

*The leader's choice!*



IRRI **SAFE**

Passive ultrasonic irrigation

# The ultrasonic revolution

Cleaning of the root canal is a major challenge for the dentist.  
 Manual irrigation is not very efficient due to the limited size of the irrigant.  
 Ultrasonic irrigation is essential for an efficient cleaning.

## Satelec introduces a revolutionary ultrasonic instrument

IrriSafe™ is designed for the safe removal of the smear layer, dentine debris and bacteria from the root canal.

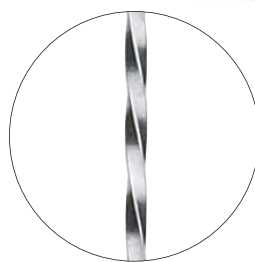
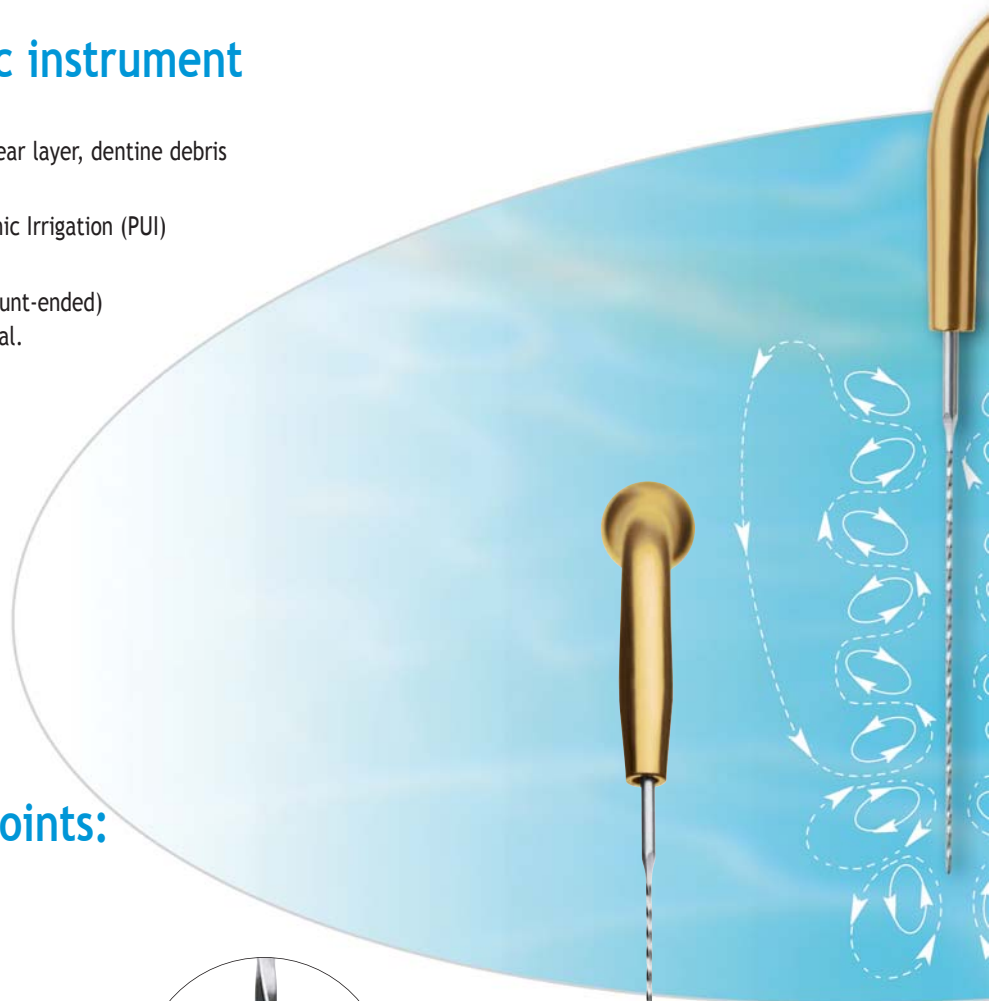
IrriSafe instruments are used during Passive Ultrasonic Irrigation (PUI) with Sodium Hypochlorite (NaOCl).

