

Tibial Fixation

with TunneLoc[®] Device

Surgical Technique

by Mark J. Albritton, M.D. and Sherwin Ho, M.D.

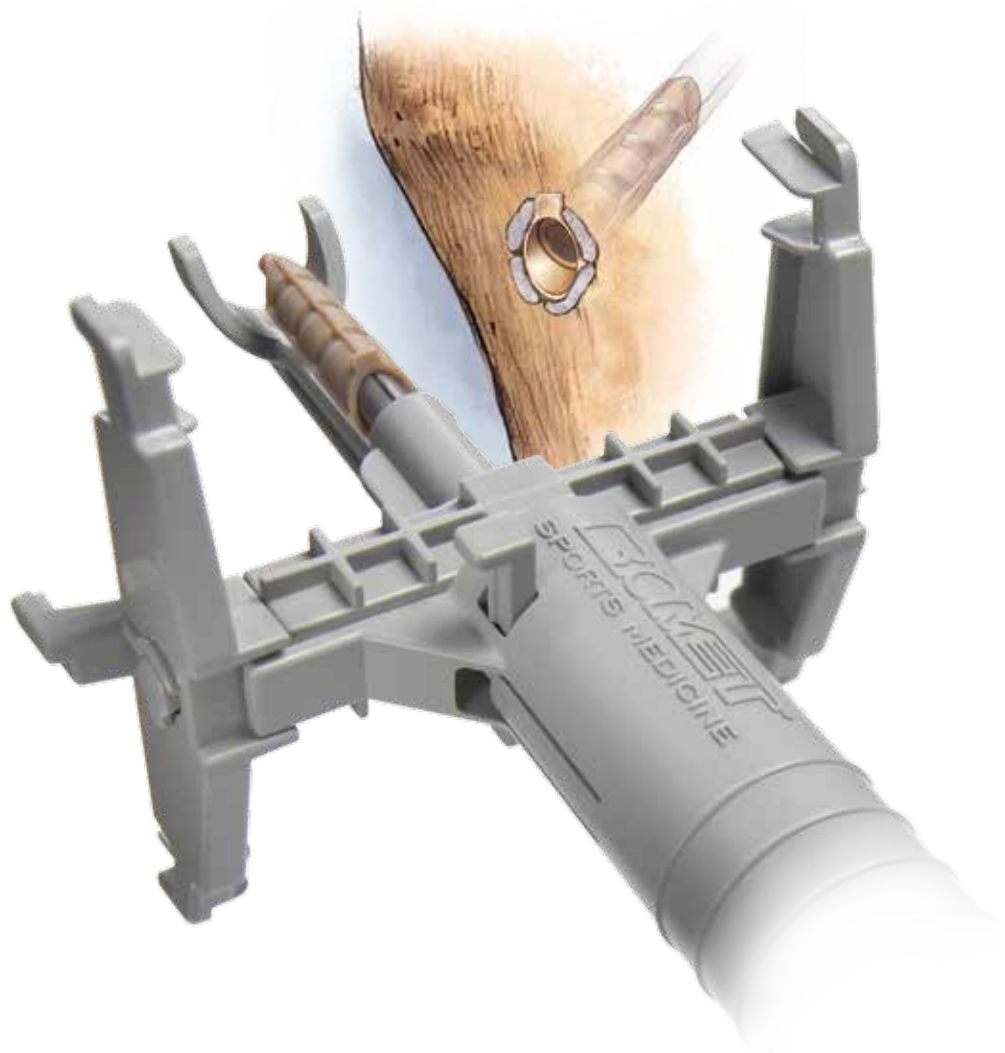


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TunneLoc Tibial Fixation

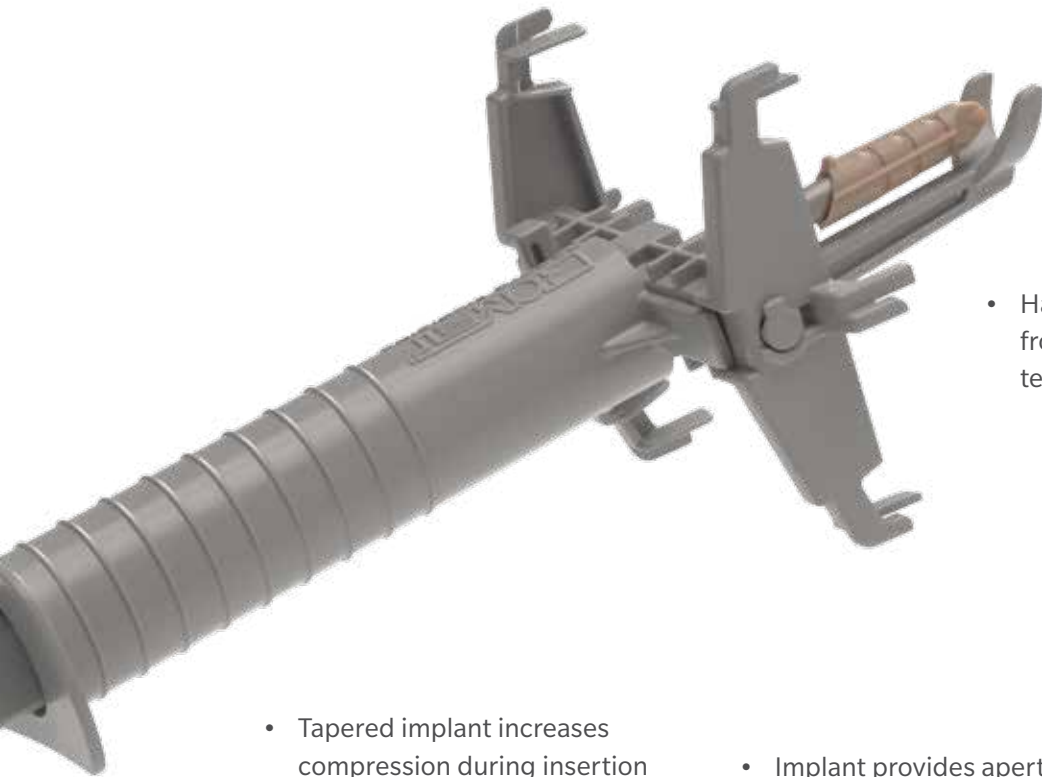


- Uniquely designed PEEK-Optima® Implant affixes the soft tissue graft in the tibial tunnel with one simple surgical step.
- Graft tensioner and inserter shaft eliminate the need for reusable instruments, saving costly preparation time by the hospital or surgery center.



This material represents the surgical technique utilized by Mark J. Albritton, M.D. and Sherwin Ho, M.D. Zimmer Biomet does not practice medicine. The treating surgeon is responsible for determining the appropriate treatment, technique(s), and product(s) for each individual patient.

- The TunneLoc implant is packaged sterile with the graft tensioner and inserter shaft.



- Hands-free tensioner removes creep from the system and maintains tension during implant insertion.

- Tapered implant increases compression during insertion
- Implant provides aperture and cortical fixation



- Self aligning tip geometry
- Cortical stop
- Longitudinal ribs evenly distribute graft enabling circumferential healing.

