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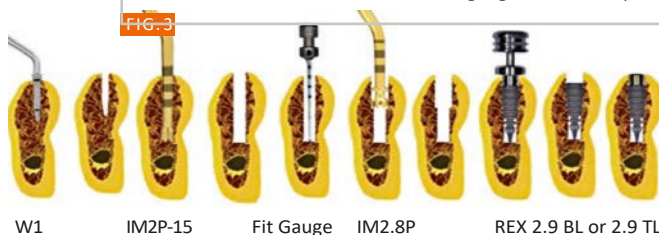
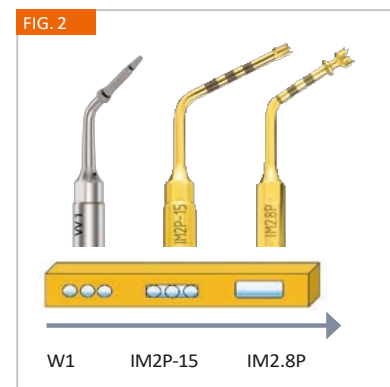
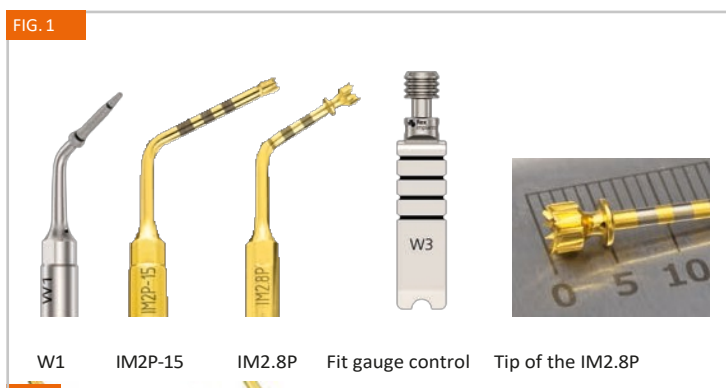
## EFFICIENCY IN PREPARING THE IMPLANT SITE FOR REX IMPLANTS IN HIGH BONE DENSITY USING THE SWIPE TECHNIQUE (SIMPLIFIED WEDGE IMPLANT-SITE PREPARATION EFFICIENCY)

Wedge-shaped implants require preparation of a rectangular surgical site. The REX system involves preparing the site using an expansive technique in the presence of bone elasticity or a subtractive technique in the presence of high mineralization. Both techniques use well-defined protocols that can be combined according to the anatomical and biomechanical characteristics of the bone. However, in cases of high mineralization, the preparation of the site for thicker REX implants has been modified as it is difficult due to the reduced cutting efficiency of the W5 and W6 inserts, effectively limiting the use of thicker implants that are useful in the posterior sectors of the mandible. To overcome this limitation, the article introduces the new "SWIPE" protocol, which involves the use of only two inserts derived from the UISP (Ultrasonic Implant Site Preparation) of Mectron PIEZOSURGERY® after the W1 insert of the REX kit. In this technique, rather than for perforation

the highly efficient and easy-to-use IM2P-15 and IM2.8P inserts are used by sliding them horizontally in a mesio-distal direction (hence the acronym Swipe).

### The surgical technique consists of the following steps:

- 1) With the W1 insert, a guide groove is made at the central point and two other grooves are made mesially and distally for a total length of approximately 7 mm.
- 2) The guide grooves are immediately joined in a single crestal osteotomy with the IM2P-15 insert using a SWIPE movement to the depth of the implant to be inserted (9-11-13 or 15 mm).
- 3) Preparation check with fit gauge
- 4) The IM2.8P insert finalizes the preparation in the coronal aspect up to the metal depth index (approximately 5 mm).



**Fig. 1:** Inserts used for the SWIPE technique and control fit gauge. Detail of the tip of the IM2.8P insert showing the position of the disc limiting the depth to 5 mm.

**Fig. 2:** SWIPE technique: surgical protocol

**Fig. 3:** Ultrasonic preparation with the swipe technique, check with fit gauge, and implant insertion with REX IPD and press-fit technique.

### Clinical case:

The patient had been edentulous in the upper right canine area for a long time. The radiographic study on CBCT cross-section images showed a horizontal and slightly vertical ridge defect. The patient agreed to

the idea of a wedge implant exclusively in native bone to avoid the GBR necessary in the case of a screw implant. Since it was a canine, a REX TL 2.9 was chosen because it is very robust.



**Fig. 4:** The orange line in the figure virtually represents crestal remodeling or bone flattening, aimed at obtaining both a width greater than 5 mm, sufficient for the placement of a wedge implant with bone preservation, and an increase in soft tissue thickness from 2 to 4 mm. It is decided to insert a 2.9 mm REX TL implant in a submerged position in order to further increase the peri-implant bone thickness, taking advantage of the triangular morphology of the crest, which gradually widens in the apical direction.

**Fig. 5:** SWIPE technique: the first part of the site preparation is perforated and smoothed, possibly going slightly beyond the apex of the planned implant in order to place the Rex 2.9 Tissue Level implant in the Bone Level position.

**Fig. 6:** Enlargement of the coronal part of the site preparation, using the IM2.8P insert with the SWIPE technique, descending to the depth ring (approximately 5 mm).



**Fig. 7:** Occlusal view of the rectangular implant site. Appearance of the site ready to receive the implant

**Fig. 8:** Implant placement using the press-fit technique.

**Fig. 9:** The cover screw before closure of the flaps for primary healing is positioned at bone level at the height of the bone crest.

**Fig. 10:** The post-operative intraoral radiograph at time zero confirms the correct position of the implant. It is interesting to note that, despite being tissue level, this implant can be positioned bone level to close the flaps by primary intention



**Fig. 11:** Note the adequate peri-implant bone. Unlike screw implants, the orientation of the thin apex of REX implants allows the implant axis to be optimized in accordance with the reduced thickness of the ridge and to obtain a prosthetically favorable inclination.