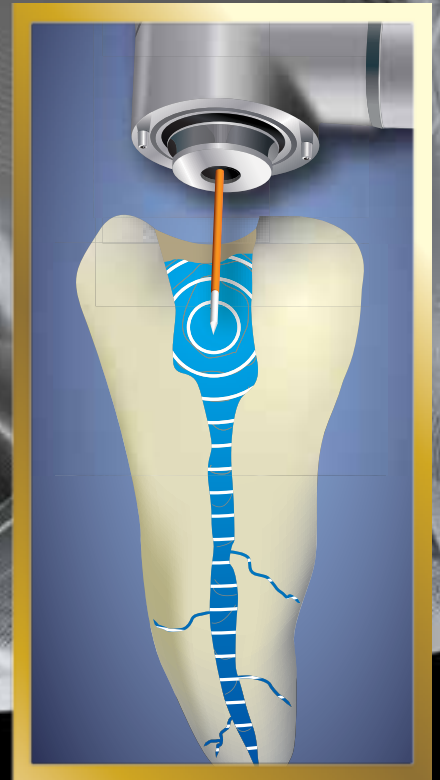


# Photon Induced Photoacoustic Streaming™

The first real endodontics  
breakthrough in  
50 years.



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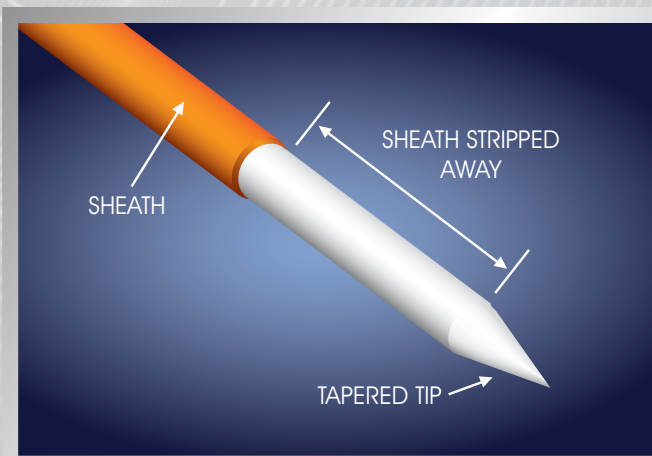
Available only with the LightWalker Er:YAG Laser

# Photon Induced Photoac

The first real breakthrough

## What is PIPS™?

PIPS™ (patent applied for) is a revolutionary method for chemically cleaning and debriding the root canal system using Er: YAG laser energy at sub-ablative power levels.



**The stripped and tapered PIPS™ tip (patent applied for) optimizes the propagation of shock waves at sub-ablative laser power.**

**The PIPS™ tip is inserted into only the coronal 1/3 of the Canal.**



## How does PIPS™ work?

PIPS™ harnesses the power of the Er:YAG laser to create photoacoustic shock waves within the cleaning and debriding solutions introduced in the canal. The containment of the shockwaves thoroughly streams these solutions through the entire canal system, enhancing their effectiveness. The canals and sub-canals are left clean and the dentinal tubules are free of smear layer. PIPS™ is equally effective for final water rinsing prior to obturation.

# Acoustic Streaming™ (PIPS™)

in endodontics in 50 years.

## How is PIPS™ applied during root canal therapy?

### 1. Gain access to the canal

Open with the LightWalker Er:YAG laser as you normally would prior to root canal therapy.

