

# + Graft preparation

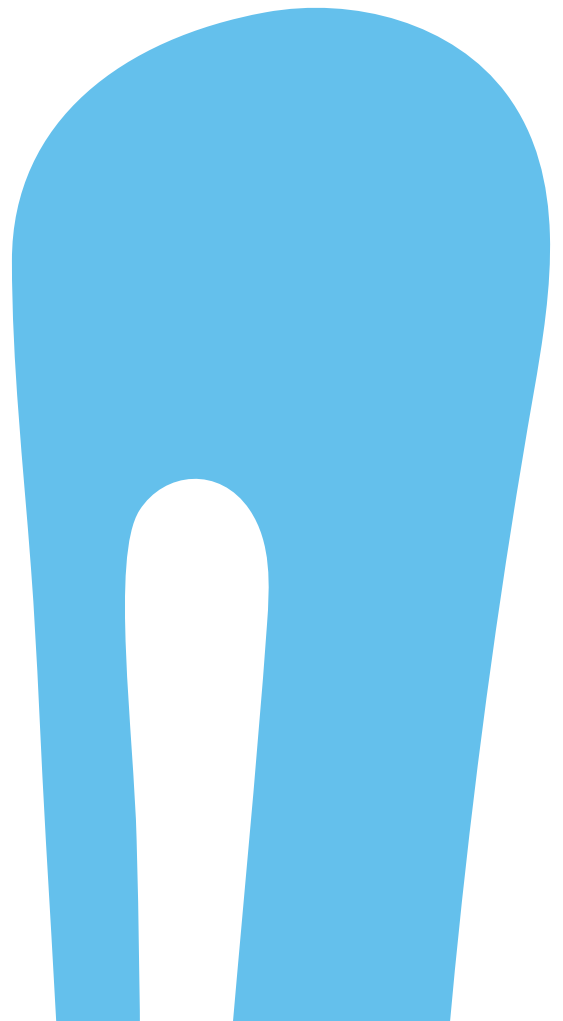
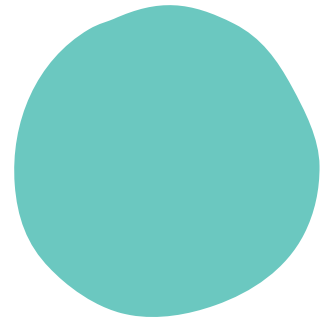
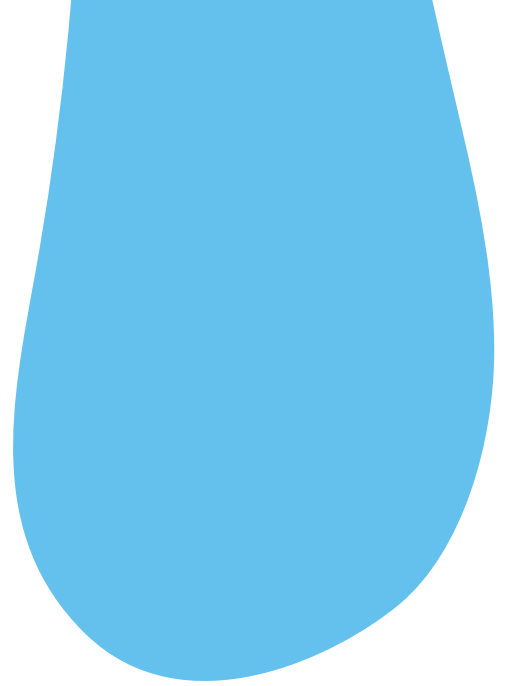
Using the X-WING System

