

Magic Surgical System

B.E.B TECHNIQUE (Bone Expansion with Bending of cortical bone)

Indication

- Case1. Placement hole formation in Q4 bone
- Case2. Bone Expansion
- Case3. Protection of anatomical structure

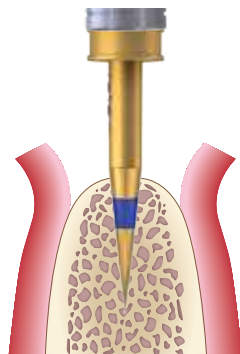
Features

- 1. Developed with structural considerations and mechanical analysis of alveolar bone
- 2. May effectively minimize the need for GBR
- 3. May minimize damage to anatomical structures

Indication1. Fixture placement in Q4 bone

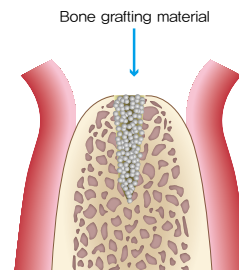
- Methods to secure initial stability should be considered. Formation of bone tissue is necessary and should be considered for fixture to endure occlusal force.
- If the Magic Expander is not driven to the ideal depth with manual force during bone grafting, use tapping instrument with very gentle tapping

1 Initial hole formation (use of Magic Split)



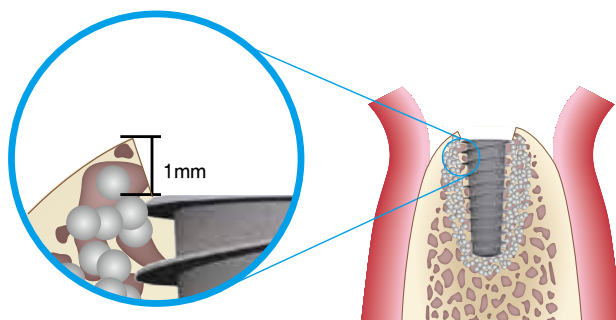
Form the initial hole by applying Magic Split 1mm deeper than the length of the fixture .

2 Bone grafting



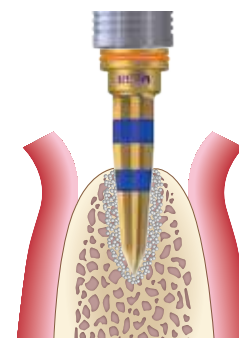
Insert bone grafting material into the initial hole made by Magic Split.

4 Fixture placement (One size bigger fixture - 4.3)



Set the placement direction in advance, so the direction would not be altered during placement and initial stability would not be weakened. Also, place the implant 0.5-1mm deeper than bone level to prevent failure by external force after placement (2-stage surgery should be performed).

3 Bone grafting inside of bone marrow space (Use of Magic Expander 3.8)

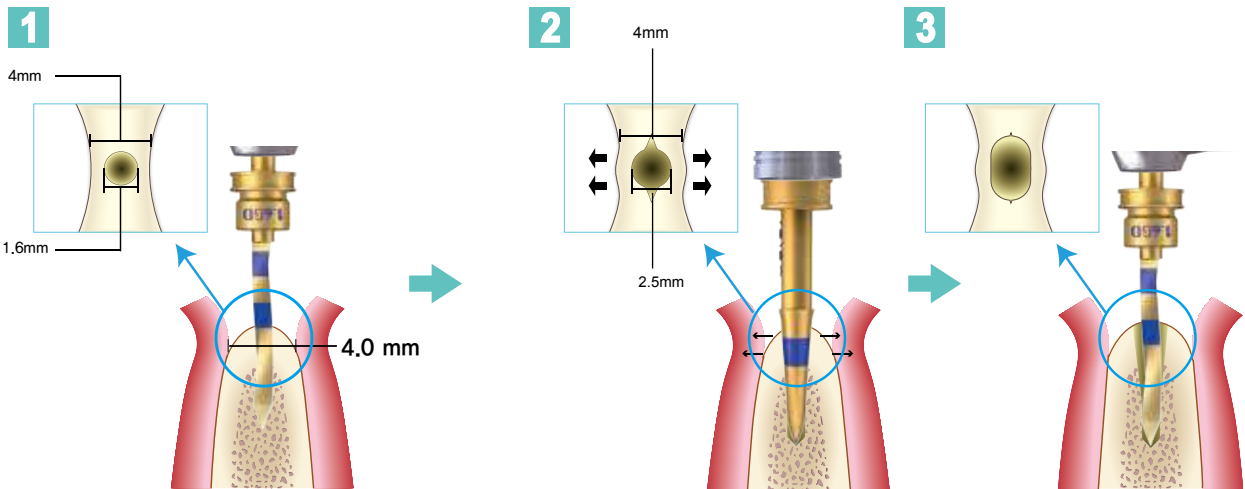


Apply Magic Expander 1mm deeper than the length of fixture. When this procedure is **repeated 2-3 times**, bone grafting material would be sufficiently grafted inside of bone marrow space.

