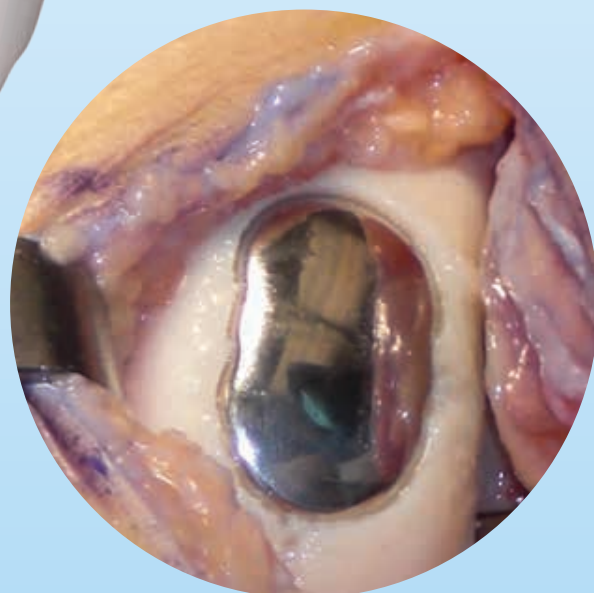
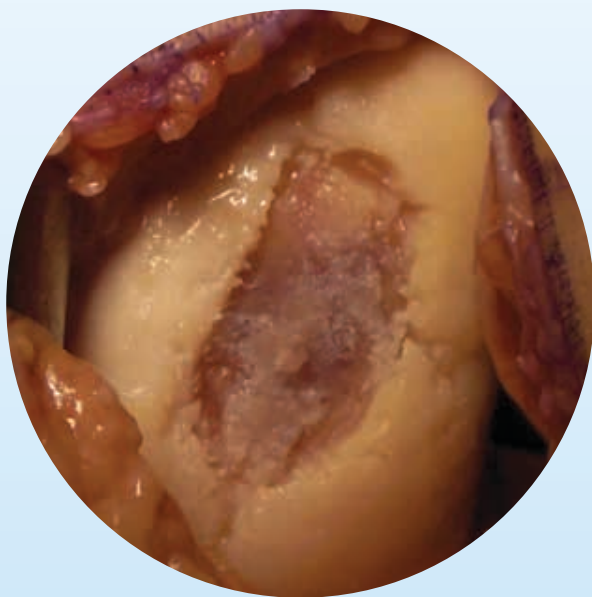


UniCAP™
Small Component

arthrosurface®
first!

Knee Resurfacing
Technique Guide



Restoring the **Freedom** of Motion

Description

The Unicompartmental Knee Resurfacing Prosthesis (UniCAP™) incorporates a low-profile femoral articular component that mates to a Taper Post via a taper interlock. The Femoral Component articulates against an all-polyethylene Tibial Component. The UniCAP™ implants allow resurfacing of the compartment utilizing the undisturbed compartmental structures and soft-tissues.

Materials

2

Femoral Components

Articular Resurfacing Component: Cobalt-Chromium Alloy (Co-Cr-Mo)

Surface Coating: Titanium (CP Ti)

Taper Post: Titanium Alloy (Ti-6Al-4V)

Tibial Components

Ultra-High Molecular Weight Polyethylene (UHMWPE)

Indications

Partial replacement of the articulating surfaces of the knee when only one side of the joint is affected due to the compartmental primary degenerative or post-traumatic degenerative disease, previous tibial condyle or plateau fractures, deformity or revision of previous arthroplasty. This device is intended to be used with bone cement.