A knee technique guide

 smith&nephew



X-WING   
Graft Preparation System

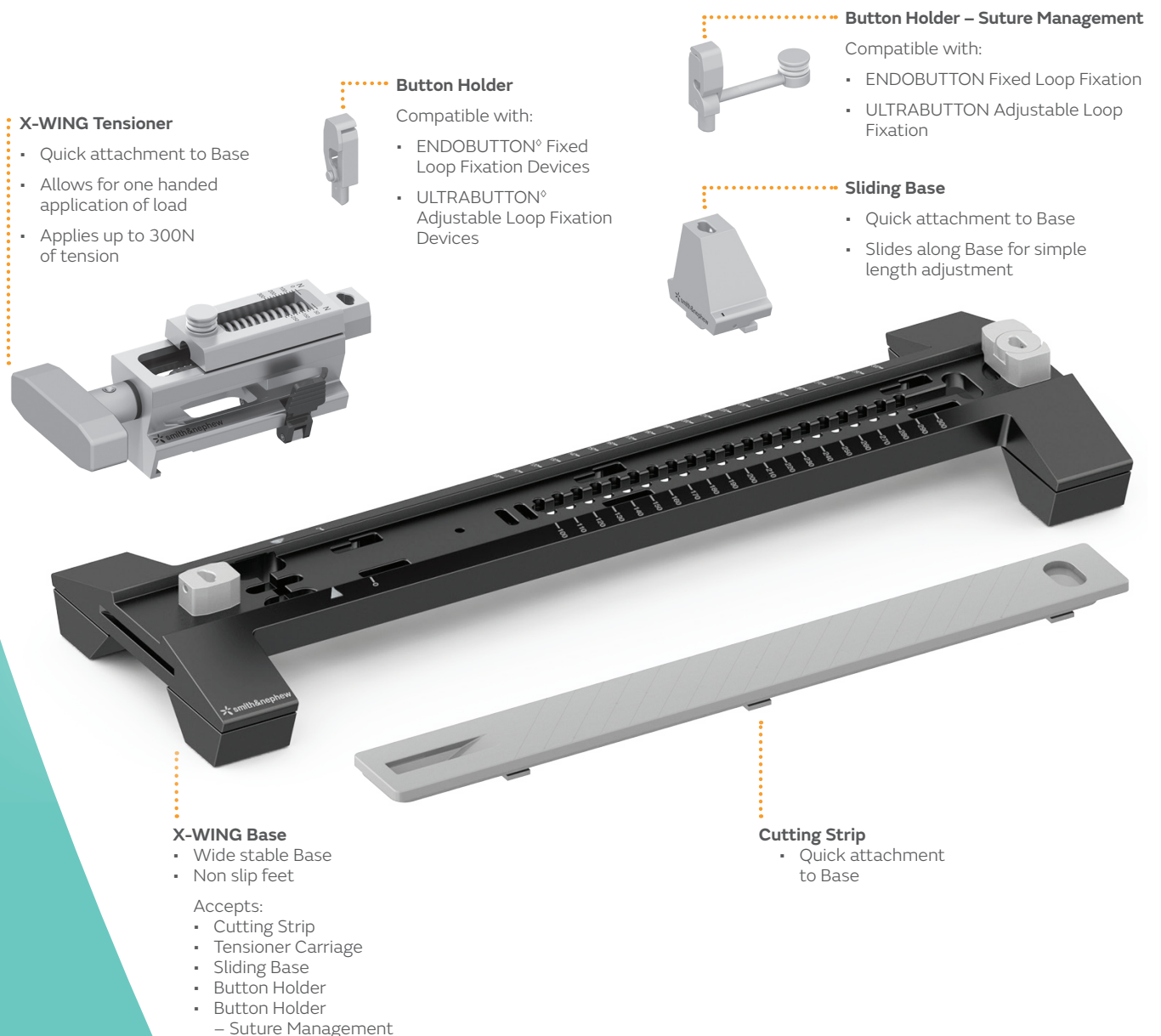


## Overview

The X-WING<sup>®</sup> Graft Preparation System has been designed to optimize the preparation of Single Tendon Auto/Allografts for Reconstruction in the ULTRASTAR technique, along with a variety of other techniques. It allows grafts to be prepared and tensioned for fixation with select S+N implants.

This technique guide describes the preparation of a semitendinosus graft with two Smith+Nephew ULTRABUTTON<sup>®</sup> adjustable fixation devices.

## System components



**Figure 1.** X-WING components

## Setting up the X-WING<sup>◇</sup>

### 1. Attach the Cutting Strip to the Base

Align grooves on underside of Cutting Strip with slots on the Base. Ensure the retainer is in the unlocked position and connect the two components. Lock the Cutting Strip in place by rotating the retainer counter clockwise.

