Femoral / Tibial Augmentation

ORTHOPAEDIC SALVAGE SYSTEM

BIOMET ORTHOPEDICS INC.
Preparation

To utilize the OSS™ tibial block augments (available as 10mm universal and 20mm side-specific components), the following steps should be taken after the initial resection of the tibial plateau:

Apply the appropriate tibial template and, using methylene blue or a cautery device, mark reference points through the center of the template on both anterior and posterior aspects of the tibial canal. Remove the tibial template (Figure 1).

Hold the tibial block augment trial to the affected anterior portion of the tibia and, using the augment trial as a guide, make reference marks on both the distal and medial areas. Remove the augment trial (Figures 2 & 3).

Using the reference marks, complete the transverse and sagittal resections (Figures 4–6).
**Trial Assembly**

Place the augment trial against the inferior side of the tibial base plate trial and, using the 3.5mm short screwdriver, tighten the set screw located within the augment trial (Figure 1).

Place the augment trial/base plate trial assembly into the prepared tibia and proceed with the reduction (Figure 2).

**Implant Assembly**

The tibial augment(s) is attached to the inferior surface of the tibial base plate with bone cement. Hold the augment(s) securely to the base plate with either a patellar clamp or digital pressure while the cement cures (if using a patellar clamp, make sure to use the non-marring portion of the clamp on the polished base plate surface) (Figures 3 & 4).

**Note:** It is imperative that the augment(s) is cemented to the tibial base plate prior to implantation.

---

Biomet, as the manufacturer of this product, does not practice medicine and does not recommend this or any other system for use on a specific patient. The surgeon who performs any procedure is responsible for determining and utilizing the appropriate techniques for such procedure for use on a specific patient. Biomet is not responsible for selection of the appropriate surgical technique or products to be utilized for an individual patient.
To utilize the OSS™ tibial sleeves (available as large and small components), the following steps should be taken after the initial resection of the tibial plateau:

**Small Tibial Sleeve**

*Note:* The small tibial sleeve implant *must* be used in conjunction with 10mm tibial augments.

**Broach Assembly**

Insert the tibial sleeve broach shaft through the small tibial sleeve trial, making sure that the inset groove of the broach shaft and the set screw on the sleeve trial match up (Figure 1).

With the two parts seated, use the 3.5mm short screwdriver to tighten the set screw (Figures 2 & 3).

**Metaphyseal Preparation**

Attach the T-handle to the broach shaft and place the broach shaft/sleeve assembly into the tibia. Use a slow, uniform twisting motion to work the sleeve trial into the tibial deficit (Figures 4 & 5).

*Important: Never* use a power source with this broach shaft/sleeve assembly.
Small Tibial Sleeve
Trial Assembly

Place two 10mm block augment trials (that correspond to the size of the base plate trial) onto the inferior side of the base plate trial and secure the set screws with the 3.5mm short screwdriver (Figures 1 & 2).

Slide the small tibial sleeve trial over the boss of the base plate trial and tighten the set screw with the 3.5mm short screwdriver (Figures 3 & 4).

Place the augment/trial plate assembly into the prepared tibia and proceed with the reduction (Figure 5).
**Small Tibial Sleeve Implant Assembly**

**Note:** If a stem is added to the tibial base plate, perform the impaction of the base plate and stem prior to adding the tibial augments and tibial sleeve.

The 10mm tibial augments are attached to the inferior surface of the tibial base with bone cement (Figure 1).

Hold the augments securely to the base plate with either a patellar clamp or digital pressure while the cement cures (if using a patellar clamp, make sure to use the non-marring portion of the clamp on the polished base plate surface).

With the tibial augments in place, a liberal supply of bone cement is applied to both the inferior surface of the tibial augments and the exposed boss of the tibial base plate. Slide the tibial sleeve over the distal end of the boss and onto the bone cement, making certain that the cement fully extrudes up through the entire internal tibial sleeve/boss construct. Use digital pressure while the cement cures (Figures 2 & 3).

