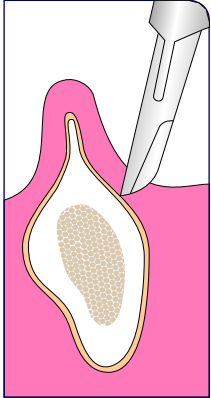


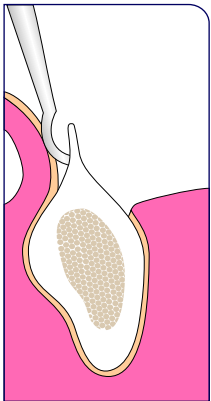


S
SOUTHERNIMPLANTS
EXPANDING PROVEN CONCEPTS

First Stage Surgery

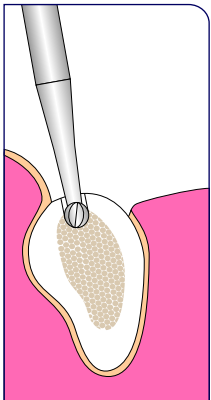


Make a deep incision through the periosteum. A slightly off-crestal incision is recommended to avoid early dehiscence.

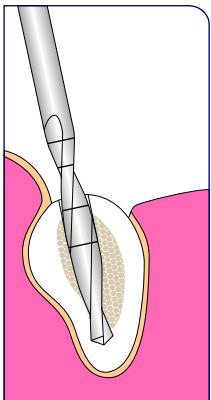


Reflect the mucoperiosteal layer with the dissector and expose the alveolar bone, making a full thickness tissue flap.

Reduce the ridge if it is narrower than the diameter of the implant to be placed.

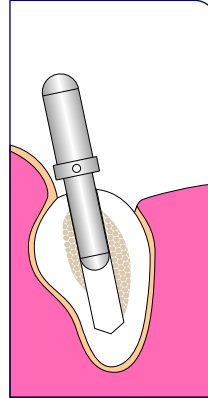


Use the round burr to mark the fixture sites in the bone. During this process, determine the thickness and density of the cortical bone.

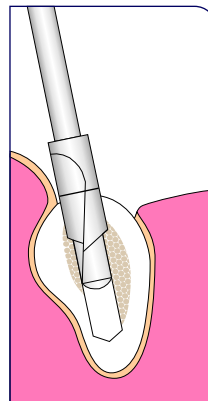


Use the twist drill D-20T (Ø2mm) to enlarge the fixture site. Carefully move the drill in and out of the fixture site to avoid excess heat generation.

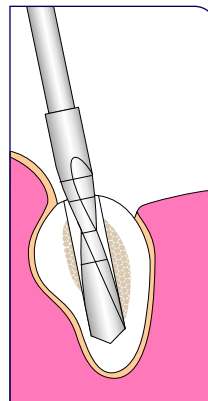
- * irrigate profusely with sterile saline
- * rotate drill at 1000 to 2000 rpm
- * markings on all drills are at 7, 10, 13, 15, 18 and 20mm. Ensure that you drill deep enough with this drill.



Insert the direction indicators (Ø2mm) after each twist drill procedure is completed to verify direction.



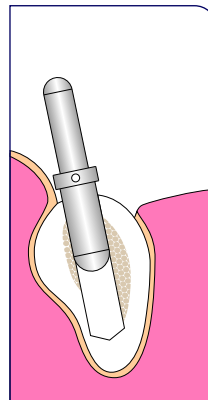
Use the counterbore D-CB to enlarge the initial opening of the fixture site to 3.0mm. This preparation guides the Ø3.0 twist drill to ensure concentric enlargement of the site.



Final drill for Ø3.75mm fixture:

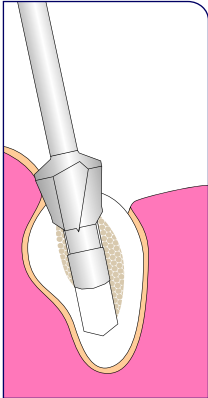
- For soft bone use D-29T (Ø2.85mm)
- For average bone use D-30T (Ø3.07mm)
- For hard bone use D-33T (Ø3.25mm)

The indicator mark on the drill should be level with the bony margin.

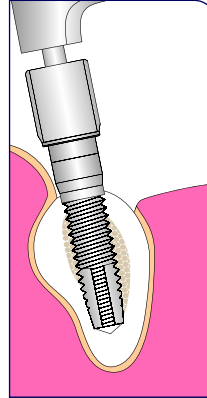


After drilling procedures, insert the opposite end of the direction indicator (Ø3.0) into the fixture site to check direction. If you have only drilled to Ø2.85mm for very soft bone, the Ø3.0 side of the direction indicator will not fit, so continue using the Ø2 side.

