

ESACROM R&D DEPT.
PRESENTS

MINI INVASIVE DENTAL EXTRACTIONS IN DOGS AND CATS

By Dr. Francesco Paesano



INTRODUCTION

Dental extraction is definitely the most commonly performed oral surgery procedure in the daily dental practice of small animals.

This dental procedure can be relatively simple or extremely difficult in relation to many variables such as resorption lesions and alveolar dental ankylosis, Dilacerated roots, periodontal toy patients at risk of mandibular fracture or with regard to avulsion of roots believed to be in the vicinity of nervous vascular structures.

For years now in human odontostomatological surgery, the advent of technological innovations such as Piezo surgery has greatly changed the way we approach all simple and complex procedures, thus providing new tools and new possibilities to face them with success.

The numerous advantages of this technology can also be applied in the field of veterinary dentistry:

- 1 **Selective cutting** of mineralized tissues without damaging the soft (vessels, nerves);
- 2 **Intraoperative control** and **efficacy** inversely proportional to the **force** applied by the operator;
- 3 Ability of ultrasound to **separate solids** with **different consistency** and **density** (ie. the tooth from the bone);
- 4 **Reduced iatrogenic trauma** and respectful of **tissue healing** (no bone necrosis as opposed to traditional rotating instruments);
- 5 **Micro-coagulation** and **bactericidal** effect of the phenomenon of Cavitation.

SURGICAL PROTOCOL

In **small dogs** and **cats** in relation to the operating length of the **ES009NT** insert (10mm) we can perform dental extractions **without alveolotomy**.

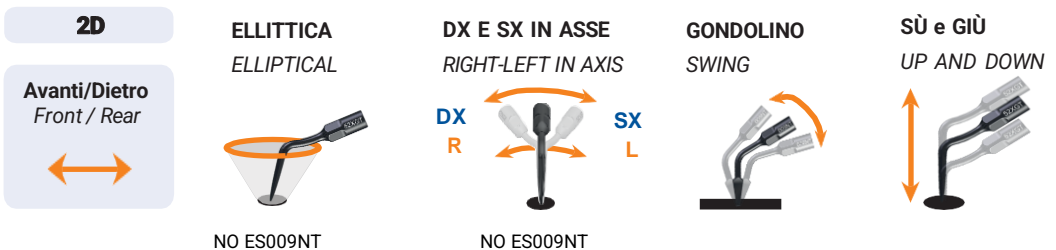
We prepare the dental element by sectioning (if multi-rooted) and by lifting the mucogingival flap. With the chisel insert from extractions **ES009NT** we go to **surround** the sectioned dental elements with **continuous movements**, with one or more patterns of movements listed below. The maximum effectiveness of the instrument is achieved with the highest power and minimum pressure from the operator. In this way, we perform vertical osteotomies in the space between the tooth root and the alveolar bone.

Then we can use the conical insert **ES052XGT**, which allows to **break** further the **periodontal firs** and **complete the syndesmotomy**, thanks to its shape that produces a wedge effect, and ultrasonic vibrations.

If the tooth is not mobile enough, it is advisable to intervene with the manual dislocators before using the extraction clamps.

Even in medium and large size dogs we can equally take advantage of the **advantages of piezo surgery**, facilitating and speeding up the execution of extractions, performing the vertical syndesmotomy with the **ES009NT** insert, only after performing the partial alveolotomy (50%) with traditional rotating instruments.

Before placing and suturing the post-extraction mucogingival flap, it is possible to perform **alveoloplasty**, to reduce bone roughness, with the round chisel insert **ES010T**, with the **advantage of not risking any iatrogenic damage to the surrounding structures**.



SURGYCAL PROTOCOL

This **toy poodle breed** patient presents **periodontal mandibular molars** with **dilapidated roots**.

With traditional techniques to avoid fracturing the roots, an extended alveolotomy would have been necessary, risking damage to the lower Alveolar nerve vascular cord.

Instead the molars were treated first by inserting **ES009NT** in all aspects of the **periodontal space** (labial, lingual, mesial, distal), then **ES052XGT** is used to complete the **mobilization of the roots**, until the realization of **avulsion**.

Subsequently, **Piezoclean** and **cavitation** are used for the **decontamination** of the post-extraction alveolus.

