# SURGICAL TECHNIQUE GUIDE

## ACL Reconstruction – Tibial Fixation

EXOSHAPE®

SOFT TISSUE FASTENER

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and
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## Patient Preparation

Prepare the patient preoperatively according to standard procedures.

## Graft Preparation and Femoral Fixation

The ExoShape® Soft Tissue Fastener may be used with a variety of soft tissue graft options. This guide illustrates a technique for double looped semitendinosus / gracilis (DLSTG) graft fixation.

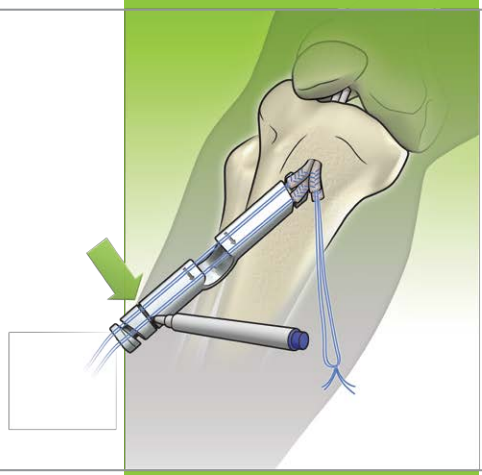
For autograft, harvest the tendons according to surgeon's preferred technique. Prepare a whip-stitched graft construct per standard technique using a robust suture (#2 non absorbable suture). Ensure that each individual suture limb is at least twelve (12) inches long after suturing. Carefully determine the diameter of the graft using a standard graft-sizing block. Prepare appropriately sized tibial and femoral tunnels per standard procedure. Pass the graft and fixate on the femoral side using preferred fixation device and technique.

### 1

Using the laser mark on the Graft Bar as a guide, mark the suture limbs five (5) inches from the distal tibial tunnel aperture using a sterile marker.

Create a suture loop by securely tying the four (4) suture limbs of the anteromedial bundle together at the applied mark.

Create a second suture loop by securely tying the four (4) suture limbs of the posterolateral bundle together at the applied mark.



### 2

Place the knee at the desired angle of flexion.

Position the Graft Bar with the laser-mark arrows uppermost and pointing towards the operative knee.

Place a loop in the suture channel at each end of the Graft Bar.

Position the graft bundles as desired and apply appropriate tension to the graft. The amount of tension applied to the graft is based solely on surgeon preference.

Use of an optional 1.0mm guide wire may assist in the accurate insertion of the ExoShape® ancillary instruments and device into the bone tunnel.

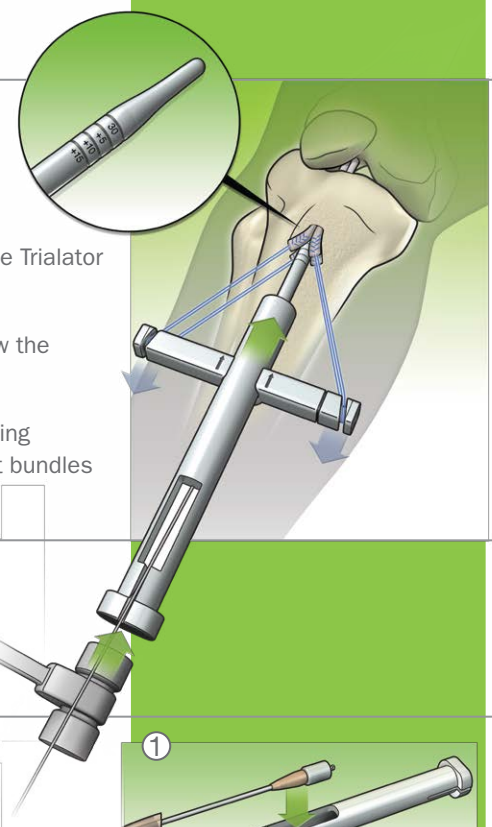
## 3

Sequentially dilate the graft. Where possible, begin with a Trialator™ up to two sizes smaller than the tibial tunnel diameter (e.g. 9mm tunnel, start dilation with the 7mm Trialator).

Place the selected Trialator over the guide wire, if used. Carefully insert the Trialator through the Graft Bar and between the graft bundles.

Push or gently impact the Trialator until the 30mm laser mark is just below the cortical surface. Take care to follow the trajectory of the tibial tunnel.

Select a Trialator 1mm larger in diameter and repeat dilation. Continue using sequentially larger Trialators until the Trialator fits tightly between the graft bundles and reasonable resistance is encountered during insertion.

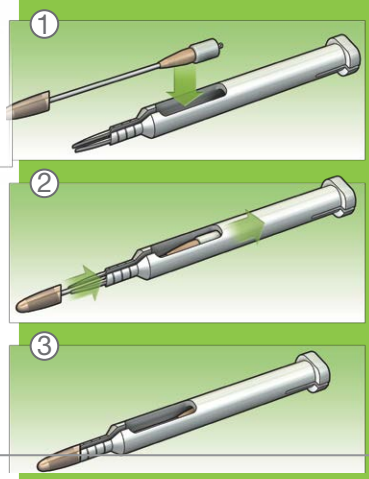


## 4

Select the ExoShape® device diameter that matches the largest Trialator™ successfully introduced into the tibial tunnel. Place the Cartridge onto the appropriately-sized Sheath Inserter. Ensure that the Sheath is fully seated onto the Sheath Inserter.

