Inion Trinion™ Meniscus Screw

Introduction and Surgical Technique
Product overview – Inion Trinion™

- Coloured, biodegradable meniscus screw for meniscus fixations
- Made of Inion® Polymers with optimal strength and biodegradation characteristics
  - Maintains approximately 70% of its initial strength at 9-12 weeks after implantation. Biodegradation takes place within 2-3 years.
  - Based on the results of a published clinical study*, screws are soft in 8 months and totally absorbed in 18 months.
  - Polymers have a long history of safe medical use.

Indications and Contraindications

- **INDICATIONS**

  The INION TRINION™ BIODEGRADABLE MENISCUS SCREW is indicated for the arthroscopic fixation of longitudinal vertical meniscus lesions (bucket-handle lesions) located in the vascularized area of the meniscus (red-red and red-white areas).

- **CONTRAINDICATIONS**

  The INION TRINION™ BIODEGRADABLE MENISCUS SCREW should not be used in flap or radial tears, in lesions that would not be considered for repair by suturing (e.g. in case of insufficient quality or quantity of meniscus), or in complex bucket-handle lesions such as double bucket-handle lesions. Other contraindications are active or potential infections, patient conditions including limited blood supply, and where patient cooperation cannot be guaranteed (e.g. alcoholism, drug abuse). There are currently no known additional contraindications to the use of the INION TRINION™ BIODEGRADABLE MENISCUS SCREW.
Indications

Lesions suitable for repair
- Vertical, longitudinal lesions (bucket-handle lesions)
- In red/red or red/white area
- Loose fragment must be reducible without tension
- Only minor degenerative changes
- In children almost all lesions should be repaired
Trinion product range

- One size (diameter: 2 mm, length: 10 mm)
- Implants supplied sterile
- Two blister package options

**Inion Trinion™ Meniscus Screws**

- **MRD-3010** 10 mm screw
- **SET-3002** 3 x MRD-3010 (10 mm)

**Inion Trinion™ Meniscus Instruments**

- **INS-9215** Screwdriver shaft, single use
- **INS-9216** Screwdriver handle, reusable
- **INS-9211** Cannula, straight with the window
- **INS-9213** Cannula, raised (20°) with the window
- **INS-9212** Cannula, curved (40°)
- **INS-9214** Obturator
- **ACC-9818** Inion Compact Instrument Tray
Features and Benefits

- Fixation strength / optimal design
- Dual-thread profile
- Novel tip design
- Minimal number of easy-to-use instruments
- Easy insertion through the cannula with needle-tipped flexible screw driver
- Controlled screw insertion, good touch with tissue
- Good clinical results
- No imaging interference
Anatomy of Meniscus

Tibial plateau from above, right knee
- The blue lines reflect the anatomical differences between the lateral and medial menisci (size and shape)

Menisci fills the empty space between the femoral and tibial condyle in the knee

Role of the menisci
- Load distribution
- Shock absorption
- Mechanical stabilization
- Lubrication
- Proprioception

Area distributing load in a normal knee and in a knee where total meniscectomy has been performed
Blood supply is the key to success in meniscus repair

- Lateral meniscus
  - The thin grey lines indicate the division between the red/white and white/white areas.

- Medial meniscus
Fixation Strength

Fixation strength of INION TRINION™ meniscus screw compared to other commercial meniscal repair devices

Surgical Technique

1. OPERATION
   Investigating the meniscus lesion

2. OPERATION
   Rasing the meniscus lesion
Surgical Technique

- Do not use instruments that show any signs of damage.
Surgical Technique

- Compression by cannula!
  - Gap closure by cannula decreases insertion friction → screw insertion easier (does not open the lesion)
    - Helps bringing sides of the tear together
    - The unthreaded part in the middle allows better gap closure
  - Insert the screw ~3-4 mm from the tear edge
  - Ensure that the screw is inserted completely inside the meniscus.
Clinical Studies

- Järvelä S, Sihvonen R, Sirkeoja H and Järvelä T:

All-Inside Meniscal Repair With Bioabsorbable Meniscal Screws or With Bioabsorbable Meniscus Arrows: A Prospective, Randomized Clinical Study With 2-Year Results. Am J Sports Med 2010 38: 2211, originally published online August 17, 2010.