

Warsaw, Oct. 1, 2014

## **Gentlefile evaluation.**

Endodontics is the most progressive field of dentistry. In the last few years it has made tremendous progress, mainly due to technological development. Currently, many dentist offices, machine tools nickel-titanium are standard equipment allowing relatively safe and fast development of root canals. One of the newest systems available on the market are mechanical (rotary) tools Gentlefile, which I had the opportunity to work. I believe that the new Gentlefile system has the potential to exist permanently in dental practice in Poland. Gentlefile has intuitive tools, easy to use, especially recommended for doctors who started working with rotary (mechanical) endodontic system. The system consists of a dedicated, simple handpiece with a fixed number of revolutions per minute and one-off heads, for limited cross-infection. One use tools helps to avoid perforation and ledging of canals, and also reduces the risk of file breakage.

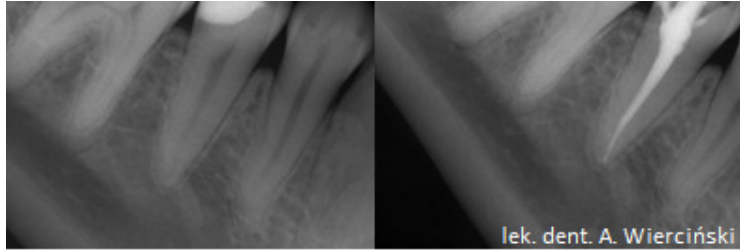
When working with Gentlefile tools, I noticed that the same like before any machine endodontic system is needed to develop canals by manual file. But there is no need for additional preparation of the coronal tooth part - Gentlefile adapts to any shape of canal, passing along the axis of even very curved and very narrow root canals. This preserves the natural curve of the root canal. Gentlefile files are safe to use, because when working Gentlefile tools, I have not broken any of files.

I assessed an effectiveness of canal straightening curvature based on a computer analysis of X-ray images taken before and after the study in a clinical setting. In vitro enviroment and based on a numerical scale, I have checked how much smear layer and tissue debris remaining in the canal, after the development step. I noticed that Gentlefile tools provide more accurate treatment of the apical root canal than NiTi files and manual steel files. They also provide highly effective in removing the smear layer from different parts of the root canal and shorter time to develop canals than rotary NiTi systems. After developing of the rooth canal by Gentlefile tools, I recommend fulfill thermoplastic gutta-percha condensation method or by single gutta-percha with increased taper that provides greater sealing potential than lateral condensation of gutta-percha, preserving the natural shape of the canal.



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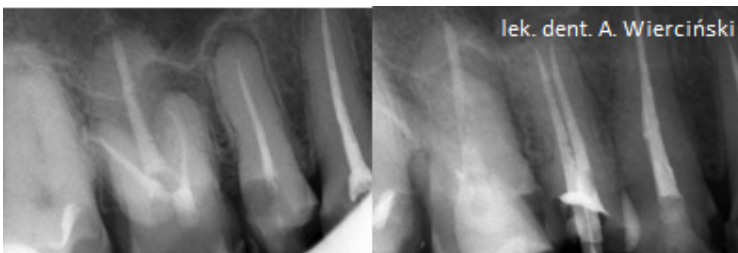
**Case study:**



Tooth 45 pulp necrosis, canal prepared by manual file with ISO no. 15 and 4 GF files, WL 19,5 mm, Endorez + calibrated gutta-percha 4%



Tooth 41 *peridontitis acuta purulenta*, canal prepared by 3 GF files, WL 19 mm, Endorez + calibrated gutta-percha 4%



Tooth 14 revision of endodontic treatment, canals prepared by 4 GF files, WL 19,5 i 20 mm, Endorez + thermoplastic gutta-percha condensation

