

+ Quick start guide

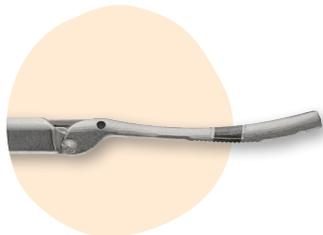
Smith+Nephew

NOVOSTITCH[◇] PRO
Meniscal Repair System



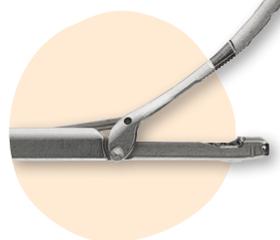
NOVOSTITCH[◇] PRO Meniscal Repair System

Designed for access and safety in tight knee joints



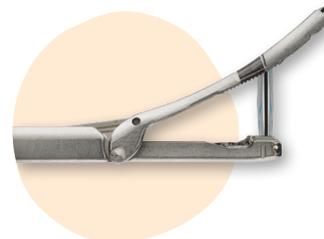
Access

Low 1.6mm entry profile with a retractable lower jaw



Maneuver

Curved upper jaw and blunt tip to enhance maneuverability¹

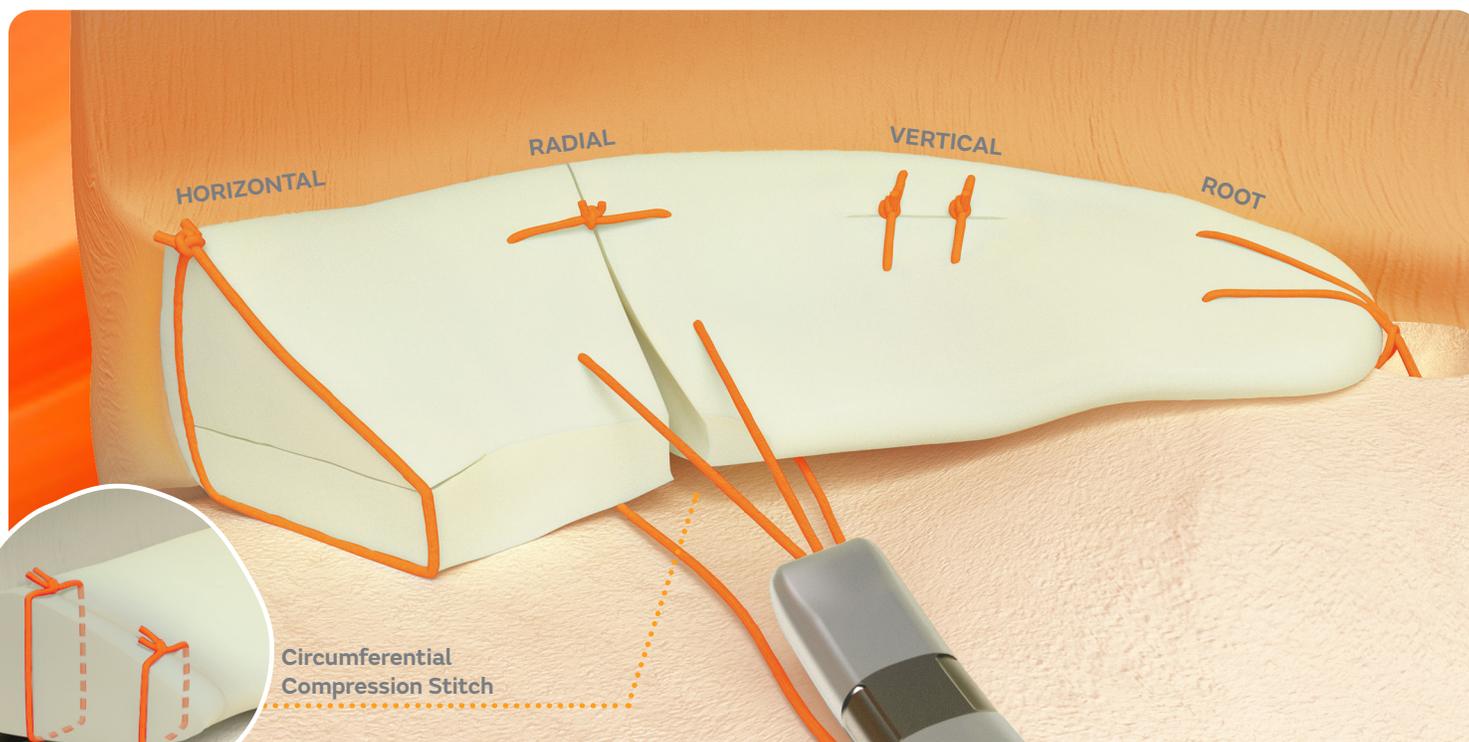


Protect

Intra-articular needle deflects away from femur minimizing the risk of chondral injury¹

Simplify

Pre-loaded all-suture implant eliminates suture management with single insertion cartridge available in size 2-0 and 0 suture



Circumferential Compression Stitch

+ Technique

Placing the first limb of suture



Squeeze the orange handle to keep the upper jaw parallel with the shaft, and enter the knee.



When the upper jaw is in anatomic position over the meniscus, release the orange handle.



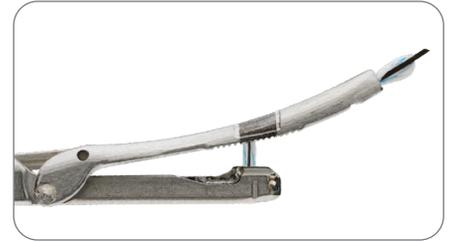
Extend the lower jaw under the meniscus by pressing downward on the grey thumb lever. Once extended, release the grey thumb lever.



Black targeting mark indicates where the needle will exit the meniscus.



Needle will exit at the distal portion of the targeting mark when passing through thick peripheral tissue.



Needle will exit at the proximal portion of the targeting mark when passing through thin central tissue.



When device is in position to place the first limb of suture, squeeze the orange handle and apply slight forward pressure to prevent the tissue from migrating distally.



Slowly deploy the needle and suture limb by simultaneously squeezing the orange and black handles until the black handle fully advances (indicated with a click).



Release both the orange and black handles to finish placing the first end of the stitch. Ensure the black handle fully retracts before proceeding with the second end of the stitch.