### 2. Instrument the canal to ISO #20

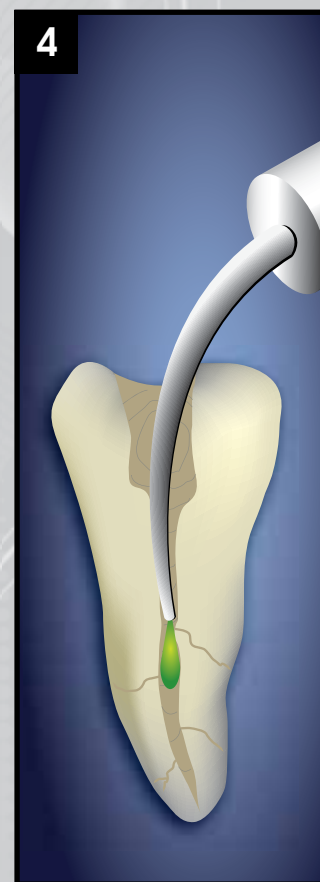
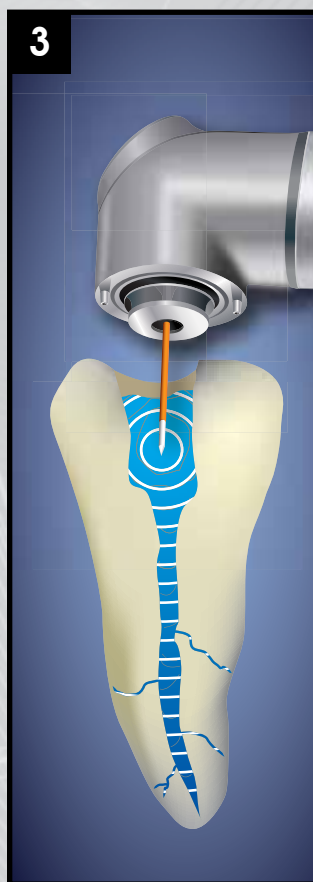
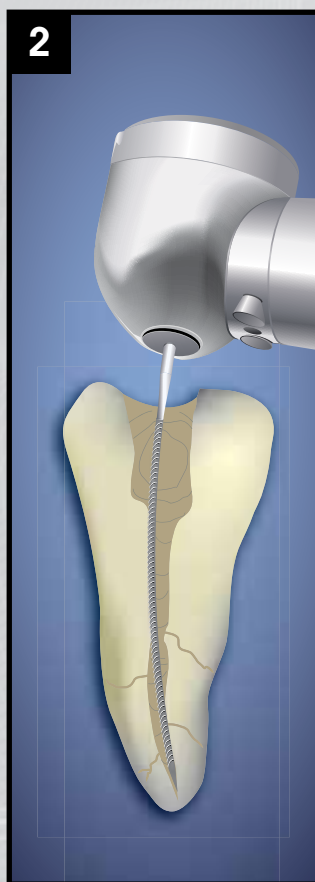
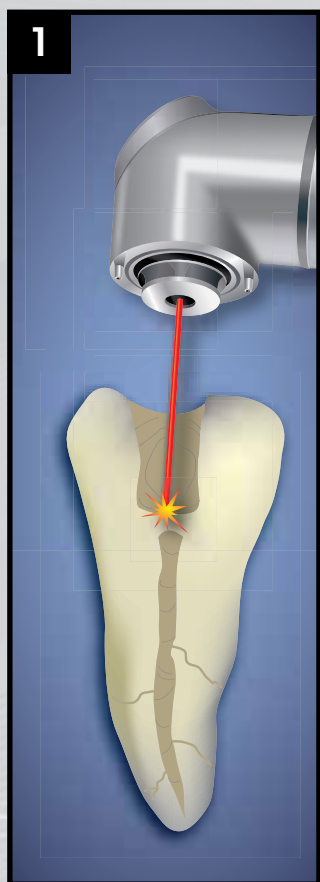
Instrument the canal as you normally would but stop at ISO #20, it isn't necessary to remove any additional tooth structure, which preserves tooth strength.

### 3. Perform PIPS™ with the LightWalker

PIPS™ is performed with the LightWalker and Lares' exclusive protocol using 15% EDTA and NaClO then water to flush the canal system clean.

### 4. Obsolete the canal

Obturate the canal as you normally would. PIPS™ is perfect for use with advanced endodontic filling resins such as EndoREZ® by UltraDent®. You are now ready to complete your restoration.



