

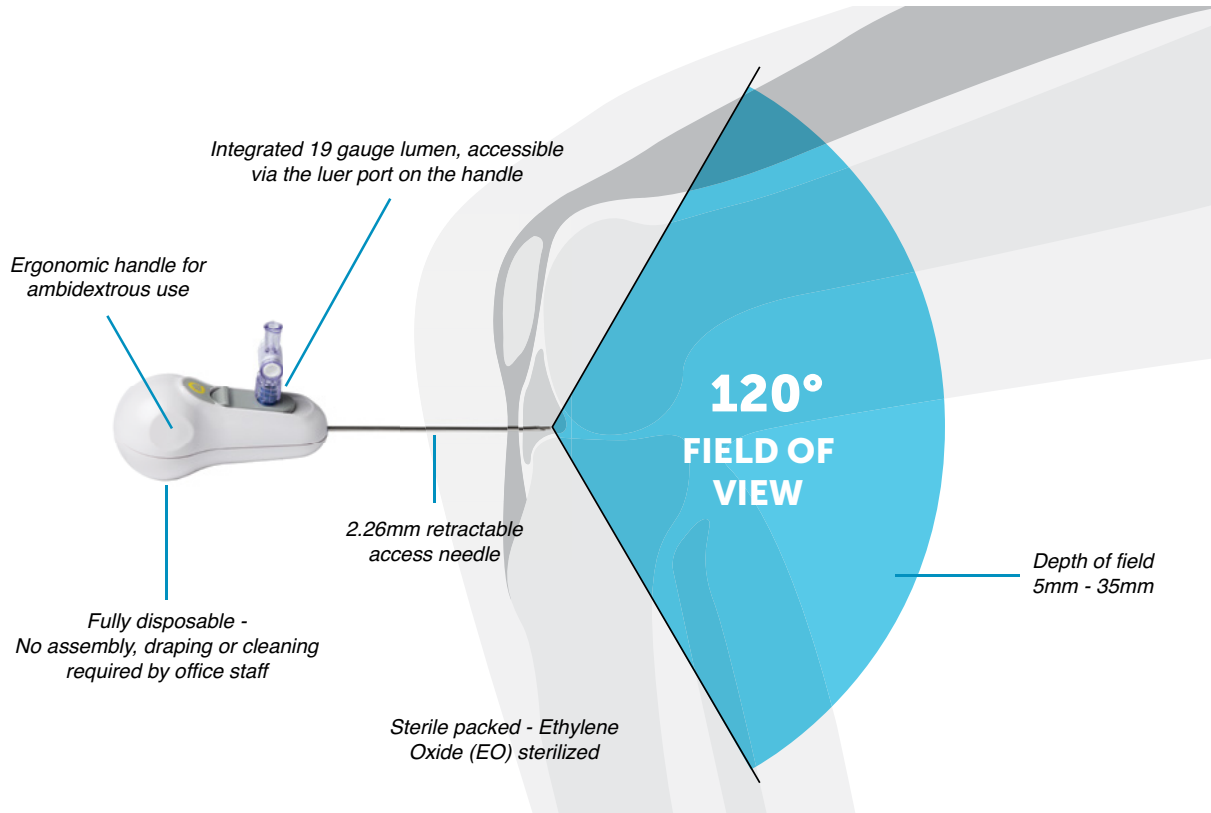
mi-eye 2™

# Diagnostic Knee Arthroscopy Technique Guide

## mi-eye 2™ Indications for Use

The mi-eye 2 system is indicated for use in diagnostic and operative arthroscopic and endoscopic procedures to provide illumination and visualization of an interior cavity of the body through either a natural or surgical opening.

## mi-eye 2 Features and Benefits



## Recommended Supplies

- Sterile glove, pair
- Syringe(s)
- Local analgesic (minimum of 5cc)
- Topical aseptic solution
- 0.9% sodium chloride irrigation – 500ml
- 4x4s

## Optional Supplies

- 1" paper tape roll
- Half drape
- Sterile bowl
- Sterile towel
- Chuck pad

## 1. Patient Identification

The mi-eye 2 offers an in-office alternative to an MRI to obtain an optimal diagnosis:

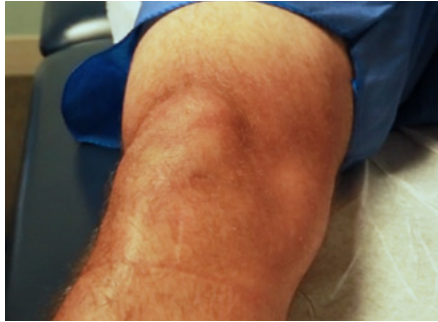
|  |  |
|--|--|
| <b>Non-MRI Candidates</b>                                  | Claustrophobia<br>Pacemaker/Internal Defibrillator<br>Metal Implants<br>Anxiety                                      |
| <b>Patients with Suspected Pathology</b>                   | Meniscal Tears<br>Non-Acute Cruciate Ligament Tears<br>Articular Cartilage Defects<br>Loose Bodies<br>Osteoarthritis |
| <b>Arthritic Patients who are Candidates for</b>           | Arthroscopy<br>Unicompartmental Knee Replacement<br>Total Knee Replacement<br>High Tibial Osteotomy                  |
| <b>Cartilage Repair Patients Planning &amp; Assessment</b> | ACI Procedure Planning<br>Regenerative Procedures<br>Analyzing Size, Depth, and Severity                             |
| <b>Existing Negative MRI with Continued Pain</b>           |  |
| <b>Post Surgical Evaluation</b>                            |  |

