapers from 2 to 19%

"A progressively tapered file engages a smaller zone of dentine which reduces torsional loads, file fatigue, screwing effect and the potential for breakage. It clinically serves to significantly improve flexibility, cutting efficiency and typically reduces the number of recapitulations needed to achieve length, especially, in tight or more curved canals."

## ProTaper® For Hand Use the latest innovation in effective and efficient root canal preparation

*PROTAPER*® nickel titanium rotary files have patented, progressively tapered and advanced flute designs providing the flexibility and efficiency to achieve consistently successful cleaning and shaping results. Importantly, precurved manual *PROTAPER*® files are the instruments of choice for managing canals that exhibit difficult anatomy, as an example a sharp apical curve, an iatrogenic mishap, such as a ledge, or a pathological defect resulting from internal resorption.



## Guidelines

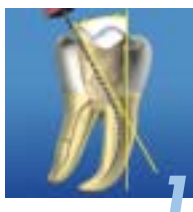


- Establish straight line access
- Carefully flare the orifice(s) with gates glidden drills
- Use instruments in a well irrigated and lubricated canal
- Create a smooth glide path with small hand files
- Clean flutes frequently and inspect for signs of distortion
- Use SX to create more shape, as desired, in the coronal two-thirds
- Use instruments with recommended motion

## Manual ProTaper® Handle Motion

- Lightly engage dentin by gently rotating the handle clockwise until the file is just snug
- Disengage the file by rotating the handle counterclockwise 45-90 degrees
- Cut dentin by rotating the handle clockwise while simultaneously withdrawing the file
- Repeat handle motions until desired length is achieved
- Depending on the anatomy, *PROTAPER*® files can be used as described above or by reciprocating the handle in a back and forth motion

## The ProTaper® Technique



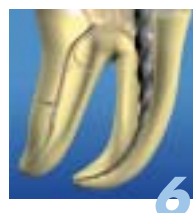
1 Fill the pulp chamber with either *GLYDE*™ or Sodium Hypochlorite (NaOCl) for all initial negotiation procedures. Explore the coronal two-thirds of the canal with stainless steel Nos. 10 and 15 hand files, using a reciprocating back and forth motion. Work these instruments passively and progressively until they are loose.



5 When a smooth glide path to the terminus is verified, sequentially carry first S1 then S2 to the full working length. Remember to irrigate, recapitulate and re-irrigate after each *PROTAPER*® instrument.



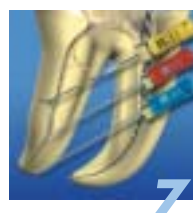
2 Start the *PROTAPER*® sequence with S1 (purple). The apical extent of S1 will passively follow the portion of the canal secured with hand files. S1 is designed to cut dentin, in a crown down manner, with its bigger, stronger and more active blades. Irrigate, recapitulate with the 10K File to break up debris and then re-irrigate.



6 With the canal flooded with irrigant, work the F1 to length in one or more passes. If the F1 ceases to advance deeper into the canal, remove the file, clear its blades, then continue with its use until it reaches length. Irrigate, recapitulate and re-irrigate.



3 In more difficult canals, one, two or three recapitulations with S1 may be necessary to pre-enlarge the coronal two-thirds of the canal. Frequently clean the blades, then continue using this file until it reaches the depth of the 15 hand file. Irrigate, recapitulate and then re-irrigate.



7 Following the use of F1 to length, gauge the foramen with a 20 hand file. If the 20 hand file is snug at length, the canal is shaped and ready to fill. If the 20 hand file is loose at length, proceed to the F2 and, when necessary, the F3, gauging after each Finisher with the 25 and 30 hand files, respectively.



4 Once the pre-enlargement procedure is finished, use a precurved No. 10K File in the presence of NaOCl or *GLYDE*™ to negotiate the rest of the canal and to establish patency. Determine working length with No. 15K File.

# PROTAPER® Benefits



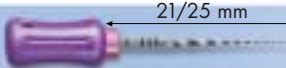




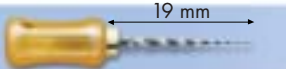
Tooth 27 Pre-Op  
Photos from Dr. Patrick Tseng (National University of Singapore)



Tooth 36 Pre-Op  
Photos from Dr. Gary Cheung (University of Hong Kong)

- Patented progressively tapered design improves flexibility and cutting efficiency, and incorporates the Crown Down concept into the shaping technique
- Fewer files are needed to achieve a fully tapered canal exhibiting uniform shape over length
- PROTAPER® files engage a smaller area of dentin, reducing torsional loads, file fatigue, and the potential for separation
- Convex triangular cross section reduces contact area between file and dentin

## The Instruments

						Refills	Assortment
PROTAPER® S1	Coronal shaping	REF A 0416-1	S1	 21/25 mm	Ø17	6x	•
PROTAPER® S2	Middle shaping	REF A 0416-2	S2		Ø20	6x	•
PROTAPER® F1 to F3	Apical shaping	REF A 0417-1	F1		Ø20/7%	6x	•
		REF A 0417-2	F2		Ø25/8%	6x	•
		REF A 0417-3	F3		Ø30/9%	6x	•
PROTAPER® SX	Accessory	REF A 0416-X	SX	 19 mm	Ø19	6x	•
REF A 0413	Sequencer (sold without files)						
REF A 0418	Starter Kit	S1, S2, F1, F2, F3, SX					



Creativity in the Art of Dentistry



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