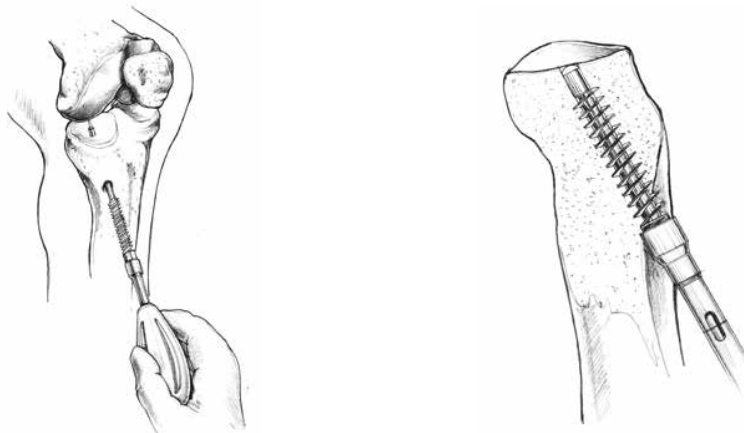


Instructions for Use

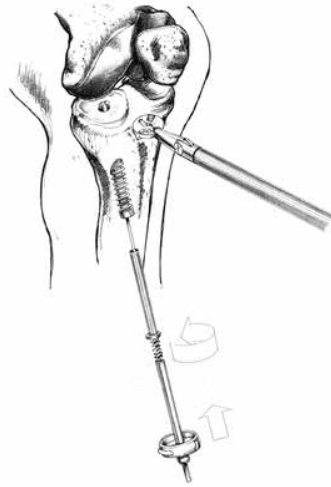
1. The **Tibial Component** may be placed under arthroscopic visualization to ease preparation of the tibial defect. With the knee at 90 degrees of flexion, and working through an anteromedial portal, place a **Tibial Template** central to the damaged area of the tibial plateau surface. The underside of the **Tibial Template** should be in contact with the surface of the tibia. Select the **Tibial Template** that best matches the A/P and M/L surface curvatures of the tibia. Attach the **Tibial Template** to the **Tibial Drill Guide** and **Bullet**. Place the guide so the arm of the **Tibial Template** is parallel to the tibial plateau.



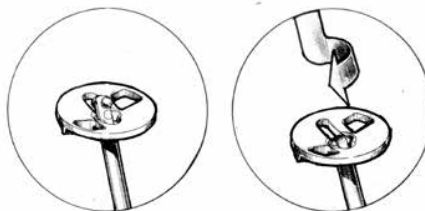
2. Drill the **2.0mm Drill Tipped Pin** through the central axis of the **Tibial Drill Guide** until it reaches the center of the **Tibial Template**. Use a small closed curette to “catch” the tip of the **Pin** to prevent drilling into the femur. Care must be taken so that excessive torque is not applied to the **Drill Guide** which may cause the pin to miss the target. Confirm that there is a minimum of 5mm of bone from the edge of the **Template** to front of the tibia to avoid breaking through the anterior tibia during reaming. Bring the knee into extension and probe the underside of the meniscus to ensure complete visualization and proper placement of the **Template**. Remove the **Tibial Drill Guide and Bullet**.



3. Drive the **Tibial Pilot Drill** over the **2.0mm Drill Tipped Pin** until it reaches the center of the templated area. Drilling should stop before the larger diameter tip of the **Pilot Drill** breaches the tibial plateau. Remove the **Tibial Pilot Drill** and **2.0mm Pin**.



4. Advance the **Introducer** into the prepared tibial tunnel. The proximal tip of the **Introducer** should be flush with the tibial plateau. Begin to advance the threaded **Blade Stop** over the **Introducer** until it begins to screw into the bone. Remove **Introducer** and continue to advance **Blade Stop** until it is 2/3rds into the tunnel.
- Remove **Driver** handle and reinsert **Introducer** and **Driver** and continue to advance as one unit. Stop when the tip of the **Introducer** is flush with the tibial plateau. Confirm that the laser mark on the **Introducer** is in-line with the laser mark in the slotted window of the **Blade Stop Driver**.
 - Blade Stop** is at the correct depth when the tip of the **Introducer** is flush with the tibial plateau and the laser mark lines on the **Driver** and **Introducer** are aligned in the slotted window. Remove the **Blade Stop Driver** and **Introducer**.
5. Place the **Cutting Blade** into the **Blade Holder** with the long slot facing posteriorly to the joint. Introduce the **Cutting Blade** into the portal. Advance the **Blade Drive Shaft** into the tibial tunnel until it is visible in the joint. Push the tip of the **Drive Shaft** through the center of the **Cutting Blade**.