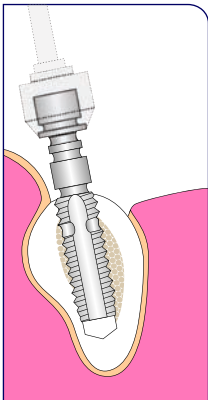
First Stage Surgery (continued)



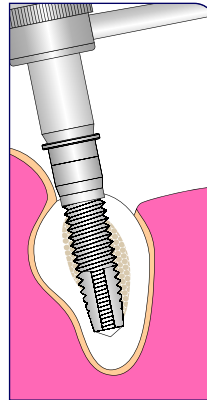
Use the countersink D-CSS to create a shoulder area for the fixture and cover screw. Do not over-countersink which results in removing too much cortical bone. In soft bone, it may be best to avoid countersinking. Use the direction indicator to check the countersink depth. The neck of the indicator should seat inside the shoulder area.



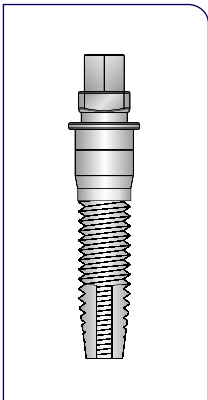
The connector to Handpiece, coded I-CON-X, is fitted to the handpiece, and used to pick up the fixture mount and fixture. Rotating at 15 rpm, the fixture is inserted with gentle pressure into the site. When the flutes are no longer visible, irrigation can begin.



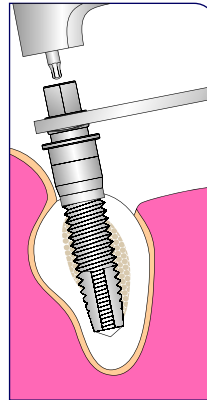
The Screw Tap is only used in very hard bone to make threads inside the fixture site. Do not use any push-type force when using the screw tap; the screw tap will thread into the bone with gentle force.



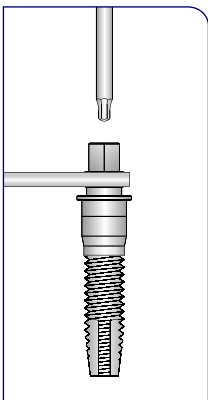
After completing fixture insertion using the motor, use the cylinder wrench to complete threading manually. Place the cylinder wrench over the fixture mount, position the thumb on top of the wrench using the fingers for bracing; use the other hand to complete final threading. Do not over-thread since this could strip all threads in bone.



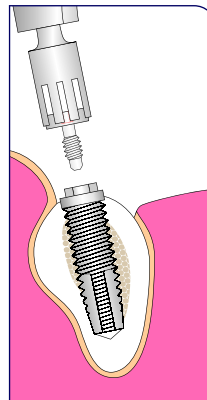
Most implants are supplied packaged with a fixture mount attached to the implant.



Position the flat spanner I-SP-X on the head of the fixture mount and use the handpiece hexdriver to remove the fixture mount screw: the motor must be put into reverse for this.

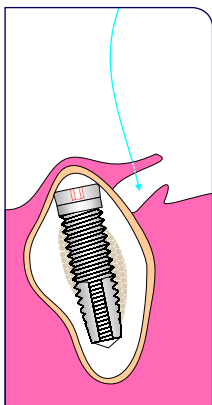


Where this is not the case, or where the fixture mount needs to be changed for one that is either shorter or longer, the fixture mount is held with the flat spanner I-SP-X while the fixture mount screw is loosened or tightened as appropriate.

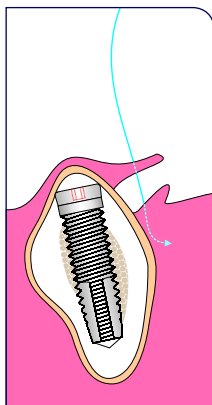


Use the Coverscrew inserter I-CS-I in the handpiece and push onto the coverscrew, then rotate coverscrews into fixture. Do final tightening of coverscrew with manual screwdriver I-CS-HD or long version I-CS-HDL.