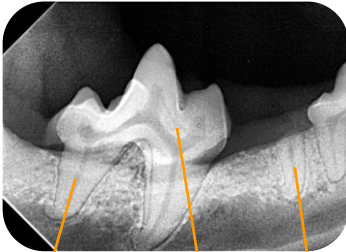


ES009NT

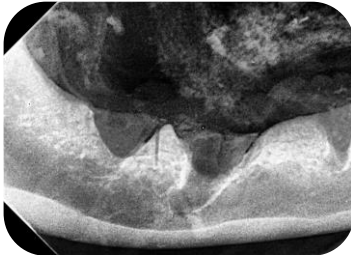
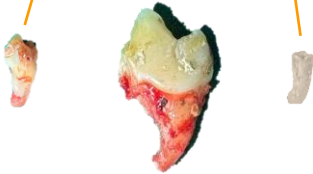
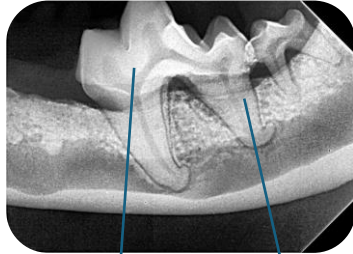


ES052GT

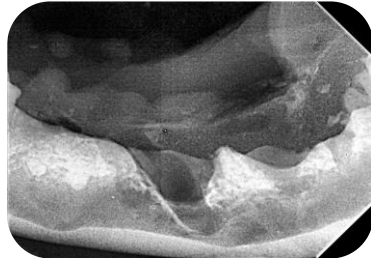
CLINICAL CASE N.1



Before



After



inferior alveolar
nerve

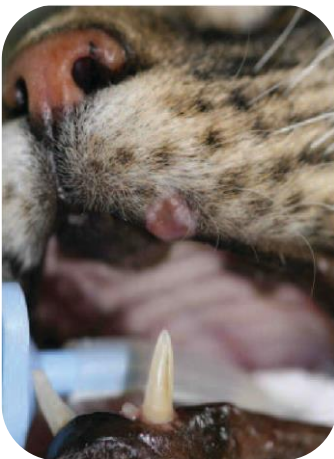
SURGICAL PROTOCOL

Complicated fractures of the **maxillary canines** are frequently seen in **feline patients**, due to their ethology being to their liking heights.

When conservative root canal therapy is not possible, extractive therapy is necessary.

Unfortunately, with rotating instruments it is essential to perform a large alveolotomy before you can extract these important dental elements and this predisposes the patient to "lip trapping" resulting in labial injuries from trauma by impact with the crowns of the mandibular canines.

Thanks to **piezo surgery** we can perform the extraction **without alveolotomy**: this allows to **maintain the physiological position** of the upper lip, which remains spaced thanks to the persistence of the alveolar processes of the maxillary canines.



Scan to see the
whole procedure

CLINICAL CASE N.2



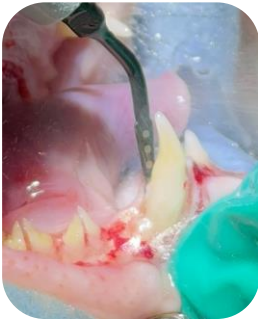
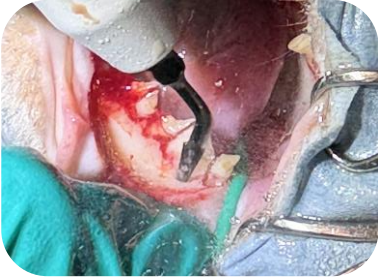
Before



After



SURGICAL PROTOCOL

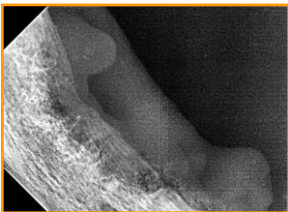
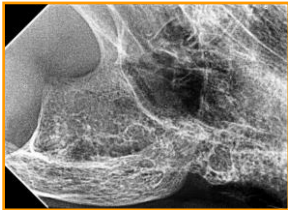
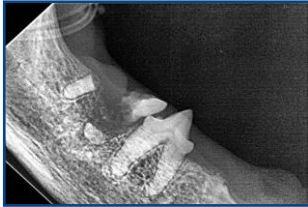
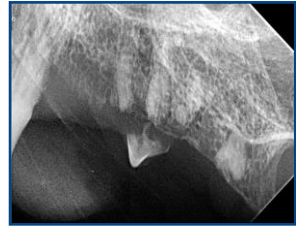
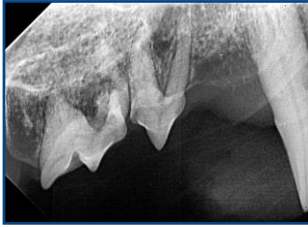


In this **cat** there are numerous **believed roots**, **lesions from resorption**, **periodontal teeth** and **dento-alveolar ankylosis**. We proceed with the **total extraction** of the teeth, with an overall surgery time of about 1 hour and 30 minutes.