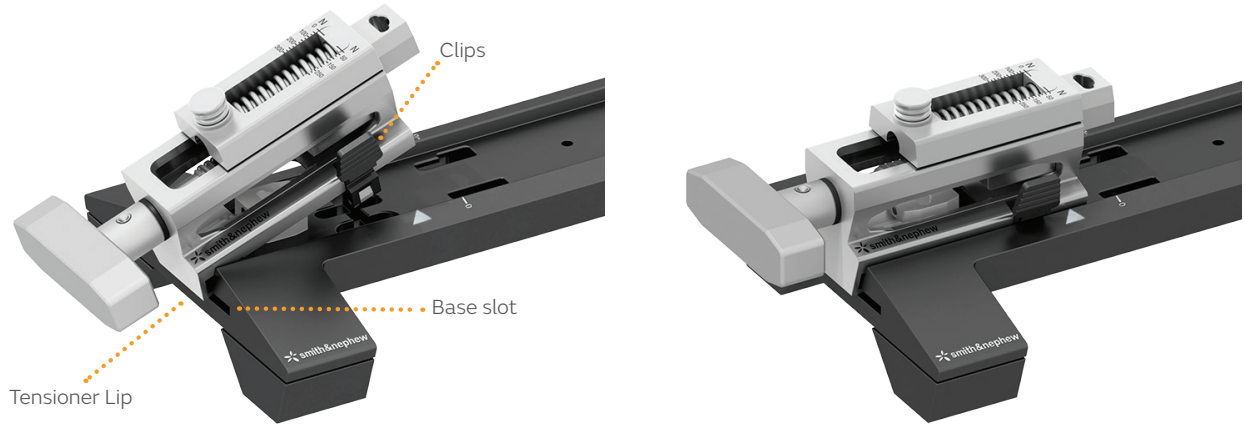
Prepare the tendon by removing any residual muscle tissue. Measure the final length of the tendon. Remove the Cutting Strip from the X-WING BASE.



Figure 2. Cutting Strip attachment

## 2. Attach X-WING<sup>®</sup> Tensioner to the slotted end of the Base

Engage the lip of the Tensioner with the slot in the Base. Then, hold the clips located on both sides of the Tensioner with your thumb and index finger and pinch together. Finally, lower the Tensioner down into the Base and release the clips to secure in place.



**Figure 3.** Assembly of Tensioner with X-WING Base

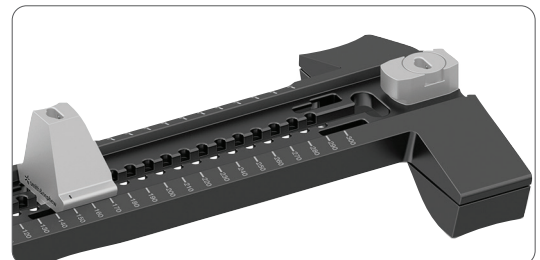
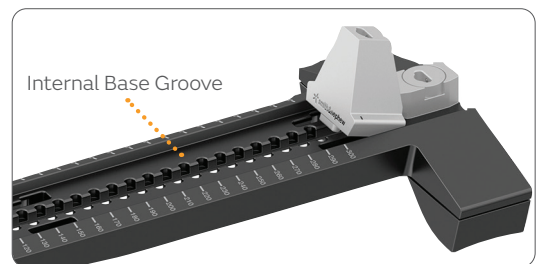
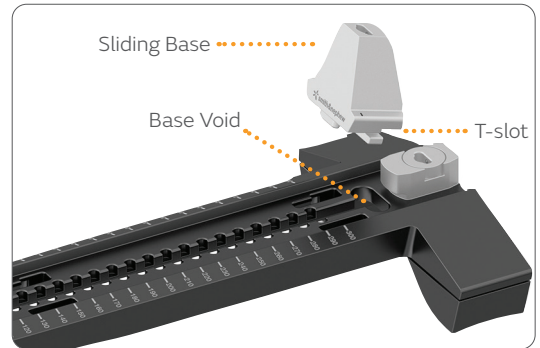
## 3. Attach the Sliding Base to the X-WING Base at the appropriate distance for the desired graft length

Align T-slot on underside of the Sliding Base with the corresponding Base Void. Adjust location of Sliding Base by pushing down and sliding the component along the internal Base groove. Align dash on Sliding Base with desired graft length, see sizing guide, and drop into associated groove.