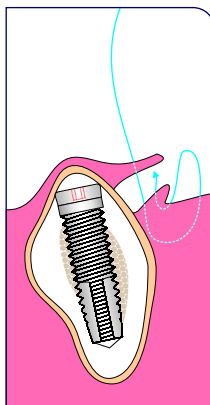
Suturing



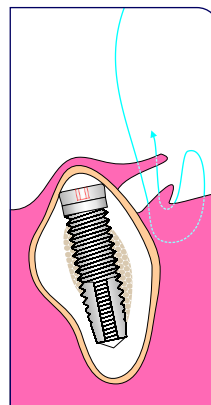
Thread the needle from the oral surface of the lingual flap.



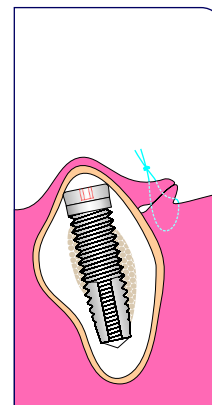
Thread through the mucoperiosteum, then through a deep section of the facial flap.



Thread the needle into the facial flap from the oral surface towards the lingual.



Thread the needle into the lingual flap from underneath through the oral surface.



Tie the sutures from the lingual and facial flaps and cut, leaving adequate suture length.

Other Diameter Implants

A few common selection of drills for implants of other diameters are shown below and on the adjacent page. Other selections, like for tapered implants, can be found in the respective Product Catalogues (Externally Hexed and/or Internal Connections).

Remember that as the diameter of a drill increases, the speed should be reduced so that the speed at the periphery of the drill bit is not excessive.

Ø3.25mm



IBN

Round Burr



D-RB-MS

1.2mm Twist



Optional

D-12T

2mm Twist



D-20T

2.5mm Twist



For soft bone

D-25T

OR

2.85mm Twist



For medium & hard bone

D-29T

Counter-sink



Optional

D-CS-IBN

Ø3.75mm



IB

Round Burr



D-RB-MS

2mm Twist



D-20T

Counter-bore



D-CB

2.85mm Twist



Optional For soft bone

D-29T

OR

3mm Twist



For medium bone

D-30T

OR

3.25mm Twist



Optional For hard bone

D-33T

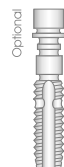
Counter-sink



Optional

D-CSS-M

Tap



D-TAP-P15

Other Diameter Implants (continued)

Ø5.00mm



BA

Round Burr



D-RB

2mm Twist



D-20T

Counter-bore



D-CB

3mm Twist



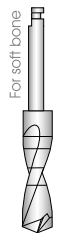
D-30T

Counter-bore



D-CB-40M

4mm

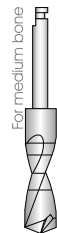


D-40T

For soft bone

OR

4.3mm

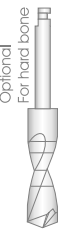


D-43T

For medium bone

OR

4.6mm



D-46T

Optional For hard bone

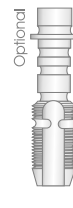
Counter-sink



D-CSS-5

Optional

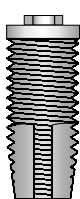
Tap



D-TAP5-P15

Optional

Ø6.00mm



BBB

Round Burr



D-RB

2mm Twist



D-20T

Counter-bore



D-CB

3mm Twist



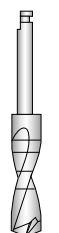
D-30T

Counter-bore



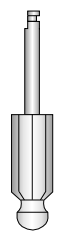
D-CB-40M

4mm Twist



D-40T

Counter-bore



D-CB-50M

5mm



D-50T

Optional For soft bone

5.3mm Twist



D-53T

For medium bone

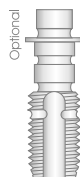
5.6mm



D-56T

Optional For hard bone

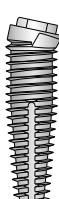
Tap



D-TAP6-P13

Optional

Co-Axis



IBT12d

Round Burr



D-RB

2mm Twist



D-20T

Dedicated Drill



D-40TP

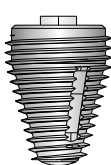
Tap



D-TAP4-12d

Optional For cortical bone

MAX Ø8.0



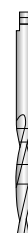
MAX-8-11

Round Burr



D-RB

2mm Twist



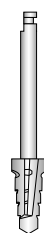
D-20T

3mm Twist



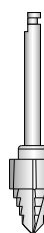
D-30T

Dedicated Drill



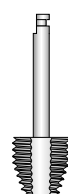
D-60TP-11

Dedicated Drill



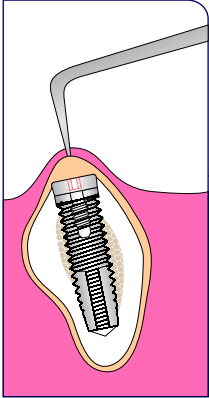
D-80TP-11

Tap

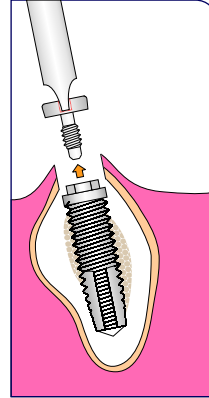
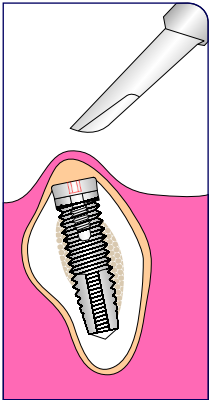


