

mectron

→ PIEZOSURGERY®  
ENT EXCELLENCE



# → EXPERIENCE EXCELLENCE: CHOOSE PIEZOSURGERY® IMPROVES ENT SURGERY

→ YOUR CHALLENGES ARE COMPLEX. MECTRON CAN HELP YOU.

We understand that as a clinician, you seek technological solutions to accompany your expertise, that will allow you to optimize workflow, while ultimately providing your patients with the best postoperative results.

After performing extensive research on clinician needs and the challenges presented by traditional instrumentation, we developed a solution to provide you with increased safety, precision and surgical performance.

The PIEZOSURGERY® *plus* promotes ease of use and precise handling during osteotomies, with reduced trauma to adjacent soft tissue, improved bone healing, reduced pain, swelling and edema promoting better healing and an overall reduction in the length of hospitalization stays for patients <sup>10</sup>.

The expansive postoperative benefits of PIEZOSURGERY® have been experienced by distinguished surgeons in over 80 countries across our globe.



ENT  
EXCELLENCE 



mectron  
medical technology

Surgical procedures requiring the opening, removal, or remodeling of bone are supported by PIEZOSURGERY®.

## → CLINICAL INDICATIONS

Surgical fields of application:

- Head and Neck Surgery
- Endoscopic and Microscopic Surgery
- Orbital Surgery
- Rhinoplasty

## → WHAT OUR USERS THINK

**“** I would recommend Piezosurgery for any surgeon who wants to create clearly defined cuts, narrow the width of those cuts, control the depth of the incision, and potentially reduce the risk of complication for the patient.  
Prof MacKay S., ENT surgeon, Wollongong (Australia)

Piezosurgery allows us to remove the bone in a selective way without generating the bony dust that usually comes with the traditional use of drills, and it preserves soft tissues and avoids heating the facial nerve.  
Prof Marchioni D., ENT surgeon, Modena (Italy)

If you want to be really precise for putting away some little sheet of bone is perfect. For minimally invasive surgery is perfect.  
Dr D'Ecclesia A., ENT surgeon, Foggia (Italy)

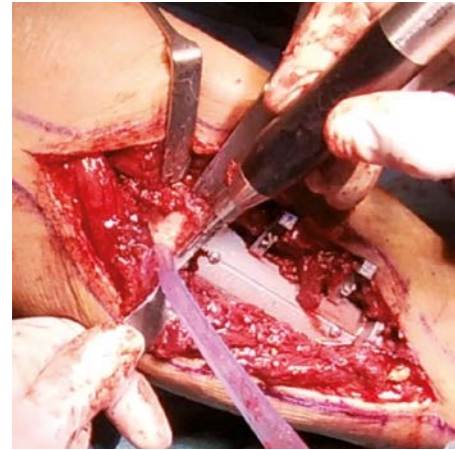
In my experience, Piezosurgery offers superior definition of the surgical margin in Head and Neck and skull base Surgery and allows a better orientation of the specimen.  
Dr Accorona R., ENT surgeon, Milano (Italy)

Studies have actually shown benefits to using piezosurgery in rhinoplasty and in my practice I've also seen other benefits to using this in rhinoplasty which include decreased irregularities increased, precision reduced revision rate and better hemostasis.  
Dr Moubayed S., Plastic surgeon, Montréal (Québec)

**”**



# EXPERIENCE HEAD AND NECK SURGERY



## ADVANTAGES OVER TRADITIONAL TOOLS

- Safer for adjacent soft tissues<sup>5</sup>
- Less heat generation in comparison to drills<sup>2</sup>
- Increased surgical control and flexibility in bone cutting<sup>3</sup>
- Better and faster bone healing due to absence of bone necrosis<sup>2,7</sup>
- Cleaner cuts that help prevent the spread of tumor tissue<sup>1,7</sup>
- Extreme precision for the exact removal of the cancerous bone<sup>1,7</sup>

“Piezoelectric osteotomy reduced surgical time, blood loss, and inferior alveolar nerve injury in bimaxillary osteotomy. Absence of macrovibrations makes the instrument more manageable and easy to use and allows greater intraoperative control with higher safety in cutting in difficult anatomical regions.”



