

mectron

→ EXPERIENCE PIEZOSURGERY®



→ EXPERIENCE PRECISION.

Why the PIEZOSURGERY® technology is a cut above the average.

When it comes to cutting bone, you can of course use traditional burs and saws. They do cut bone, too – but they do not differentiate: any soft tissue getting in their way will also be cut.

The special ultrasonic microvibrations of the original PIEZOSURGERY® technique cut bone – and nothing else. No soft tissue is damaged, which allows you to work with a precision that facilitates not only surgery itself, but reduces postoperative discomfort for your patients at the same time.

So, if you are looking for a technology with maximum precision and control – and minimal stress for you and your patients – here you go.

→ MICROMETRIC CUTS

PIEZOSURGERY® provides micrometric cuts for minimally invasive surgeries with maximum surgical precision and intra-operative tactile sensation.

→ SELECTIVE CUTS

PIEZOSURGERY® protects any kind of soft tissue. Nerves, vessels and membranes will not be injured while cutting bone. Thus PIEZOSURGERY® offers maximum safety for surgeons and patients.

→ CAVITATION EFFECT

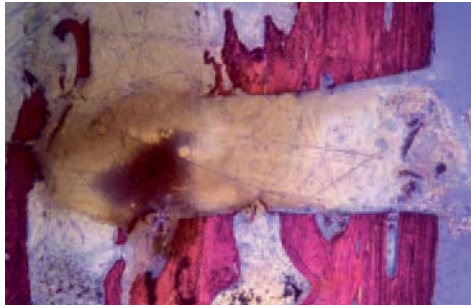
PIEZOSURGERY® offers maximum intra-operative visibility. The cavitation effect of the ultrasonic movements lead to a blood-free surgical site.



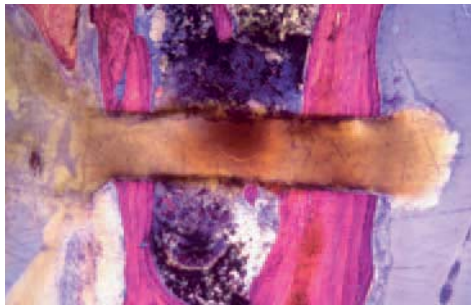
→ THE PATIENT'S BENEFIT

- soft tissue will be protected, f.e. in lateral sinus lift surgery the risk of perforation is reduced over 80%
- less swelling after surgery with PIEZOSURGERY®
- faster and better osseointegration after implant site preparation with PIEZOSURGERY®
- faster and less traumatic post-operative recovery.

→ MACROVIBRATIONS



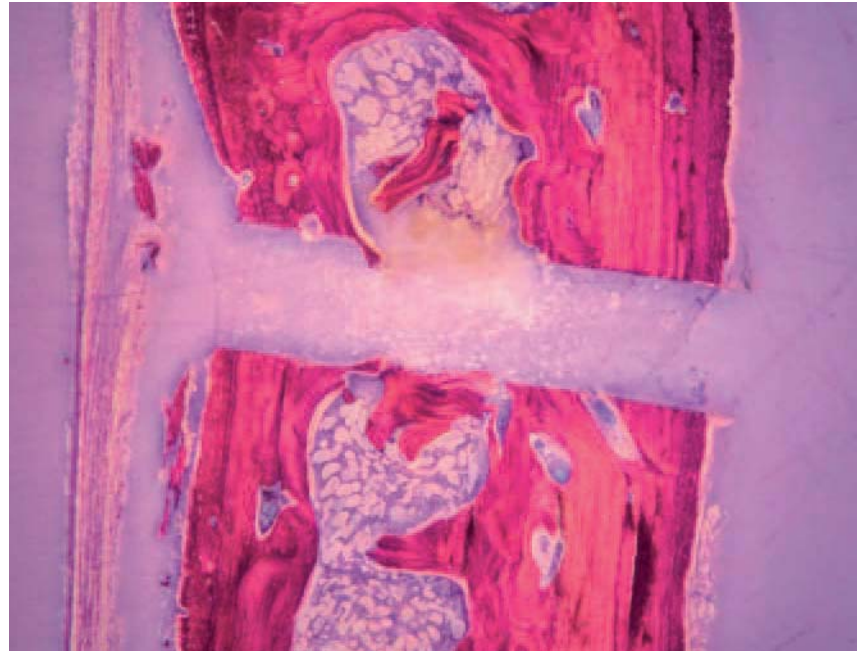
Bone bur



Bone saw

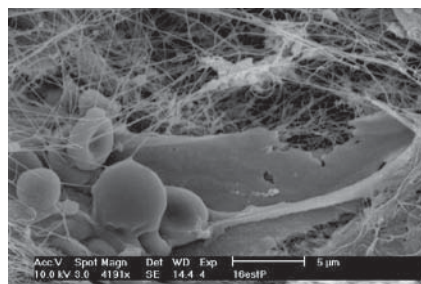
- limited surgical control
- lack of precision

→ MICROVIBRATIONS



PIEZOSURGERY®

- high surgical control
- precision and safety
- clinical and histological advantages



→ HISTOLOGICAL RESULTS

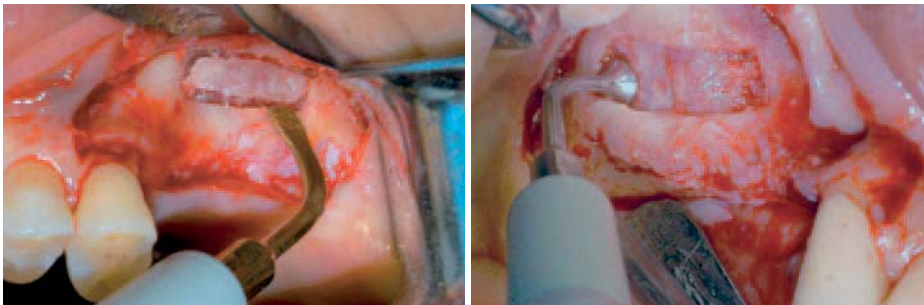
Comparative studies have demonstrated both the clinical and histological advantages of the PIEZOSURGERY® device.

Gleizal A, Li S, Pialat JB, Béziat JL. Transcriptional expression of calvarial bone after treatment with low-intensity ultrasound: An in vitro study. *Ultrasound Med Biol.* 2006; 32(10):1569-1574

→ EXPERIENCE SAFETY.

How clinical applications benefit from PIEZOSURGERY® technology.

→ SINUS LIFT TECHNIQUE



- safer opening of the lateral window
- less membrane perforations
- safe detachment of the membrane
- less post-operative complications

→ IMPLANT SITE PREPARATION



- safe preparation in regard to the inferior alveolar nerve
- less post-operative inflammation
- faster healing and therefore higher primary stability
- possibility of immediate post-extractive implant site prep
- possibility of differential implant site prep (correction of the axis)

→ REFERENCES

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- Wallace SS, Mazor Z, Froum SJ, Cho SC, Tarnow DP. Schneiderian membrane perforation rate during sinus elevation using PIEZOSURGERY®: clinical results of 100 consecutive cases. *Int J Periodontics Restorative Dent.* 2007; 27(5):413-419

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- Preti G, Martinasso G, Peirone B, Navone R, Manzella C, Muzio G, Russo C, Canuto RA, Schierano G. Cytokines and Growth Factors Involved in the Osseointegration of Oral Titanium Implants Positioned using Piezoelectric Bone Surgery Versus a Drill Technique: A Pilot Study in Minipigs. *J Periodontol.* 2007; 78(4):716-722
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Whether it is about sinus lift or implant site preparation, about extraction or bone block grafting – one of the most important features you demand from your operating device is safety.