+ Technique

Completing the stitch



To place the second limb of the stitch ensure the lower jaw is extended. With the device in position, squeeze the orange handle and apply slight forward pressure to prevent the tissue from migrating distally.



Slowly deploy the needle and suture limb by simultaneously squeezing the orange and black handles until the black handle fully advances (indicated with a click).



Release both the orange and black handles to finish placing the second end of the stitch. Ensure the black handle fully retracts before removing the device from the knee.



Retract the lower jaw by pressing the grey thumb lever downward.



Lower jaw retracted.



Keep the orange handle engaged while carefully withdrawing the device from the joint to keep the upper jaw parallel with the shaft.

Remove suture ends and tie a knot



NOVOCUT[®] Suture Manager

Relax the orange handle of the NOVOSTITCH[®] PRO Meniscal Repair System and remove the suture ends from the upper jaw by pulling back on the sutures and/or advancing the device forward.

Using standard surgical techniques and the NOVOCUT Suture Manager, advance a knot to the surface of the tissue until tissue approximation at the tear is observed. Place the appropriate number of additional throws to ensure the knot is secure.

+ Technique

Cartridge unloading and reloading



If not already in the forward position, advance the lower jaw into the forward locked position by pressing down on the grey thumb lever.



Grasp the suture spool and pull it both down and forward towards the distal end of the device until it is free from the device shaft.



Discard used cartridge and procure a new cartridge.



Flip the handle over so that the underside of the shaft is visible.



Align the black mark on the cartridge so that it is over the shaft mark.



With the cartridge seated in the shaft, slide the cartridge towards the handle until the cartridge snaps in place.