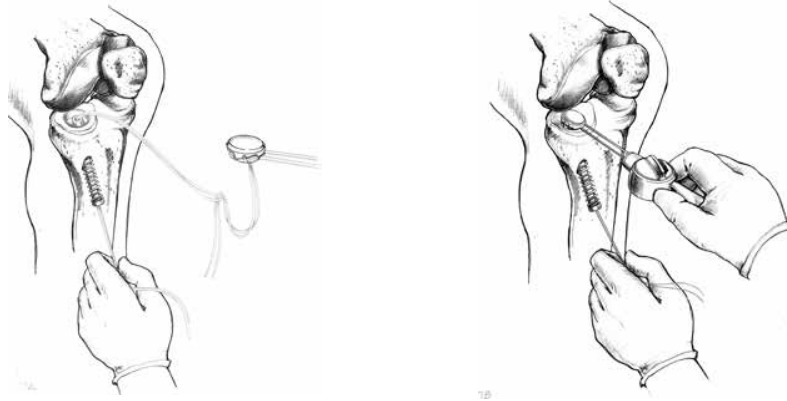


6. To lock the Tibial Cutting system, push the sheath in an upward motion and rotate 90 degrees so the Lock Indicator on **Blade Drive Shaft** is positioned over the Dowel Pin and Laser Mark line. Release to lock **Cutting Blade** into position. Attach the Powered Drill to the laser mark indicated on the distal end of the **Drive Shaft**.
7. Using a Powered Drill, begin rotation counterclockwise to normalize the blade to the tibial plateau. This will help ensure even cutting engagement of the **Cutting Blade** into the plateau. Care should be taken to avoid the meniscus. Begin to prepare the inlay implant socket using a clockwise blade rotation. Drilling is complete when the **Cutting Blade** comes in contact and stops on the proximal end of the **Blade Stop**.
8. With **Cutting Blade** remaining in place, insert the appropriate sized **Sizing Trial** based on the mapping determined with the **Tibial Template**. Confirm fit at anterior/ posterior and medial/lateral margins of the **Sizing Trial**. If the **Trial** is proud at the margins, use the **Blade Stop Wrench** to rotate the **Blade Stop** clockwise. Each 90 degree turn of the **Blade Stop** with **Blade Stop Wrench** lowers the **Blade Stop** 1mm. Reattach the Powered Drill and re-ream to the new depth. This will lower the implant depth in the tibial socket.



9. With the **Sizing Trial** set at the appropriate height, begin removing the instrumentation. Raise the **Drive Shaft** so the **Cutting Blade** can be grasped for removal. To unlock and remove the **Cutting Blade** push the sheath in an upward motion and rotate 90 degrees counter clockwise so the Unlock Indicator on **Blade Drive Shaft** is positioned over the Dowel Pin. Release to unlock **Cutting Blade**. Push **Drive Shaft** upwards to free it from the **Cutting Blade** and turn the **Drive Shaft** 90 degrees. Pull distally on the **Drive Shaft** and remove from the tibial tunnel. Use a grasper to remove the **Cutting Blade**.

10. Open **Tibial Component Kit**. Using the Suture Retriever capture the suture and pull suture through and out of the distal tibial drill hole. Introduce the **Tibial Component** into the tibial socket using the **Delivery Tool**.



11. Advance the **Slot Driver** into the tibial tunnel to rotate the **Tibial Component** (via the distal slot on the bottom of the component) to its optimal orientation if needed.
12. Implant **Tibial Component** with cement using the **ArthroSurface® Cement Ejector**. When discharging cement, allow the back pressure from the cement extraction to lift the implant up 2mm and then continue to back fill the tibial tunnel with cement. Utilize the **Tibial Template** through the portal to apply downward pressure onto the **Tibial Component** to seat it in its final position. This will allow for optimal cement integration.