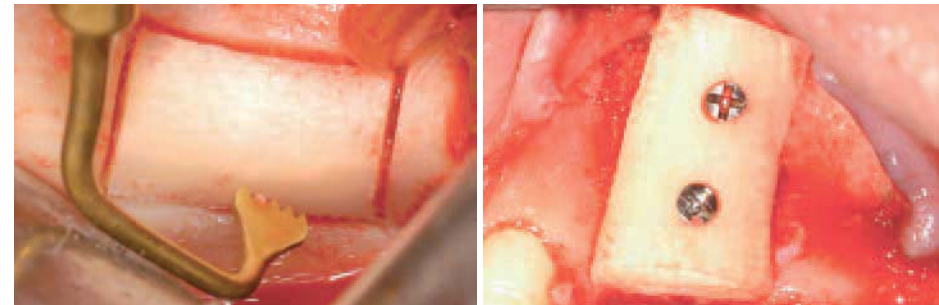
Now that is exactly what PIEZOSURGERY® is about. Its major strength is minimizing the risk of cutting soft tissue like vascular and nerve masses – as these are not sensitive to the frequencies used by the PIEZOSURGERY® technology.

→ EXTRACTION/EXPLANTATION



- bone preservation in impacted or ankylosed root and third molar extractions
- safe preparation in regard to the mandibular nerve for wisdom tooth extraction
- reduced amount of facial swelling and trismus 24 hours after surgery
- immediate implant site preparation due to the maximum precision in alveolar bone osteotomy-osteoplasty.

→ BONE BLOCK GRAFTING



- maximum surgical control in bone grafting from mandibular ramus and chin
- absence of necrosis traces on the surface of the cut
- presence of nucleated osteocytes, indicative of the atraumatic effect

→ REFERENCES

- Sortino F, Pedullà E, Masoli V. The piezoelectric and rotatory osteotomy technique in impacted third molar surgery: comparison of postoperative recovery. *J Oral Maxillofac Surg.* 2008 Dec;66(12):2444-8.
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- Boioli LT, Etrillard P, Vercellotti T, Tecucianu JF. Piézo-chirurgie et aménagement osseux préimplantaire. Greffes par apposition de blocs d'os autogène avec prélèvement ramique. *Implant.* 2005; 11(4):261-274
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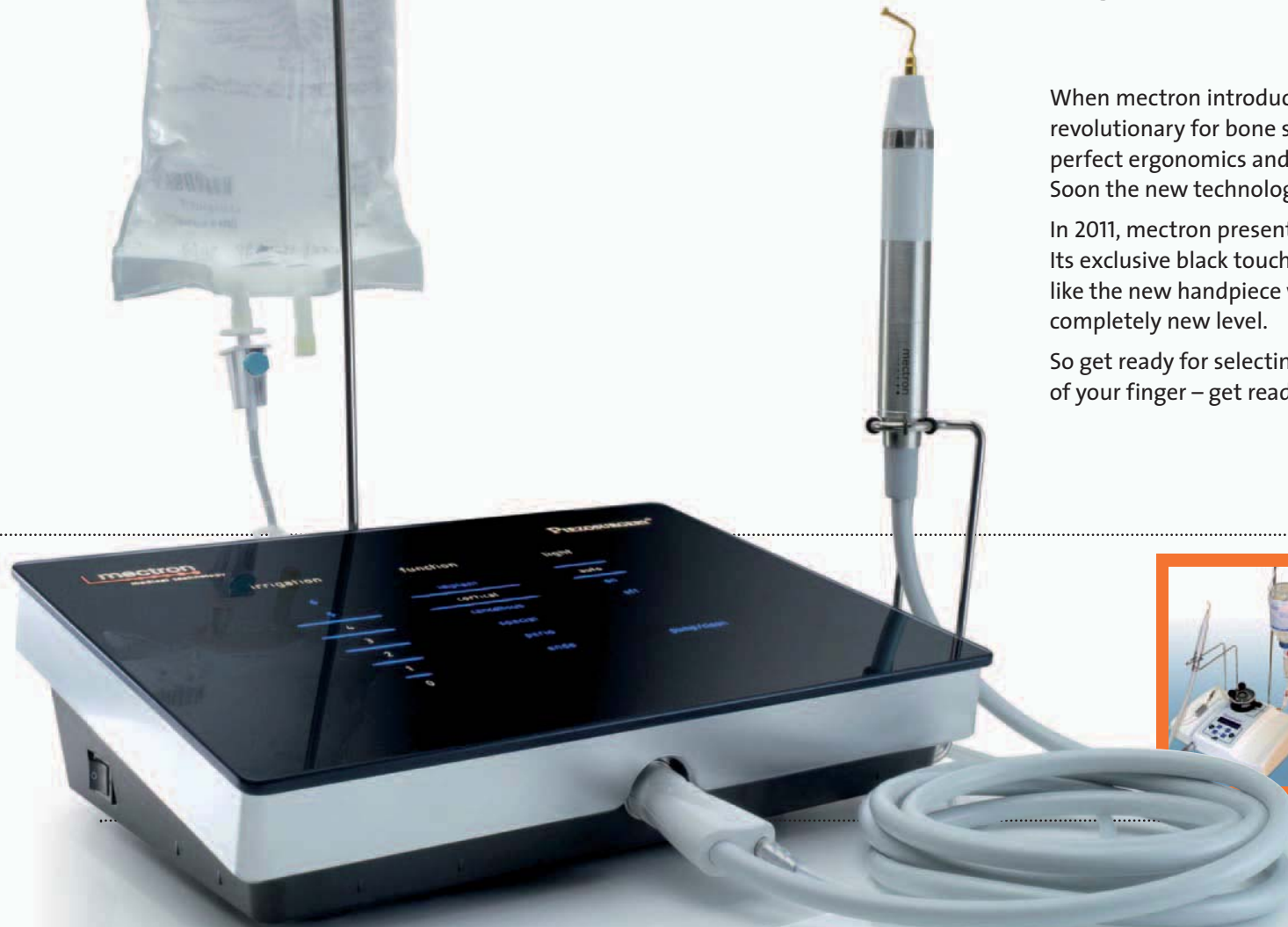
→ EXPERIENCE **ERGONOMICS.**

How mectron re-defines bone surgery with the new PIEZOSURGERY® *touch*.

When mectron introduced PIEZOSURGERY® in 2001, the technology was revolutionary for bone surgery: a device which provided precision, safety, perfect ergonomics and the highest quality to surgeons all around the world. Soon the new technology became the benchmark for bone surgery devices.