Surgical Technique

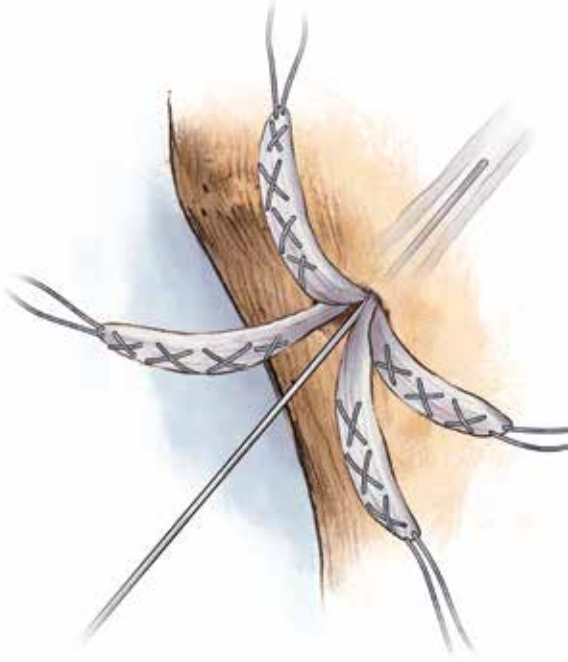


Figure 1

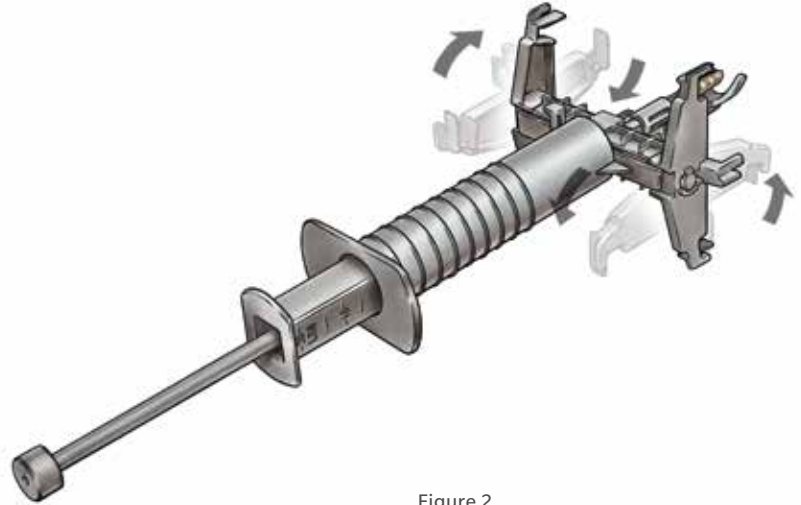


Figure 2

With assistance of a tibial guide, drill a guide pin through the tibia to exit in the center of the native ACL footprint on the tibial plateau. Ream over the guide pin with a cannulated reamer that corresponds to the graft size. The femoral tunnel can be prepared before or after the tibial tunnel based on surgeon preference.

The ACL graft should be passed through the tibial and femoral tunnels and secured on the femoral side. Choose the TunneLoc Tibial Fixation Device considering bone quality and the size of the previously reamed tibial tunnel. The TunneLoc Tibial Fixation Device includes an implant that is preloaded on an inserter shaft and graft tensioner assembly.

Separate the two or four stranded graft as it exits the tibia. Place a 1.5mm Nitinol guidewire between the strands of the soft tissue graft (Figure 1).

Rotate the graft tensioner arms to face towards the implant until they snap into position (Figure 2).