IrriSafe is small, parallel-shaped and non cutting (blunt-ended) and can therefore be used in the complete root canal.



### The revolution in eight points:

- Very efficient removal of dentine debris, pulp tissue and bacteria.
- Irrigation of the entire root canal, especially in the apical area.
- Micro-cavitation and micro-streaming increase the efficiency of the irrigant (eg. thermal effect).
- Manufactured in a special stainless steel, for efficient transmission of the ultrasonics.
- Can be pre-shaped for the treatment of curved roots.
- Non cutting instrument, with parallel flutes, respects the root canal anatomy.
- Minimally invasive protocol.
- PUI improves the sealing of a root canal filling.



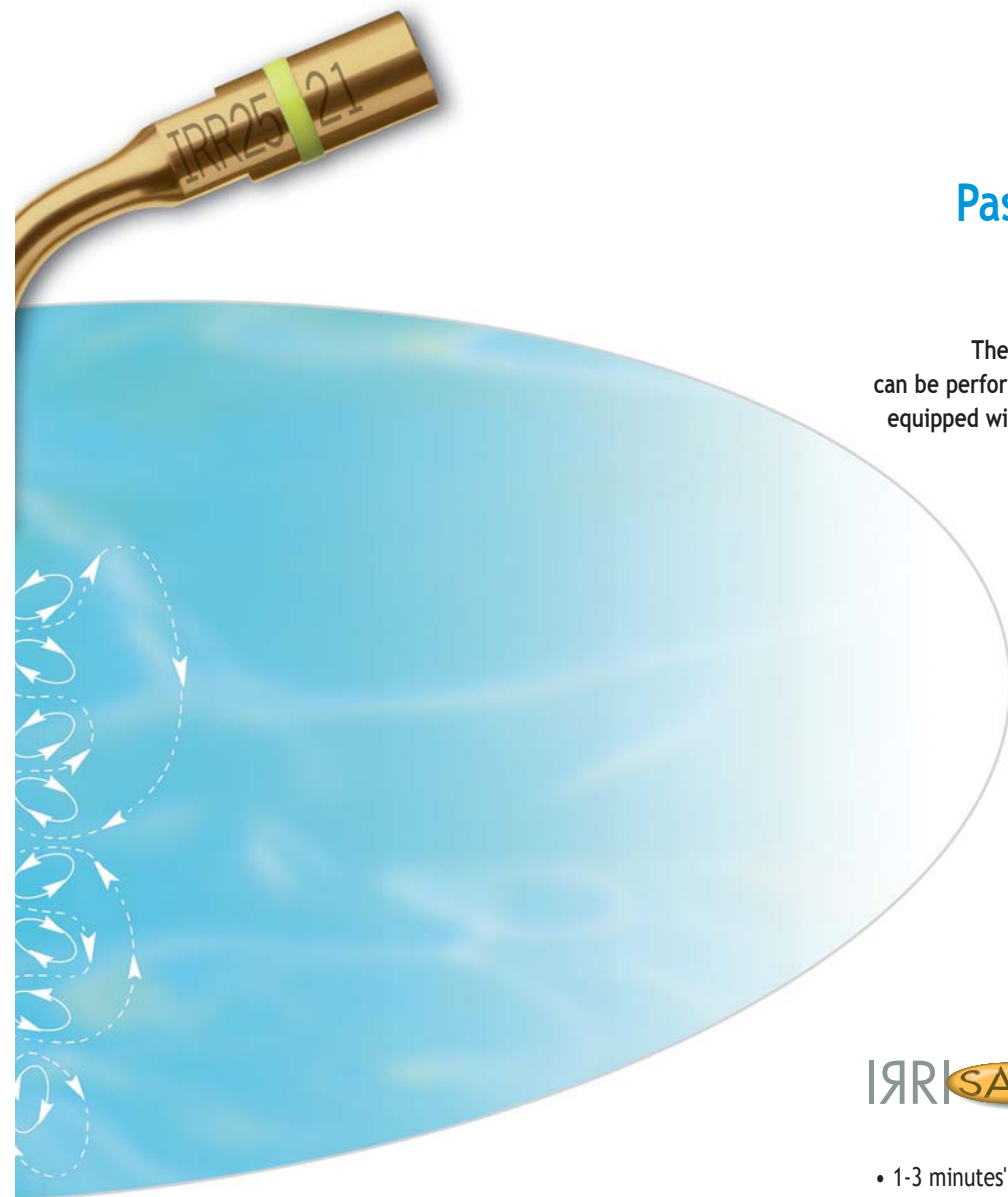
*non cutting rounded end prevents damaging the apical constriction.*