In 2011, mectron presents a benchmark again: the new PIEZOSURGERY® *touch*. Its exclusive black touch screen, its easy to handle user interface and features like the new handpiece with rotatable LED lift ergonomics in surgery to a completely new level.

So get ready for selecting bone quality and irrigation flow rate at the touch of your finger – get ready for the new PIEZOSURGERY® *touch*.



→ EXPERIENCE

The PIEZOSURGERY® *touch* is already the fourth generation of the original PIEZOSURGERY® technique. mectron has been designing and manufacturing PIEZOSURGERY® devices since 2001. This experience, plus the input of surgeons worldwide, has been incorporated into the new PIEZOSURGERY® *touch*.





- FLEXIBLE HANDPIECE POSITION
- easy to adopt handpiece holder
- 4 positions
- sterilizable



- UNIQUE HANDPIECE SYSTEM
- sterilizable, all-in-one LED-handpiece and handpiece cord system
- sterilizable, internal irrigation line, no disposables needed
- new handpiece cord coupling protected against mishandling

- HANDPIECE WITH LED
- swivel-type LED-light can be directed to the insert tip
- choice between automatic, and permanent light or switched off

→ WORKING EFFICIENCY

Providing the optimal ratio between power and security is one of the key success factors of every surgery. Thanks to its intelligent electronic feedback system the original mectron PIEZOSURGERY® technology provides the maximum of power and achieves perfect cutting efficacy in every situation – for surgeries which are time-efficient, secure and successful.



→ FEEDBACK-SYSTEM

- constant and optimal tuning of insert movement
- automatically detects if more or less power is necessary and adjusts it accordingly
- user intervention is simplified to the push of the foot pedal

→ EXPERIENCE EFFICIENCY.

How the new PIEZOSURGERY® *touch* lets you focus 100% on surgery.



STEP 1: touch the kind of surgery. **STEP 2:** touch the amount of irrigation. **STEP 3:** Start surgery. Believe us: it is as easy as that. No further insert specific adjustments are required – the fine tuning for each insert and indication is done automatically by the PIEZOSURGERY® *touch* electronic feedback-system.

This feedback system is the heart of the new PIEZOSURGERY® *touch* technology. It automatically adjusts things like the optimal insert movement or the appropriate power used – and lets you concentrate on your actual job: surgery itself.



→ FLEXIBLE IRRIGATION SYSTEM

- the irrigation system works with cost-effective standard parts
- tube of peristaltic pump is reusable
- standard connections for tubing
- liquid line integrated in handpiece cord



→ STERILE PROTECTION FOILS

The exclusive glass display of the PIEZOSURGERY® *touch* can be protected with a dedicated sterile transparent foil. Thanks to these invisible shields, no dirt, scratches or fingerprints will affect your glass keyboard.

→ EXPERIENCE SIMPLICITY.

How mectron focuses on simplicity with the PIEZOSURGERY® 3.



→ HYGIENE

- handpiece and handpiece cord (including the irrigation line) are fully sterilizable together
- easy-to-clean keyboard
- tube of peristaltic pump tubing and connections of the irrigation line are sterilizable

→ ECONOMY

- the irrigation system works with cost-effective standard parts
- peristaltic pump tubing is reusable
- standard connections for tubing

→ SAFETY

- reliable peristaltic pump for irrigation
- handpiece cord coupling protected against mishandling
- once positioned the foot pedal is stable due to its weight

→ ERGONOMICS

- handpiece cord is extremely flexible
- slim design of the handpiece
- simple peristaltic pump

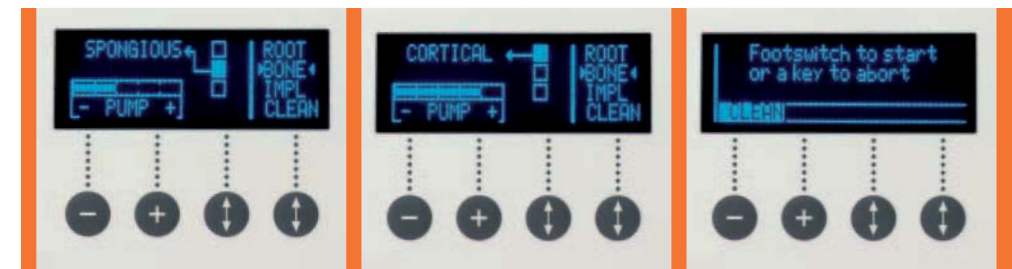
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Now this is as easy as it gets. If you are looking for a device which provides simplicity and clarity in every detail – here you are:

100% simple handling for utmost treatment security. Materials especially selected for easy cleaning, disinfection and sterilization. Cost-effective standard parts for perfect economy.

You call that perfect for daily use. We call it PIEZOSURGERY® 3.



- FLEXIBILITY
- flexible choice of several irrigation options
- 360° function of the foot control
- digital transformer allows voltage from 100 – 240 V

→ CONTROLS

- only 4 buttons
- simple and ergonomic

→ IRRIGATION

- adjusted by „-“ and „+“ buttons
- internal safety control ensures constant irrigation flow during surgery

→ CLEAN FUNCTION

- controlled by the foot pedal
- cleaning cycle for the device's main irrigation tubes

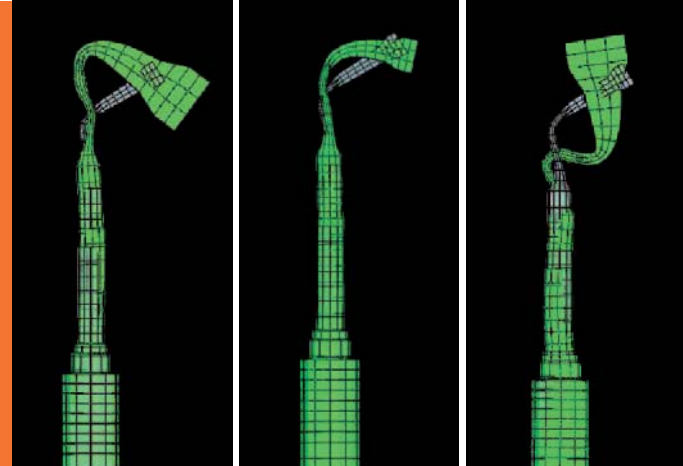
→ EXPERIENCE INNOVATION.

How mectron develops new inserts again and again – with clinicians, for clinicians.

Who could have better ideas and suggestions for new surgical inserts than surgeons themselves? That is why most of our ideas are coming directly from experienced clinicians.

The combination of their ideas with our longstanding experience and technical know-how in insert development is the basis for inserts that are absolutely outstanding and allow highly precise surgical interventions.

A perfect example of our expertise is the world's thinnest osteotomy insert with only 0.35 mm thickness. The best proof of our expertise is that we have more than 70 high quality inserts – the widest range of inserts for piezoelectric bone surgery worldwide.



