Corex™ Minimally Invasive Bone Harvester

Corex is a minimally-invasive, single-patient-use instrument that quickly recovers the patient’s bone with minimal tissue disruption which provides the surgeon autologous bone that contains growth factors for bone regeneration. Harvesting from the iliac crest, proximal femur and distal femur is performed with the trocar entering through a single incision. Surgeons can then reposition the angle to harvest from multiple internal pathways. This trocar is designed to reduce operative time and blood loss.

The Corex Minimally Invasive Bone Harvest trocar is compatible with Medtronic’s DBM and Synthetic products and used when autologous bone is needed.
Corex Minimally Invasive Bone Harvester

Corex features a non-aggressive castellated distal tip, for micro-fracturing cancellous bone, reducing the risk for cortical bone penetration.

Open (Harvest) Position – tapered, non-aggressive tip of trephine exposed.

Align Green and Black markings on handle to ensure Corex is in Open/Harvest position.

RECOVERS and collects contiguous, autologous bone dowels within barrel when advanced through cortical access window.

Closed (Capture) Position – inner retaining sleeve exposed.

Align Red and Black markings on handle to ensure Corex is in Closed/Capture position.

Captures autologous bone harvested in the closed position.
The Corex Bone Harvester is supplied with a removable trocar tip, for the purpose of creating a cortical aperture/bore. The trocar tip is associated with the distal shaft of the harvester. Carefully remove the protective elastomeric cap, then apply the sharp, trocar tip to cortical bone surface, beneath which one intends to harvest cancellous bone (Figures 1 and 2).

**Note**
Never rotate to the closed position when the trocar tip is attached to the Corex.
While applying sufficient but not excessive pressure against the cortical bone, rotate the Corex device by gripping the proximal handle and rotating clockwise and then counter clockwise beyond 45 degrees in either direction. Adjust pressure as needed to control depth of penetration. Avoid plunging trocar beyond proximal collared surface (immediately proximal to sharp trocar edges) (Figure 3). Once a hole has been made through the cortical wall, remove the Corex device from the site. Replace the protective elastomeric cap back on the trocar tip and then detach the trocar tip. Detaching the trocar tip can be accomplished by either depressing the tab engagement while pulling it off, or pushing the trocar tip off with the supplied removal tool.

In the event that the trocar tip is not used, or is insufficient in developing a cortical defect, use an Osteotome, Capner gauge, drill, etc. Make a cortical window large enough to allow the Corex Bone Harvester to be redirected along multiple axes on successive passes.

Figure 3
Accessing the Subcutaneous Iliac Crest or Rim

The rim of the iliac crest lies subcutaneously and intermuscularly (between torso muscles and gluteal muscle mass).

In the anterior crest, the iliac crest lies between the abdominal muscle attachments (external & internal oblique and transverse), medially and the gluteal muscles (tensor fascia latae and gluteus medius) laterally.

Palpation Landmarks and Iliac Orientation

The Iliac Ala lies generally in a "plane" that is obliquely oriented relative to the sagittal plane. This "plane" can generally be described as coursing in a posterior medial to an anterior lateral orientation.

Anterior approach
(Suggested size – 7mm)

When approaching the iliac crest anteriorly (ASIS – Iliac Tubercle), the iliac crest will diverge approximately 25 degrees medially from a direct anterior to posterior axis.

In a supine or laterally recumbent patient, the anterior superior iliac spine or ASIS (site of attachment for the inguinal ligament and sartorius muscle), is readily palpated as a prominent subcutaneous boney projection. Located approximately 5 cm cephalad to the ASIS (three to four finger breaths) is the widest portion of the iliac crest, the iliac tubercle.
Accessing the Subcutaneous Iliac Crest or Rim

The rim of the iliac crest lies subcutaneously and intermuscularly (between torso muscles and gluteal muscle mass).

In the posterior crest, the iliac crest lies between the attachment of the thoracolumbar fascia (investing the erector spinae muscles), medially and the gluteus maximus muscle origin, laterally.

