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IRRIGANT ACTIVATION

MicroMega

EndoUltra

First cordless ultrasonic handpiece
for irrigant activation



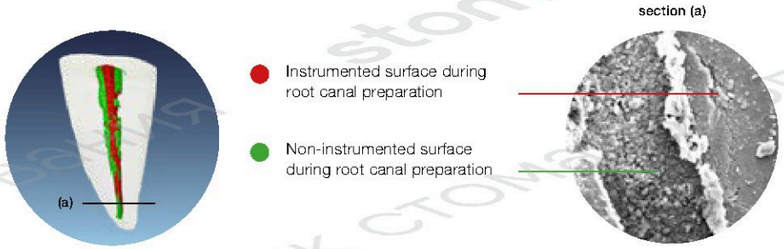
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Instrumental shaping: a perfectly clean root canal?

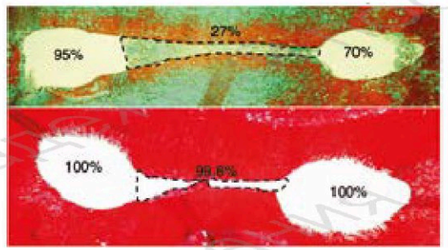
- At least 35% of the root canal walls remain non-instrumented during the preparation due to the complex endodontic anatomy, regardless of the shaping technique (Peters et al. [1], 2001).
- Shaping produces smear layer which accumulates on the root canal walls and obstructs the tubules thus limiting their disinfection during irrigation.



3D representations obtained through densitometry, Siqueira et al.[2], 2017

How to optimize your endodontic treatment?

- Opening the tubules and making the irrigating solutions circulate into all aspects of the root canal system are essential for optimal cleaning and efficient disinfection.
- The activation of the irrigant using ultrasonic techniques allows for a significantly cleaner root canal system (Nusstein et al. [3], 2005).



Passive irrigation without activation: incomplete disinfection
Cleaning at 27% (isthmus), 70% (mesiolingual canal), and 95% (mesiobuccal canal).

Passive ultrasonic irrigation: optimized disinfection
Cleaning at 99.8% (isthmus) and 100% (principal canals).

ENDOULTRA™ by MICRO-MEGA

Ultrasound technology for a complete endodontic treatment

- Concentrated technology for ultrasonic activation of irrigating solutions.
- Deep cleaning and disinfection of all the anatomically difficult zones.
- The essential contribution to a successful endodontic procedure.

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ENDO ULTRA™

by MICRO-MEGA®

Better cleaning and disinfection quality

- High frequency ultrasound (40 kHz)
- Cavitation and acoustic streaming in the irrigant



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- Cordless, rechargeable and compact handpiece
- Battery charge indicator
- Start-up without prior settings
- LED lighting
- Activation sequences of 30 sec

Respect of the root canal anatomy

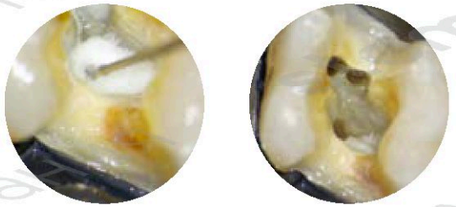
- Flexible, smooth and non-cutting tip, to be pre-bent
- Pre-calibrated power

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Better cleaning and disinfection quality

Eliminates biofilm and smear layer [4]

Facilitates upward debris removal



(a) (b)

Dr. R. Tonini (Italy), during (a) and after ultrasonic activation (b)

Favors penetration of irrigants into the non-instrumented zones [3]

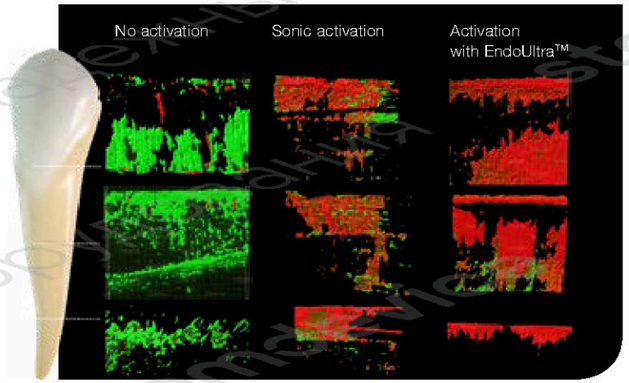
Improves the sealing of the obturation [5]

Reduces the microbial load [6, 7]

Improved activation

Better root canal debridement with ultrasonic technology compared to conventional or sonic methods (Van der Luis et al.[8], 2009).