→ INSERT DEVELOPMENT

- 1. close collaboration with universities for the development of inserts
- 2. computer simulation of shape and insert movement. The finite elements method allows precise prognoses of insert movements
- 3. extensive clinical testing – feedback from experienced practitioners

→ SHARP INSERTS

- gentle and effective bone cutting action
- fine and well-defined cutting line
- used for implant site preparation, osteoplasty techniques and bone chip harvesting



→ SMOOTHING INSERTS

- diamond-coated surfaces for precise and controlled operation on bone structures
- preparation of difficult and delicate structures (ex: sinus augmentation, nerve lateralization)
- preparation of the final bone shape



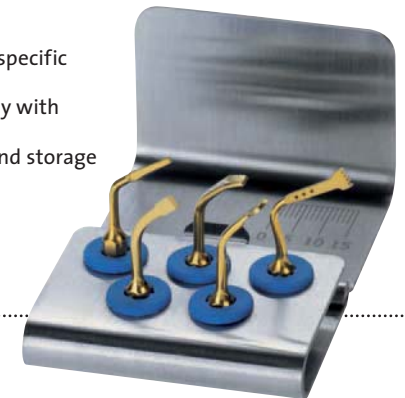
→ BLUNT INSERTS

- soft tissue preparation (ex: Schneiderian membrane)
- root planing in periodontology



→ INSERT KITS

- set of inserts for specific application
- stainless steel tray with depth markings
- for sterilization and storage

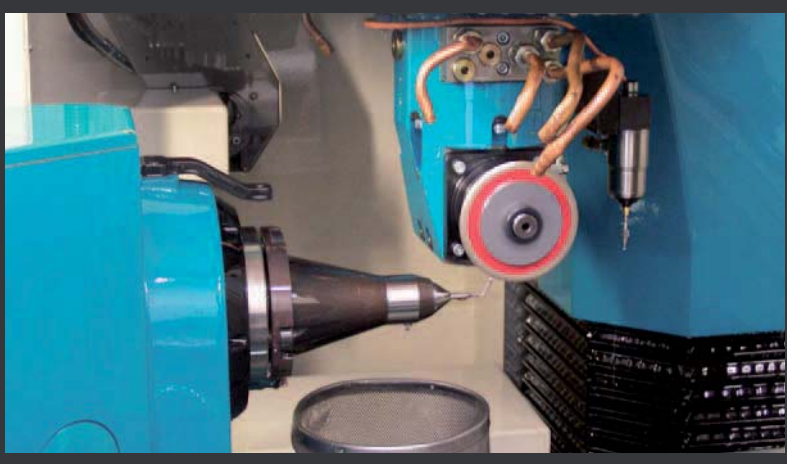


→ EXPERIENCE QUALITY.

How mectron guarantees highest quality standards for every single insert.

→ PRECISION

A CNC controlled 5-dimensional sharpening machine cuts with an accuracy of up to 0.1 µm. The whole cutting process for a single insert lasts up to 12 min.



During every surgical procedure, an ultrasonic insert oscillates up to 36.000 times per second – an enormous endurance test for the material. That's why only medical grade stainless steel is employed in the production of mectron inserts. And that is why every single ultrasonic insert has to pass 12 working steps before it is ready to bear our name.

Furthermore, these 12 working steps ensure the perfect match of device and insert – which is crucial for the controlled insert vibration, the basis of the PIEZOSURGERY® efficiency.

→ DIAMOND COATING

Depending on the indication, the inserts are coated with specially selected diamonds. The granulometry of the diamond coating is adapted to the respective treatment.



→ TITANIUM NITRIDE COATING

A coating of titanium nitride, applied to inserts, increases the hardness of the surface, avoids corrosion and therefore increases working life.



→ LABELING

Each insert is labeled gently by a laser.



→ QUALITY CHECK

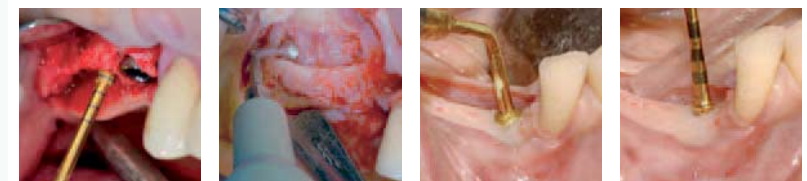
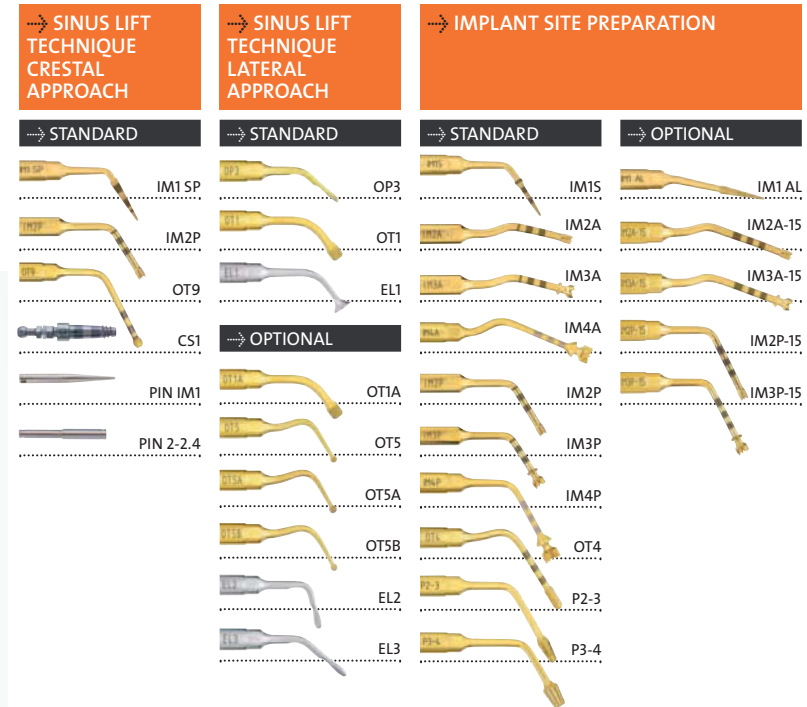
Each insert is checked in detail before getting an OK for sales.



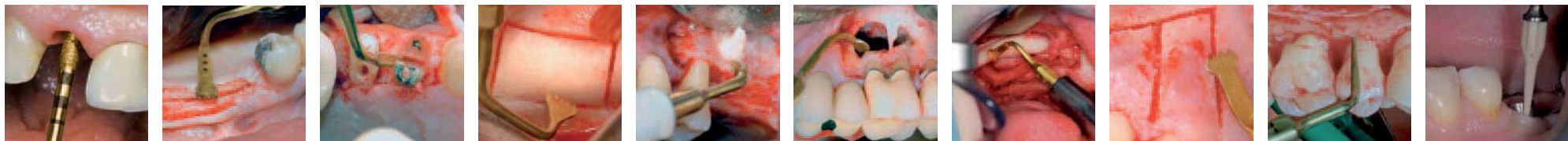
EXPERIENCE DIVERSITY.

How PIEZOSURGERY® covers everything from implantology to orthodontic surgery.

Around 70 different inserts have been already developed for Mectron PIEZOSURGERY®, creating the most complete range of tips on the market for a large variety of clinical indications.