Cement Ejector Assembly

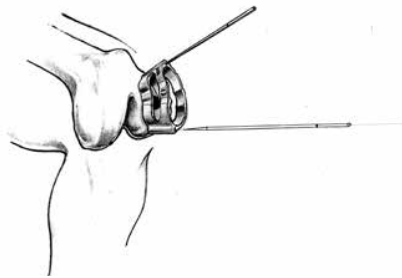
- a. Mix low viscosity cement according to manufacturers' directions.
- b. Place cement into the **Delivery Syringe**. Remove **Funnel** when **Delivery Syringe** is full.
- c. Insert Plunger into **Delivery Syringe**. Insert into **Ejector Handle**.
- d. Attach **Drive Rod** onto **Ejector Handle**.
- e. Place **Threaded Sheath** into tibial tunnel to prevent cement extrusion.
- f. A powered drill with Jacobs chuck is used to advance the **Drive Rod**.
- g. Deliver cement to undersurface of implant through tibial tunnel and draw **Cement Ejector** retrograde as tibial tunnel is filled.

Implantation of the UniCAP™ Femoral, Small Component

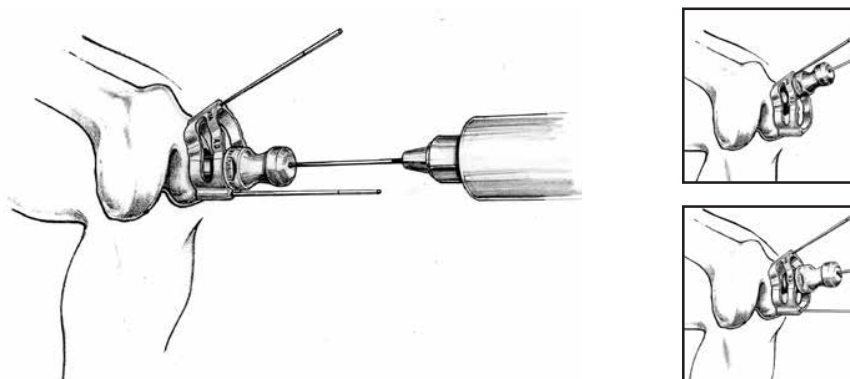
1. With knee at 90 degrees of flexion and working through an anteromedial incision, determine the anterior/posterior and medial/lateral curvatures of the condyle using the **Templates**.



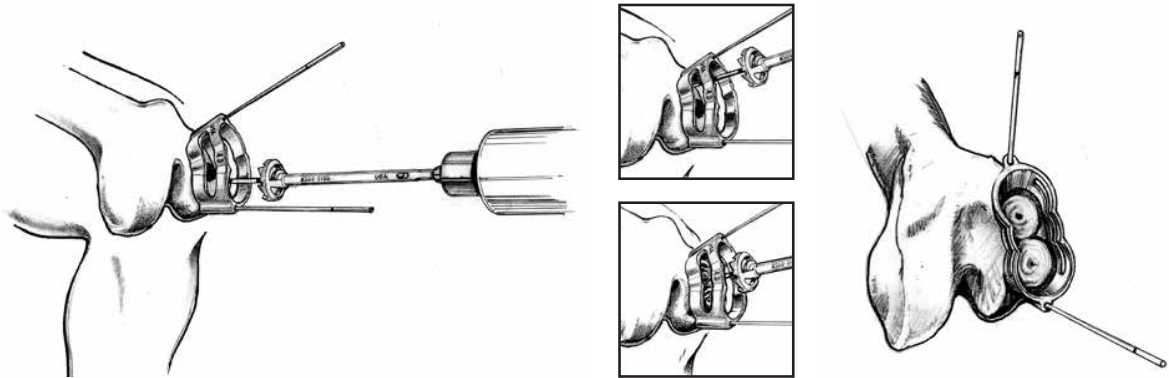
2. Select the **Sizing Jig** based on the determined anterior/posterior curvature. Position and secure the **Sizing Jig** on the condyle using the **2.0mm Short Pins**.



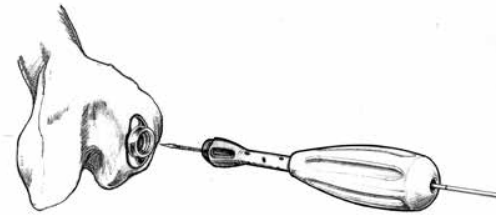
3. Center the **Bushing** into the **Sizing Jig**, beginning with the most inferior position. Drill the **Short Threaded Pin** through the **Bushing** lumen into bone, stopping when the laser mark line on the **2.0mm Threaded Pin** is level with the proximal surface of the **Bushing**. Remove the **Bushing**.