Palpation Landmarks and Iliac Orientation

The Iliac Ala lies generally in a “plane” that is obliquely oriented relative to the sagittal plane. This “plane” can generally be described as coursing in a posterior medial to an anterior lateral orientation.

Posterior approach
(Suggested size – 9mm)

When approaching the iliac crest posteriorly (PSIS), the iliac crest will diverge approximately 25 degrees laterally from a direct posterior to anterior axis.

In a prone or laterally recumbent patient, the posterior superior iliac spine or PSIS (site of attachment for the oblique portion of the posterior sacroiliac ligaments and the multifidus), is readily palpated as a prominent subcutaneous boney projection.
PRIOR TO HARVEST

A plastic extrusion tamp is provided in the sterile pack. DO NOT DISCARD TAMP.
The tamp will be used to extrude cancellous bone from device after harvesting.

TO HARVEST CANCELLOUS BONE

Prior to harvest ensure that the upper handle is rotated fully counter-clockwise to the lower handle. In the Open (green) position the green mark on the lower handle will align with the black mark on the upper handle.

Rotate Corex in an oscillating clockwise-counter-clockwise manner while simultaneously applying advancing pressure to the harvest bed, by pushing on the proximal handle.

When full depth of harvest has been achieved, pull the upper and lower handles away from one another. Then fully lock the device with a forceful rotation of the upper handle clockwise relative to the stabilized lower handle (locked position). In the Closed (red) position the red mark on the lower handle will align with the black mark on the upper handle.

Rotate locked Corex in a clock-wise manner while gradually withdrawing from harvest site.

After withdrawing Corex from harvest site:
- Open Corex completely by turning upper handle in counter-clockwise direction relative to the stabilized lower handle to the Open (green) position.
- Extrude cancellous bone from Corex into sterilized dish using plastic tamp.
- Extrude after each pass to prevent cylindrical graft material from binding inside retaining harvesting cylinder.
EXTRUDED COREX CANCELLOUS BONE IS SPECIALLY DESIGNED TO FIT INTO THE CAVITY OF THE MASTERGRAFT™ CONTAIN SYNTHETIC BONE GRAFT.

Extruded Cancellous Bone with Corex Minimally Invasive Bone Harvester

Mastergraft Contain Synthetic Bone Graft with Extruded Corex Cancellous Bone
<table>
<thead>
<tr>
<th>Item No.</th>
<th>Description</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>300-070</td>
<td>Corex Bone Harvester</td>
<td>7mm</td>
</tr>
<tr>
<td>300-090</td>
<td>Corex Bone Harvester</td>
<td>9mm</td>
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</tbody>
</table>
Indications

**Mastergraft® Contain** is to be combined with autogenous bone marrow and is indicated for bony voids or gaps that are not intrinsic to the stability of the bony structure and can be used as a bone graft extender. The device is to be gently packed into bony voids or gaps of the skeletal system (i.e., the posterolateral spine, pelvis, ilium, and/or extremities). These defects may be surgically created osseous defects or osseous defects created from traumatic injury to the bone. The device resorbs and is replaced with bone during the healing process. When used in the pelvis, ilium, or extremities, the device is to be used with bone marrow aspirate. When used in the posterolateral spine, the device must be mixed with bone marrow aspirate and autograft bone and used as a bone graft extender.

**Corex™ Bone Harvester** is a supplied sterile single patient use, manually operated trephine intended for harvesting cancellous bone from various skeletal sites. Device is a single patient use item. Reuse may result in failure of proper actuation and or biologic contamination. These consequences could result in adverse patient effects. Extreme caution should be utilized when placing the sharp tip of the device near vulnerable, “at risk” structures. Corex™ is a trademark of Trinity Orthopedics, LLC.

References

The surgical technique shown is for illustrative purposes only. The technique(s) actually employed in each case will always depend upon the medical judgment of the surgeon exercised before and during surgery as to the best mode of treatment for each patient.

Please see the package insert for the complete list of indications, warnings, precautions, and other important medical information.

Corex is a trademark of Trinity Orthopedics, LLC.