

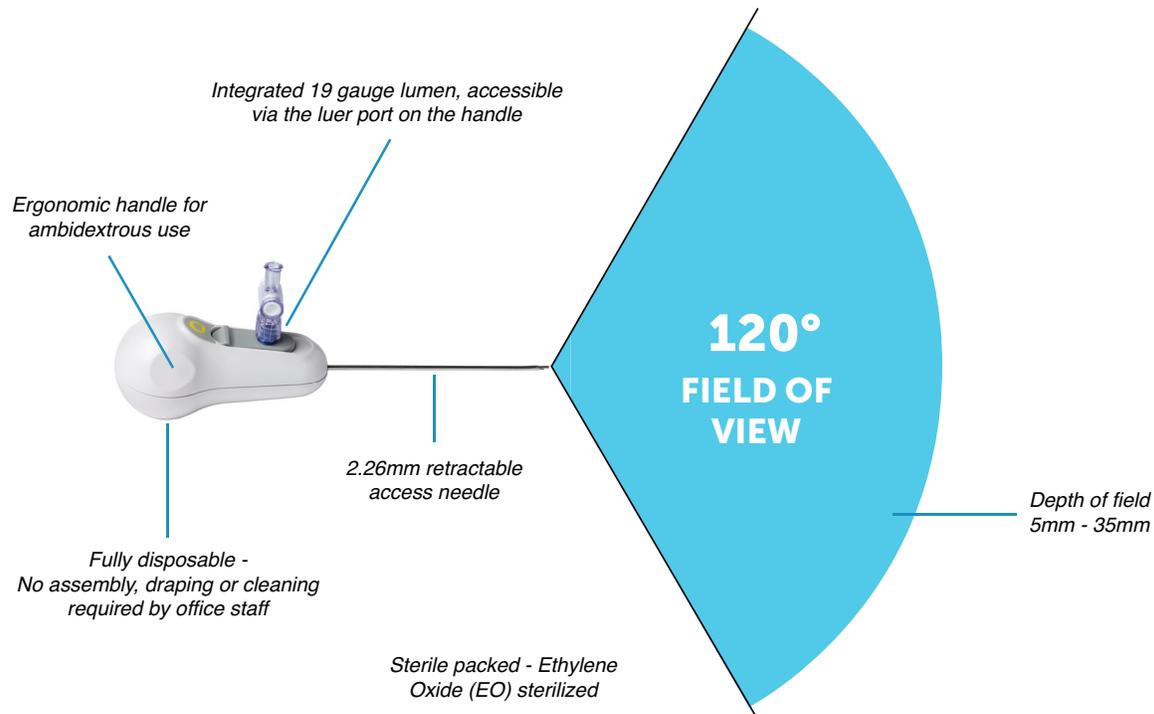
mi-eye 2™

Diagnostic Shoulder 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



Additional Supplies

In addition to the mi-eye 2™ probe and Trice Tablet 2, the following supplies may be needed, depending on surgeon preference and technique, to complete a mi-eye 2™ procedure:

- Sterile bowl, for saline
- Sterile gloves
- Sterile towel
- Marking pen
- 0.9% sodium chloride irrigation, 500ml
- 10cc syringes
- Aseptic solution with swabsticks
- Local analgesic
- Adhesive bandage

1. Patient Identification

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

Non-MRI Candidates	Claustrophobia Pacemaker/Internal Defibrillator Metal Implants Anxiety
Patients with Suspected Pathology	SLAP Tears Bony Defect Evaluation Articular Cartilage Damage Rotator Cuff Tears (Partial vs. Complete) Biceps Tendon Tears Frozen Shoulder (Adhesive Capsulitis) Loose Bodies
Post-Surgical Evaluation	Follow-up Second Look Healing Verification
Replacement for MR-Arthrogram	

2. Preparing the Trice Tablet 2

- 2.1 Once patient is identified as having potential pathology in the shoulder and agrees to mi-eye 2™ procedure, bring Trice Tablet 2, sterile-packed mi-eye 2™ probe, 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™ probe (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, patient information can be entered using the touch screen keyboard.

3. Position the Patient

- 3.1 Position the patient so that the shoulder being examined is accessible from the desired position of the surgeon. Examples of positioning include:

Lateral Decubitus: Patient is placed laterally on the exam table with the shoulder with suspected pathology exposed and superior. Additional positioning such as assistance holding arm up may be required depending on individual patient and surgeon preference.

Seated: Patient is seated on the exam table with the shoulder with suspected pathology facing the physician.

- 3.2 If further distraction or dynamic evaluation is required during the procedure, physician can perform additional manipulation by adjusting the position of the arm.

4. Portal Placement

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

- 4.1 From the posterior aspect, locate the glenohumeral joint through palpation.
- 4.2 Place portal approximately 2 cm inferior and 1 cm medial from the edge of the posterior-lateral edge of the acromion.

5. Preparing the Patient

- 5.1 Apply a topical aseptic solution to the location of the desired portal with a swab stick.
- 5.2 Using a sterile syringe, inject the shoulder capsule and surrounding dermal area with a local analgesic. If desired, Epinephrine can be added to the analgesic mix to control any bleeding.
- 5.3 Once the patient is comfortable, and the local analgesic has taken effect, the skin can be re-prepared with an aseptic solution prior to the mi-eye 2™ probe placement.