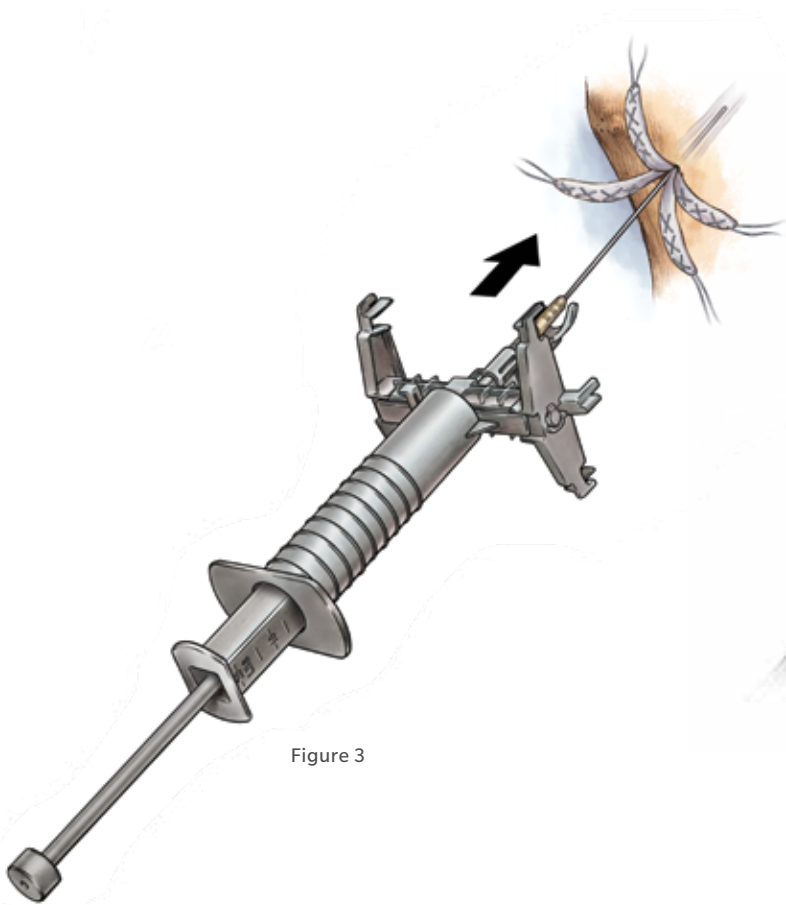


Figure 3

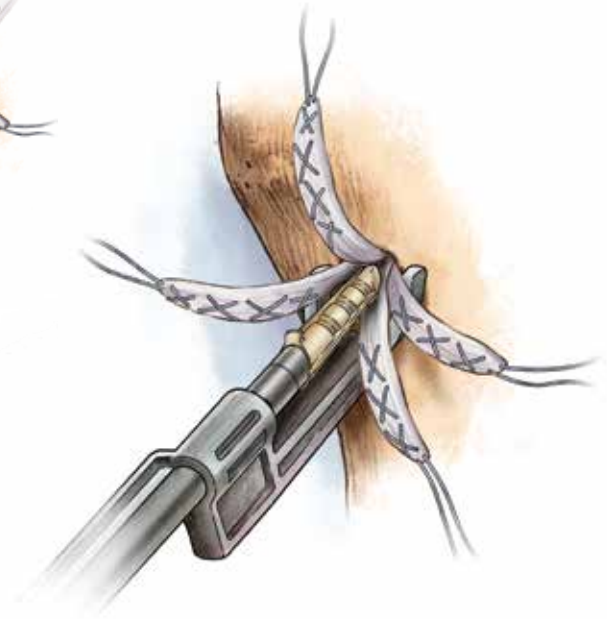


Figure 3a

Pass the TunneLoc Tibial Fixation Device over the 1.5mm Nitinol guidewire (Figure 3) and position the foot of the graft tensioner inside the incision, onto the anterior-medial tibia with the leading edge of the implant beginning to enter the tibial tunnel (Figure 3a).

