

MANUAL PROTAPER FILES

CLINICAL DIRECTIONS FOR USE

BACKGROUND:

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 FOR USE:

- Establish straightline access
- Preflare the orifice(s) with the X-Gates or SX
- Use #10 and #15 hand files to create a glide path and secure canals
- Negotiate and secure canals with a viscous chelator
- Shape canals with an aqueous intracanal reagent
- Clean flutes frequently and inspect for signs of distortion
- Use instruments with recommended motion
- Pre-curve manual ProTaper files when there is not a smooth, reproducible glide path

THE MANUAL 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 those instruments passively and progressively until they are loose.
- 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, then re-irrigate.
- 3) Manual ProTaper Handle Motion:
 - a. Use a clockwise motion and gently rotate the handle until it is just snug. When the handle is snug, the flutes of the file are lightly engaging dentin.
 - b. Cut dentin by rotating the handle clockwise while simultaneously withdrawing the file.
 - c. If over-engaged, disengage the file by rotating the handle counterclockwise 45-90 degrees while concomitantly withdrawing the instrument to prevent any given file from inadvertently advancing deeper into the canal.
 - d. Repeat the handle motions until desired length is achieved.
 - e. Depending on the length, curvature, and diameter of any given canal, it may require one or more passes to carry a file to the desired depth.

- 4) 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.
- 5) 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.
- 6) 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.
- 7) With the canal flooded with irrigant, work the F1 (yellow 20/07) 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.
- 8) 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.