**TECH TIP: Failure to fully seat the Sheath onto the Sheath Inserter may result in damage to the Sheath during insertion.**

**TECH TIP: Aways use the Sheath Inserter to insert the Sheath. Attempting to place the Sheath without use of the Sheath Inserter may result in damage to the Sheath.**

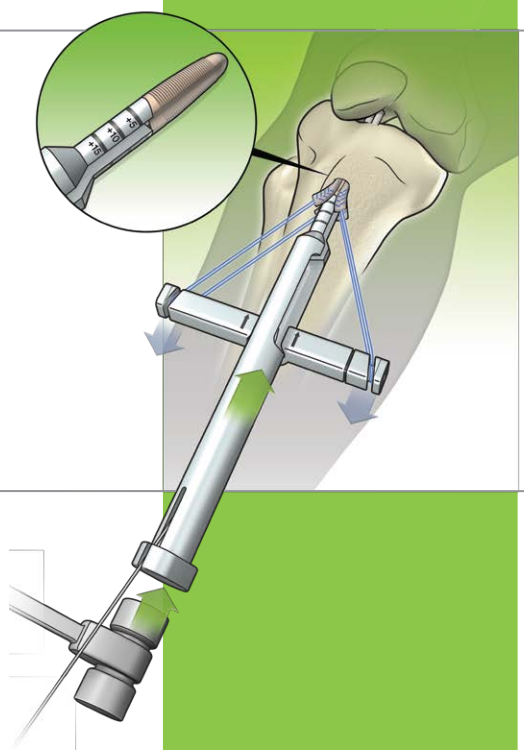



## 5

If an optional guide wire is used, advance the cannulated Cartridge over the guide wire. Pass the Sheath Inserter through the Graft Bar and insert the Sheath into the tibial tunnel. Maintain appropriate tension on the graft.

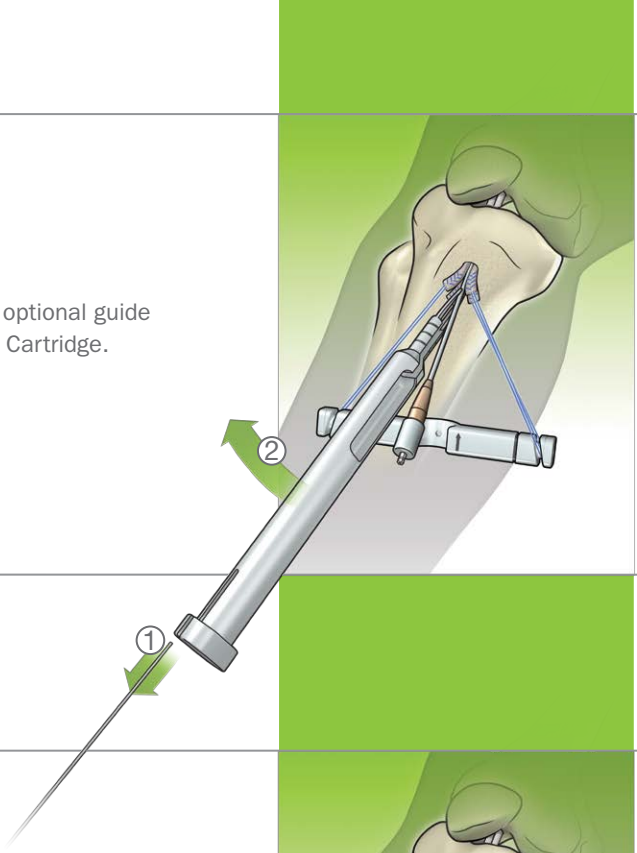
Ensure that the Sheath is inserted in the desired orientation, with the slant-back matching the orientation of the tibial tunnel aperture.

The back of the Sheath Inserter may be gently tapped to facilitate insertion to an appropriate depth.



## 6

Once appropriate Sheath insertion has been confirmed, the optional guide wire may be removed. Remove the Sheath Inserter from the Cartridge.

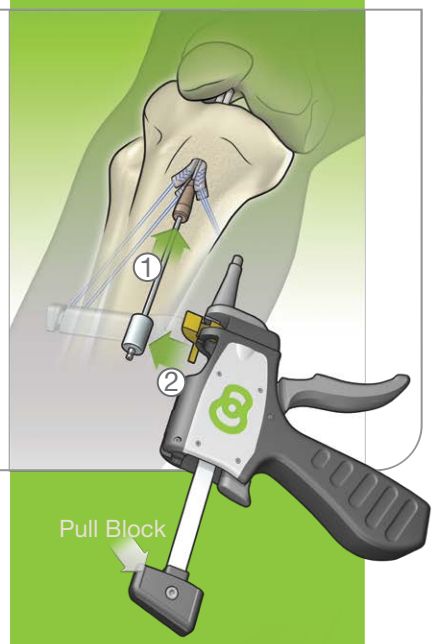



## 7

Ensure that the Gun is in the fully closed position. If not, depress the Release Tab at the back of the handle and pull back on the Pull Block until no further movement is possible.

