

The Predefined Preparation Comes of Age

A Radical Evolution of the Greater Taper Endodontic Treatment System

In this fifteenth year since my epiphany¹⁻³ regarding our need for variably-tapered shaping files, I can finally say that the conceptual and procedural development of the GT Endodontic Treatment System has neared its potential.

Tulsa/Dentsply will introduce this newly configured set of instruments and materials at the Chicago Mid-Winter Meeting February 2001.

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While this upgrade entails many improvements and additions, the techniques at the heart of this concept have become simpler, safer, and more predictable in outcome. As it always is, much of the credit for the robust extent of this system's design goes to others. Perhaps our most important lessons were learned over eleven years of teaching its use in hands-on courses to thousands of dentists.

Our mission statement at Dental Education Laboratories is that we take responsibility for GT user's outcomes, if they will follow our clinical recommendations and commit the time and expense to train up to competence in this new procedural technology. Attendant to that commitment has been our willingness to watch a dentist fail in a technique exercise and accept that either it is not a very good technique or that it wasn't taught well enough. By literally watching dentists succeed or fail with the many iterations of these instruments, materials, and techniques, this endodontic treatment method was refined.

It was practicing clinicians who asked for most of the small, but extremely practical enhancements that make the files work better in practice. Included in this GT design upgrade are shorter handles (13 mm) for easier placement in posterior teeth and length determination bands on the file shanks so stops can be set without rulers (Fig. 1). As a fellow practicing clinician, I would be the first to agree that these small things make all the difference in the relative ease or frustration experienced chairside. Many of the most fundamental improvements came from suggestions made by fellow endodontist educators. JULIAN WEBBER (London) and PIERRE MACHTOU (Paris) taught me that using a 20-.04 shaping file

when the 20-.06 GT File balks, dramatically reduces the need for recapitulation to cut the Shaping Objective File to length. They also convinced me to re-engineer the flute geometry of the GT Files, an improvement, which has remarkably improved the cutting efficiency of these instruments.

ERIC HERBRANSON wisely suggested a smaller shank diameter for the 35-.12 GT File so it would be safe to use in large molar roots. BEN JOHNSON requested the 30 Series GT Files so he wouldn't have to take any of the GT Files significantly through the terminus of canals in small roots with large apical diameters.

Ironically, one of the best-ever rotary technique innovations, Crown-Down shaping, was taught to me by two general dentists who took one of my lab courses in Santa Barbara. Back then, the initial directions for use of the .04 Profiles recommended that small files be used early in the procedure. When I explained this to the participants, these two guys in the back row piped up and said they had had breakage problems until they figured out that the big files should be used first. I had that class try their large-to-small shaping strategy and no one broke a file in two days. A new technique was born!

I will take some credit for Tulsa/Dentsply's decision to allow GT Files to be a stand-alone system of instruments and materials designed to work together (Fig. 2). To their credit, they agreed to add GT Paper Points, GT Gutta Percha Points, and GT Obturators to fill out the line, as well as creating a unified identification system denoting tapers and tip diameters throughout the line (Fig. 3). This evolution of the GT System is, for me, sweet closure on a vision quest that started a decade and a half ago.



Fig. 1: The family of GT Files including the new instruments, the 20-.04, the 30 Series GT Files and the downsized 35-.12 Accessory GT File. Note also the length bands, the shorter latch-grip handles, and the new unified taper and tip designations. – Fig. 2: A 20-.06 GT File with a system-based, like-sized gutta percha points, paper points, and carrier-base obturator. – Fig. 3: Close-ups of identification marks on files, pp, gp, and obturators. At the distal end the number of rings X .02 designates the taper. Three rings means a .06 taper. In files there is a wide band at the proximal end which uses the ISO color code for tip diameters, in obturators the handle color serves the same purpose.