Confirm the lower jaw is loaded properly by checking that the lower jaw is flush with the shaft. If the lower jaw is not flush, remove the cartridge and re-load it.



Once confirmed that the lower jaw is flush with the shaft, turn the device upright and retract the lower jaw by pushing down on the grey thumb lever.



Lower jaw retracted. The device is now ready to place another stitch.

Stitch targeting

Target area on the upper jaw approximates where the needle penetrates the meniscus. The amount of tissue between the jaws of the device will determine where the needle will exit the meniscal tissue.



Peripheral pass

For mid-body or peripheral passes, where a large amount of tissue is between the jaws of the device, use the middle to peripheral section of the upper jaw target area for guidance.



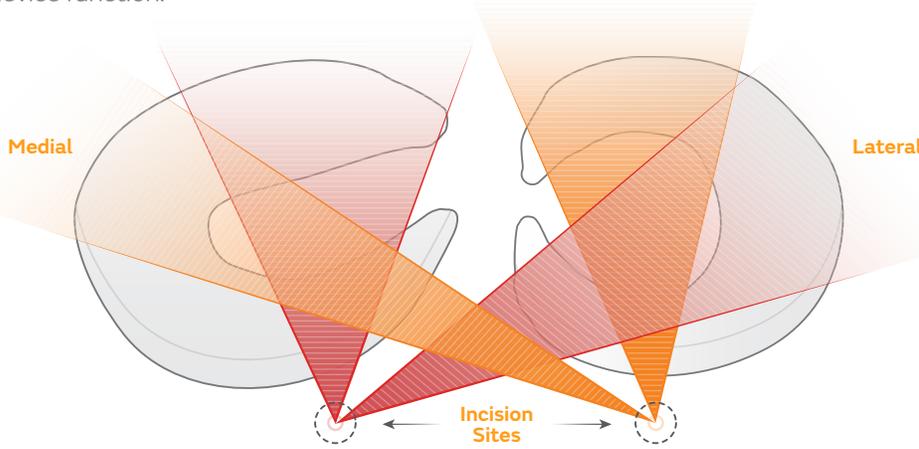
Central pass

For central passes, where a small amount of tissue is between the jaws of the device, use the central section of the upper jaw target area for guidance. Ensure the lower jaw tooth is fully covered by the meniscus.

+ Planning tips

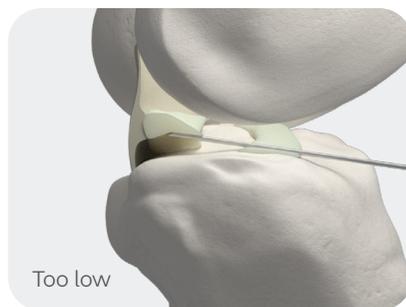
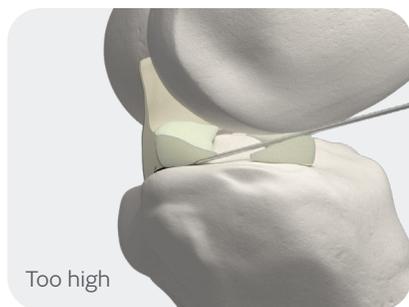
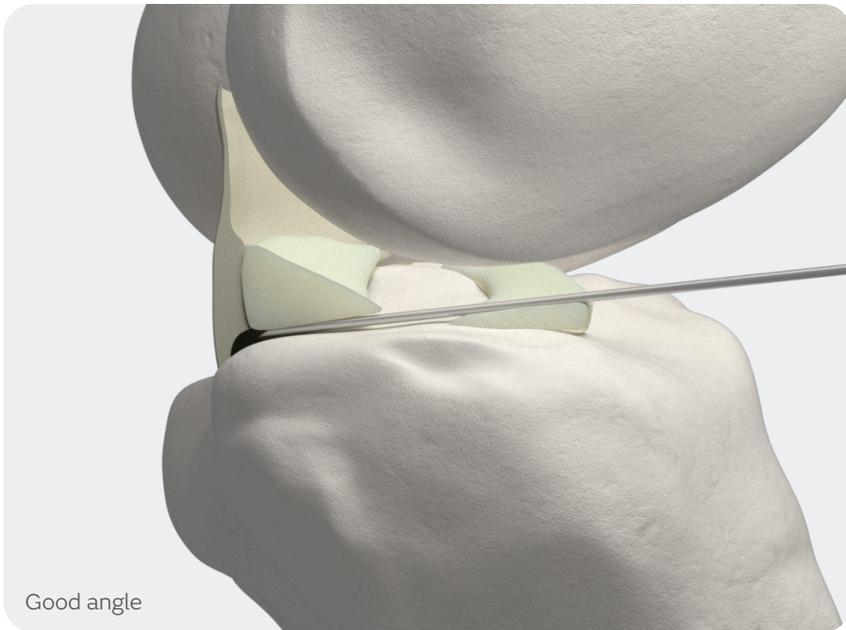
Portal placement

