# Regenerative solutions
# How-to reference guide

Nobel Biocare™

Step-by-step + clinical case

# Horizontal ridge augmentation

Treatment protocol
as performed by
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**DMD, MSD, Dip. Perio,**
**Dip. ABP, FRCD(c)**

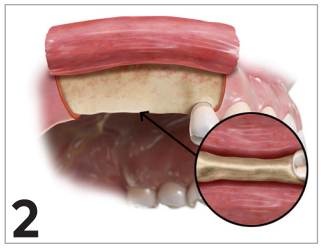
## Product range

**Grafting material:** creos™ allo.gain, creos™ xenogain
**Membranes:** creos™ xenoprotect
**Sutures:** RESORBA® GLYCOLON™
**Fixation systems:** Pro-fix™ Tenting kit and screws, Master-Pin-Control

## Step-by-step protocol – Dr. Mohamed

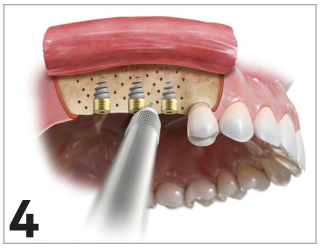
**Initial clinical situation:** Atrophic alveolar crests with horizontal bone loss and vertical dimension unchanged – diagnosed with CBCT scan


Create an initial incision using a new 15C blade on the horizontal and two vertical incisions 1–2 teeth away from augmentation area.

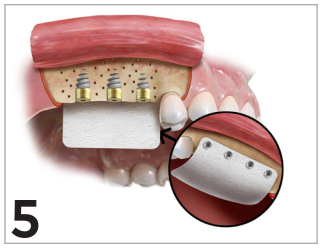



Open the flap to reveal the bony ridge. Assess the amount of bone width that needs to be created for an esthetic outcome.


From the planning, place NobelActive® TiUltra implants if there is enough bone to place the implants in the ideal 3D position.



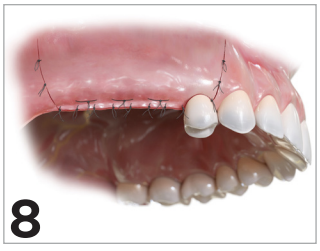

Decorticate the bone to stimulate blood flow into the site.




Place a resorbable collagen membrane such as creos™ xenoprotect or Cytoplast™ RTM collagen on the lingual side and fixate with pins until the membrane is secure.


Mix autogenous bone and mineralized allogenic bone or xenogenic bone and hydrate with saline. Once the bone is ready, place around the defect site and fixate the membrane buccally with pins until it is secure.


Using a new 15C blade, release the periosteal fibers to prepare for tension-free primary closure.




Suture using Cytoplast™ PTFE sutures on the horizontal and RESORBA® GLYCOLON™ on the verticals. The PTFE will remain closed to allow for healing. RESORBA® GLYCOLON™ sutures will absorb, leaving the verticals with an esthetic result.

## Horizontal ridge augmentation – continued

# Clinical case – Dr. Mohamed

### Initial clinical situation: Perio compromised centrals and laterals

Soft tissue management comes first. Tooth with root showing. Patient presented with periodontally compromised centrals and right lateral.

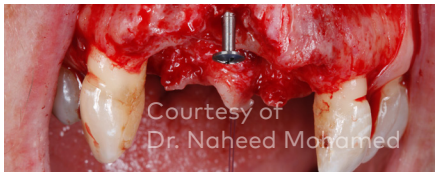
### Phase 1

Removed the teeth and let the soft tissue heal. After the soft tissue has healed, move into the surgery to evaluate the vertical and horizontal bone deficiencies.

### Phase 2


**1** Tissue healed after phase 1.


**2** Two vertical incisions to open the defect. Deficiency observed.

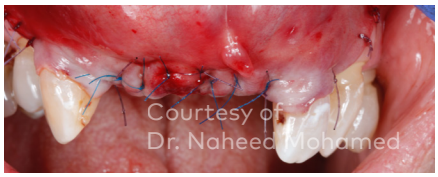



**3** Use Pro-fix™ tenting screw to plan the height of the bone that you want to fill. Overfill with bone substitutes by about 15–20% more than the desired ridge volume.


**4** Use a creos™ xenoprotect collagen membrane or Cytoplast™ RTM membrane and pin on the palatal side.


**5** Fill the space with creos™ xenogain and creos™ allo.gain bone substitutes.


**6** Stretch the collagen membrane over and secure with pins from the Master-Pin-Control kit to mimic Dr. Urban's sausage technique*.




**7** Primary, tension-free closure is achieved utilizing a horizontal mattress and single interrupted stitch.


**8** Healing after about 7 months. Observe the dense, stable bone and the patient is now ready for implant placement.


**9** Final bone volume achieved. Patient is now ready for implant placement.

* Efficacy of the Sausage Technique in Rebuilding the Crestal Buccal Bone Thickness: A Retrospective Analysis – bit.ly/4kYKoJR

## Nobel Biocare regenerative products used in this case

creos™ allo.gain

creos™ xenogain

creos™ xenoprotect

RESORBA® GLYCOLON™

Pro-fix™ Tenting kit

Pro-fix™ Tenting screws

Master-Pin-Control