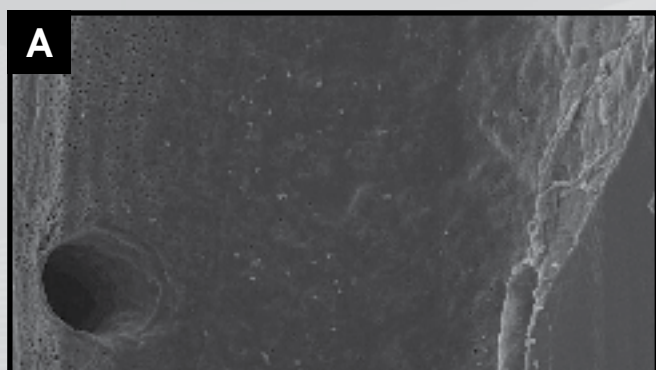
# The exclusive advantages of PIPS™ for you and your patients

- 1.** The entire root canal and sub-canal system is more effectively cleaned and debrided than with traditional instrument-only techniques, reducing the risk of re-infection.
- 2.** The minimally invasive nature of PIPS™ preserves more tooth endoskeleton than traditional instrument techniques since filing is limited to a maximum size ISO #20, maintaining more post-restoration tooth strength.
- 3.** Sub-ablative power levels eliminate the risks of ledging and demineralization inherent to other laser endodontic methods.
- 4.** Since the PIPS™ tip is inserted into only the coronal 1/3 of the canal, there is no risk of tip breakage from curved canals or unwanted apical extrusion of chemical irrigants possible with other laser endodontic methods.
- 5.** Less filing time and less soaking time for chemical agents saves 20-30 minutes per canal for patient and clinician.

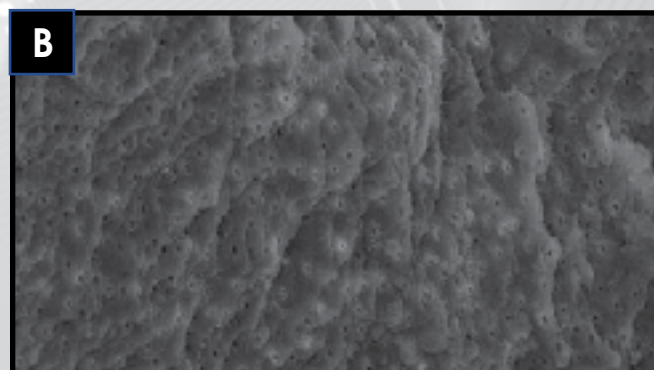


# SEM photos demonstrate the effectiveness of PIPS™

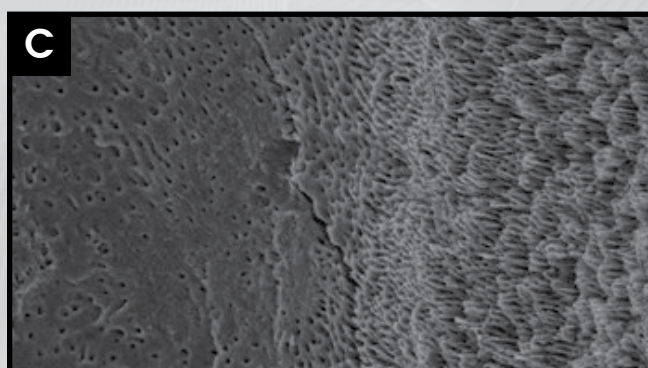
Smear layer around opening of lateral canal has been removed