6. mi-eye 2™ Procedure

- 6.1 Inspect mi-eye 2™ 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™ probe.

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

- 6.2 Remove sterile package from the mi-eye 2™ box.
- 6.3 Open sterile packaging and remove mi-eye 2™ tray. Open the tray and remove the hand piece of the mi-eye 2™ probe.
- 6.4 Attach the stopcock to the luer port on the top of the mi-eye 2™ probe by twisting clockwise until fully seated. Ensure that the valve is in the closed position.
- 6.5 Prepare syringes with sterile saline. It is recommended to have multiple syringes prepared to account for varying amounts of fluid needed per patient to distend the joint. Attach a syringe to stopcock by twisting clockwise until fully seated.
- 6.6 Remove the mi-eye 2™ probe 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™ probe is fully connected in tablet.

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

- 6.7 Deploy needle to cover the optics and ensure that it is fully extended. Insert the mi-eye 2™ probe using a “Straight-In” approach through the posterior portal into the joint. Once in the joint capsule, aim the probe towards the coracoid.

Note: The mi-eye 2™ is a fully integrated, 0° scope, thus the scope should be inserted horizontally as compared to the angled insertion of a traditional arthroscope.

- 6.8 Once in the capsule, depress the needle retraction button on the mi-eye 2™ probe and pull back to retract the needle and expose the optics.
- 6.9 Open the stopcock with a ¼ turn to allow for saline injection. The joint can be distended by slowly injecting saline via the attached syringe as needed. Saline can also be used to clarify picture and clear the field of view from soft tissue obstructions.

Note: Surgeon can distend the joint during analgesic injection by combining local analgesic solution with sterile saline.

- 6.10 Examine the joint using slow, sweeping motions compared to rotating the probe as with a traditional scope.

Note: The mi-eye 2™ probe is fully integrated. Therefore, if the probe is rotated, the camera orientation will be altered.

- 6.11 Apply slight manipulation, if needed, to the arm to aid in visualization.

- 6.12** Inspect the anatomy suspected of pathology and, if desired, any additional anatomy within the joint. Visualization within the subacromial space may be difficult if there is substantial bursal tissue, however the use of the saline flush can aid in creating space for inspection.

Note: A spinal needle can be used as a probe when inspecting anatomy.

Visualizing the Biceps Tendon

Once in the joint, the biceps tendon will be present as part of a triangle formation along with the humeral head and subscapularis tendon. The tendon can be followed to its attachment on the superior portion of the glenoid by panning the mi-eye 2™ probe tip along the tendon. Inspect the tendon for pathology. Many times, if subscapularis tendon pathology is present, there may be corresponding biceps tendon pathology.

Visualizing the Labrum

By following the biceps tendon to its attachment, the superior labrum can be visualized and inspected for pathology. By panning the mi-eye 2™ probe along the humeral head, the inferior portion of the labrum can be inspected. To inspect for detachment, saline can be injected in a short spurt to see if the labrum “flutters”.

Visualizing the Rotator Cuff Tendons

The infraspinatus and supraspinatus tendons can be visualized by angling the tip of the mi-eye 2™ probe medially. The tendons can be followed in a panning motion superiorly and laterally to visualize their insertion on the greater tuberosity of the humeral head. The subscapularis tendon is visualized by angling the mi-eye 2™ probe tip laterally from the biceps tendon. Inspect all three tendons for pathology.

Note: Tendons may not be visible at the footprint of the muscles.

- 6.13** During the procedure, images can be taken by pressing the yellow button on the mi-eye 2™ probe or the camera icon on the tablet screen. Video can only be recorded by pressing the video icon on the Trice tablet 2.

Note: Still images can be taken simultaneously with video recording. Video capture is limited to 15 minutes per individual recording.

- 6.14** 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.

Note: Aspiration is easier to perform with the needle retracted and camera deployed.

- 6.15** Once the desired aspiration is complete, depress the retraction button on the probe and push forward to extend the needle and cover optics prior to removal from the joint.
- 6.16** Remove mi-eye 2™ probe from the body and disconnect from Trice Tablet 2. Place entire mi-eye 2™ probe (including cord) in sharps bin for disposal.

7. Post-Procedure

- 7.1 Clean the area around the portal, removing any blood, iodine or other remaining fluids from the patient's skin.
- 7.2 Apply a bandage to cover portal. If fluid was not aspirated, apply a larger bandage to aid in absorption as fluid may leak from the portal.
- 7.3 Review the findings via images and/or videos from mi-eye 2™ procedure with patient and discuss next steps in treatment plan.
- 7.4 Turn off Trice Tablet 2 by selecting the power icon on the touch screen.
- 7.5 After use, wipe tablet with an aseptic wipe. Let dry before next use. **DO NOT spray tablet with cleaner or submerge in water.**

Helpful Tips

Pre-procedure

- Enter patient information prior to connecting the mi-eye 2™. Once probe is connected the tablet will automatically enter "Procedure" mode and information will not be able to be entered.
- 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.
- Placing a towel roll in patient's armpit and instructing them to squeeze down on it will help open up the shoulder joint by moving the humeral head.

Procedure

- If the camera image is blocked by soft tissue, retract the camera, push a short burst of saline through the probe 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 entering the subacromial space, a 2nd spinal needle can be used to move any bursal tissue out of the way.
- If visualization is difficult at first, keep the needle in 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™ probe
T200-100	Trice Tablet 2

Customer Service Information

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