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Indication2. Bone expansion

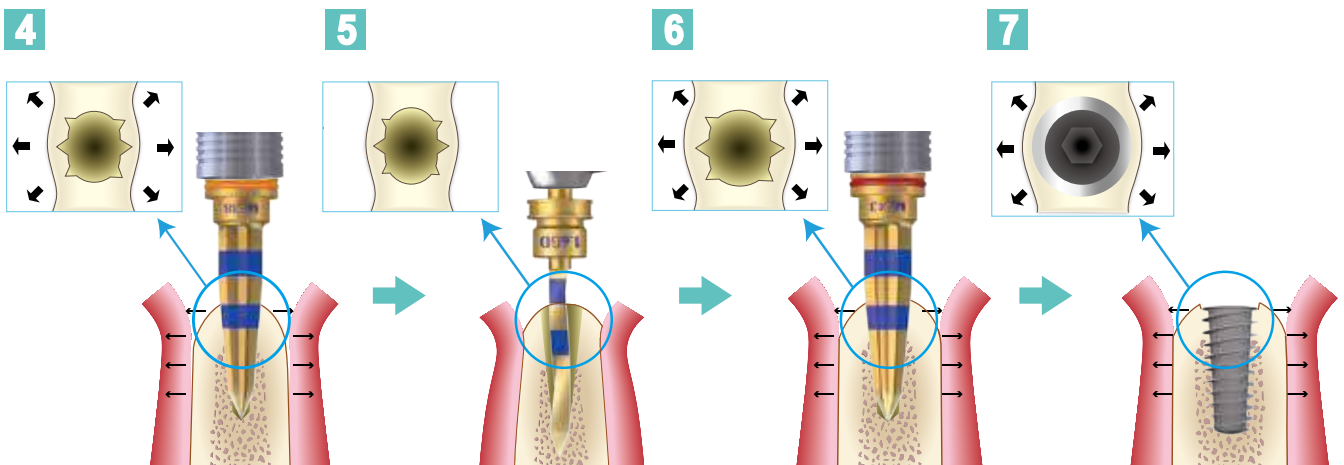
- If the tapping instrument does not advance, mesio and distal portions of cortical bone must be removed in order to allow the cortical bone to be bent when Expander is applied. After removal of the mesiodistal bone, resume gentle tapping with the Expander. If the Expander still does not advance further into desired depth, use the 1.6 Guide Drill to slightly remove small portions of the buccolingual cortical bone in order to make it thinner for bending. Once the buccolingual bone is made thinner, apply very gentle tapping to bend and expand the bone.



1 Drill 1mm deeper than the pre-determined implant using the 1.6 Guide Drill. Make an initial hole for the Magic Split.

2 Insert the Magic Split to the length of the implant by gentle tapping. Bone Expansion takes place upon gentle tapping. Cortical bone is split mesio-distally.

3 Use the 1.6 Guide Drill and remove a portion of the mesio-distal cortical bone and form an oval-shaped placement hole.



4 Insert Magic Expander 3.8 to the length of implant. Apply gentle tapping only.

5 Use the 1.6 Guide Drill to remove a portion of the mesiodistal cortical bone.

6 Insert Magic Expander 4.3 with gentle tapping to the length of implant.

7 Place Ø4.5 fixture 0.5mm below bone level. If there is a fracture line, perform bone grafting and suture.

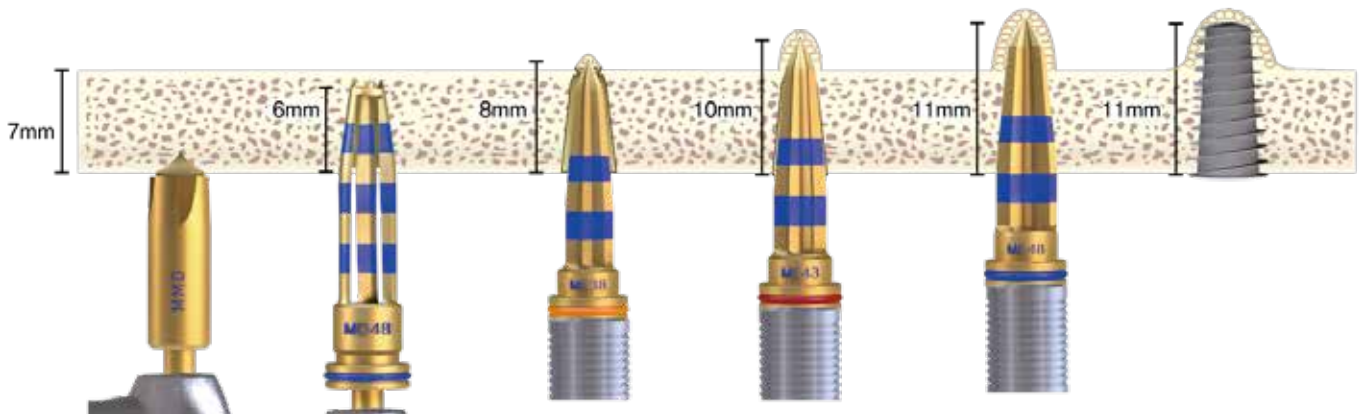
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Indication3. Protection of anatomical structure