**Important:** It is imperative that the sleeve/block augment construct is cemented to the tibial base plate prior to implantation.
**OSS™ Tibial Sleeve Augments**

**Large Tibial Sleeve**

**Note:** The large tibial sleeve implants are cemented directly to the tibial base plates, and **cannot** be used with any tibial block augment.

**Broach Assembly**

Insert the tibial sleeve broach shaft through the large tibial sleeve trial, making sure that the inset groove of the broach shaft and the set screw on the sleeve trial match up. With the two parts seated, use the 3.5mm short screwdriver to tighten the set screw (Figures 1–3).

**Metaphyseal Preparation**

Attach the T-handle to the broach shaft and place the broach shaft/sleeve assembly into the tibia. Use a slow, uniform twisting motion to work the sleeve trial into the tibial deficit (Figures 4 & 5).

**Important:** Never use a power source with this broach shaft/sleeve assembly.
Large Tibial Sleeve
Trial Assembly

Slide the large tibial sleeve trial over the boss of the base plate trial and tighten the set screw with the 3.5mm short screwdriver. Place the augment/trial plate assembly into the prepared tibia and proceed with the reduction (Figures 1–4).

If a stem will be added to the actual tibial base plate component, attach the corresponding stem trial to the base plate trial prior to insertion to replicate the actual construct.

Large Tibial Sleeve
Implant Assembly

Note: If a stemmed tibial base plate is indicated, impact the base plate and stem prior to cementing the large tibial sleeve into place.

Apply a liberal quantity of bone cement to the inferior surface of the tibial base plate and to the exposed tibial boss. Slide the large tibial sleeve over the distal end of the boss and onto the bone cement, making certain that the cement fully extrudes up through the entire internal tibial sleeve/boss construct. Use digital pressure while the cement cures (Figures 5 & 6).

Important: It is imperative that the large sleeve is cemented to the tibial base plate prior to implantation.
To utilize the OSS™ anterior femoral flange augment with a 3cm resurfacing femoral component, the following steps should be taken after preparing the distal femur:

**Trial Assembly**

After inserting the assembled 3cm resurfacing femoral trial onto the prepared femur, slide the anterior flange augment trial under the femoral trial’s anterior flange (the flange augment trial should match up precisely with the flange of the femoral trial) (Figures 1 & 2).

**Implant Assembly**

*Note:* Impact the stem and resurfacing femoral component prior to cementing the anterior flange augment into place.

Apply a liberal quantity of bone cement to the femoral component’s anterior flange, as well as to the corresponding surface of the anterior flange augment (Figure 3).

It is important that the anterior flange augment is properly aligned with the femoral component’s anterior flange. Clean away all extruded cement, and use firm digital pressure while the cement cures (Figure 4).

The assembled components are implanted in the usual manner.
To utilize the OSS™ femoral sleeves (available as left and right components) with the 3cm resurfacing femorals, the following steps should be taken after preparing the distal femur:

**Broach Assembly**

Thread the stem trial to the femoral sleeve broach shaft (Figure 1).

Insert the femoral sleeve broach shaft into the universal femoral sleeve trial, making sure that the insert groove of the broach shaft and the set screw on the sleeve trial match up (Figure 2).

With the two parts seated, use the 3.5mm short screw-driver to tighten the set screw (Figure 3).
Metaphyseal Preparation

Attach the T-handle to the broach shaft and place the assembly into the femoral canal defect (Figures 1 & 2).

Use a slow, uniform twisting motion to work the sleeve trial into the femoral canal until properly seated (Figure 3).

**Important:** *Never* use a power source with this broach shaft/sleeve assembly.

Implant Assembly

**Note:** Impact the stem and resurfacing femoral component prior to cementing the femoral sleeve augment into place.

Apply a liberal quantity of bone cement to the superior surface and to the exposed boss of the 3cm resurfacing femoral component. Slide the femoral sleeve down the stem, over the boss and onto the bone cement, making sure cement extrudes from within the femoral sleeve/boss area. Clean away all extruded cement, and use firm digital pressure while the cement cures (Figures 4–6).