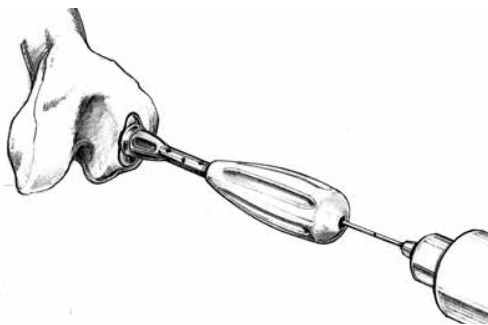
4. Advance the **17.5mm Reamer** over the **Threaded Pin** until it contacts the stop in the slotted proximal window of the **Reamer**. Repeat steps 3 and 4 for the remaining two positions in the **Sizing Jig**.



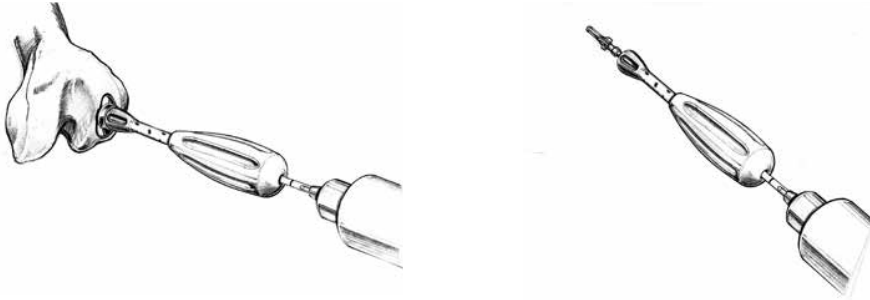
5. Select the appropriately sized **Femoral Trial**, attach to **Sizing Trial Handle** and place into position. Confirm fit at anterior/posterior margins and medial/lateral margins of the **Femoral Trial**. **Femoral Trial** should be seated so the edges are slightly recessed (approximately 1mm) relative to the surrounding cartilage.



6. Confirm position of **Femoral Trial** before preparing the pilot hole for the **Taper Post**. Advance the **4.7mm Pilot Drill** through the **Sizing Trial Handle** until the laser mark is flush with the end of the handle and leave it in position. Replace the **2.0mm Pin** through the **4.7mm Pilot Drill**.



7. Remove **Sizing Trial Handle** and **4.7mm Pilot Drill**, leaving **2.0mm Pin** in position. Place **Step Drill** over the **2.0mm Pin** and reposition **Sizing Trial Handle**. Advance **Step Drill** until the laser mark is flush with the end of the handle.



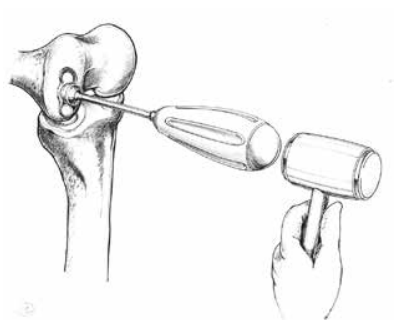
8. Remove **Sizing Trial Handle** and **Step Drill**, leaving **2.0mm Pin** in position. Feed proximal end of **Tap** into distal opening of **Sizing Trial Handle**, place unit over the **2.0mm Pin** and reposition **Sizing Trial Handle**. Couple the **Tap Handle** to the **Tap** and advance the **Tap** until the laser mark is flush with the end of the handle.



9. Insert the **Taper Post** into the **Sizing Trial Handle**. Attach the **Handle** and **Taper Post** assembly onto the **Femoral Sizing Trial**. Insert the **Hex Driver** into the **Handle** and advance the **Taper Post** into the bone. Stop advancing the **Hex Driver** when the raised stop on the Driver Shaft contacts the top of the **Sizing Trial Handle** and the **Femoral Sizing Trial** is flush with the surrounding cartilage. Remove the **Sizing Trial**.
10. Use the **Final Placement Gauge** in combination with the **Femoral Trial** to confirm the proper depth placement of the **Taper Post**. With the **Femoral Trial** in position, and with the **Final Placement Gauge** coupled to the **Taper Post**. A very small separation (less than .5mm) should be seen between the components. If no gap is visible, the **Taper Post** is set too deep and should be raised. If a large gap is visible, the **Taper Post** is set too shallow and should be lowered.