- Instrument does not directly come in contact with anatomical structures. Mechanical and biological logic ensures protection of structures from damage.

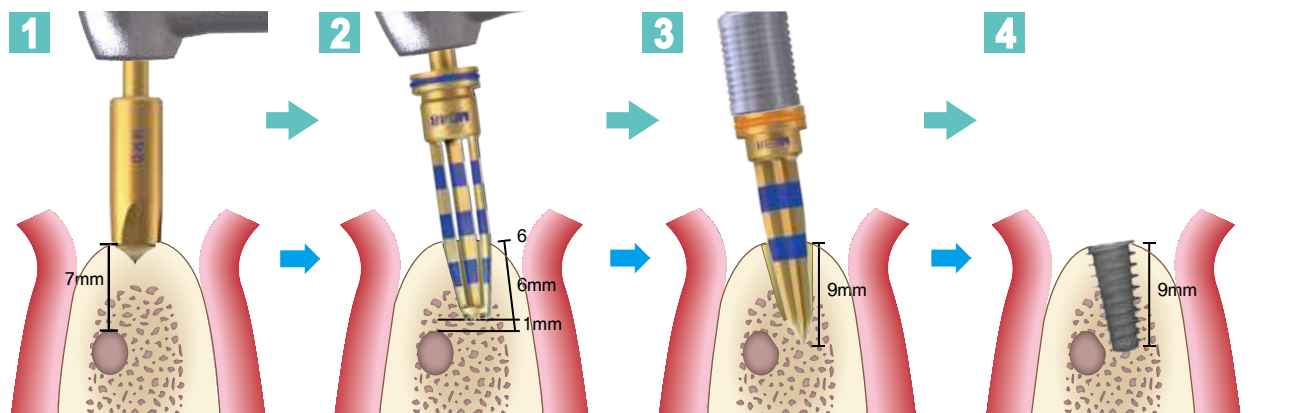
a. Sinus augmentation up to 4mm

- | | | | | | |
|---|--|--|--|--|---|
| <p>1
Apply Magic Marking Drill and mark implantation position.</p> | <p>2
Drill up to 1mm from the sinus floor using Magic Drill 4.8</p> | <p>3
Move 1~2mm into sinus floor using Magic Expander 3.8</p> | <p>4
Move 2~3mm into the maxillary sinus using the Magic Expander 4.3</p> | <p>5
Move 3~4mm into the maxillary sinus using the Magic Expander 4.8</p> | <p>6
Implant Ø5.0, 11mm is placed.</p> |
|---|--|--|--|--|---|



b. Prevention of Damage to Inferior Alveolar Nerve

- Minimize infiltration anesthesia on soft tissue.
- Let the patient raise left hand when they feel pain during surgery, then the doctor should remove the instrument, change its direction and resume treatment.
- CT scan is recommended in order to precisely locate the inferior alveolar nerve before procedure.



1 Mark placement position with the Magic Marking Drill.

2 Use the Magic Drill keeping a minimum 1mm distance from the inferior alveolar nerve at all times.

3 Insert Magic Expander with gentle tapping. Must be gentle tapping and if more force is required, stop tapping and remove a portion of the mesio-distal and buccal bone. Resume tapping. If the patient feels pain, stop tapping and change the direction towards the buccal direction. Resume tapping as necessary.

4 Give a bit of pressure lingually when placing the implant. The inferior alveolar nerve may be compressed but will not contact the fixture directly and it will not suffer damage.

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Precautions for BEB tech

1. 2-stage surgery must be performed.
 - Initial stability decreases due to bone resorption from the inside of placement hole.
2. Give at least 5 months for bone healing. Early loading is not recommended.
 - Give sufficient amount of bone healing time as bone resorption area of inside of placement hole is large.
3. Check for any fractures and use bone grafting material in the case of fracture.
 - Give some space for cortical bone healing.
4. Only use wrist action when using hand mallet. (soft tapping).
 - Strong strikes will lead to excessive loading that may cause bone fracture.