MD2-08

MD2-10

MT4-10+

MT1412+

MT1520+

## MANDIBULOTOMY AND MANDIBULECTOMY/ MAXILLECTOMY

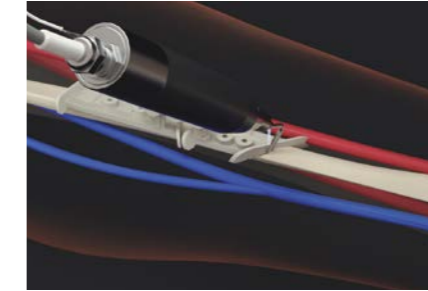


A precise, safe and efficient way to cut and border Mandibular and maxillary tumor bone, with reduced risk of tumor spreading compared to rotating tools<sup>1,7</sup>.

Recommended inserts:  
• MT4-10+ • MT1412+ • MT1520+

Additional inserts:  
• MT4-20+ • MT1-10 • MT1-20 • MT9-13

## OSTEOTOMIES FOR HARVESTING AND REMODELLING



Safe and efficient bone correction even in the most difficult areas, ensuring improved bone fusion due to the absence of heat and minimized bone loss.

Recommended inserts:  
• MT4-10+ • MT1412+ • MT1520+

Additional inserts:  
• MT4-20+ • MT15-10 • MT9-13

## FRONTAL SINUS OPENING - EXTERNAL APPROACH



Safety and precision of frontal sinus craniotomy, with improved aesthetic outcomes and easier repositioning of the bone flap.

Recommended inserts:  
• MT4-10+ • MT1412+ • MT1520+

Additional inserts:  
• MT4-20+ • MT15-10 • MT9-13

## DRILLING HOLES FOR PLATES AND CUTTING GUIDES



Precision and safety in drilling, possibility to use one single device for all the surgical steps.

Recommended inserts:  
• MD2-08 • MD2-10

Additional inserts:  
• MD3-14 • MD3-18

# EXPERIENCE ENDOSCOPIC AND MICROSCOPIC SURGERY



## ADVANTAGES OVER TRADITIONAL TOOLS

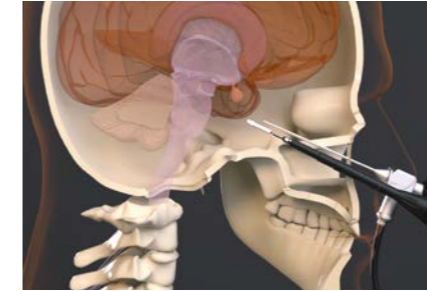
- Safer for nerves, arteries, dura mater and mucosa <sup>5,8</sup>
- High cutting precision and control <sup>3</sup>
- Better reconstruction <sup>4,6</sup>
- Reduced risk of reintervention due to bone restenosis <sup>4</sup>

“ The intraoperative implementation of piezoelectric surgery, neuronavigation, neuroendoscopy, and neuromonitoring ensured better intraoperative visualization, safer bone removal, and preservation of nerve function, facilitating a macroscopically total resection of the pathology without additional neurological damage of the adjacent tissues. [...] Neuroendoscopy and piezoelectric surgery provided good support in the safe bone removal in close vicinity to neurovascular structures and in full vision inside the cholesteatoma cavity beyond the line of sight of the microscope. ”



MP3A-30 MP5L MP6L MT8-20L

## POSTERIOR SPHENOIDOTOMY FOR PITUITARY TUMOR REMOVAL

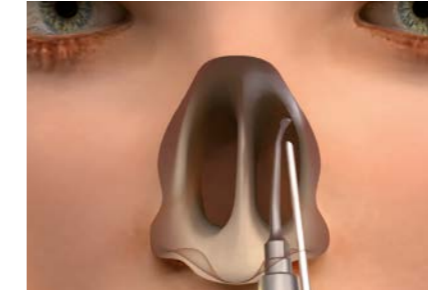


Precision in sphenoid wall opening, with reduced risk of damaging dural tissue.