Unlike other devices that drive anchors horizontally through the meniscus, the lower jaw of the NOVOSTITCH[®] PRO Meniscal Repair System slides underneath the meniscus, allowing the needle to deliver suture vertically and thus enabling the circumferential compression stitch. You may need to adjust your standard portal or create an accessory portal to maximize access and device function.



Angle of approach

Place spinal needle parallel to tibial plateau under meniscus at tear site.



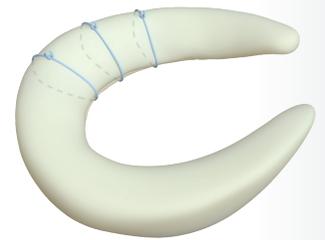
+ Suture placement

Radial tear



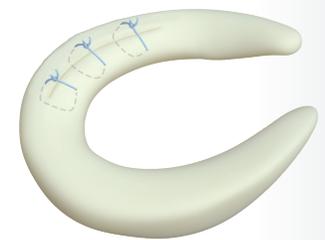
Side-to-side circumferential stitches

Horizontal cleavage tear (HCT)



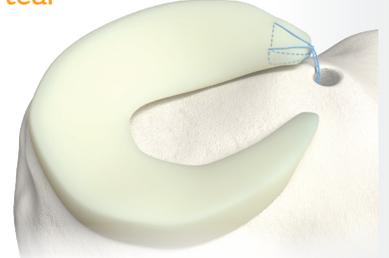
Haybale stitches
For HCTs that exit at the apex

Vertical tear

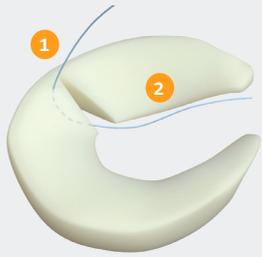


Circumferential stitches

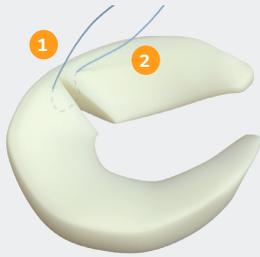
Root tear



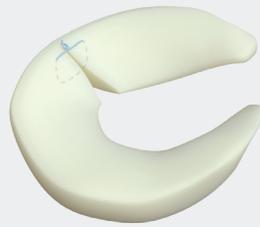
Modified double locking loop stitch



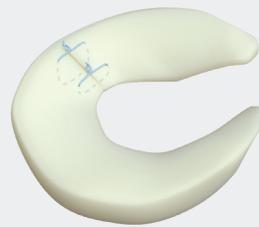
1. Pass limb 1



2. Pass limb 2 across tear



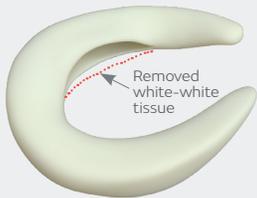
3. Tie across tear and tighten



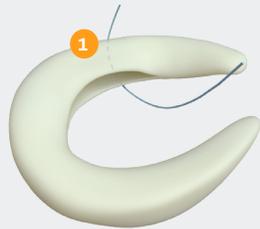
4. Repeat with subsequent central stitches