### Guidance on where to attach the Sliding Base when using ULTRABUTTON<sup>®</sup> fixation

Harvested Tendon Length	Approximate final graft length	Position to attach Sliding Base
230mm	60mm	260mm
250mm	65mm	260mm
270mm	70mm	270mm

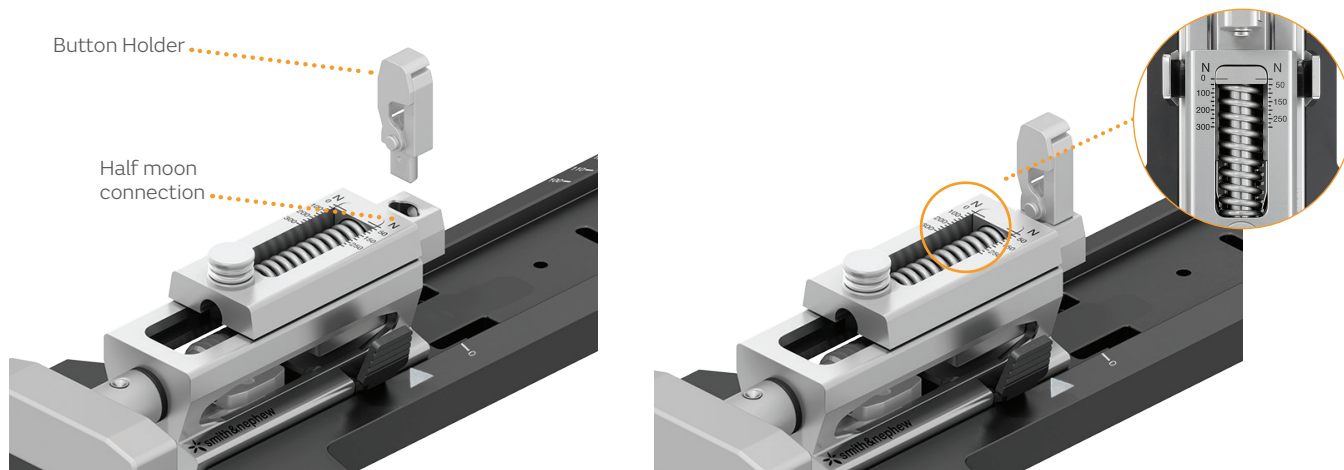
**TIP:** If the quadrupled construct is not pulled taught, it may be tightened easily by either turning the tensioner handle slightly or by pulling gently on one of the ULTRABUTTON finger loops.



**Figure 4.** Assembly of Sliding Base with X-WING Base

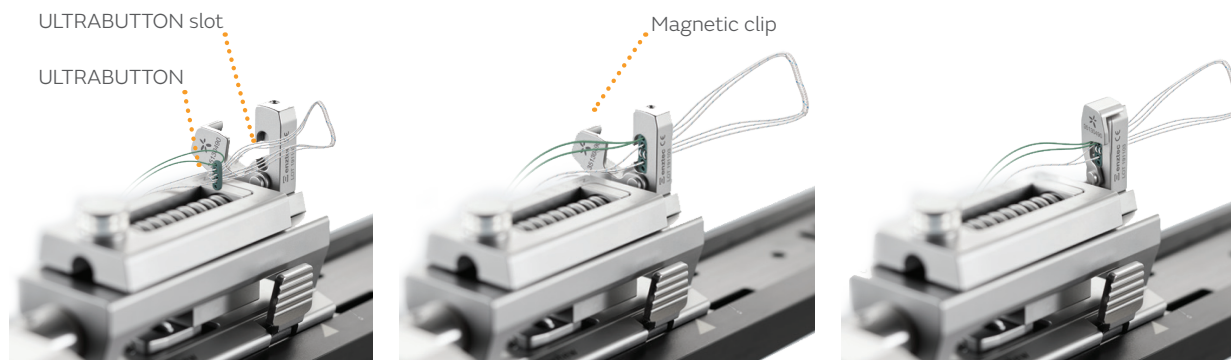
#### 4. Insert Button Holders into the Tensioner and Sliding Base

Align the Button Holder with the half-moon connection feature on the Tensioner and slot this into place. Note that the Button Holder – Suture Management is to be assembled into the half-moon feature on the Sliding Base only. Ensure the X-WING<sup>®</sup> Tensioner is in the forward position by aligning the ON marking with the triangle indication on the X-WING Base.