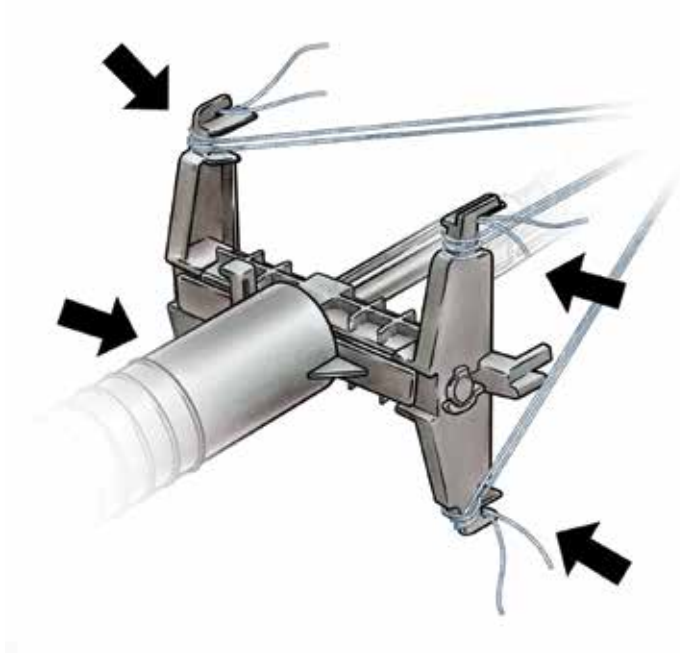


Figure 4

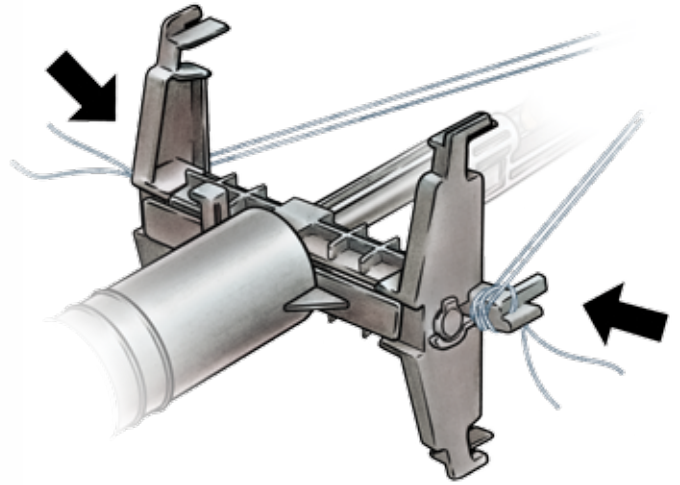


Figure 5

Wrap the whip sutures from each individual graft strand around the graft tensioner attachment points. If using a four-ended graft, use the four corner suture attachment points on the graft tensioner (Figure 4).

If using a two-ended graft, use the two middle suture attachment points on the graft tensioner (Figure 5).

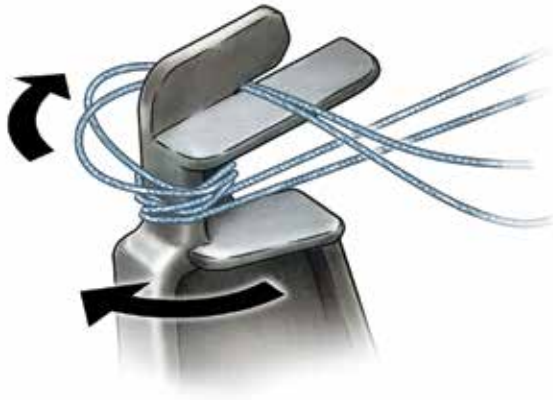


Figure 6

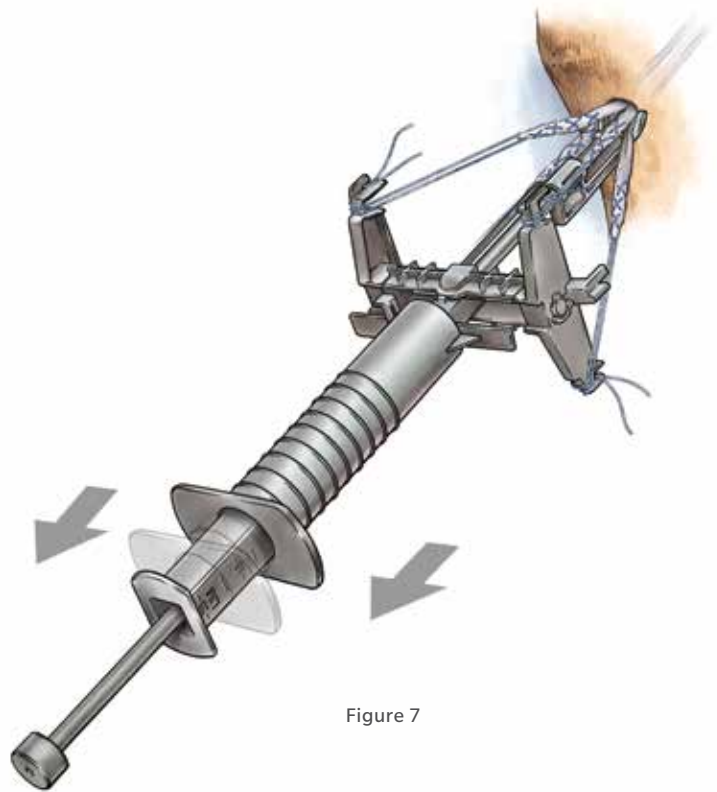


Figure 7

The sutures should be wrapped around the graft tensioner attachment points three to four times and then locked by passing it through the locking tab on the tensioner arm (Figure 6).