→ MINI DENTAL IMPLANT SITE PREPARATION	→ RIDGE EXPANSION	→ EXTRACTIONS	→ BONE BLOCK GRAFTING	→ BONE CHIP GRAFTING/ BONE MODELING	→ ENDODONTICS	→ OSTEOTOMY CLOSE TO NERVES	→ CORTICOTOMY TECHNIQUE	→ PERIODONTAL SURGERY	
→ STANDARD	→ STANDARD	→ STANDARD	→ STANDARD	→ STANDARD	→ STANDARD	→ STANDARD	→ STANDARD	→ STANDARD	→ OPTIONAL
IM15	OT7	EX1	OT7	OP3	OP7	OT1	OT2	PS2	PS1
MDI 1.9	OT4	EX2	OP5	OP1	PS2	OT5	OT7	OP5	PS6
MDI 2.2	OP5	EX3	→ OPTIONAL	EN1	EN1	OT7A	OT7A	OP3	PP10
MDI 2.5	→ OPTIONAL	PS2	OT8L	OP2	EN2	OT75-4	OT75-4	PP1	PP11
	OT2		OT8R	OP3A	EN3	OT75-3	OT75-3	PP12	PP12
	OT7A	→ OPTIONAL	OT6		EN4			OP2	OP2
	OT75-4		OT7A	→ OPTIONAL	EN5R			OP3A	OP3A
	OT75-3		OT75-4		EN5L			OP4	OP4
	OT7-20		OT75-3		EN6R			OP6	OP6
			OT7-20		EN6L			OP6A	OP6A
					ENL			ICP + IC1	ICP + IC1
					OP3				

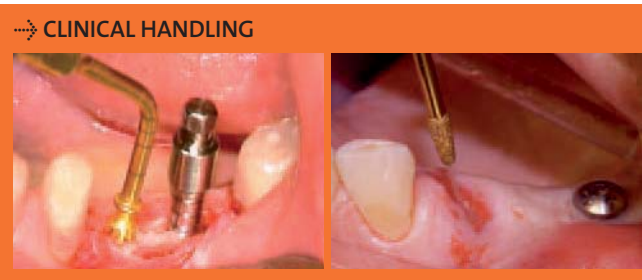


→ EXPERIENCE INTEGRATION.

How PIEZOSURGERY® will support osseointegration of implants!

Implant site preparation with PIEZOSURGERY®, the revolutionary technique – safe and precise.

- faster osseointegration: thanks to the reduction of inflammatory cells and the more active neo-osteogenesis compared to drilled sites
- high intraoperative control: the particular shape of the implant inserts allows a perfect control of the site preparation
- preparation of 2, 3 and 4 mm: site preparation with PIEZOSURGERY® allows placement of all common implants



- 1 initial pilot osteotomy
OPTIONAL: check the preparation axis with alignment PIN IM15
- 2 pilot osteotomy in anterior or posterior region
OPTIONAL: check the preparation axis with alignment PIN 2-2.4
- 3 to optimize concentricity of implant site preparation between \varnothing 2 and \varnothing 3 mm, preparation of the cortical basal bone
- 4 to enlarge or to finalize the implant site preparation; insert with double irrigation for optimum cooling

→ IN LITERATURE

Cytokines and Growth Factors Involved in the Osseointegration of Oral Titanium Implants Positioned Using Piezoelectric Bone Surgery Versus a Drill Technique: A Pilot Study in Minipigs

Giulio Preti,¹ Germana Martinasso,¹ Bruno Peirone,¹ Roberto Navone,¹ Carlo Manzella,¹ Giuliana Puzi,¹ Onestina Russo,¹ Rossa A. Canuto,¹ and Giancarlo Schierano²

Background: Most dental implants are positioned using a drilling surgery technique. However, recently growing interest around the implementation of piezoelectric surgery. This technique was introduced to compare series of the piezoelectrically assisted drilling technique to bone surgery. The study aimed histomorphologic and histologic analyses to compare the osseointegration of porous titanium implants using traditional drill versus the piezoelectric bone surgery technique.

Methods: Porous titanium implants were inserted into maxillary jaws. Histomorphology and levels of bone morphogenetic protein (BMP), transforming growth factor (TGF- β), tumor necrosis factor- α , and interleukin-1 β were evaluated in the post-implant osseous samples.

Results: Histomorphologic analyses demonstrated that more inflammatory cells were present in samples from drill sites. Also, neo-osteogenesis was consistently more active in bone samples from the implant sites that were prepared using piezoelectric bone surgery. However, bone around the implants prepared with the piezoelectric bone surgery technique showed an earlier increase in BMP-4 and TGF- β protein as well as a reduction in proinflammatory cytokines.

Conclusion: Piezoelectric bone surgery appears to be more effective than the phase of bone healing in dental maxillary sites in BMP-4, interleukin-1 β , and tumor necrosis factor- α and stimulated bone remodeling as early as 50 days post-implantation. *J Periodontol* 2007;78:716-722

KEY WORDS: Bone morphogenetic protein, cytokines, dental implants.

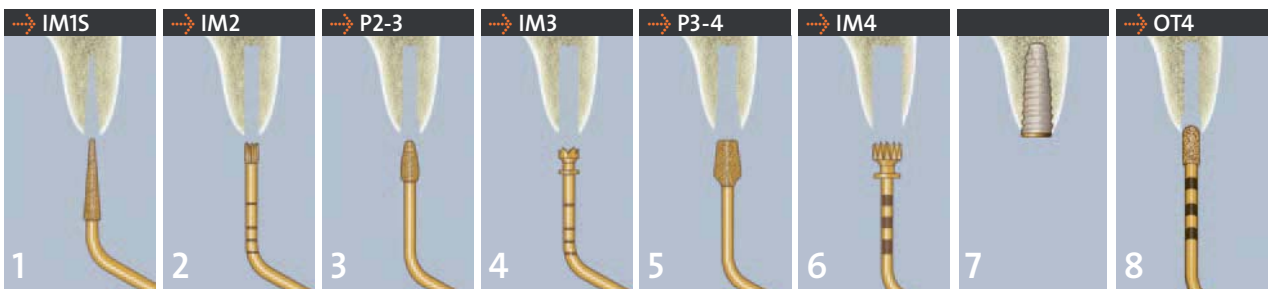
¹Department of Periodontics, Restorative and Implantology, Institute of Periodontology, University of Turin, Turin, Italy; ²Department of Maxillofacial Surgery, University of Turin, Turin, Italy

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Cytokines and Growth Factors Involved in the Osseointegration of Oral Titanium Implants Positioned using Piezoelectric Bone Surgery Versus a Drill Technique: A Pilot Study in Minipigs.