Other studies [9] also show the higher efficiency of ultrasonic systems for the opening of tubules obstructed by smear layer as well as their superior disinfection quality.



F. Carrara, Brescia University (Italy) - 2015
Highlighting of the bacterial load by fluorescence (green: high, red: none)

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Respect of the root canal anatomy

☑ **Non-significant dentin extrusion** [10]



Less than
1,5% of dentin loss

Comfort and ease of use

☑ **Simplifies the procedure and reduces the irrigation time**

Only 30 seconds of activation, to be repeated with each fresh irrigating solution.

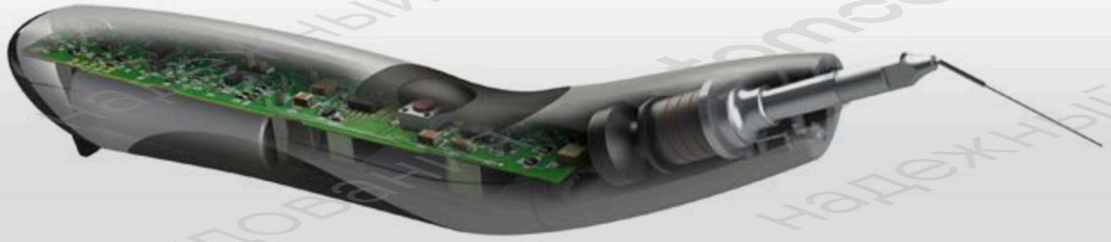
☑ **Cordless handpiece, always ready for use**

The key to success

Ultra-sonic! — Efficient cavitation and acoustic streaming

Ultra-fast! — Optimized disinfection in several sequences of 30 seconds each

Ultra-performing! — Penetration and action of the irrigant in all the zones which are inaccessible for the instruments



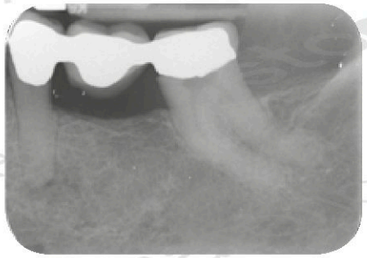
The first cordless endodontic ultrasonic device for the activation of irrigating solutions

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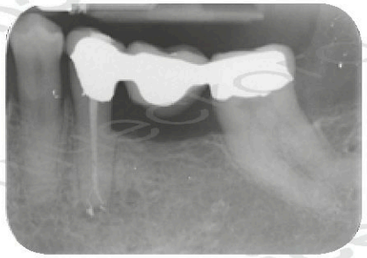
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Clinical cases

Dr. Riccardo Tonini, Italy



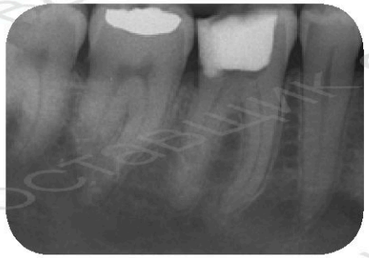
Preoperative x-ray of tooth 35 affected by pulp necrosis.



Postoperative x-ray after root canal shaping with One G and 2Shape systems. 5 successive irrigation cycles with NaOCl activated with EndoUltra™ during 30 seconds. Final rinse with EDTA, activation and distilled water before obturation.

The efficiency of the NaOCl activation with EndoUltra™ allowed for the obturation of a secondary root canal in the apical third of this premolar.

Dr. Rémy Balthazard, France



Preoperative x-ray of tooth 46 after emergency pulpotomy and pre-endodontic reconstruction.



Postoperative x-ray after root canal shaping with One G and 2Shape systems. Irrigation with NaOCl at 3% and EDTA in a solution of 17%. Activation of the irrigating solutions with EndoUltra™ during 1 minute.

The efficiency of the irrigant activation with EndoUltra™ allowed for the chemical debridement and obturation of the apical zone, inaccessible for the instruments due to its orientation.

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EndoUltra™
Advertising

CE

Medical device class I according to directive 93/42/EEC
Medical device for dental care, meant for professional dental use only.
See product labelling and, where applicable, instructions for use.

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2514 AP The Hague – The Netherlands

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