

Surgical Technique





Acumed® is a global leader of innovative orthopaedic and medical solutions.

We are dedicated to developing products, service methods, and approaches that improve patient care.



Acumed® Bone Graft Harvesting System

The Acumed Bone Graft Harvesting System facilitates safe, rapid harvest of morselized autogenous graft from the iliac crest, distal radius, and distal femur. This compact bone graft harvesting system is designed to be easy to use and includes four drill size options, a power adaptor fitting, a starting punch, a bone extractor, and a removal key.

The Acumed Bone Graft Harvesting System allows for morselized bone graft removal from the iliac crest, distal radius, and distal femur through a small skin incision which is designed to minimize the patient's discomfort and harvest site morbidity. The device attaches to a drill to extract the graft from the bone.

Indications for Use:

These instruments harvest cancellous bone material from the iliac crest, distal radius, and distal femur and are used in conjunction with another surgical procedure such as bone grafting.

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Anterior Ilium Crest Surgical Technique

1 INCISION AND DISSECTION

Entry point is through a 2 cm incision located over the iliac crest, at least 3 cm posterior to the anterior superior iliac spine (ASIS) to protect the lateral femoral cutaneous nerve which may course over the crest up to 2 cm posterior to the ASIS in 10% of normal individuals¹.

After incising the skin and subcutaneous layers, sharply incise the white fascial confluence of the gluteal/tensor and abdominal musculature over the iliac crest and the periosteum. Use a periosteal elevator to perform a limited subperiosteal dissection over the crest. Then introduce small Hohmann-type retractors to facilitate exposure and help identify the center of the crest. Use an elevator or retractors to probe the orientation of the ilium, so that the trephine can be accurately directed between the inner and outer tables of the ilium.



2 INSTRUMENT ASSEMBLY AND HARVEST SITE PREPARATION

Using the Bone Graft Punch (BG-8080) and a mallet, make a starting hole at the desired entry point (Figure 1). Insert the appropriate size trephine into the Hudson Fitting Adaptor (BG-8040), rotating it clockwise until it locks (figures 2 and 3). Attach this assembly to a drill or the Bone Graft Ratcheting T-Handle (BG-8043).



Figure 1



Figure 3

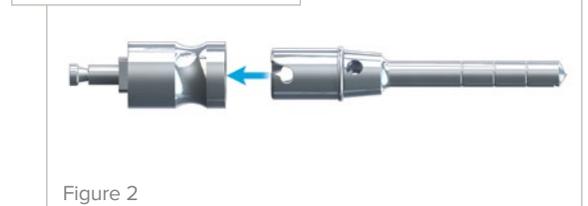


Figure 2

1. Massey EW. "Meralgia paresthetica secondary to trauma of bone graft." *J Trauma*. April 1980; 20(4): 342-3. Pubmed PMID:6988603. URL: <http://www.ncbi.nlm.nih.gov/pubmed/6988603>



3 HARVEST AUTOLOGOUS BONE GRAFT

Beginning at low speed, drill the trephine into the desired entry point until the device fully engages the bone (Figure 1). Advance the trephine to the laser-etched ring on the instrument (Figure 2) and then withdraw the instrument from the bone (Figure 3).



4 REMOVAL OF BONE GRAFT FROM HARVESTER

Detach the trephine from the adaptor using the Removal Key (BG-8050), which is inserted through the holes in the trephine and rotated (figures 1–3). Use the Graft Removal Paddle (BG-8060), inserted in the pointed end of the trephine, to expel the graft from the open end of the trephine (figures 4 and 5).

Tip: Additional graft may be harvested through the same entrance hole in the iliac crest by redirecting the trephine in a radial pattern from the original hole.