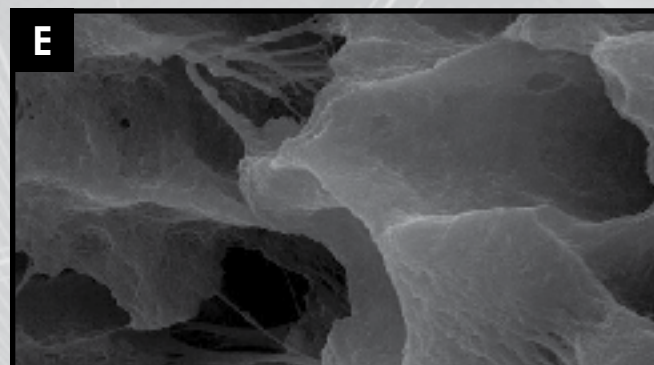
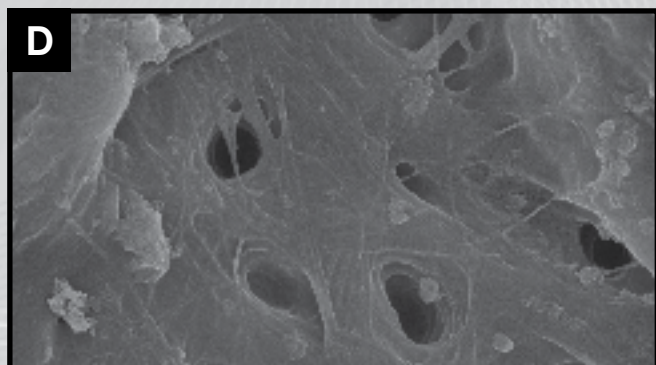
Open dentinal tubules with minimal smear layer



Clean dentinal canal walls



D-E. Canal wall collagen fibers and internal hydroxyapatite matrices intact and visible



# What makes the LightWalker Er:YAG perfect for PIPS™ ?

LightWalker

LightWalker™



The LightWalker Er:YAG laser energy is uniquely suited for optimum performance of PIPS™ because:

- 1.** Of the two Erbium laser wavelengths used in dentistry, Er:YAG laser energy has the highest absorption rate in water.
- 2.** The super short, 50 microseconds pulse duration available on the LightWalker, combined with the efficient design of the PIPS™ tip, allows the lowest possible energy per pulse (millijoules) and repetition rate (hertz), minimizing thermal effects and maximizing the propagation of the PIPS™ shock waves.
- 3.** Sub-ablative power levels eliminate the risks of ledging and demineralization.

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# The development of PIPS™



PIPS™ was developed by Dr. Enrico DiVito, along with his research team at Medical Dental Advanced Technologies Group, LLC (MDATG) with assistance from Dr. Mark Colonna. Patents have been applied for utilizing the application of PIPS™ in endodontics and other areas of dentistry.

The MDATG team of dentists, engineers and biochemists carefully optimized the PIPS™ system for use with the Lares Fotona LightWalker, the world's most advanced all-tissue laser.

Dr. DiVito is founder of the Arizona Center for Laser Dentistry and maintains both a general and cosmetic private practice in Scottsdale, Arizona. He is a clinical instructor at the Arizona School of Dentistry and Oral Health where he helped develop and establish the first curriculum based laser dental program. He is a pioneer in research and development for minimally invasive laser endodontic procedures and a member of the World Clinical Laser Institute with Mastership status.



***This photo of a cleared human tooth shows a complicated canal system thoroughly cleaned using PIPS™. This tooth had five portals of exit.***

# Getting started with PIPS™

## PIPS™ with the LightWalker™

### Purchase of the LightWalker entitles you to\*:

- Perform the PIPS™ (patent applied for) procedure.
- Attend the LightWalker Advanced Endodontics Training Course to learn to perform PIPS™.
- Purchase replacement PIPS™ tips.

*\*Purchaser will be required to execute the PIPS™ License Agreement prior to attending LightWalker Advanced Endodontic Training. The PIPS™ License Agreement limits the disclosure of confidential PIPS™ information. See PIPS™ License Agreement for details. PIPS™ License Agreement available only to purchasers of the LightWalker.*



**Dr. Mark Colonna demonstrates PIPS™ during advanced endodontic training.**



VISIBLE AND INVISIBLE LASER RADIATION  
AVOID EYE OR SKIN EXPOSURE TO DIRECT  
OR SCATTERED RADIATION  
PROTECTIVE EYEWEAR REQUIRED  
CLASS IV LASER PRODUCT



2940 nm	20w	50 to 1000 µsec
1064 nm	15w	100 to 650 µsec
650 nm	1mW	CW

**To learn more about PIPS™ and what the LightWalker all-tissue laser can do for your practice, contact Lares Research at 1-888-333-8440, ext. 2050 today.**

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