Preti G, Martinasso G, Peirone B, Navone R, Manzella C, Muzio G, Russo C, Canuto RA, Schierano G.; *J Periodontol*. 2007; 78(4):716-722



- 5 to optimize concentricity of implant site preparation between \varnothing 3 and \varnothing 4 mm, preparation of the cortical basal bone
- 6 to finalize the implant site preparation; insert with double irrigation to avoid overheating
- 7 implant positioning
- 8 **OPTIONAL:** to correct pilot osteotomy axis (differential implant site preparation), to finalize the implant site preparation close to the alveolar nerve

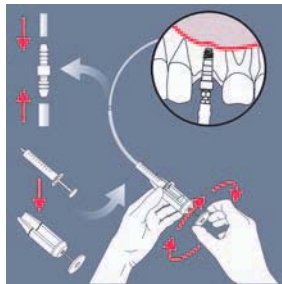
The inserts for the implant site preparation are dedicated to bone quality of the maxilla.

→ EXPERIENCE CONTROL.

How the SINUS PHYSIOLIFT® gives you perfect control during sinus lift operations.

The new SINUS PHYSIOLIFT® controls the pressure in the sinus cavity!

- Elevation of the sinus membrane with micrometric precision by means of hydrodynamic pressure
- Watertight sinus elevator for hydrodynamic sinus lift
- Atraumatic technique not requiring the use of hammer and osteotome
- Implant site preparation using PIEZOSURGERY® – the sinus basal cortex is removed with minimal risk of perforating the Schneiderian membrane
- Multiple implant placement can be performed
- A flapless procedure can be performed in some cases

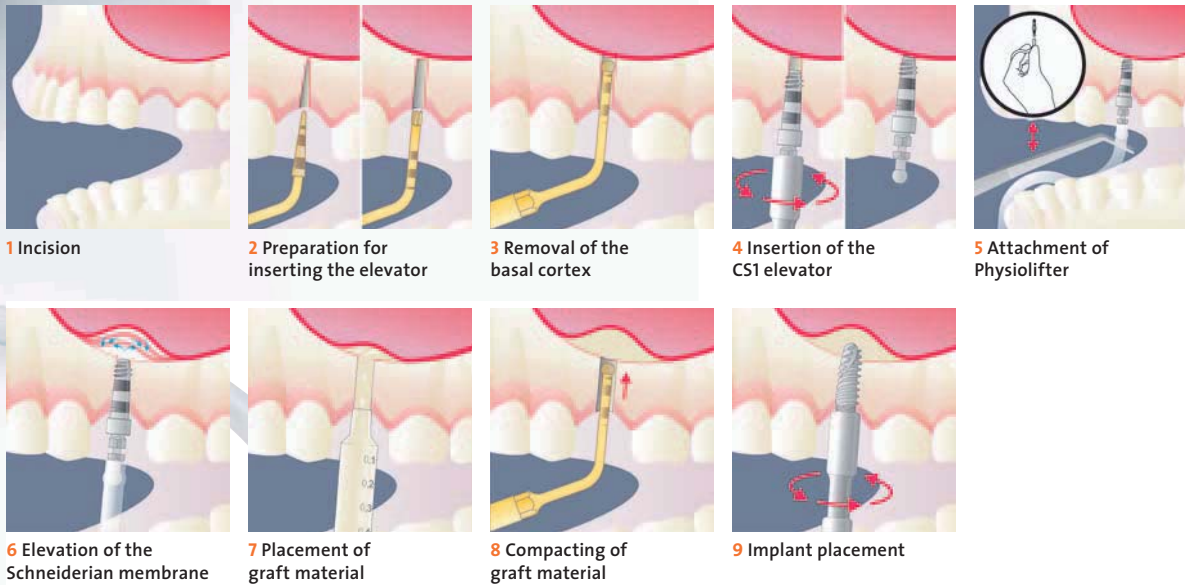


→ HANDLING

After preparation of the site with PIEZOSURGERY®, the CS1 elevator is introduced and the tube connected to a syringe containing 3 ml of physiological saline solution is then inserted in the CS1. With the SINUS PHYSIOLIFT® protocol, it is possible to elevate the Schneiderian membrane safely, controlling the pressure of the liquid by means of the attached Physiolifter.

SINUS PHYSIOLIFT®

→ SINGLE IMPLANT SINUS LIFT



1 Incision

2 Preparation for inserting the elevator

3 Removal of the basal cortex

4 Insertion of the CS1 elevator

5 Attachment of Physiolifter

6 Elevation of the Schneiderian membrane

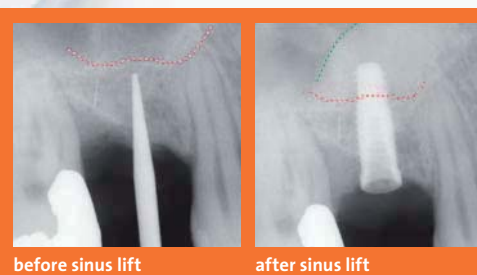
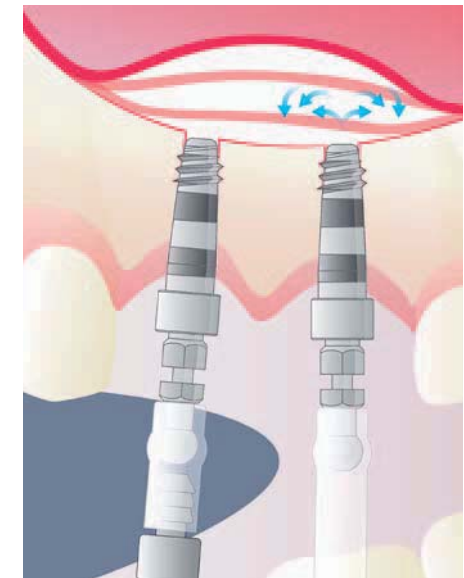
7 Placement of graft material

8 Compacting of graft material

9 Implant placement

→ MULTIPLE IMPLANT SINUS LIFT

This technique, devised for single tooth gaps, can be used even if several teeth are missing. The surgical procedure is identical for the second implant site: a second screw elevator is inserted. It must be ensured during this procedure that the first screw elevator is impenetrable by applying a special airtight seal so that the system is not pneumatized during the second lift.*