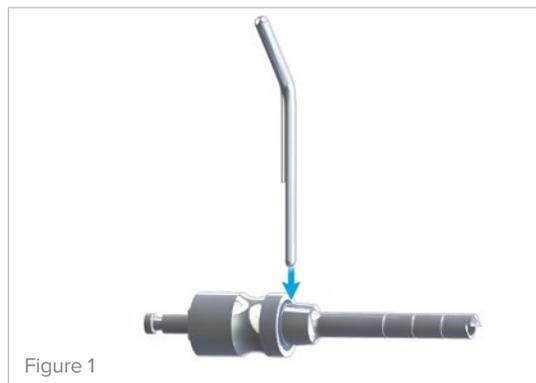


Figure 1

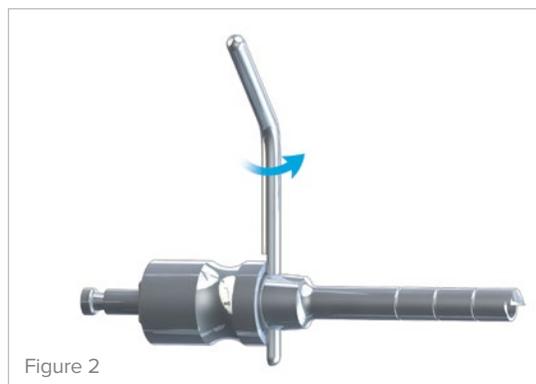


Figure 2

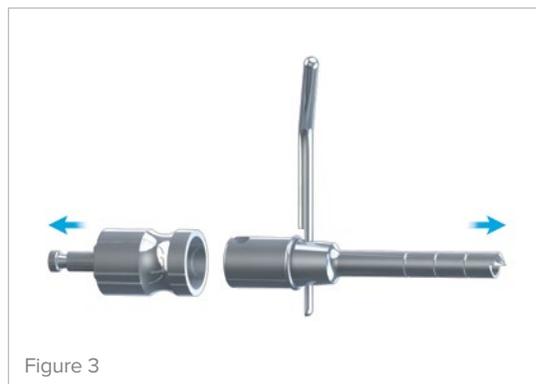


Figure 3

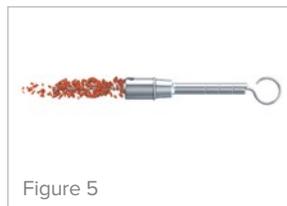


Figure 5

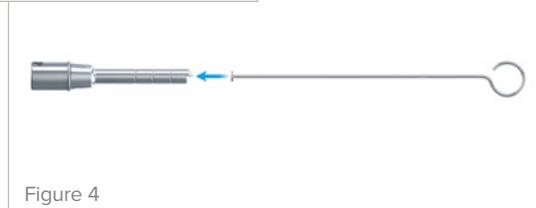
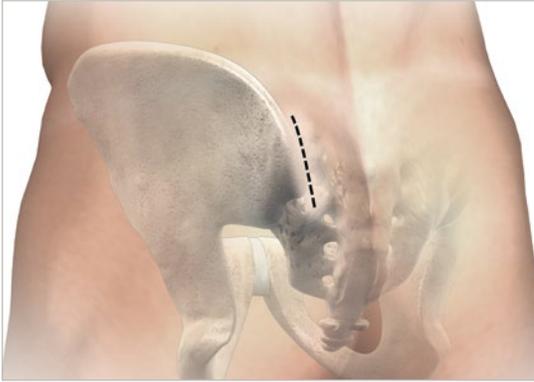


Figure 4

Posterior Ilium Crest Surgical Technique



1 INCISION AND DISSECTION

Entry point is through a midline incision via the subcutaneous plane or from a separate oblique incision. The dissection should not extend toward the superior cluneal nerves which cross approximately 8 cm superolaterally to the posterior superior iliac spine. Perform a limited subperiosteal dissection to permit entry of the selected Acumed trephine.

Care should be taken not to direct the trephine inferior to the level of the posterior superior iliac spine to prevent inadvertent entry into the greater sciatic notch and injury to the superior gluteal vessels or sciatic nerve. The sacro-iliac joint should also be avoided.



Figure 1

2 INSTRUMENT ASSEMBLY AND HARVEST SITE PREPARATION

Using the Bone Graft Punch (BG-8080) and a mallet, make a starting hole at the desired entry point (Figure 1). Insert the appropriate size trephine into the Hudson Fitting Adaptor (BG-8040), rotating it clockwise until it locks (figures 2 and 3). Attach this assembly to a drill or the Bone Graft Ratcheting T-Handle (BG-8043).