Recommended insert:  
• MT8-20L

Additional inserts:  
• MP5L • MP6L

## DCR (DACRYOCYSTORHINOSTOMY)

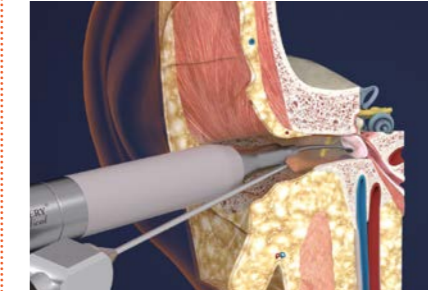


Safe bone cutting in difficult to access areas with the use of the endoscope, eliminating the risk of rotating or oscillating tools damaging the lacrimal sac.

Recommended insert:  
• MP3a-30

Additional insert:  
• MP5L

## CHOLESTEATOMA AND MIDDLE EAR PATHOLOGIES



Improved safety and flexibility of bone management in comparison to traditional rotating and oscillating tools.

Recommended insert:  
• MP3a-30

Additional insert:  
• MP4+

## FUNCTIONAL ENDOSCOPIC SINUS SURGERY

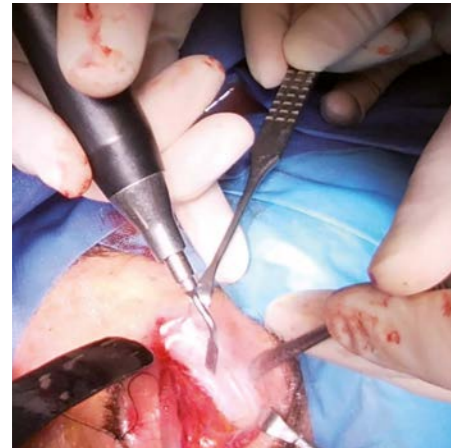


Precision and safety of bone removal. Safety on sinus mucosa, blood vessels and orbital content in comparison to traditional rotating and oscillating tools.

Recommended inserts:  
• MP5L • MP6L

Additional insert:  
• MT8-20L

# EXPERIENCE ORBITAL SURGERY



## ADVANTAGES OVER TRADITIONAL TOOLS

- Safer for vascular structures, dura & nerves <sup>5,9</sup>
- High cutting precision & control <sup>3</sup>
- Easier & better reconstruction <sup>4,6</sup>
- Less need to distract soft tissues <sup>5</sup>

“ Different minimally invasive surgical approaches to the orbit allow individualized bone resection to reduce proptosis and decompress the optic nerve in patients with Graves' orbitopathy (GO). [...] The application of piezosurgery in orbital decompression is more suitable than an oscillation saw due to superior cutting properties such as less damage to surrounding soft tissue or a thinner cutting groove. ”



MT4-20+ MT1520+ MT1412+ MP5L MP6L

## OSTEOTOMIES OF ORBITAL BONES



Minimized risk of CSF leaks and orbital damage. Improved aesthetics, preservation of fixation materials, and avoidance of substitutes through precise cutting. Reduced heat enhances ossification with implants.

Recommended inserts:  
• MT4-20+ • MT1412+ • MT1520+

Additional inserts:  
• MT4-10+ • MT1-10 • MT1-20 • MT9-13

## ORBITAL DECOMPRESSION

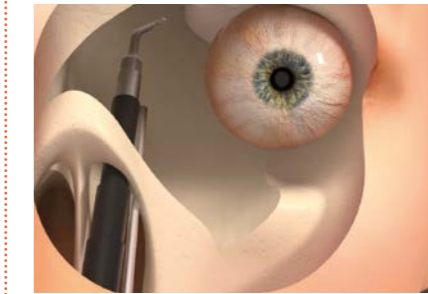


Preserves bone vitality and ensures a clear surgical field. Enables precise bone removal, minimizes trauma, and enhances safety near critical structures. Reduces swelling, accelerates recovery, and improves postoperative outcomes.