**Figure 5.** Assembly of Button Holder with Tensioner

#### 5. Clip one ULTRABUTTON<sup>®</sup> into each of the Button Holders



**Figure 6.** Assembly of ULTRABUTTON with Button Holder

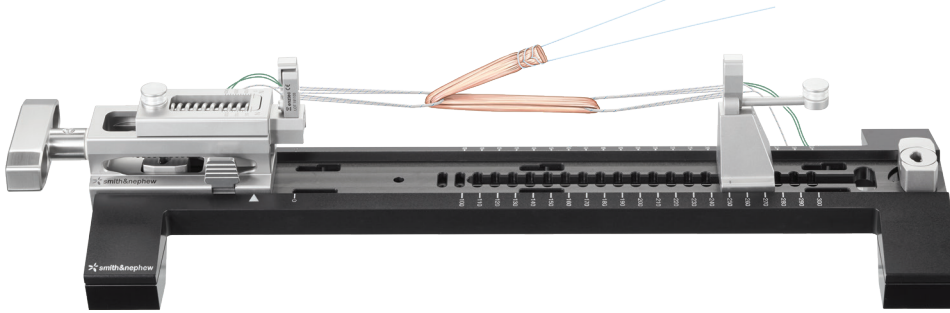
Open the Button Holder then introduce the ULTRABUTTONs with the adjustable loops facing towards the centre of the tensioner. Close the Button Holder to secure in place.



**Figure 7.** X-WING with ULTRABUTTON loops facing inward

## Graft preparation

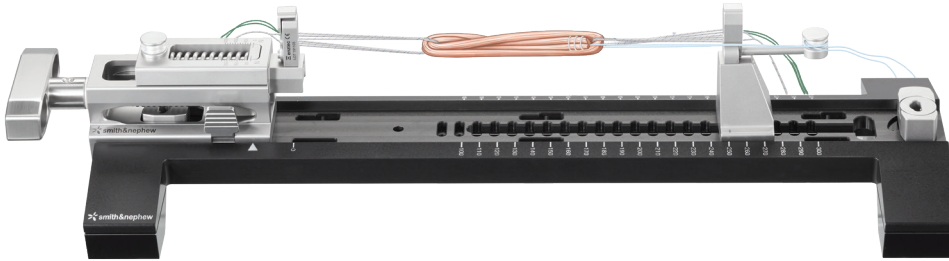
6. Thread the tendon through the adjustable loop of the ULTRABUTTON<sup>®</sup> seated in the Button Holder – Suture Management  
Suture the free ends of the tendon according to your preference.



**Figure 8.** Preparation of graft bundle

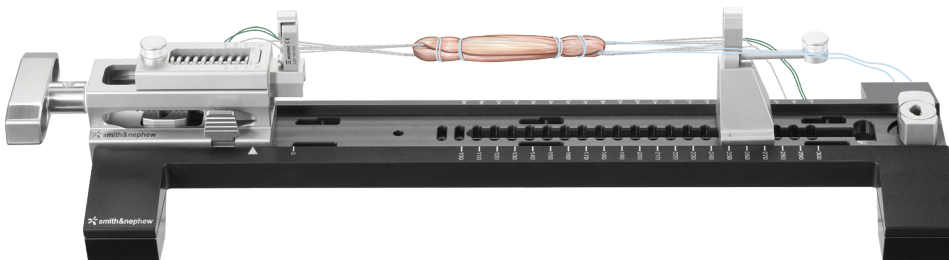
7. Thread the tendon through the adjustable loops of the second ULTRABUTTON

Fold the tendon to create a quadrupled construct then secure any free suture ends around the suture management post to hold in place. Note that the graft configuration can be reversed if preferred, in which case the suture management post on the Tensioner can be used to secure any free suture ends.