D-TAP-MAX8

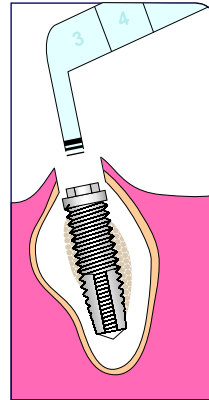
Second Stage Surgery



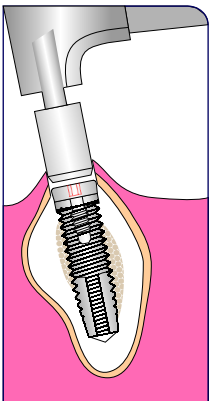
Exploration to locate the coverscrew.



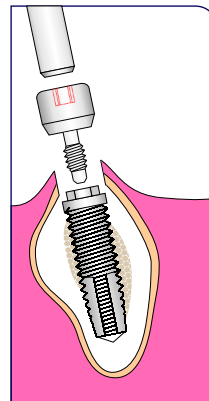
Removal of coverscrew.



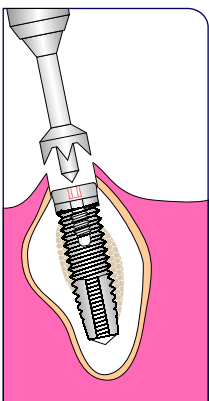
Use a Depth Gauge to measure the amount of soft tissue.



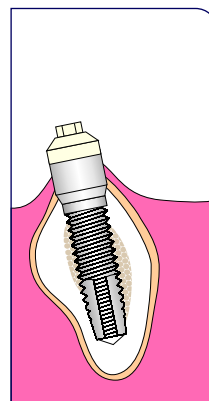
Removal of soft tissue by reflection of full thickness flap. In some cases it may be possible to use the appropriate Tissue Cutter (depending on Implant diameter), rotated with the handpiece.



Insertion of a Temporary Healing Abutment.



Removal of bony tissue with the handpiece driven I-CS-BM or the manual version.



An alternative to the Temporary Healing Abutment, is the placement of the final Abutment at Second Stage Surgery.

Here the Standard Abutment (AB) is shown.

First Stage Surgery “Troubleshooting”

Dull Drills

For optimum efficiency, use the drills for one surgery only. If the drill becomes dull during surgery, use a new drill.

Poor drilling direction

Start a new direction with the guide drill and continue with remaining procedures.

Stripped thread

If the fixture is very loose, consider removal and placement of the next biggest diameter fixture.

Poor fixture alignment

If the angle with the adjacent fixture is less than 35°, there will not be a major problem prosthetically. If the angle with the adjacent fixture is greater than 35°, remove the fixture and allow the surgical site to heal for approximately six months. Do the first stage surgery on the same area at a later time.

Forgot to make a guide splint

In the mandible, direct fixture placement toward the residual maxillary edentulous ridge or maxillary natural teeth. In the maxilla with adequate buccolingual bone, the surgeon can follow anatomical considerations for fixture placement.

High density bone

Use new drills and profuse irrigation. This type of bone may require using several new drills for the procedure to avoid thermal damage to the bone. Try to use manual tapping with the cylinder wrench.

Low density bone

Concentrate on maintaining a stiff wrist for a steady hand piece and hold the drill head steady with the opposite hand to avoid eccentric drilling. Do not drill too big a site and do not pre-tap.

Perforated buccal or lingual

If the majority of fixture threads are imbedded in bone, there is no problem.

Perforated bone coronally

If the fixture threads are exposed at the coronal area, do a bone graft procedure. Use bone ronguers to section small amounts of cortical bone, and then place the bone over the exposed threads.

Over-countersinking

Over-countersinking causes problems with primary fixture fixation in cortical bone. It is difficult to compensate for this problem since the countersink should be kept within cortical bone whenever possible. Continue with normal treatment protocol.

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