Once each suture has been secured to the TunnelLoc Tibial Fixation Device, pull back on the self-locking tensiometer handle until desired tension is achieved (Figure 7).

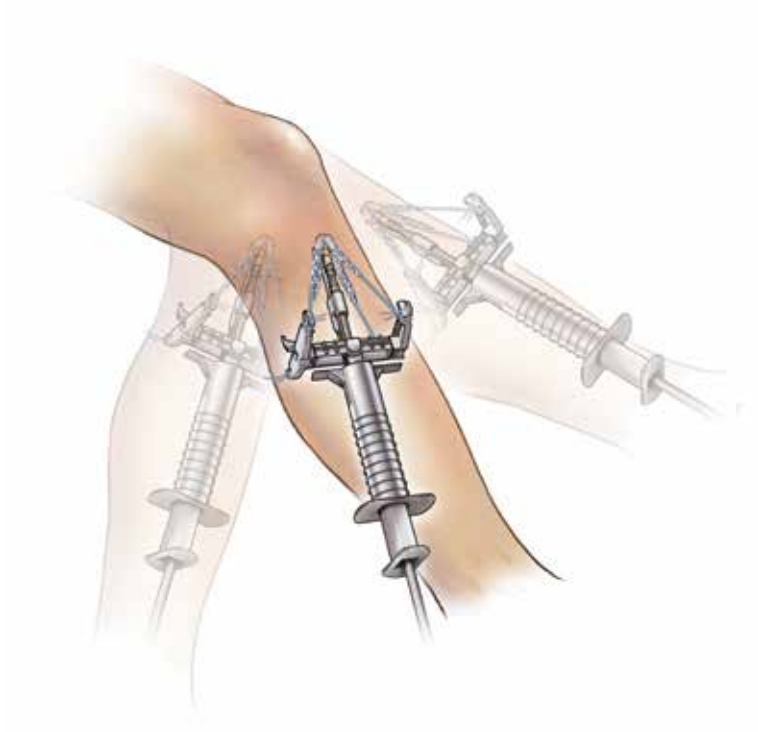


Figure 8

The TunnelLoc Tibial Fixation Device is now secure on the tibia. Cycle the knee to remove any creep from the graft (Figure 8).

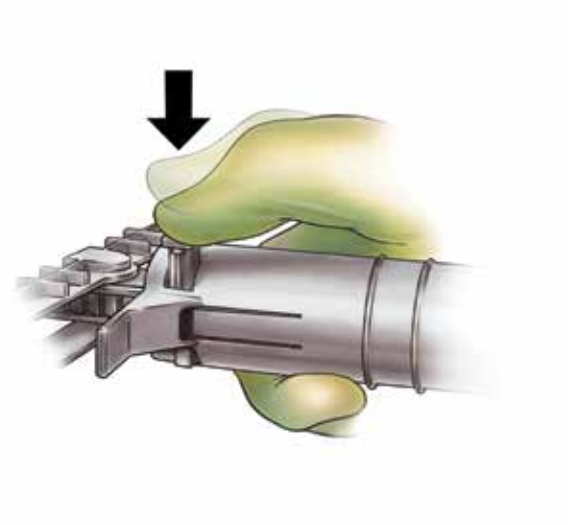


Figure 9

After removing all creep from the system, the graft can now be retentioned by pulling back on the self-locking tensioning handle. Viewing arthroscopically, probe the tension in all strands of the graft. Tension should be equal in all strands and similar to the tension of the native PCL. If too much tension is being applied to the graft, release tension using the tension release button (Figure 9). Then reapply tension by pushing the tension release button back up to its original position and pulling back on the self-locking tensioning handle.