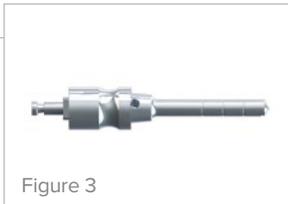


Figure 3

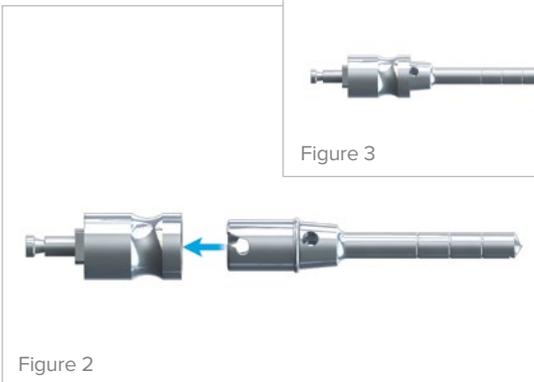
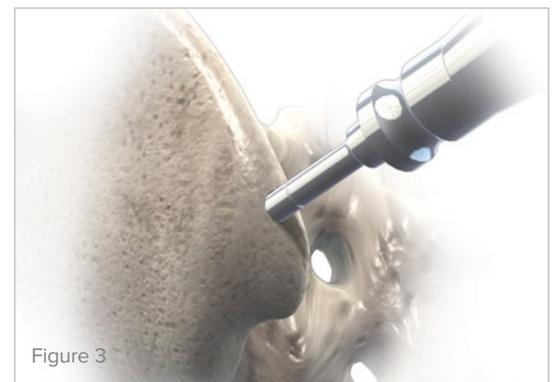
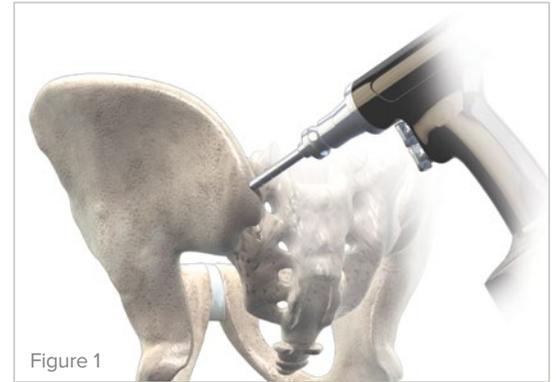
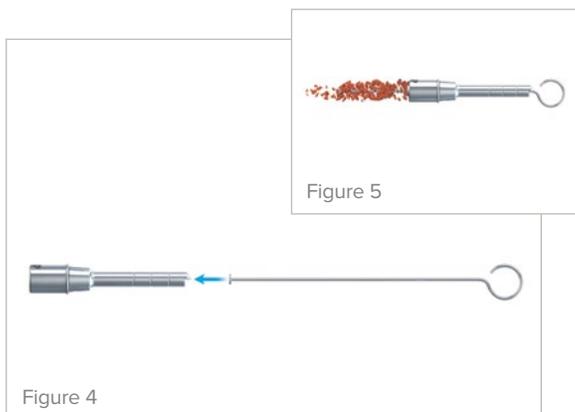
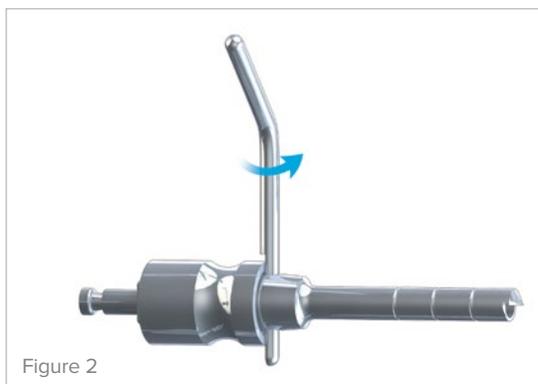
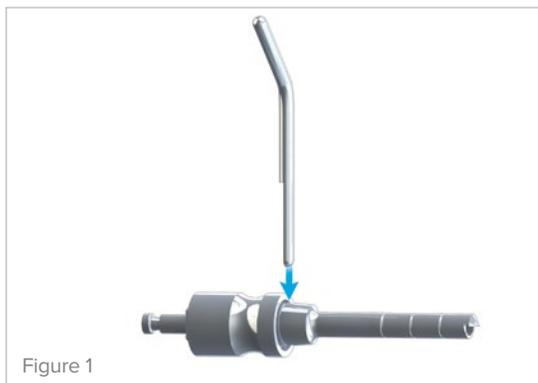


Figure 2

3 HARVEST AUTOLOGOUS BONE GRAFT

Beginning at low speed, drill the trephine into the desired entry point until the device fully engages the bone (Figure 1). Advance the trephine to the laser-etched ring on the instrument (Figure 2) and then withdraw the instrument from the bone (Figure 3).