before sinus lift

after sinus lift

→ CLINICAL OUTCOME

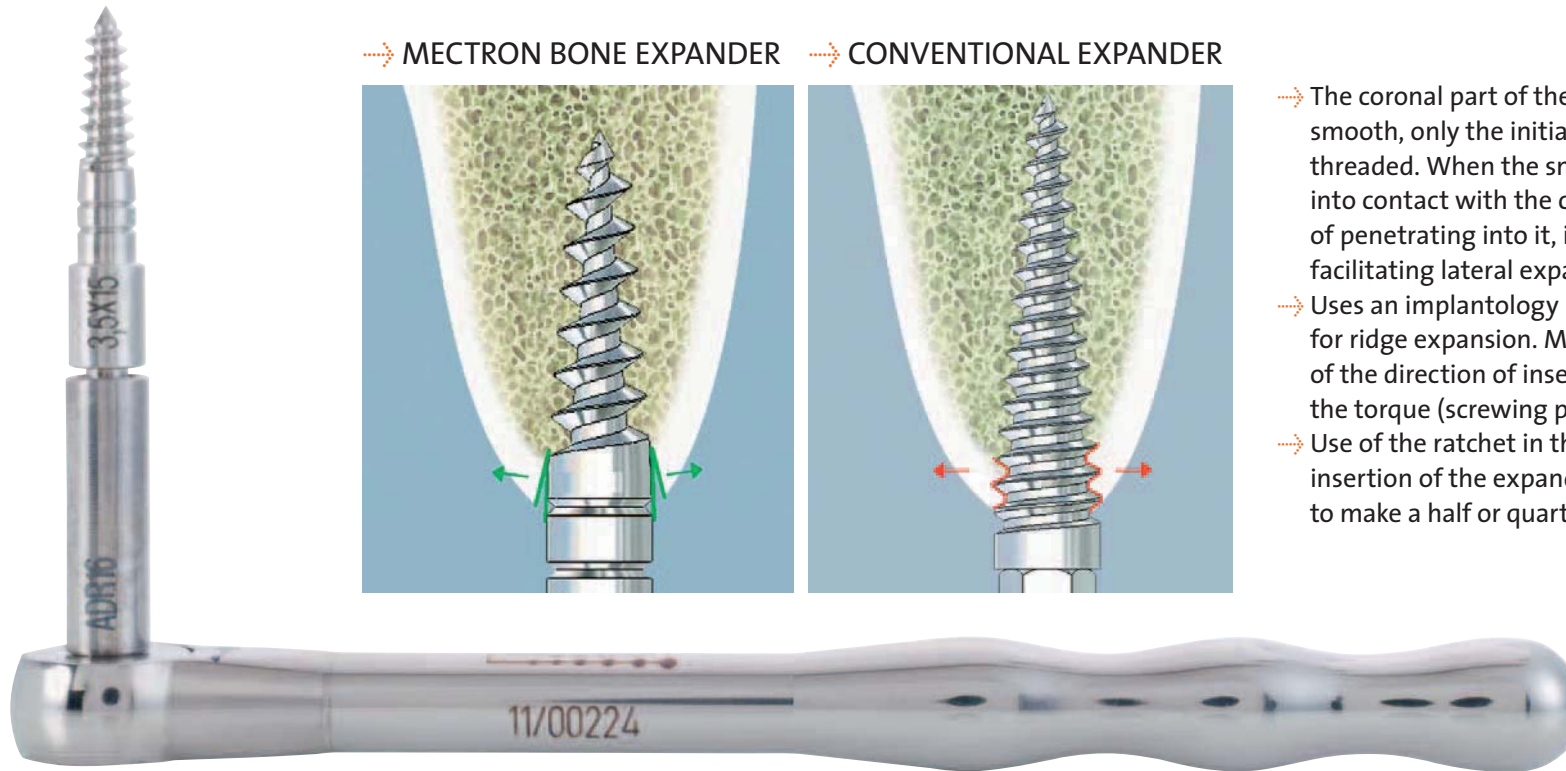
The radiographic controls showed that the graft material was distributed evenly around the implants, suggesting the integrity of the membrane.*

→ CRESTAL SINUS ELEVATOR CS1

Hollow screw elevator with a 2.4 diameter at the top and 3.5 close to the shaft. Laser markings in 2 mm steps inform about the achieved depth. The screw elevator will be placed with a micromotor or a ratchet.



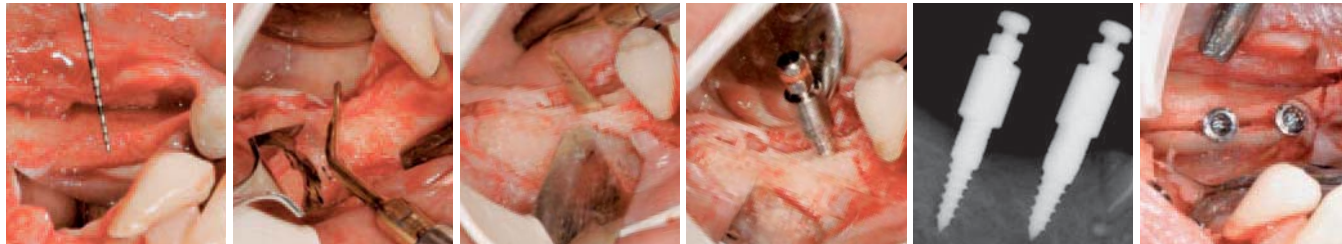
* Sentineri R. The Sinus Physiollift technique – Crestal sinus lift using screw elevators and hydrodynamic pressure. EDI-Journal. 2010;3:72-77



→ MECTRON BONE EXPANDER → CONVENTIONAL EXPANDER

- The coronal part of the expander is smooth, only the initial part being threaded. When the smooth part comes into contact with the corticalis, instead of penetrating into it, it displaces it, facilitating lateral expansion.
- Uses an implantology micromotor for ridge expansion. Maximum control of the direction of insertion and of the torque (screwing power).
- Use of the ratchet in the last stage of insertion of the expanders. It is possible to make a half or quarter turn at a time.

→ EXPANSION OF AN ATROPHIC ALVEOLAR RIDGE



- 1 2-mm thick ridge
- 2 Initial osteoplasty (insert OP3) to increase the thickness of the ridge from 2 to 3 mm
- 3 Crestal osteotomy with 0.35 mm thick PIEZOSURGERY® insert OT7S-4
- 4 Introduction of 2.5 mm and 3.5 mm bone expanders in sequence
- 5 X-ray of bone expanders
- 6 End result

EXPERIENCE STABILITY.

How mectron bone expanders guarantee you perfect stability in implantology.

- Technique for expanding the atrophic alveolar ridge
- Lateral bone condensation technique – lateral compacting of the trabeculae in poor quality bone, greatly improving primary stability
- Technique is less traumatic for the patient than working with a hammer and chisel



LATERAL BONE CONDENSATION



- 1 Thickness of the ridge: 3 mm – cancellous bone quality D4
- 2 Initial preparation of the site with IM1 insert
- 3 Preparation of the site with PIEZOSURGERY® insert IM2P
- 4 Bone expanders inserted, lateral bone compacting of the medullary bone, with transition from D4 to D3
- 5 X-ray view showing expanders in place
- 6 Implants in place

