

# I AM POWERFULLY RESPONSIVE

## PIEZOTOME

CUBE



**Adopt Piezotome® extractions to favor bone preservation with immediate implant placement**

### **Tooth extraction, a common surgery across the world**

Extraction is the most common procedure performed in oral surgery<sup>\*1</sup>. As an example, in the United States 10 million of wisdom teeth are removed each year according to the American Public Health Association<sup>\*2</sup>. Dentists are ethically committed to using the least traumatic surgical options and least invasive techniques to ensure the patient's well-being thus less traumatic extraction and implant placement is becoming the norm in today's implant surgery.

### **Bone preservation, a challenge in extraction with traditional instrumentations**

In the daily dental routine, there is a time where all treatment possibilities to preserve the tooth have been exhausted. In this particular case, the tooth may have to be removed and replaced by a dental implant.

It is sometimes challenging to preserve the alveolar bone, particularly in clinical situations such as fractured teeth/roots or ankylosed teeth. Using instruments such as rotating instruments, in most cases, lead to sacrificing the alveolar ridge in order to remove the tooth or tooth fragments<sup>\*3</sup>. Also, the use of manual instrumentation often involves too much force thus leading to bone damage and a poor implant prognosis. Consequently, the need for bone augmentation to enable implant insertion will have to be consider in a second step. However, the use of particularly aggressive techniques is no longer appropriate.



### **Piezotome® extraction, a reproducible, reliable and minimally invasive technique**

Alternatively, tooth extraction can now be performed using Piezotome® Cube. The use of predictable and safe technology has modified traditional surgeries to minimally invasive treatments in order to achieve superior results for today's patient.

Indeed, ultrasonic instruments are less traumatizing, they are gentle on soft tissue, thus reducing the need for surgical flaps, and act essentially on the tooth and not on the bone which allows to preserve bone (no alveolectomy), essential for osseointegration and immediate implant placement<sup>\*4</sup>. Dr Brooks says, *"Immediate implant placement following extraction has become a very popular procedure and is very advantageous for patients"*.

Performing extraction procedure with implant placement with Piezotome® CUBE will reduce time considerably and the amount of grafting material, making every procedure predictable, easier and more acceptable for the patient.

### **Exclusive tips**

ACTEON® has developed six ultrasonic tips, very thin, specifically designed for this procedure. Inserted between the root and the periodontal ligament the tips will widen the ligament space. Thus, separated from its attachment system the tooth will be removed rapidly, almost forceless, leading to a gentle avulsion and ensuring a lack of trauma to both bone and soft-tissues:

- LC1 & LC2: thin ultrasonic periotomes dedicated to anterior extraction areas
- LC1 90°: ultrasonic periotome designed to access interproximal, lingual and distal areas of molars
- LC2L & LC2R: left and right-oriented ultrasonic periotomes dedicated to posterior areas
- NINJA®: saw-tip particularly efficient for hemisections and root amputations

### **Piezotome® extraction benefits both, patients and dentists**

With this new minimally invasive procedure, post-operative pain and swelling together with analgesics intake are reduced by over 50%<sup>\*5</sup> thus, increasing overall patient treatment acceptance due to better healing results and a better quality of life perceived by the patients<sup>\*6</sup> *"Piezotome®-surgery is superior in atraumaticity and soft-tissue safety compared to traditional procedures with burs and grants the patients significantly less post-surgical pain and swelling"*<sup>\*5</sup>.

Furthermore, the hydrodynamic cavitation allows to clean the surgery site for optimal visibility.

### **The patient words, testimonial from Elisabeth N., Vienna – underwent ultrasonic surgery for the extraction of a wisdom tooth by Dr Troedhan**

"Some years ago, because of a very complicated wisdom tooth I underwent jaw surgery at the University Clinic for Oral-Maxillofacial Surgery in Vienna. The operation and the period

following the operation were pure horror for me. I suffered severe pain for 14 days and because of the disfigurement of my face and the bruising right down to my cleavage, I was unable to leave the house for 10 days and the only thing I could eat was liquidised food. Since then I have a huge cavity on the bone of my lower jaw at the site of the operation, in which foods are always getting caught. Therefore, I was terrified by the prospect of the jaw surgery needed for the even worse wisdom tooth on the other side. From information on the Internet I discovered that such operations are much less dreadful with ultrasound. In addition, I had to make my mind up to have the jaw surgery done, since I was suffering constant pain because of the wisdom tooth. The oral surgeon used an ultrasonic operating instrument to carry out the jaw surgery. The contrast with the first operation on the other hand was unbelievable. The operation took less time and was not accompanied by such dreadful noises and after the operation I had hardly any pain and there was very little swelling and absolutely no bruising. Three days later I was able to eat normally again and 5 days after the operation I was able to return to work with no problems. I also do not have a cavity in the bone on this side to annoy me when I am eating. I hope that I will not need any more jaw surgery, but if I do need an operation, I will have it done only by ultrasound surgery."

Piezotome® CUBE allows for same-day procedure for extraction and implant placement which is less traumatizing for patients and optimizes dentist's time. Piezotome®-surgery has shown that it is the new gold standard in oral surgery<sup>\*3</sup>.

**Get the exclusive Extraction kit from ACTEON and adopt reproducible extraction with peace of mind!**

<sup>\*1</sup> Ciccio M, et al. Experimental Study on Strength Evaluation Applied for Teeth Extraction: An In Vivo Study. *Open Dent J.* 2007;7:20-26

<sup>\*2</sup> American Public Health Association <https://www.vox.com/2015/1/13/7539983/wisdom-teeth-necessary>

<sup>\*3</sup> Troedhan A., Tarek Mahmoud Z., Is Piezoelectric Surgery the New Gold-Standard in Oral Surgery and Implantology? A Scientific Literature Review. *Smile Dental Journal*, Volume 11, Issue 4 – 2016

<sup>\*4</sup> Kleiber J., Immediate extraction placement and loading in the aesthetic zone. *Implant Dentistry Today*, January 2013

<sup>\*5</sup> Troedhan A., Kurrek A., Wainwright M. Ultrasonic Piezotome® surgery: is it a benefit for our patients and does it extend the surgery time? A retrospective comparative study on the removal of 100 impacted mandibular 3<sup>rd</sup> molar. *Open Journal of Stomatology*, 2011

<sup>\*6</sup> Goyal M., Marya K., Jhamb A., Chawla S., Ranjan S., Veenitah Singh P., Aggarwal A., Comparative evaluation of surgical outcome after removal of impacted mandibular third molars using a Piezotome® or a conventional handpiece: a prospective study. *British Journal of Oral and Maxillofacial Surgery.* 50(2012):556-561.