4 REMOVAL OF BONE GRAFT FROM HARVESTER

Detach the trephine from the adaptor using the Removal Key (BG-8050), which is inserted through the holes in the trephine and rotated (figures 1–3). Use the Graft Removal Paddle (BG-8060), inserted in the pointed end of the trephine, to expel the graft from the open end of the trephine (figures 4 and 5).

Tip: Additional graft may be harvested through the same entrance hole in the iliac crest by redirecting the trephine in a radial pattern from the original hole.

Distal Radius Surgical Technique

1 INCISION AND DISSECTION

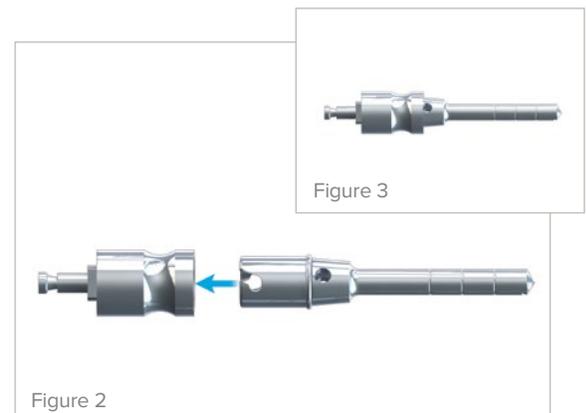
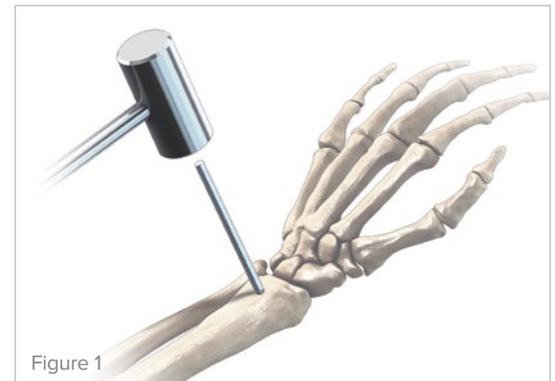
A tourniquet is recommended to minimize bleeding. The distal radius may be approached from the dorsal or radial side, depending upon the surgical procedure being performed.

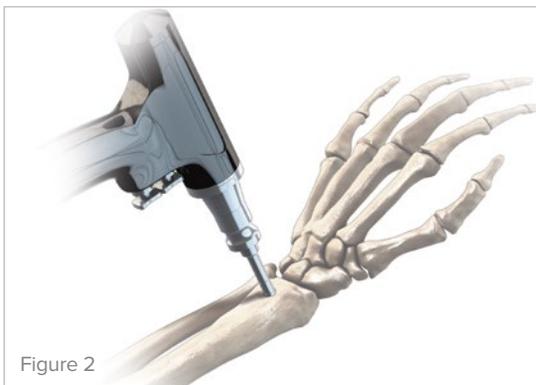
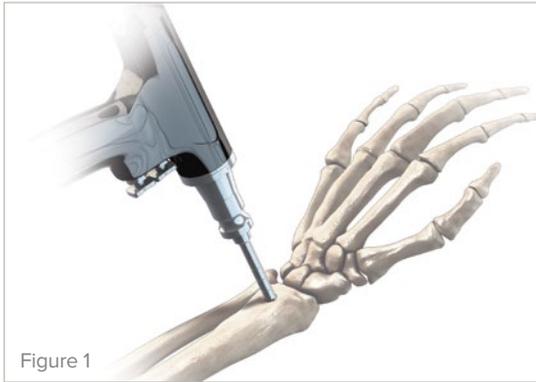
Entry point is through a 2 cm incision over the second dorsal compartment approximately 3 cm proximal to the dorsal lip of the radius. Incise the fascia proximal to the extensor retinaculum. The incision can be extended into the proximal portion of the retinaculum if needed. Retract the extensor carpi radialis brevis and extensor carpi radialis longus tendons to expose the dorsal cortex of the radius.