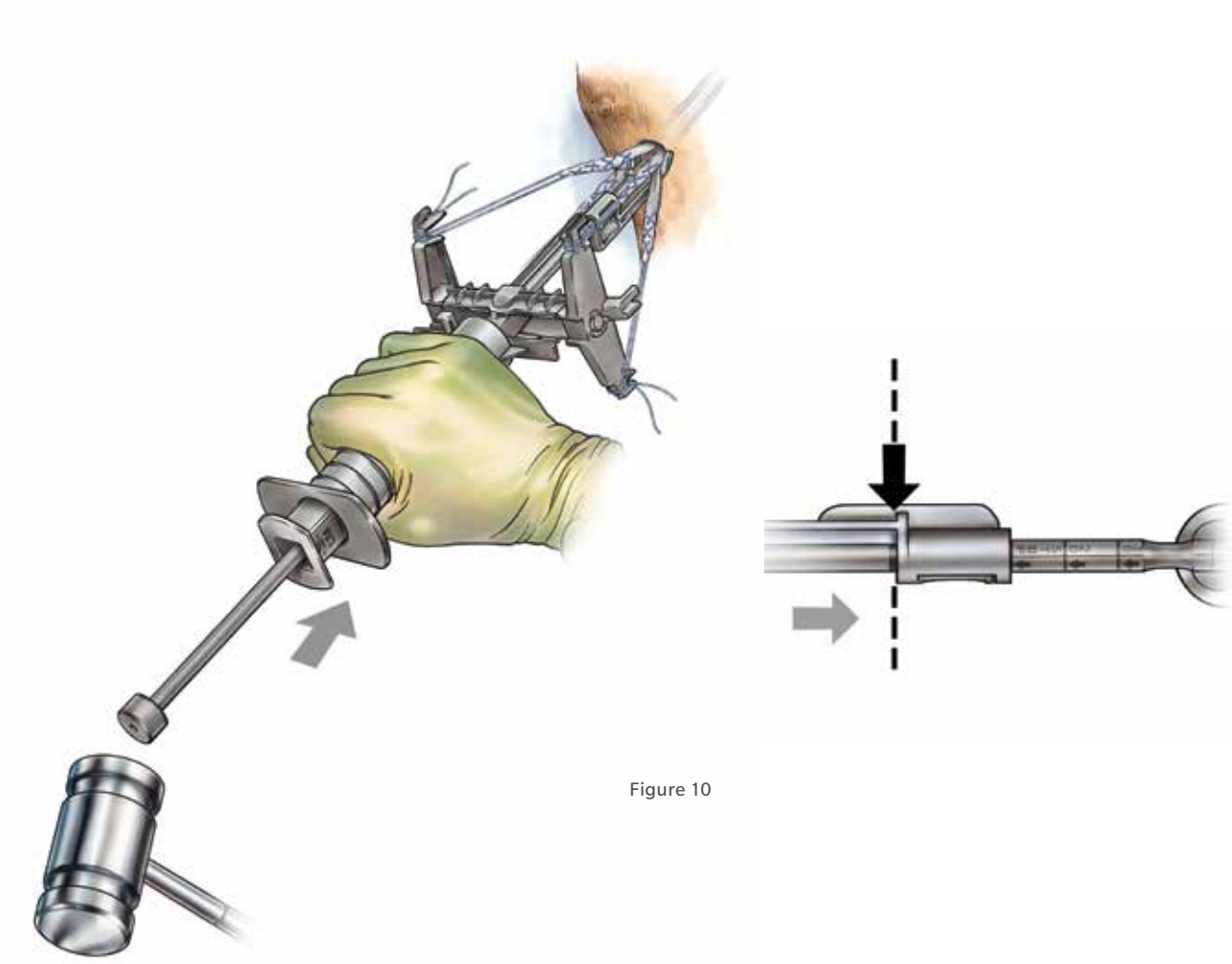


Figure 10

Impact the implant into the tibial tunnel by malleting the strike plate at the back of the inserter shaft (Figure 10). The radial etch lines at 10mm, 20mm, and STOP positions will give the surgeon feedback regarding position of the implant within the bone tunnel.