Push the Bullet all the way forward to the Sheath (1).

Flip open the gold-colored Rod Lock and attach the Gun to the Cartridge (2).




## 8

Flip the gold-colored Rod Lock into the closed position to secure the Cartridge in place.

## 9

Maintain slight forward pressure on the Gun and squeeze the Trigger to advance the Bullet along the Knurled Rod. Once the Bullet begins to engage the Sheath, ensure that the Bullet is centralized within the Sheath.

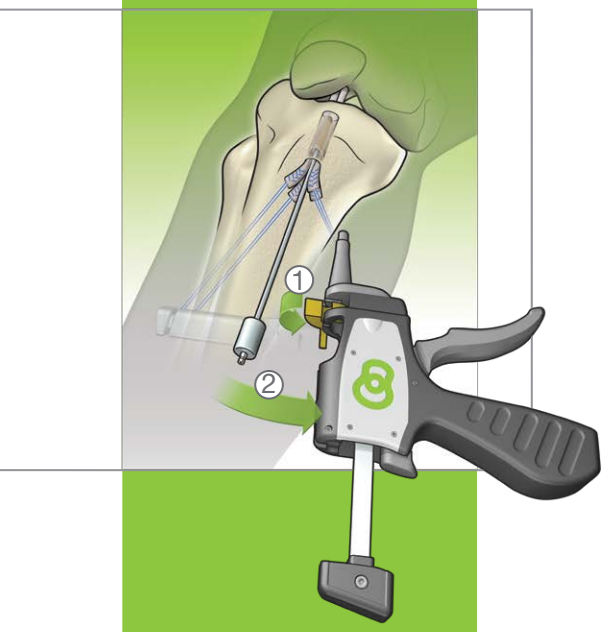
Continue to advance the Bullet by squeezing the Trigger until the Bullet is fully seated within the Sheath and the Pull Block has reached maximum travel.


## 10

Fully release the Gun Trigger. Depress the Release Tab at the back of the handle (1) and pull back on the Pull Block (2).


## 11

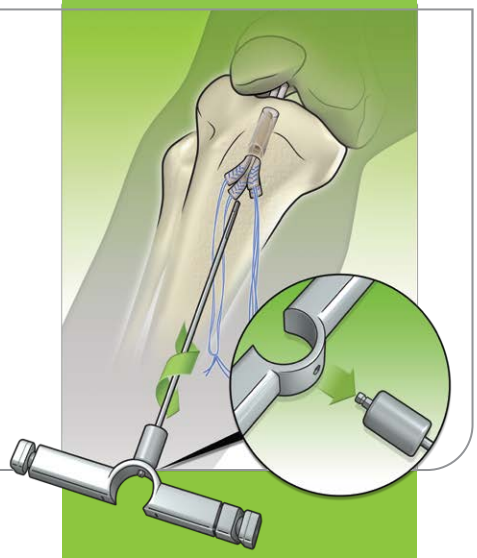
Flip the Rod Lock into the open position (1) and detach the Gun from the Cartridge (2).



## 12

Remove the Knurled Rod by rotating counter-clockwise until fully disconnected. If this connection is more than finger tight, the Graft Bar may be used as a wrench. Insert the male hex on the distal end of the Knurled Rod into the female hex on the Graft Bar and rotate counter-clockwise until the Knurled Rod is fully disconnected from the ExoShape® Soft Tissue Fastener.

Discard the Knurled Rod.

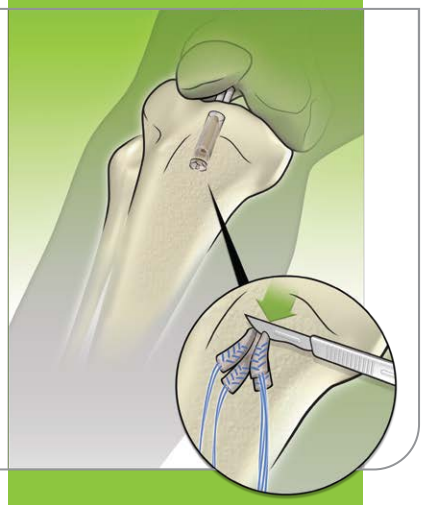


## 13

Confirm deployment of the ExoShape® Soft Tissue Fastener and adequate graft fixation by holding the Knurled Rod between thumb and forefinger and gently toggling the Knurled Rod. There should be no movement of the ExoShape Soft Tissue Fastener within the tunnel.

Excise excess graft and repair fascia if desired.

Perform standard wound closure.



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