BIOTEK

Surgical Technique Guide

INSIDE-OUT MENISCAL REPAIR TECHNIQUE

Using BIOCINCH® Meniscal repair set with needles

EU-MDR



MORE MOBILITY

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Introduction

Preservation of meniscal tissue has been proven to be the optimal approach in most cases of meniscal tears. Meniscal tears can be repaired by suturing the torn pieces together. Successful repair depends on the type of tear, as well as the overall condition of the injured meniscus.

The inside-out and all-inside techniques have evolved for meniscal repair and are particularly useful for addressing posterior-third to mid-body lesions. The inside-out technique allows for fine precision, greater number of sutures, and the advantage of eliminating the need for a prominent intra-articular device.

The **BIOCINCH®** Meniscal Repair Kit (meniscal repair set with needles; **BIOFIBER®** USP Size 2-0/Size 0 or **BIOFIBER®** tape 0.7 mm, with two straight needles of 1.1 mm diameter) allows surgeons to repair meniscal tears using the inside-out arthroscopic technique.



BIOCINCH®
Meniscus Repair Needles with Tape



BIOCINCH®
Meniscus Repair Needles with Suture

Surgical Technique

A. Positioning

The patient is placed supine on a standard operating room table with the knee at 90°, which allows for easier access to the posteromedial or posterolateral knee when the foot of the table is flexed. A standard, complete diagnostic arthroscopy is then performed.

Injuries to the chondral surfaces or intra-articular ligaments must be addressed in conjunction with the meniscal repair. A Meniscal Curved Probe **(BAK-7198)** is subsequently placed within the working portal, and the reparability of the meniscus tear is assessed.

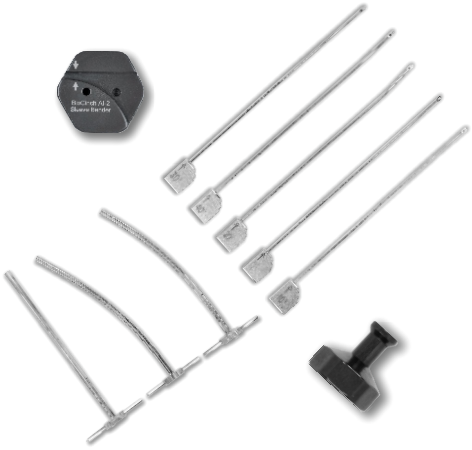
B. Meniscus Tear Preparation

The torn meniscal amenable to repair is prepared with a Meniscus Rasp **(BAK-7199)** or mechanical shaver to stimulate vascularity within the tear. Debridement of granulation tissue on both sides of the tear is performed using a Meniscus Rasp or, alternatively, a 3.5 mm full-radius shaver.

C. Suture Placement

The tear should be anatomically reduced, and the sutures should be placed perpendicularly to the lesion to restore its anatomic position.

Step 1:

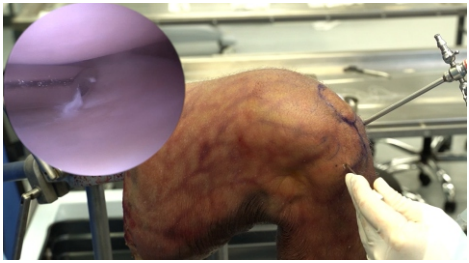


Guide sleeves **(BAK-7200 to BAK-7215)** are utilized to place sutures into the medial or lateral meniscus via the anterolateral or anteromedial portal, respectively.

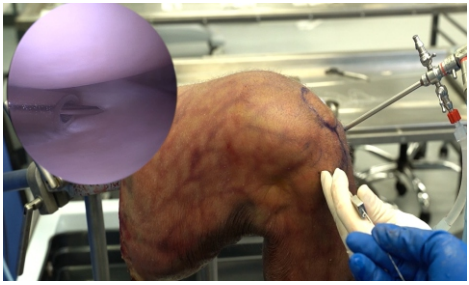
Step 2:

For viewing, the arthroscope remains in the ipsilateral portal, while the contralateral portal is used for suture placement in the posterior third to mid-body of the meniscus. These portals may be switched if required.

Insert the required angled Cannula through the working portal.



Step 3:



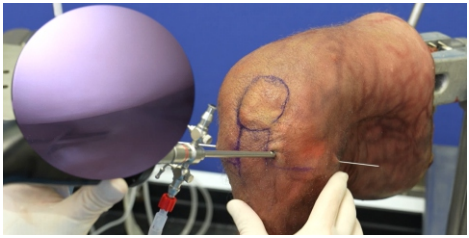
A single limb of the suture needle is initially passed through the meniscus above the tear, advanced with the needle pusher **(BAK-7205)**, and retrieved with a needle catcher as it emerges from the capsule.

Note: If more than two repair needles are utilized, they should be marked with a marker for easy suture management upon their exit from the capsule.

