

Changing Ratios improves your cornering

Nickel Titanium rotary files are not the answer for every dentist and not the answer for every case. Hand files will not become obsolete due to this simple fact. Many dentists that have converted to NiTi still use hand files in combination. The coming of NiTi rotary has made us all more aware of curly situations with canals that have tough curves. For this reason Mani have developed a stainless steel file with superior flexibility known as the RT File.

After much research and development, Mani has developed a unique file design. Cutting edges placed at 85° and a revised rectangle cross-section give the RT files more flexibility and aggressive cutting ability than any other conventional stainless steel file.

If we say the land area of a square is assumed to be 1.00, the land area of RT Files is 0.80 (1:2RT) and 0.60 (1:3RT) (Table 1). The bending torque is reduced and the proper flexibility is achieved (see Fig 1). The changes in the ratio are the reason why RT files work so well in curved canals.

RT Files have a working angle of 71-degree, which is substantially larger than the 45-degree angle in square cross-section files (see Fig 3). They have more cutting ability than standard 45-degree square files (see Table 2). Therefore, they are able to open up a root canal in an optimum fashion, due to their faster cutting action.

Since the cutting edges of the RT Files are set at a large angle of 85-degree, they

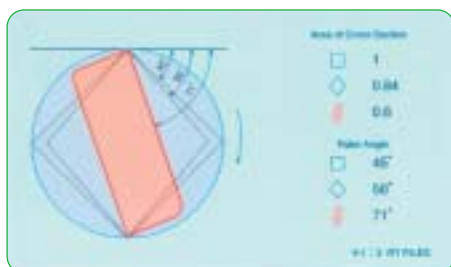


Fig 1

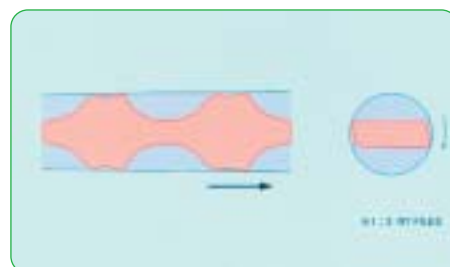


Fig 3

maintain excellent cutting performance over time. The unique design of RT files (see Fig 3) greatly reduce the danger of forcing debris out through the apical foramen due to their deep spaces between the cutting edges and with concaveness of the back edges (see Fig 3).

NiTi alloy has excellent memory effect therefore the files tend to go back to their original position. This means that they are in constant danger of cutting away excessive amounts of material from the outside curve of a root canal. However, since RT Files are made of stainless steel, they can be pre-curved to match with the curvature of a root canal, which lets them follow the natural path accurately.

The Torsional Fracture Angle Test (see Table 3) and Torsion Torque Test (see Table 4) show that the RT Files have more

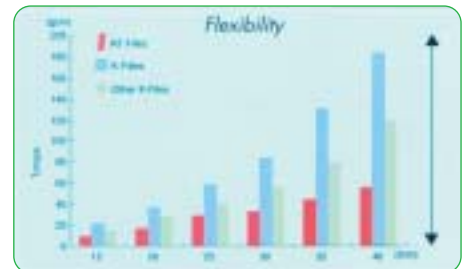


Table 1



Table 2

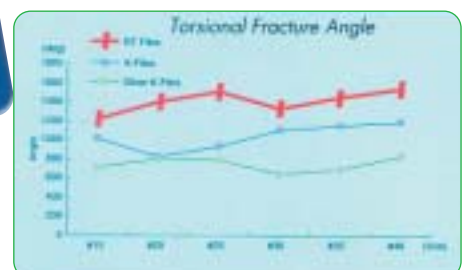


Table 3

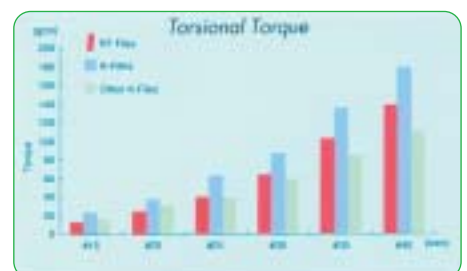


Table 4

fractural angle than "Other K-Files". Also, the RT Files have higher fractural torque than "Other K-Files". The RT Files give safer advantage in curved root canal.

Clever engineering from Mani Japan means you can tackle those tough curves economically and efficiently. Compare them to your current stainless steel file. Do the bend test for yourself; you'll be pleasantly surprised.

Call Gunz today to test the difference!