**Figure 9.** Suture management during graft preparation

8. Place sutures at 3-4 points along the length of the construct according to your preference

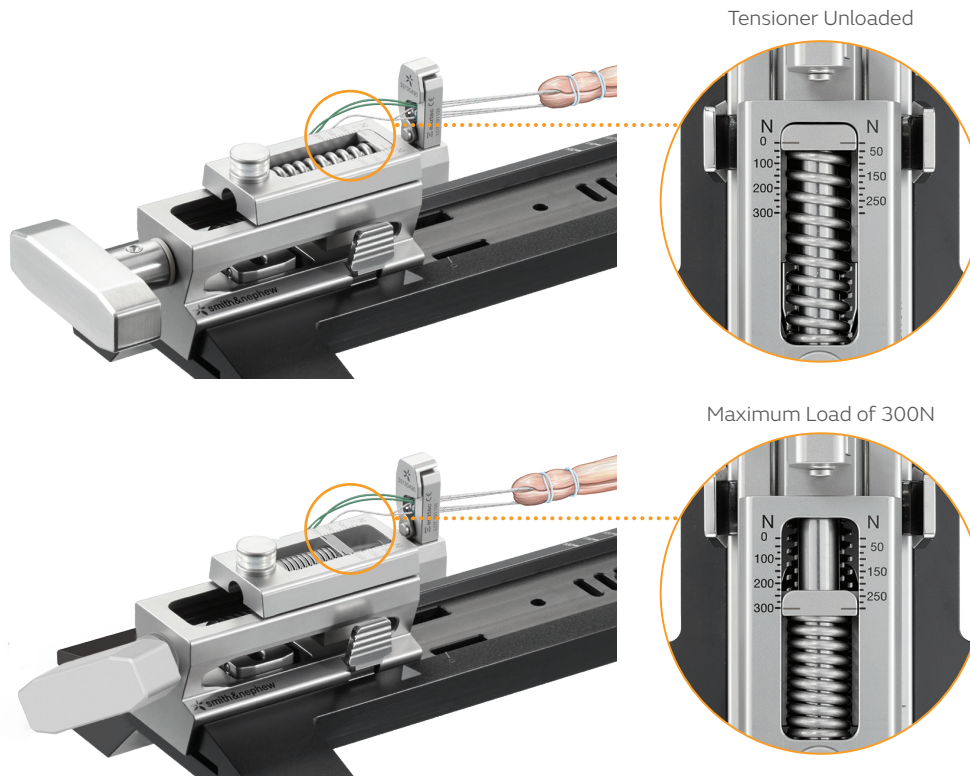


**Figure 10.** Sutured graft in X-WING<sup>®</sup>

## Tensioning

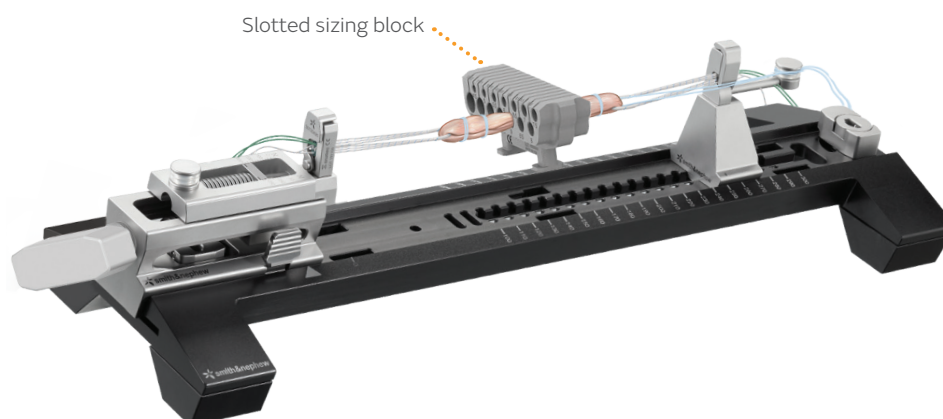
### 9. Apply tension to the graft

Turn the handle on the X-WING<sup>®</sup> Tensioner until the desired tension has been achieved, referencing the tension scale on the device.