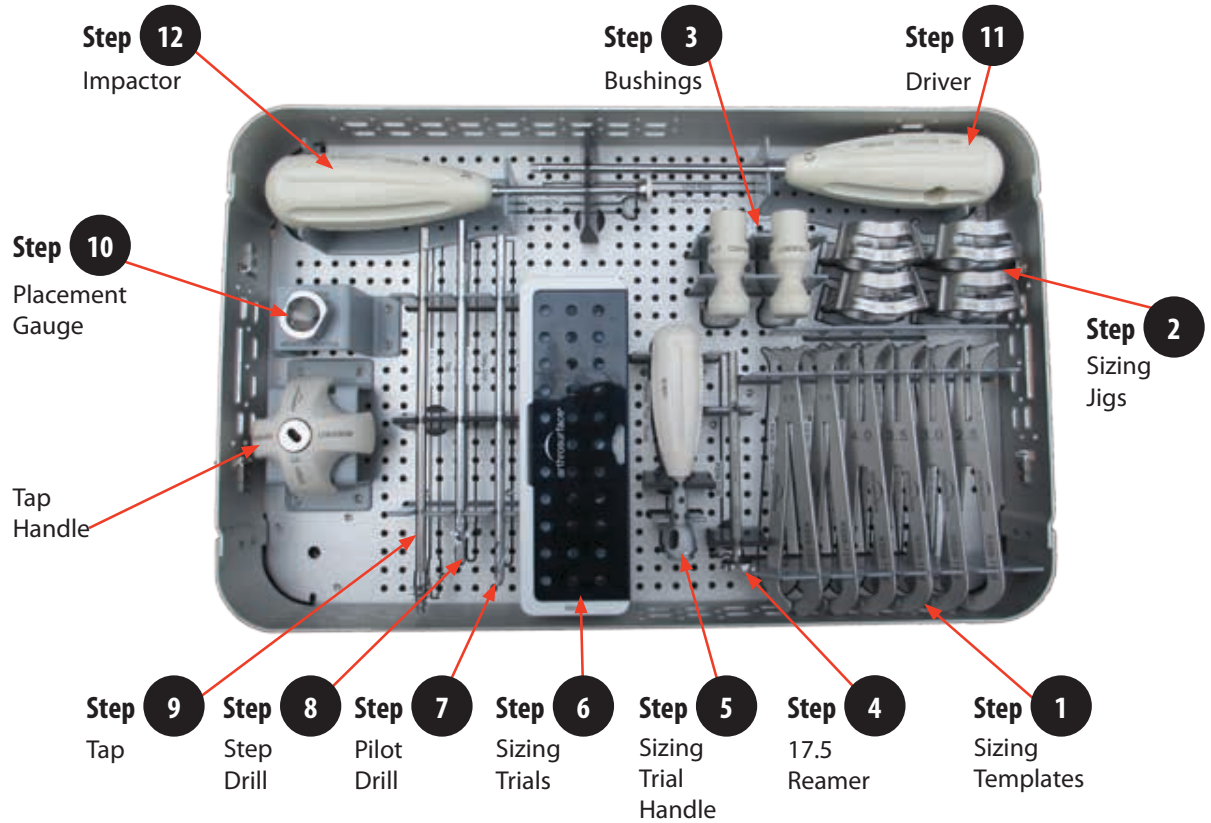


11. Apply pea-sized balls of bone cement to underside of **Femoral Component**. Position **Femoral Component**. Use a slight tap on the **Impactor** to mate **Femoral Component** to **Taper Post**.