The ability to **separate tissues with different densities** finds in **piezo surgery** the ideal tool to perform this type of complex dental extractions.



CLINICAL CASE N.3



DEDICATED TIPS



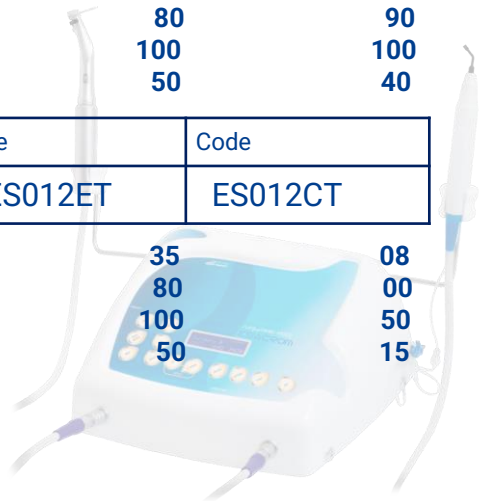
PARAMETERS

Code	Code	Code	Code
ES010T	ES007W1T	ES009NT	ES052XGT

U	35	35	35	30
V	80	80	80	90
P	100	100	100	100
MAX POWER	50	50	50	40

Code	Code	Code	Code
ES019T	ES007WT	ES012ET	ES012CT

U	08	35	35	08
V	00	80	80	00
P	50	100	100	50
MAX POWER	10	50	50	15



U: Suggested power
V: Suggested vibration
P: Recommended pump capacity
MAX POWER: Maximum power at which the insert can be used

DR. FRANCESCO PAESANO

He graduated in 2013 from the **Faculty of Veterinary Medicine of the University of Pisa**, with an experimental thesis entitled "Partially Intravenous Anesthesia in the course of orthopedic procedures in wild avian species".

Afterwards, he does internships and visits at zoological parks, wildlife recovery centers and clinics specializing in exotic animal medicine in Spain, Portugal, United Kingdom, Indonesia.



From 2013 to 2016 he worked in **Anesthesiology** and **Medicine and Surgery of Exotic Animals** at the Vet Hospital, Florence.

From 2016 to 2018 he worked on General Medicine of Small Animals, Medicine and Surgery of Exotic Animals and Odontostomatology at the Global United Veterinary Clinic in Abu Dhabi, United Arab Emirates.

Speaker at National and International Congresses: ICARE (International Congress Avian Reptile and Exotics mammals) in 2015 and 2019.

In 2022 he received the title of "General Practitioner Certificate in Small Animal Dentistry and Oral Surgery" from the International School of Veterinary Postgraduate Studies.

Since 2018 he has been dealing exclusively with **Odontostomatology** and **Surgery of Exotic Animals**, sectors of which he was responsible at the Clinica Veterinaria Borghesiana in Rome until September 2022.

He participates as a lecturer in the "Practical Course of Dentistry" Unisvet and the Course of Dentistry for veterinary technicians Unisvet.

His main fields of interest are Oncological Surgery and Maxillo Facial Trauma and Piezo Surgery.

Since October 2022 he has collaborated with **VetHospital**, with the clinics of the Florentine Cluster of VetPartnes Italy, and with many other structures in Tuscany.

From May 2023 collaborates with the Centro Toscano Recupero Avifauna Wildlife of Empoli.

DISCOVER OUR ULTRASONIC WORLD!

Follow us on     @esacromsrl

On our social profiles you can find continuous updates about #Esacrom education, join us to our courses and events to learn more!

For more info contact:

Esacrom srl

Via Zambrini 6/A-40026 IMOLA(BO)

TEL. +390542643527 FAX +390542482007 esacrom@esacrom.com