**Figure 11.** Tensioning of Graft

### 10. Measure and mark the graft for passage



**Figure 12.** Determining graft diameter with slotted sizing block

# Ordering information

## X-WING<sup>®</sup> System

Reference #	Description
72205269	X-Wing Graft Prep System
<b>System includes 1 of each:</b>	
72205270	X-WING Base
72205271	X-WING Tensioner
72205272	X-WING Sliding Base
72205275	X-WING Tray
72205424	X-WING Tray Lid
72205273	Button Holder
72205274	Button Holder – Suture Management

### Recommended accessory:

72202317	ACUFEX <sup>®</sup> GRAFTMASTER <sup>®</sup> III Cutting Strip
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### Optional accessories:

72202319	ACUFEX GRAFTMASTER III Slotted Sizing Block
72202315	ACUFEX GRAFTMASTER III Tissue Grasper
7207342	ACUFEX GRAFTMASTER III Tensioning Post

## ACUFEX GRAFTMASTER III Upgrade Components

72205273	Button Holder
72205274	Button Holder – Suture Management

## XTENDOBUTTON<sup>®</sup> Round Fixation Devices

71935601	XTENDOBUTTON Round 15mm $\varnothing$ (small); <b>Tunnel diameter:</b> 4.0mm-7.0mm
71935602	XTENDOBUTTON Round 17mm $\varnothing$ , 7.5mm peg (medium); <b>Tunnel diameter:</b> 7.5mm-9.5mm
71935603	XTENDOBUTTON Round 21mm $\varnothing$ , 10mm peg (large); <b>Tunnel diameter:</b> 10.0mm-13.0mm

All products may not be available in all markets due to the regulatory and/or medical practices in individual markets. Please contact your Smith+Nephew representative if you have questions about the availability of Smith+Nephew products in your area.

## XTENDOBUTTON Oval Fixation Devices

Reference #	Description
71935604	XTENDOBUTTON Oval 9mm x 16mm (small); <b>Tunnel diameter:</b> 4.0mm-7.0mm
71935605	XTENDOBUTTON Oval 11mm x 18mm, 7.5mm peg (medium); <b>Tunnel diameter:</b> 7.5mm-9.5mm
71935606	XTENDOBUTTON Oval 15mm x 21mm, 10mm peg (large); <b>Tunnel diameter:</b> 10.0mm-13.0mm

## XTENDOBUTTON Fixation Device

72200134	XTENDOBUTTON Fixation Device; <b>Tunnel diameter:</b> 6.0-10.0mm
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## ULTRABUTTON<sup>®</sup> Adjustable Fixation Device

72290003	ULTRABUTTON Adjustable Fixation Device
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## ENDOBUTTON<sup>®</sup> Fixation Devices

72203331	ENDOBUTTON CL ULTRA 10mm
72200146- 72200155	ENDOBUTTON CL ULTRA 15mm-60mm (5mm increments)
72203330	ENDOBUTTON CL BTB 15mm
7210080- 7210088	ENDOBUTTON CL BTB 20-60mm (5mm increments)

## Suture Solutions

72205181	LOOPED SUTURE #2 with Straight Needle, white/co-braid blue, 20" (12 per box)
72205182	LOOPED SUTURE #2 with Straight Needle, blue, 20" (12 per box)
72205183	LOOPED SUTURE #2 with Curved Needle, white/co-braid blue, 20" (12 per box)
72205184	LOOPED SUTURE #2 with Curved Needle, blue, 20" (12 per box)

To order the instruments used in this technique, call **+1 800 343 5717** in the U.S. or contact an authorized Smith+Nephew representative. Prior to performing this technique, consult the Instructions for Use documentation provided with individual components – including indications, contraindications, warnings, cautions and instructions.

**Caution:** U.S. Federal law restricts these devices to sale by or on the order of a physician.

Learn more at [smith-nephew.com](http://smith-nephew.com)



Manufactured by:  
Enztec Limited  
3/17 Print Place Middleton  
Christchurch, 8024  
New Zealand

Sports Medicine  
Smith & Nephew, Inc.  
150 Minuteman Road  
Andover, MA 01810

[www.smith-nephew.com](http://www.smith-nephew.com)  
T +978 749 1000  
US Customer Service:  
+1 800 343 5717

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