Meniscus Repair
Technical Notes

Peter Verdonk, MD, PhD
from the Antwerp Orthopaedic Center, Monica Hospitals, Belgium.

Suture Types

Which Technique Where?

- All Inside
- Inside Out
- Outside In

Suture Orientation

Pull-out strength
- Vertical: 80 N
- Horizontal: 56 N

Barber et al.: Arthroscopy 1999

Vertical suture = golden standard
but i have to admit that I regularly use horizontal sutures.....
Surgical Repair Principles

- Preoperative planning
- Arthroscopic evaluation
- Freshen up the tear
- Stimulate healing
- Repair the meniscus
- Check stability

preparation is what counts! the actual repair is easy...

Stimulate Healing

1. diamant rasp
2. Shaver
3. Needling (outside-in)
4. Steadman-Picks (inside-out)

Opening up of tight medial compartment
Inside-out Sutures

**Equipment**

- **Preloaded needles**
  2.0 braided, non-absorbable

- **Specific cannulas**
  various flexion angles

- **Retractor (spoon)**

**Inside out (1)**

Introduction of curved cannula and reduction of the tear
Passing a flexible needle through the cannula and retrieving outside the capsule

Passing another flexible needle through the cannula above the tear

Needle is pushed forward until retrieved outside the capsule

Reduction of the lesion by pulling at both ends of the suture
**Inside Out**

Premounted flexible needle with ethibond 2/0 passed through the skin

I generally use a single cannulated system

**Outside-In**

**Equipment**
- 2 spinal needles #1
- Suture material
  - 2.0 Ethibond
  - 2.0/#0/ #1 PDS (absorb)
  - 2.0 Prolene (non-absorb)
- Suture grasper

**Outside-in (1)**

First Needle loaded with shuttle suture (2.0 ethilon) is passed through the capsule just above the lesion

- I pass my sutures through the skin first
- I make my skin incision inbetween the sutures
- make large enough incision and dissect onto capsula
- tie down sutures on capsule
Outside-in (2)
Second needle carrying repair suture is passed parallel to the shuttle suture through the capsule ideally passing the loop.

Outside-in (3)
End of suture is caught with a suture grasper and retrieved anteriorly.

Outside-in (4)
Needles are removed and free end of repair suture is shuttled through the capsule.

Outside-in (5)
Reduction of the lesion by pulling at both ends of the suture outside the joint.
Outside in Sutures (vertical)

superior rim  inferior rim
Suture techniques

*ultra-fast rapid steady quick max fix....*

**All-Inside technique**

*golden standard for posterior horn lesions*
All Inside

In large bucket handles start in the posteromedial or posterolateral corner.

You can use your fastfix as a joystick.

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