*The shape of the new instrument improves micro-streaming and micro-cavitation in the fluids.*

SAFE

## olution by Satelec®

major step in endodontic treatment.  
due to the complexity of the root anatomy.  
thorough cleaning and disinfection of the root canal.



### Passive ultrasonic irrigation with IRRISAFE

The protocol of the Passive Ultrasonic Irrigation (PUI) can be performed with any SATELEC piezo ultrasonic generator equipped with the “endo” mode, although the SP NEWTRON™ driven units will provide the greatest efficiency (ie. P5 and P-Max Newtron).

### Color Coding System by SATELEC:

IRRISAFE = yellow/endo mode

- 1-3 minutes' irrigation at the end of the root canal preparation.
- Continuous (3 minutes) or intermittent flushing (1 minute) with the irrigant, provides with PUI efficiency.
  - NaOCl is the recommended irrigant.
- IrriSafe is inserted 1mm short of the working length.
  - IrriSafe must vibrate freely in the apical area.

IrriSafe should be used  
with a medium  
power setting

## Power settings

	P-Max XS P5 Newtron XS		P5 Newtron		P5 Booster		P-Max Newtron ProphyMax Newtron	
	Mini	Maxi	Mini	Maxi	Mini	Maxi	Mini	Maxi
Irri-Safe	6	7	6	7	4	7	4	7

## Bibliography

- Ahmad M, Pitt Ford TR, Crum LA (1987a).  
Ultrasonic debridement of root canals: acoustic streaming and its possible role. *Journal of Endodontics* 14, 490-9.
- Lumley PJ, Walmsey AD, Walton RE, Rippin JW (1992).  
Effect of precurving endosonic files on the amount of debris and smear layer remaining in curved root canals. *Journal of Endodontics* 18, 616-9.
- Roy RA, Ahmad M, Crum LA (1994).  
Physical mechanisms governing the hydrodynamic response of an oscillating ultrasonic file. *International Endodontic Journal* 27, 197-207.
- van der Sluis LWM, Gambarini G, Wu MK, Wesselink PR (2006a).  
The influence of volume, type of irrigant and flushing method on removing artificially placed dentine debris from the apical root canal during passive ultrasonic irrigation. *International Endodontic Journal* 39, 472-7.
- van der Sluis LWM, Versluis M, Wu MK, Wesselink PR.  
Passive ultrasonic irrigation of the root canal: a review of the literature. *International Endodontic Journal* under press.
- van der Sluis LWM, Wu MK, Wesselink PR (2007).  
The evaluation of removal of calcium hydroxide paste from an artificial standardized groove in the apical root canal using different irrigation methodologies. *International Endodontic Journal* Jan 40, 52-7
- van der Sluis LWM, Shemesh H, Wu MK and Wesselink PR (2007).  
An evaluation of the influence of passive ultrasonic irrigation on the leakage of root canal fillings. *International Endodontic Journal* under press.

Photo, high speed camera Dr Fridus van der Weijden (ACTA, The Netherlands), in *The Power of Ultrasonics*. © Quintessence France-2007.