## 2. Preparing the Trice Tablet 2

- 2.1 Once a patient is identified as presenting with potential pathology in the knee and agrees to mi-eye 2 procedure, bring the Trice Tablet 2, sterile-packed mi-eye 2, and auxiliary supplies into exam room.
- 2.2 Place Trice Tablet 2 in a location that is easily visible and within reach of the 5' data cable of the mi-eye 2 (i.e. exam table or mayo stand).
- 2.3 Turn on the Trice Tablet 2 by pressing the power button on the top. It will boot-up within 30 seconds of pressing button.
- 2.4 When fully booted, the Ready Screen will appear and patient information can be entered using the touch screen keyboard.

### 3. Position the Patient

- 3.1 Position the patient laying down on the exam table with the knee with suspected pathology in 0° to 30° of flexion.



*Patient positioned in the supine position.*

#### Alternative Positions:

**Seated:** Patient is positioned on the edge of the exam table sitting upright with legs hanging off the edge.

**Supine:** Patient is positioned lying down on their back with a “bump” under the knee to create flexion.

**Tip:** Ensure that the patient removes their sock and shoe on the knee with the pathology.

- 3.2 If further flexion is required during the procedure, physician can perform additional manipulation through flexing the leg and/or applying varus or valgus force.

### 4. Portal Placement

**Note:** Portal placement for the mi-eye 2 differs from the approach for a traditional arthroscope.

- 4.1 Locate the inferior pole of the patella.
- 4.2 Using the inferior pole of the patella as a landmark, mark portals as follows:



*Portal position marks on patient.*

#### Portals:

**Medial:** Mark portal that is 1 cm down from the inferior pole and 1.5 to 2 cm medial

**Lateral:** Mark portal that is 1 cm down from inferior pole and 1 cm lateral.

- 4.3 Repeat portal marking for all desired portals.

## 5. Preparing the Patient

- 5.1 Apply a topical aseptic solution to the location of the portal(s).
- 5.2 Using a sterile syringe, inject the dermal area via a skin wheel and the tract down to the capsule (including the anterior portion of the capsule) with a minimum of 5cc of local analgesic.  
  
If desired, epinephrine can be added to the analgesic mix to control any bleeding.
- 5.3 Repeat the aseptic and analgesic steps for any additional portals.
- 5.4 Once the patient is comfortable and the local analgesic has taken effect (at least 5 minutes), the skin can be re-prepared with an aseptic solution prior to the mi-eye 2 insertion.

## 6. mi-eye 2 Procedure

***Tip: The mi-eye 2 is a 0° scope. Visualization will differ compared to a traditional arthroscopic camera.***

- 6.1 Inspect packaging for any damage and ensure that the sterile pack has not been compromised. If sterility appears compromised, discard and use another mi-eye 2.

***Note: If sterility is compromised, contact Trice Medical immediately.***

- 6.2 Open sterile packaging and remove mi-eye 2 tray. Open the tray and remove the mi-eye 2 hand piece.
- 6.3 Attach the stopcock to the luer port on the top of the mi-eye 2 by twisting clockwise until fully seated. Ensure that the valve is in the closed position.
- 6.4 Prepare syringe(s) with sterile saline. Ensure air is removed from syringe prior to attachment to the mi-eye 2 to control fluid. Attach a syringe to stopcock by twisting clockwise until fully seated.
- 6.5 Remove the mi-eye 2 connector from the tray and hand to nurse or physician assistant to be plugged into the tablet. A confirmation sound will be heard when mi-eye 2 is fully connected in tablet.

***Note: Ensure that live video screen opens. If it does not, plug is not fully connected.***

- 6.6 Deploy needle to cover the optics and ensure that it is fully extended. Locate the previous portal markings for the medial and lateral portals.



*Insertion of mi-eye 2 on patient.*

**Portals:**

**Medial:** If using the medial portal, the portal will be 1 cm down and 1.5 to 2 cm medial from the inferior pole of the patella.

**Lateral:** If using the lateral portal, the portal will be 1 cm down and 1 cm lateral from the inferior pole of the patella.

Insert the mi-eye 2 using an approach towards the femoral notch into the medial or lateral portal and advance into the joint capsule.