Tips

- Consider central edge removal²
- Ensure sides of tear do not overlap after repair
- Place each suture limb at least 5mm from tear



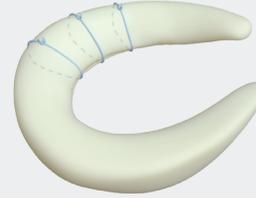
1. Remove unstable central rim



2. Pass peripheral (limb 1)

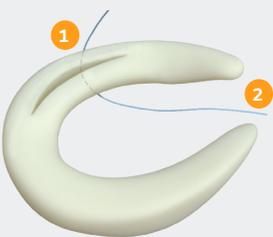


3. Tie suture over apex and tighten

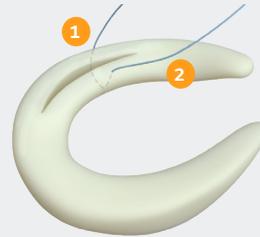


4. Repeat with subsequent stitches

- Consider removal of central edge to align lamina²
- Overstuffed jaws may cause peripheral misses
- Place stitches every 3-5mm³



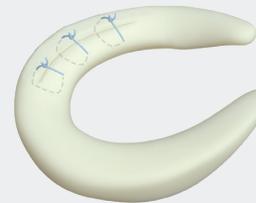
1. Pass peripheral limb (limb 1)



2. Pass central limb (limb 2)

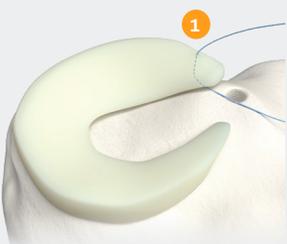


3. Tie limbs together and tighten

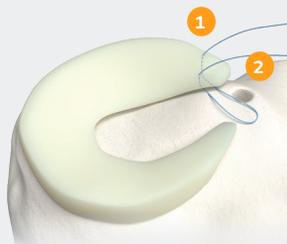


4. Repeat with subsequent stitches

- Consider central tears and tears in front of popliteal hiatus
- Start at one end of tear and work to other end
- Place stitches every 3-5mm³



1. Pass peripheral limb (limb 1)



2. Pass central limb (limb 2)



3. Pull suture limbs through loop at the end of meniscus and tighten and tie over button

- Place 2 constructs to increase strength
- Discuss tunnel technique options
- Drill first to avoid suture cuts

Ordering information

NOVOSTITCH[®] PRO

Reference #	Description
CTX-A003	NOVOSTITCH PRO Meniscal Repair System (2-0)
CTX-A004	NOVOSTITCH PRO Meniscal Repair System (0)
CTX-C001	NOVOCUT [®] Suture Manager
CTX-R001	NOVOSTITCH Cartridge (2-0)
CTX-R002	NOVOSTITCH Cartridge (0)

Refer to the Instructions for Use for device-specific indications, adverse effects, warnings and precautions.

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The NOVOSTITCH PRO Meniscal Repair System
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References

1. Saliman JD. The Circumferential Compression Stitch for Meniscus Repair. *Arthroscopy Tech.* 2013;2(3):257-262. **2.** Woodmass JA, Johnson JD, Wu IT, Saris DB, Stuart MJ, Krych AJ. Horizontal Cleavage Meniscus Tear Treated With All-inside Circumferential Compression Stitches. *Arthroscopy.* 2017;6(4):1329-33. **3.** Noyes FR, Barber-Westin SD. Repair of Complex and Avascular Meniscal Tears and Meniscal Transplantation. *J Bone Joint Surg Am.* 2010;92:1012-29.

NOTE: The Suture Placement techniques described in this guide are those of Justin Saliman, MD. This guide is for informational and educational purposes only. It is not intended to serve as medical advice. It is the responsibility of operating physicians to determine and utilize the appropriate products and techniques according to their own clinical judgement for each of their patients. Dr. Saliman is a paid consultant of Smith+Nephew.