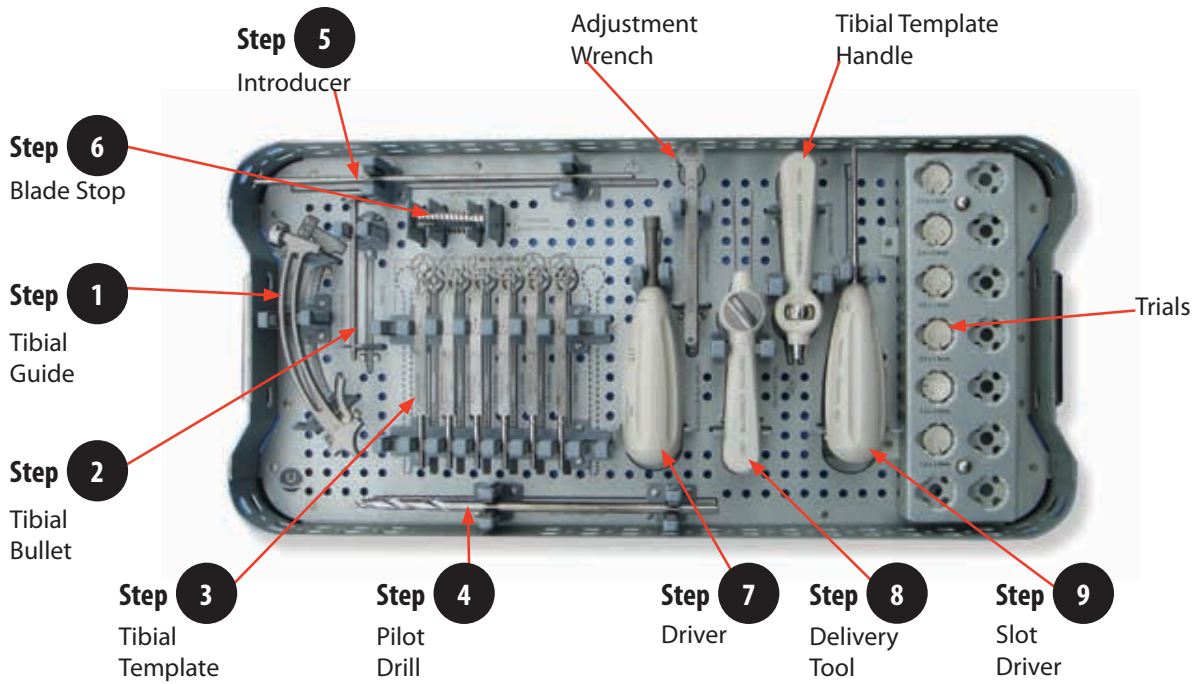


UniCAP™ Small Component Knee Instrumentation

Femoral Tray



Tibial Tray





Catalog Numbers

US00-1000	Kit, Instrument, Uni, Small
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UniCAP Articular Component

US02-2510	Articular Implant, 2.5 x 1.0 mm, Uni, Small
US02-2520	Articular Implant, 2.5 x 2.0 mm, Uni, Small
US02-3010	Articular Implant, 3.0 x 1.0 mm, Uni, Small
US02-3020	Articular Implant, 3.0 x 2.0 mm, Uni, Small
US02-3510	Articular Implant, 3.5 x 1.0 mm, Uni, Small
US02-3520	Articular Implant, 3.5 x 2.0 mm, Uni, Small
US02-4010	Articular Implant, 4.0 x 1.0 mm, Uni, Small
US02-4020	Articular Implant, 4.0 x 2.0 mm, Uni, Small

UniCAP Taper Post

US11-0205	10.6mm Taper Post, Uni, Small
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Tibial Articular Components - 20mm

U205-0010	0.0mm x 1.0mm Offset
U205-0505	0.5mm x 0.5mm Offset
U205-0510	0.5mm x 1.0mm Offset
U205-0515	0.5mm x 1.5mm Offset
U205-1010	1.0mm x 1.0mm Offset
U205-1015	1.0mm x 1.5mm Offset

Arthrosurface's HemiCAP® resurfacing system is also available for the following joints:

- Shoulder
- Patello-Femoral
- MTP
- Talus (Available in most International markets via CE Mark)
- Great Toe
- Hip
- Femoral Condyle (Available in most International markets via CE Mark and as part of a IDE study in the US.)