- 6.7 Once in the capsule, depress the needle retraction button on the mi-eye 2 and pull back to retract the needle and expose the optics.
- 6.8 Open the stopcock with a ¼ turn to allow for saline injection. Saline can be used to clear the field clear the field of view from soft tissue obstructions. If needed, saline can also distend the joint.

Ensure that an intra-articular landmark is visible through the mi-eye 2 prior to injecting any fluid to avoid insufflating the fat pad

**Note:** *If a patient has a bloody effusion, it is recommended to perform multiple lavages of sterile saline into and out of the joint to enhance clarity.*

- 6.9 Inspect the anatomy suspected of pathology and, if desired, any additional anatomy in the joint with slow, sweeping motions.

**Tip:** *A spinal needle can be used with caution as a when inspecting anatomy.*

**Visualizing the Menisci**

The mensici will be the first anatomic structures visible once in the capsule. Follow the structure by slowly panning the tip. To access the posterior compartment, apply slight varus or valgus manipulation.

**Tips:**

The posterior horn of the medial meniscus can be visualized by entering just medial to the tibial spine under the medial femoral condyle.

The lateral meniscus may be visualized by placing the knee in a “figure four” to open the lateral compartment.

If you are unsure if the meniscus is torn, a small burst of saline can help visualize vertical tears within the meniscus.

### **Visualizing the ACL**

By moving the tip towards the center of the joint space, you will visualize the ACL as it travels up into the femoral notch. Follow the ACL into the notch by angling the tip cranially and panning along the length of the ligament. Placing a varus force on the knee during the ligament evaluation may help clarify the integrity of the fiber insertion on the femoral wall.

### **Visualizing the Articular Cartilage**

The articular cartilage of the femoral condyles can be examined by angling the tip cranially to visualize the condyles. The articular surfaces of the condyles can be inspected by panning along the surfaces in a sweeping motion. If chondral defects are found it is recommended to inspect the entire capsule for potential loose bodies.

***Note: Additional manipulation can be applied to the lower leg via flexion, extension, varus force and/or valgus force.***

- 6.10** During the procedure, images can be taken by pressing the yellow button on the mi-eye 2 or the camera icon on the tablet screen. Video can ONLY be recorded by pressing the video icon on the tablet screen.

***Tip: If the clarity of the images is an issue, inject a small amount of saline into the joint and then take a picture.***

- 6.11** When procedure is complete, saline that was injected into the joint can be aspirated through the mi-eye 2 by pulling up on the syringe plunger. Ensure that the stopcock is in the open position prior to aspirating. Aspiration is easier to perform with the needle retracted and camera deployed.

***Note: All fluid injected into the joint may not be able to aspirated.***

- 6.12** Remove mi-eye 2 from the body and disconnect from Trice Tablet 2. Place entire mi-eye 2 (including cord) in sharps bin for disposal.

## **7. Post-Procedure**

- 7.1** Clean the area around the portal(s), removing any blood, iodine or other remaining fluids from the patient's skin.
- 7.2** Apply coverage over the utilized portal(s). If fluid was not aspirated, apply a bandage wrap for added padding and pressure for fluid.

***Note: Portal can be covered by 4x4 gauze and tape or a standard adhesive bandage.***

- 7.3** Review the findings via photos and/or videos from mi-eye 2 procedure with the patient and discuss next steps in treatment plan as necessary.
- 7.4** Turn off Trice Tablet 2 by selecting the power icon on the touch screen.
- 7.5** After use, wipe Trice Tablet 2 with an anti-septic wipe. Let dry before next use.  
**DO NOT spray tablet with cleaner or submerge in water.**

## Helpful Tips

### Pre-procedure

- If the patient suffers from trypanophobia (fear of needles) or hemophobia (fear of blood), position them so they are lying down and unable to see the procedure site.
- The base of the mi-eye 2 tray can be used as a basin for saline. The fill volume is approximately 60ml.

### Procedure

- Wait to inject any fluid until the mi-eye 2 is in the joint to avoid insufflating the fat pad.
- If the camera image is blocked by soft tissue, retract the camera, push a short burst of saline through the mi-eye 2 and redeploy camera to clear the field of view.
- Anatomy can be palpated using a spinal needle placed alongside the mi-eye 2 or by short bursts of saline through the mi-eye 2.
- If blood is present in the joint, it can be aspirated through the mi-eye 2 by connecting an empty syringe and pulling up on the plunger.
- If visualization is difficult at first, keep the needle extended over optics until an anatomic landmark is identified through the needle tip.
- If scar tissue is present, visualization may be difficult. If view cannot be cleared, alternative diagnostic method is recommended.

### Post-Procedure

- Plug the Trice Tablet 2 into power cord after each use to ensure that tablet is charged for future use.



## Product Information

| Part Number | Description    |
|-------------|----------------|
| T200-095    | mi-eye 2™      |
| T200-001    | Trice Tablet 2 |

## Customer Service Information

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