



Preserving a Fragile Tooth with WaveOne Gold

Fragile Tooth Case

While treating a case of a particularly fragile tooth, one doctor was glad to rely on the WaveOne Gold system in order to preserve as much dentin as possible.

Dr. Peter Raftery, owner of Hampshire Endodontics on England's South Coast, [wrote about his case in an issue of Dentistry](#).

Dentinal preservation and what is generally called minimally invasive endodontics are big topics today. The more that remains of an individual tooth after root canal therapy, the greater strength it will retain, leading to a higher likelihood of a better prognosis. With the release of WaveOne Gold with its precisely engineered taper at each millimeter, Dentsply Sirona is developing tools to preserve as much dentin as possible. Each WaveOne Gold file has a fixed taper from D1-D3, but a regressive taper from D4-D16 (meaning the file widens at a decreasing rate rather than a fixed one). This design helps to preserve dentin. Dr. Raftery is a proponent of dentinal preservation, although he says that the idea can still be hard to accept. "The traditional undergrad teaching I recall was that the solution to most problems in restorative dentistry begins with a sharp new bur and a well-oiled fast handpiece." In this case, Dr. Raftery was pleased with the results he saw from WaveOne Gold.

Dr. Raftery details his case below.

This previously crowned upper left lateral incisor (US #10, FDI #22) was referred for root canal treatment with no clear canal visible radiographically.

The referring dentist had removed the old crown to assess restorability, which they felt was touch and go after cleaning up the preparation.

During my patient consultation, we discussed the idea that surgical crown lengthening would probably not be a suitable way to gain more supragingival tooth structure. The gingival margin profile of UL2 was already more apically positioned than the UR2; we agreed that moving it further apically would create a disharmonious, unappealing, asymmetrical smile-line.



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Instead I selected the new WaveOne Gold Primary file to rescue the case, preserving as it does the maximal amount of dentin. After anaesthetizing and isolating the tooth I scouted for the canal opening with magnification and illumination, careful not to overly weaken the tooth through poor access angulation or an excessively wide cavity. Once I had found some clues as to canal location, I flared the canal and established the glide path with the ProGlider file.

After irrigating, I confirmed working length before tapering the canal with the WaveOne Gold primary file.

I completed the case with warm vertical compaction of gutta-percha cones coated in canal sealer.

Conclusion

In Dr. Raftery's words, "The WaveOne Gold files represent a leap forward for canal preparation. They make mechanical preparation of even curved canals safer, quicker and easier than the already impressive files they supersede. The time saved can be dedicated to irrigation, which can only help success rates for the specialist and general practitioner alike and I wholeheartedly recommend them."

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