Do not mallet the inserter shaft beyond the etch line labeled STOP because the implant could be inserted past the cortical bone, possibly compromising fixation strength.

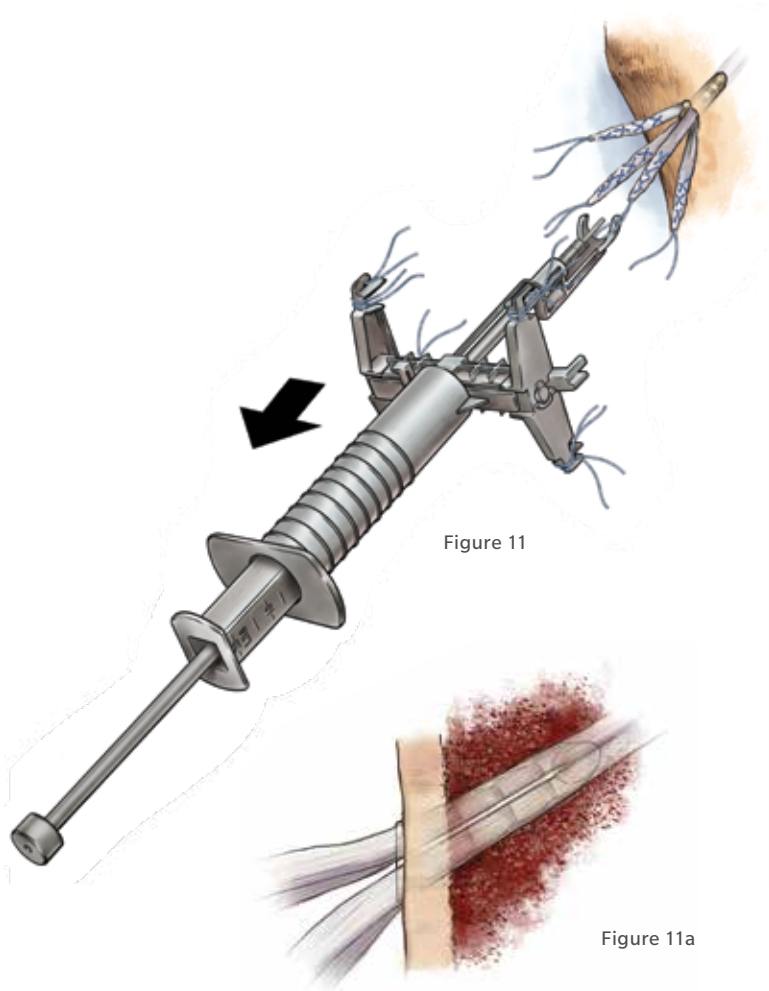


Figure 11

Figure 11a



Figure 12

Fixation is now complete. Release tension by pulling back slightly on the self-locking tensioning handle while simultaneously pushing the tension release button. Remove the whip sutures (Figures 11 & 11a).

Trim the graft ends as they exit the tibia (Figure 12).

Ordering Information

TunneLoc Tibial Fixation Device
with Preloaded Implant

Part Number	Size
906512	8mm
906513	9mm
906514	10mm
906515	11mm

INDICATIONS FOR USE

To provide fixation of soft-tissue grafts within the tibial tunnel during anterior cruciate ligament (ACL) and/or posterior cruciate ligament (PCL) reconstruction.

CONTRAINDICATIONS

1. Active infection.
2. Patients with mental or neurologic conditions who are unwilling or incapable of following postoperative care instructions.
3. Patient conditions including: blood supply limitations, insufficient quantity or quality of bone for attachment or latent infections.
4. Pathologic soft tissue conditions, which would prevent secure fixations.

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