

ESACROM R&D DEPT.

PRESENTS

ULTRASOUND IN THE DISSOCIATION OF TISSUES OF DIFFERENT ELASTICITY AND CONSISTENCY

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INTRODUCTION

The advent of ultrasonic technology in the field of oral surgery has allowed the use of minimally traumatic and invasive clinical procedures capable of ensuring predictable results for the patient. Born with the aim of overcoming the limits of traditional rotary instrumentation in osteotomy and osteoplasty techniques, it was decided to extend their use to the dissociation of tissues with different elasticity and consistency. In particular, this use ranges from the detachment of the periosteal mucous flap, i.e. to the «atraumatic» separation of the periosteum from the bone, to the skeletonization and enucleation of soft neoformations present inside the maxillary bones such as cysts of various nature or removal of the granulation tissue for endoalveolar cleaning after extraction maneuvers in order to create the best biological conditions to accelerate the healing processes and, possibly, allow the immediate insertion of an implant.



We thank Dr. Michele Antonio Palancia for his collaboration

For the **palatine fibromucosa**, if the incision is intrasulcular you start with the **ES009NT** insert at values of U=20 V=40 P=100 and then continue with the **ES010T** insert with values of U=40 V=80 P=100 in case of considerable thicknesses while for thinner thicknesses the **ES003BT** can be used with values of U=20 V=40 P=100 (even if the risk of breakage of the insert is high); as an alternative to the ES010T, the **ES005T** insert can be used with values of U=50 V=80 P=100 for thick and well-adhered fibromucous membranes to the underlying surfaces. In the event of less thick fabrics, the **ES003DT** insert is recommended by setting U=20 V=40 P=100 and then switching to the **ES003BT** insert (keeping the same parameters) due to larger dimensions of the working part.



In the case of the **retromolar trigone area**, the detachment must be performed more delicately due to the proximity of the lingual nerve: you can start with the **ES003DT** insert with values of U=12 V=20 P=100 and then increase to U =20 V=40 P=100 and possibly complete the detachment with the **ES003BT** insert using the same parameters.

REMOVAL OF SOFT FORMATIONS OF INTRAOSSEOUS CONSISTENCY:

the enucleation of cysts, granulomas and other soft growths that develop in the bone structure of the jaws is particularly facilitated when carried out using ultrasonic technology. The use of inserts is based more on their ability to dissociate structures with different elasticity and consistency rather than on a direct cutting action; the progression of the working end through the tissues occurs in highly safe conditions and can be easily accommodated since it is made possible by the cavitation shock wave rather than by its shearing capacity.

Large soft growths. After having designed and raised a flap from the bone plane, we proceed with the erosion of the cortex, if present, using suitable inserts and completing the operation with the **ES003DT** insert. Once adequate access has been gained, the **ES003BT** insert is made to work on the interface between the soft neoformation and the bone cavity so as to carry out a progressive cleavage of the lesion. The use parameters of both inserts must never be excessive; therefore it is advisable not to exceed the values of $U=20$ $V=40$ $P=100$ in order to avoid tearing the neoformation by unduly lengthening the time for its complete enucleation.



Chronic apical inflammatory processes. Its particularly small dimensions and the ability to penetrate deeply inside an extraction socket make the **ES003DT** insert particularly suitable for the removal of apical granulomas. The use of this insert must be carried out at parameters of $U=12$ $V=20$ $P=100$ and must be continued beyond the time necessary for the removal of the soft tissue in order to meticulously cleanse the medullary spaces so as to accelerate the healing processes, especially in the event that immediate implant insertion is planned. The same considerations can be extended to the removal of soft tissue in the case of apicectomy.



USE

- TISSUE DISPLACEMENT
- REMOVAL OF SOFT NEW FORMATIONS
- WITH INTRABONY SEAT

DEDICATED INSERTS and PARAMETERS:



	ES003DT	ES003BT	ES009NT	ES010T	ES005T
U	20	12	12	40	50
V	40	40	20	80	80
P	100	100	100	100	100
MAX POWER	25	20	50	70	70

U: Suggested power

V: Suggested vibra

P: Suggested water pump

MAX POWER: Maximum power at which the insert can be used.

USE PROTOCOLS

TISSUE DISPLACEMENT:

the use of an ultrasonic insert for the detachment of a mucoperiosteal flap contributes to the reduction of surgical trauma, presenting promising implications in terms of preservation of the vascularization and protection of the anatomical architecture. From a technical-operational point of view, this maneuver has the following advantages:

- 1) facilitation of flap lifting especially in the presence of adhesions between the flap itself and the underlying structures;
- 2) reduction of the risk of accidental lacerations;
- 3) improvement of the visibility of the operating field.

The use protocol involves the choice of inserts with shapes suitable for detachment appropriately combined with the parameters power (U), vibration (V) flow rate of the peristaltic pump (P) which take into account the type of flap (thickness, keratinization) and the relative anatomical location .

The inserts used are:

• **ES003DT; ES003BT; ES010T; ES009NT; ES005T.**

The flaps considered based on macroscopic characteristics and anatomical locations are:

- Buccal attached gingiva e alveolar mucosa.
- Palatal fibromucosa.
- Fibromucosa of the retro molar trigone.



For the detachment of the **buccal keratinized gingiva**, the **ES009NT** insert is used with values of $U=12$ $V=20$ $P=100$ which thanks to its triangular shape manages to wedge along the **incision line and allows** the use of the **ES003DT** insert used with the same parameters that completes the detachment begun previously, also extending into the alveolar mucosa. In any case, it should be kept in mind that no pressure should be exerted on the handpiece in order to avoid damaging the bone by making the insert work autonomously and following its natural progression thanks also to the cavitation effect..

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Graduated with honors in dentistry and dental prosthetics from the University of Rome "La Sapienza", master's degree in oral implantology (University of Pisa), specialization in plastic and regenerative periodontal surgery techniques (University of Milan), he has carried out numerous professional refresher courses in Italy (Scipioni, Zucchelli) and in the United States at New York University and the State University of New York at Buffalo. Inside the gnathology department of the Italian Stomatological Institute of Milan directed by prof. Mario Molina, with whom he collaborated in the creation of the text "il pain oro-cranio-facial" (Ilic editore 2006) practices as a freelancer in San Bartolomeo in Galdo, carrying out consultancy activities with practice limited to gnathology and surgery to which he has dedicated particular interest in the form of courses, conferences and scientific publications.

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