Step 4:

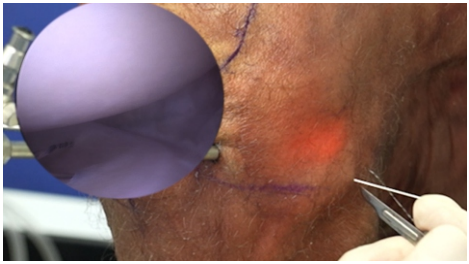
The remaining limb of the suture is placed in a similar manner below the tear to form a vertical or horizontal mattress stitch, after which the cannula is withdrawn. The suture pair is held with a clamp to facilitate suture management.

Note: Sutures are placed sequentially from posterior to anterior at 3 to 5 mm intervals until the full extent of the tear has been addressed. Tension must be maintained on the suture during each needle pass to avoid entanglement, and every needle must be monitored closely.



Step 5:

Once all sutures have been passed, an incision is made in the skin down to the joint capsule where the sutures emerge. With the aid of the final needle, a stab incision is made in the skin under arthroscopic monitoring to prevent suture cutting. All needles are then cut from the sutures.



Step 6:

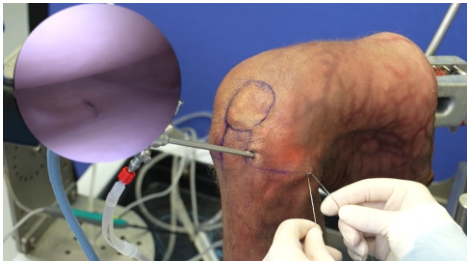


Using an arthroscopic probe or small artery forceps, all sutures are pulled through this stab skin opening. The suture limbs are tied one by one under arthroscopic monitoring to avoid over-tensioning, with sequential tensioning performed from posterior to anterior.

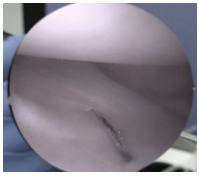
D. Knot Tying

During knot-tying, it must be ensured that the tension of each suture is adequate and that over-tensioning is avoided to prevent tissue cut-through.

It must be ensured that each knot is advanced down to the joint capsule and does not become lodged in the subcutaneous tissue.



E. Final View



A repeat arthroscopy is performed at the conclusion of the procedure to assess the tension of the stitches and the reduction of the meniscus. The knee is taken through a full range of motion and visualized for gap formation or suture breakage.

All arthroscopic portals and incisions are closed in the standard fashion.

Ordering Information

Implants

Cat. No.	Product Description
BAK-7196	**BIOCINCH®** Meniscal repair set with needles Fiber USP Size 2-0, suture Len. 75cm straight needles-2 units, needle Len. 25cm
BAK-7216	**BIOCINCH®** Meniscal repair set with needles Fiber USP Size 0, suture Len. 75cm, straight needles-2 units, needle Len. 25cm
10470	**BIOCINCH®** Meniscal repair set with needles, Fiber Tape Size 0.7, tape Len. 50cm straight needles-2 units, needle Len. 25cm

Instrumentation

Cat. No.	Product Description
BAK-7198	Curved Probe for Meniscus Repair
BAK-7199	Meniscus Rasp
BAK-7204	Meniscus Curette
BAK-7200	Guide Sleeve (Double Lumen) for Meniscus Repair, Straight
BAK-7201	Guide Sleeve (Double Lumen) for Meniscus Repair, Curved, Left
BAK-7202	Guide Sleeve (Double Lumen) for Meniscus Repair, Curved, Right
BAK-7211	Guide Sleeve (Single Lumen) for Meniscus Repair, Straight
BAK-7212	Guide Sleeve (Single Lumen) for Meniscus Repair, Curved, 10°
BAK-7213	Guide Sleeve (Single Lumen) for Meniscus Repair, Curved, 20°
BAK-7214	Guide Sleeve (Single Lumen) for Meniscus Repair, Curved, 30°
BAK-7215	Guide Sleeve (Single Lumen) for Meniscus Repair, Curved, 40°
BAK-7205	Needle Pusher
BAK-7206	Sleeve Bender
10154	Knot Pusher for Meniscus Repair
10256	Slotted Sleeve For BIOCINCH®-AI2 Meniscal Repair Set (All Inside)
BAK-7217	Graphic Case for Meniscus Repair Instruments
10488	Suture Passing Sleeve with Trocar (Single Lumen) for Meniscus Repair (Outside-In), Straight
10489	Suture Passing Sleeve with Trocar (Single Lumen) for Meniscus Repair (Outside-In), Curved, Left
10490	Suture Passing Sleeve with Trocar (Single Lumen) for Meniscus Repair, Curved (Outside-In), Right
10491	Suture Passing Wire Trocar Tip with loop Dia. 0.8mm Len. 250mm

Disclaimer:

The information in this document is for educational purposes only. It is not intended to serve as comprehensive medical advice or a full description of the procedure. It is the responsibility of the operating surgeon to determine and utilise the appropriate products and techniques in accordance with their clinical experience and evaluation of each patient. Review and understand all product and safety information including indications for use, contraindications, effects, precautions and warnings.

BIOTEK

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