2 INSTRUMENT ASSEMBLY AND HARVEST SITE PREPARATION

Using the Bone Graft Punch (BG-8080) and a mallet, make a starting hole at the desired entry point (Figure 1). Insert the appropriate size trephine into the Hudson Fitting Adaptor (BG-8040), rotating it clockwise until it locks (figures 2 and 3), and attach this assembly to a drill or the Bone Graft Ratcheting T-Handle (BG-8043).





3 HARVEST AUTOLOGOUS BONE GRAFT

Beginning at low speed, drill the trephine into the desired entry point until the device fully engages the bone (Figure 1). Advance the trephine to the laser-etched ring on the instrument (Figure 2) and then withdraw the instrument from the bone (Figure 3).

4 REMOVAL OF BONE GRAFT FROM HARVESTER

Detach the trephine from the adaptor using the Removal Key (BG-8050), which is inserted through the holes in the trephine and rotated (figures 1–3). Use the Graft Removal Paddle (BG-8060), inserted in the pointed end of the trephine, to expel the graft from the open end of the trephine (figures 4 and 5).

Tip: Additional graft may be harvested through the same entrance hole in the iliac crest by redirecting the trephine in a radial pattern from the original hole.

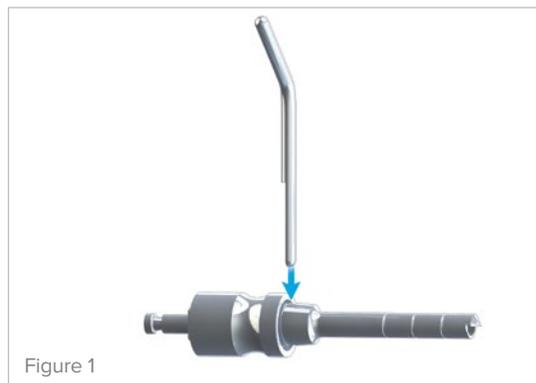


Figure 1

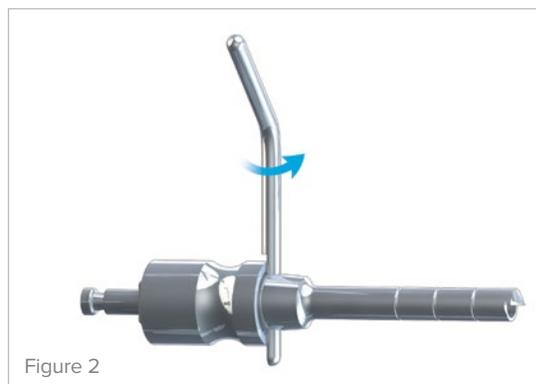


Figure 2

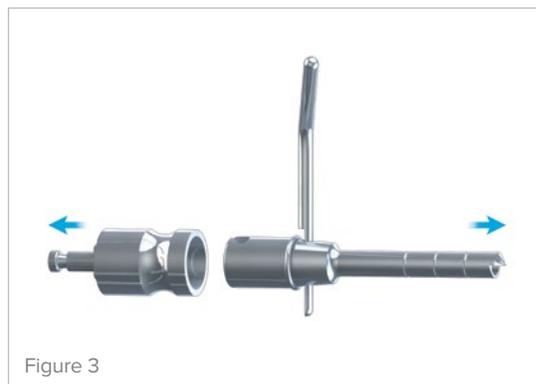


Figure 3



Figure 5

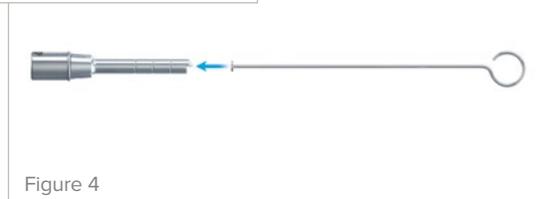


Figure 4

Ordering Information

Instrumentation

6 mm Bone Graft Drill	BG-8006-S
8 mm Bone Graft Drill	BG-8010-S
10 mm Bone Graft Drill	BG-8020-S
12 mm Bone Graft Drill	BG-8030-S
Hudson Fitting Adaptor	BG-8040
Removal Key	BG-8050
Graft Removal Paddle	BG-8060
6 mm Graft Removal Paddle	BG-8064
Bone Graft Punch	BG-8080
Bone Graft Tray	BG-8070

To learn more about the full line of Acumed® innovative surgical solutions, please contact your local Acumed sales representative, call 888.627.9957, or visit acumed.net.



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