PIEZOSURGERY® – HISTORY OF A SUCCESS

BONE HEALING	SENSITIVITY	SIMPLICITY	SECURITY	EFFECTIVITY	PATIENT COMFORT
 <p>As bone healing is not disturbed by the PIEZOSURGERY®, but even seems to be improved, this method will have a major influence on new minimally invasive bone surgery techniques with special regard to biomechanics.</p> <p>Stübinger S, Goethe JW. Bone Healing After PIEZOSURGERY® and its influence on Clinical Applications. Journal of Oral and Maxillofacial Surgery 2007, Sep;65(9):39.e7-39.e8.</p>	 <p>When using the PIEZOSURGERY® technique, on the other hand, the effort required to make a cut is very slight. This means that greater precision is achieved, guaranteed by the microvibrations of the insert.</p> <p>Boioli LT, Vercellotti T, Tecucianu JF. La chirurgie piézoélectrique: Une alternative aux techniques classiques de chirurgie osseuse. Inf Dent. 2004;86(41):2887-2893</p>	 <p>The revolutionary properties of piezoelectric surgery have simplified many common osseous surgical procedures, including sinus bone grafting.</p> <p>Vercellotti T, Nevins M, Jensen Ole T. Piezoelectric Bone Surgery for Sinus Bone Grafting. The Sinus Bone Graft, Second Edition. Edited by Ole T. Jensen, Quintessence Books. 2006; 23:273-279</p>	 <p>The membrane perforation rate in this series of 100 consecutive cases using the piezoelectric technique has been reduced from the average reported rate of 30% with rotary instrumentation to 7%.</p> <p>Wallace SS, Mazor Z, Froum SJ, Cho SC, Tarnow DP. Schneiderian membrane perforation rate during sinus elevation using piezosurgery: clinical results of 100 consecutive cases. Int J Periodontics Restorative Dent. 2007; 27(5):413-419</p>	 <p>The morphometrical analysis revealed a statistically significant more voluminous size of the particles collected with PIEZOSURGERY® than rotating drills.</p> <p>Chiriac G, Herten M, Schwarz F, Rothamel D, Becker J. Auto-genous bone chips: influence of a new piezoelectric device (PIEZOSURGERY®) on chips morphology, cell viability and differentiation. J Clin Periodontol. 2005; 32(9):994-999</p>	 <p>Microvibration and reduced noise minimize a patient's psychologic stress and fear during osteotomy under localanesthesia.</p> <p>Sohn DS, Ahn MR, Lee WH, Yeo DS, Lim SY. Piezoelectric osteotomy for intraoral harvesting of bone blocks. Int J Periodontics Restorative Dent. 2007; 27(2):127-131</p>

1997

- mectron and Prof. Tomaso Vercellotti developed the idea of piezoelectric bone surgery
- the main technological advancement is the adaption of ultrasonic movement for bone cutting
- mectron produces the first prototype devices for piezoelectric bone surgery
- first extraction treatments

1998

- first lateral sinus lift treatments

1999

- Prof. Tomaso Vercellotti introduced the name PIEZOSURGERY® for the new method
- first bone splitting treatments in the maxilla

2000



- first bone splitting treatments in the mandible
- first case studies about ridge expansion are published*
- mectron starts serial production of the PIEZOSURGERY® device

2001

- first crestal sinus lift treatments
- Piezosurgery® I, the world-wide exclusive first unit of piezoelectric bone surgery, is presented by mectron at IDS
- over 20 inserts are already available
- first study about sinus lift with PIEZOSURGERY® presented

2002

- development of periodontal resection surgeries
- first bone block grafting treatments

EXPERIENCE EXPERIENCE.

How mectron has been defining the future of bone surgery for the last 12 years.

Have you ever looked for scientific studies on bone surgery using other devices than PIEZOSURGERY®? Well, you could as well look for a needle in a haystack – their number is extremely slight.

From the very beginning 12 years ago we have worked together closely with scientific institutes and done successful clinical research. That is why the PIEZOSURGERY® method is the only one supported by more than 100 clinical and scientific studies.

But find out for yourself – on www.mectron.com. Here you will find the abstract collections as well as an updated list of publications about PIEZOSURGERY®.



→ 2004



- more powerful and better ergonomics – mectron presents the 2nd generation of the PIEZOSURGERY® device
- first orthodontic microsurgery treatments

→ 2005

- more than 30 scientific studies about PIEZOSURGERY® are published
- the first competitive units are launched
- first implant site preparation treatments using PIEZOSURGERY®

→ 2007

- mectron presents the innovative inserts for implant site preparation, at the same time the first study about the inserts is published

→ 2009



- PIEZOSURGERY® 3 – the third generation is presented

→ 2010

- SINUS PHYSIOLIFT® kit for crestal sinus lift is presented

→ 2011



- PIEZOSURGERY® touch opens a new era in piezoelectric-bone surgery

* You will find a selection of clinical and scientific studies about mectron PIEZOSURGERY® in the two volumes of the brochure „Scientific Abstracts – 10 years of clinical research“. A downloadable version is available at the mectron website www.mectron.com.

→ EXPERIENCE EDUCATION.

How mectron prepares you for the PIEZOSURGERY® method.

Besides its revolutionary technology, its unique level of quality and its perfect ergonomics there is another important factor for the success of the PIEZOSURGERY® technology: you.

That's why we offer you the perfect preparation: intensive training and continuing education that has been crucial for PIEZOSURGERY® since the beginning – and which have made it what it is today: state-of-the-art in various surgical procedures.



→ DVD CLINICAL APPLICATION

More than 40 videos of surgeries are on the DVD. Allowing an easy orientation about the possibilities PIEZOSURGERY® is offering.



➔ WWW.PIEZOSURGERYACADEMY.COM

Welcome to the PIEZOSURGERY® Academy – an independent institute for the advancement of the original PIEZOSURGERY® method. Feel free to discover the various possibilities of PIEZOSURGERY® and join one of our diverse seminars - of course offered in different languages.



INTERNATIONAL
Piezosurgery Academy®

➔ WWW.MECTRON.COM/EDUCATION

On www.mectron.com we offer you even more seminars: In the section courses and workshops you will find different seminars on PIEZOSURGERY® in English. Please contact your mectron partner for courses in your local language – you will find the contact address in the dealer list on our website.

→ EXPERIENCE MECTRON.

How mectron covers a wide range of products for almost every dental demand.

Now, after learning about the various benefits of the PIEZOSURGERY® technology, you might ask yourself: can I get this quality, this precision, this experience and this efficiency in other dental fields, too?

The answer is: yes. mectron offers you a wide range of dental products from air-polishing to LED-polymerization lights and ultrasonic scalers. So if you are looking for a strong and reliable partner for almost every dental challenge – experience mectron.



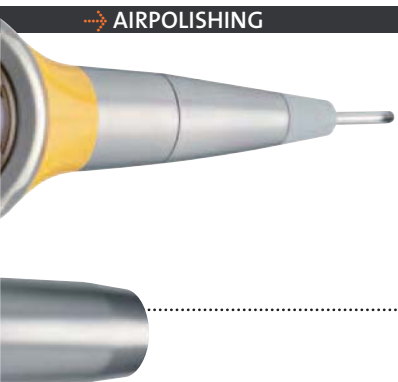
→ LED-POLYMERIZATION LIGHTS





→ AIRPOLISHING

→ ULTRASONIC SCALER



→ AIRPOLISHING



→ IMPLANT CLEANING



→ PROPHYLAXIS POWDERS

→ ENZYMEC

- enzymatic solution for efficient removal of organic residue
- specifically dedicated to the "clean" function of all PIEZOSURGERY® devices
- easy handling thanks to the dosage measuring



→ AND NOW HERE'S AN EXPERIENCE WE MADE: 12 YEARS OF CLINICAL SURGERY. MECTRON PIEZOSURGERY® *touch*

→ www.mectron.com or mectron@mectron.com

mectron s.p.a., via Loreto 15/A, 16042 Carasco (Ge), Italia, tel +39 0185 35361, fax +39 0185 351374



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medical technology

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