Regenerative Endodontic Treatment of Mature, Necrotized, Infected Teeth with Er:YAG Laser

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Summary
Although it is not a new procedure, in recent years more and more articles have been published in journals and presented in congresses about regenerative endodontics. I will present the possibility of using the Er:YAG laser for the revitalization of developed, but infected and necrotized teeth with radiographic alteration at the apex. I will present the revitalization methods that I use, and the two most important pillars, which are the Er:YAG laser and Injectable Platelet Rich Fibrin (IPRF).

Laser	Fotona EBD		
	AutoSWEEPS	**Surface modification**	**Biomodulation**
Wavelength	2940 nm	2940 nm	1064 nm
Handpiece	H14	H14	Marco S
Spot size / Fiber tip	600/9 mm	600/10 mm	10 mm
Energy / Fluence	50 mJ	120 mJ	
Power / Power density	1.5 W	1.2 W	0.6 W/cm^2
Mode/Pulse	SWEEPS	QSP	MSP
Frequency	15 Hz	10 Hz	10 Hz
Water	0	4	0
Air	0	4	0
Passes/Repeats	After every instrumenting	1 pass	36 sec / spot
Sessions	2 sessions in 4 weeks period		

Pál Fóris graduated from the Faculty of Dentistry at Semmelweis University of Medicine in Budapest, Hungary in 1979 and received his dental specialist degree from the same university in 1983 and opened his private dental practice the same year. He has been active in dental implantology since 1991, and has been practicing Biological dentistry since 1999.

In 2006, he completed his Master of Oral Medicine in Implantology degree from the University of Münster and his MSc in Implantology and Dental Surgery from the same university in 2014.

CLINICAL CASE:

This case involves a 47-year-old patient, with tooth #32 necrotized and infected with periapical alteration.

Root canal treatment was performed with Er:YAG laser, AutoSWEEPS rinsing, and 4 weeks of calcium hydroxide. At the second session: cleaned the canal with Er:YAG AutoSWEEPS and saline solution, over-instrumented through the apex for bleeding, filled Injectable Platelet Rich Fibrin in the canal, and applied a thin collagen layer, Biodentin, glasionomer filling, and composite filling.

X-Ray at the end of treatment	X-Ray 6 months after treatment