

III. Osseodensification May Facilitate Lateral Ridge Expansion



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A. Ridge Expansion Procedure

Osseodensification will not create the tissue, it may only optimize and preserve what already exists.

There is a need for ≥ 2 mm of trabecular-bone core and $\geq 1/1$ trabecular/cortical bone ratio to achieve a predictable plastic expansion. The more cortical bone there is, the more trabecular core is needed to facilitate predictable expansion. The ideal minimum ridge to expand is 4 mm (2 mm trabecular core + 1 mm cortex on each side).

This protocol is indicated to expand a ridge with a narrow crest and wider base. It is not indicated in resorbed ridge with a narrow base.

In ridge expansion cases please oversize your osteotomy and make sure that the osteotomy crestal diameter is equal or larger than the implant major diameter.

1. **Diagnose and assess the amount of trabecular bone available using a CBCT**

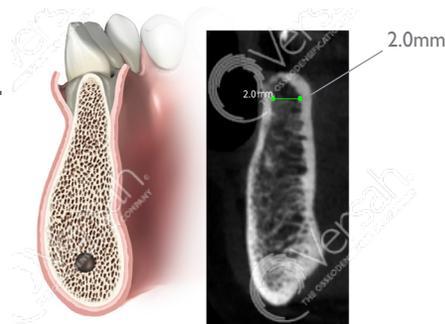
to evaluate bone composition needed to perform a predictable plastic expansion.

2. Flap the soft tissue using the technique indicated for the implant position.

3. Depending upon the implant type and diameter selected for the site, after a narrow pilot

osteotomy, begin with the narrowest Densah® Bur. Set the drill motor to reverse—**Densifying Mode**

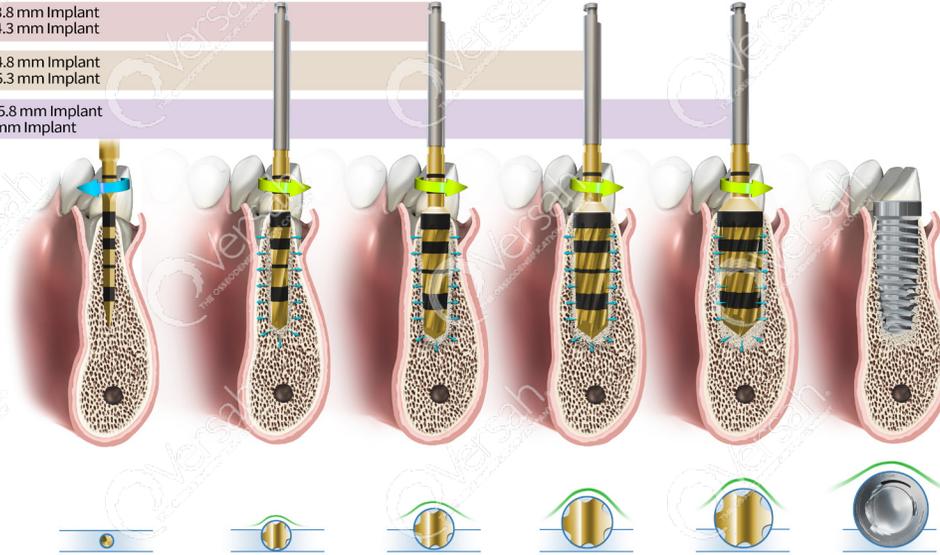
(Counterclockwise drill speed 800-1500 rpm with copious irrigation). Begin running the bur into the osteotomy. When feeling the haptic feedback of the bur lift off pressure and reapply, repeatedly lift off and reapply pressure with a pumping motion until reaching the desired depth.



3.5, 3.7, 3.8 mm Implant
4.0, 4.2, 4.3 mm Implant

4.5, 4.7, 4.8 mm Implant
5.0, 5.2, 5.3 mm Implant

5.5, 5.7, 5.8 mm Implant
6.0, 6.2 mm Implant



4. **Use the Densah® Burs in small increments.** As the bur diameter increases, the bone may gradually expand to the final diameter. The osteotomy may be expanded with minimal bone dehiscence, which may allow for total implant length placement in autogenous bone without thread exposure. Mandibular osteotomies need to be planned and performed to **1 mm deeper** than the implant length.
5. **Place an implant with a diameter that is equal or slightly larger than the initial ridge width** (up to 0.7 mm larger). If using the drill motor to tap the implant into place, the unit may stop when reaching the placement torque maximum. Finish placing the implant to depth with a torque indicating wrench. The proper diameter implants should be included in the treatment plan and on hand at the surgical appointment.
6. If < 1.5-2.0 mm of buccal bone thickness has resulted after osseodensification, perform hard and soft tissue veneer contour-graft to augment around the implant to develop tissue thickness that may enhance long term stability. Complete implant coverage may be considered for 2-stage healing protocol.

*Clinician experience and judgment should be used in conjunction with this suggested use protocol.