“We gain a better outcome for endodontic treatment”

By DTI

A main cause of endodontic failure is the recolonisation of the poorly treated root canal system with microorganisms. The primary goal of endodontic treatment has always been to effectively irrigate the canal and prevent reinfection of the periapical tissue. As a means to achieve greater success, longevity and reliability in modern endodontics, proper irrigation has been enhanced through the activation of the irrigant. In contrast to ultrasonic activation, the flexible EDDY tip, launched by VDW in 2015, uses sonic activation of the fluid. We spoke to Dr Grzegorz Witkowski, a leading Polish endodontist, about his daily experience with sonic activation and his irrigation protocol.

How long have you been using EDDY?
I started using EDDY more than two years ago. Before EDDY, I was an ultrasonic system user—and I still continue to use ultrasonic tips for some uses. Therefore, I was sceptical about the tip at the beginning. As soon as I saw how it worked, it changed a lot in my practice.

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How does it work?
EDDY is not an ultrasonic device, but a sonic one. Because of the frequency it uses, which is between 5,000 and 6,000 Hz, it is tremendously effective. It works like an ultrasonic device in many ways, but seems to activate the irrigant more effectively, especially in curved canals, which in turn enhances the procedure. The activation is 3-D, which means that EDDY moves the fluid in a 3-D direction into all lateral canals, isthmuses and other anatomical complexities.

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If the clinician already uses ultrasonic activation, why should he or she switch to EDDY?
As I said, I was sceptical about changing from ultrasonic to sonic. I continue to use ultrasonic tips in my practice, for example to remove some remnants of the

Dr Grzegorz Witkowski is a member of the European Society of Endodontics, Polish Association of Endodontics and Polish Academy of Aesthetic Dentistry. Since 2004 he runs a private practice in Olczyn (Poland) focused on endodontics, CAD/CAM and aesthetic dentistry.

Fig. 1: EDDY polyamide tip in oscillating motion.
material in retreatment. For most endodontic cases, however, it is easier to use sonic activation. It works just like ultrasonic activation, as it activates the fluid and spreads it with the proper amount of power into every part of the canal.

For regular treatment and even retreatment, I would say EDDY is a faster and safer means of activation. In particular, general dentists will appreciate the flexible and elastic tip. One does not have to worry about the preparation of the wall, which is really important, as this instrument will not damage the canal walls. There is no transportation of the canal, which many dentists know is a common procedural accident. For EDDY, one just irrigates and activates. What an effective method! Without canal transportation, with the proper preparation and a proper irrigation protocol, we gain a better outcome for endodontic treatment.

What is your irrigation protocol?

My own protocol is quite complex. As an endodontist, I mostly deal with difficult cases. In my workshops, however, I always recommend the same protocol. I start with the main fluid, sodium hypochlorite, usually 5.25 per cent. I use 20 to 40 ml per canal, which is quite a lot. I also use citric acid to remove the smear layer. After that, I continue to use sodium hypochlorite. To neutralise the pH, I use distilled water. At the end, I use chlorhexidine for a prolonged antibacterial effect and stabilising effect of the collagen matrix. I do not dry the canal with alcohol.

I learnt that EDDY is more effective when one places a syringe with additional sodium hypochlorite into the canal and administers it continuously. EDDY will rinse everything thoroughly.

When do you know that you have cleaned the canal properly?

First of all, it is important to understand that one never knows. If you ask 100 endodontists what irrigation protocol they would recommend, they would not be able to reach a consensus. Every endodontist may agree in general, but regarding specifics, everybody will say something different. My focus is on understanding the fluid interactions and easy ways to activate it. The sodium hypochlorite does not work at all levels, so one needs to use different fluids.

It is commonly understood in endodontics that the process of chemical irrigation should take longer than mechanical preparation. A molar with four canals takes me 60 minutes to treat and I spend approximately 40 minutes of that on irrigation. Preparation nowadays is easy, but we do preparation for proper irrigation. With the advances in root canal preparation, we now have to focus on proper irrigation. In particular, we have to rinse at every level; during preparation, we should already establish a clean system. All files push some debris to the apex. Proper irrigation is the main means of preventing that.

How important is it to have a flexible tip?

The flexibility of the EDDY tip is a big advantage, especially for S-shaped canals and other complicated anatomies. EDDY can easily be applied into the canal. With an ultrasonic tip, one touches the walls, which may lead to transportation of the canal. This is something to be avoided. With the flexible EDDY tip, one can easily follow the preparation path. General practitioners who do not activate the fluid and then use EDDY will notice a difference, especially on the postoperative radiograph.

Thank you very much for the interview.