Recommended insert:  
• MP6L

Additional insert:  
• MP5L

## OPTIC NERVE DECOMPRESSION

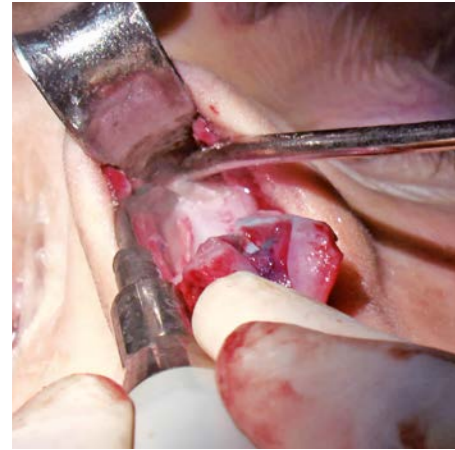


Minimized risk to the optic nerve and precise cutting near critical structures. This minimizes the need for bone grafts or synthetic implants traditionally used to reconstruct the orbital wall, while promoting natural bone healing through enhanced ossification.

Recommended insert:  
• MP5L

Additional insert:  
• MP4+

# EXPERIENCE RHINOPLASTY



## ADVANTAGES OVER TRADITIONAL TOOLS

- High precision & control of bone management<sup>3</sup>
- Better reconstruction<sup>4,6</sup>
- Less invasive approach

“ In bone modelling procedures, such as hump removal, osteotomy and bony fixations, PEI (Piezoelectric instrumentation) was evaluated as being superior to conventional instruments. Intraoperative bleeding was reduced, which led to reduced facial swelling and/or bruising. Postoperative pain assessment showed no or only mild pain in two thirds of the patients. ”



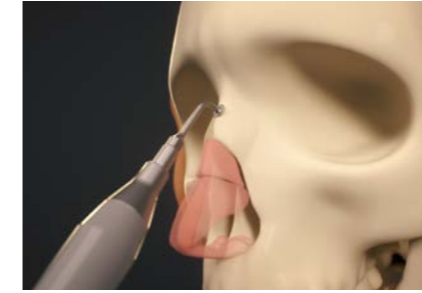
MP0745

MT1204

MF4

MT9-13

## HUMP TAKEDOWN AND DORSUM MODELING



Progressive correction of bone irregularities and controlled gentle rasping of the nasal dorsum.

Recommended insert:  
• MP0745

Additional inserts:  
• MP1 • MF1 • MF2 • MF4

## LATERAL OSTEOTOMY OF NASAL BONE



Atraumatic & precise: prevents nasal mucosa or periosteum lacerations, spares soft tissue and cartilage; prevents radiating fracture lines.

Recommended insert:  
• MT9-13

Additional inserts:  
• UNIVR • MT2R-4 • MT2L-4

## TRANSVERSE OSTEOTOMY OF NASAL BONE



Curved design enables precise action in confined spaces.

Recommended insert:  
• MT1204

Additional inserts:  
• MT9-13 • MT2R-4 • MT2L-4

## DRILLING OF SEPTUM FOR SUTURE FIXATION



The finest and angled insert for insertion in limited space; Ideal for perforating nasal bones as well as ethmoid lamina splints.

Recommended insert:  
• MF4

# PIEZOSURGERY® devices – EXCELLENCE IN BONE SURGERY



→ PIEZOSURGERY® plus 05170003

PIEZOSURGERY® *plus* is the complete device: it is engineered to support an expansive range of surgical applications.

Innovative features, including two independent handpieces and channels, provide you with superior results for every surgery.

### → COMPLETE

- Power joins precision in two handpieces
- High efficiency
- Cutting-edge technology



For more info about PIEZOSURGERY® *plus* device scan the QR code or click on it!

PIEZOSURGERY® *flex* is the essential device: with its perfect control, precision and ease of use it is your perfect start into a new era of bone surgery.

### → ESSENTIAL

- Control joins precision in one handpiece
- Compact and portable
- Easy to use



Discover the wide range of medical PIEZOSURGERY® inserts. Scan the QR code or click on it!



→ PIEZOSURGERY® flex 05170002

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