

VISIONSCOPE[®] procedural technique quick reference

MAXIMIZE THE VSI EXPERIENCE

- 1 Set Out Supplies
- 2 Position Patient
- 3 Identify Procedure Point
- 4 Administer Analgesia
- 5 Perform VSI Procedure
- V Optimize the View

1 SET OUT SUPPLIES

Clinic Supplies

- Analgesia of choice (*Analgesia that includes epinephrine has been shown to minimize potential bleeding, but is not required for a VSI procedure*)
- 10cc syringes sterile saline for flushing/aspiration (Q:3)
- Sterile gloves (2 pair)
- Sterile gauze pads
- Sterile drapes (2)
- Steri-strip bandages
- Standard adhesive bandages
- Antiseptic swab and isopropyl alcohol pad (for arthrocentesis site prep)

VSI Supplies

- Procedure Kit
 - Knee (95mm)
 - Shoulder (95mm/125mm)
 - Elbow/Ankle (60 mm)
- Needle Endoscope
 - Knee (95mm)
 - Shoulder (95mm/125mm)
 - Elbow/Ankle (60 mm)
- Camera Control Unit and Camera Head

PREPARATION TIP: ASSISTANT

REMOVE WITH CARE

When removing the cannula and trocar from the sterile procedure kit, hold them with two hands. Until the cannula collar is tightened, the trocar sits loosely within the cannula and can slide out.

2 POSITION PATIENT

1. Instruct patient to lie supine on the exam table.
2. Place the knee in a 90° flexed position over the edge of the exam table. (A)

TECHNIQUE TIP

90°/OVER THE EDGE OF THE EXAM TABLE

In this flexed position, gravitational pull helps open up the joint space and cause slight tibial translation. In most cases, this position should allow full access to the knee compartment without the need for additional distraction or manipulation.

(A)



3. Place a sterile drape over the knee to keep the area clean.

PROBLEM SOLVING: TIGHT/INFLEXIBLE JOINT

If the knee joint is tight or inflexible, it may be difficult to visualize the posterior elements. In cases such as these, try resting the patient's foot on the surgeon's knee and let the leg fall into valgus. If more space is needed, have an assistant provide some manual valgus translation (via a figure four).

3 IDENTIFY PROCEDURE POINT

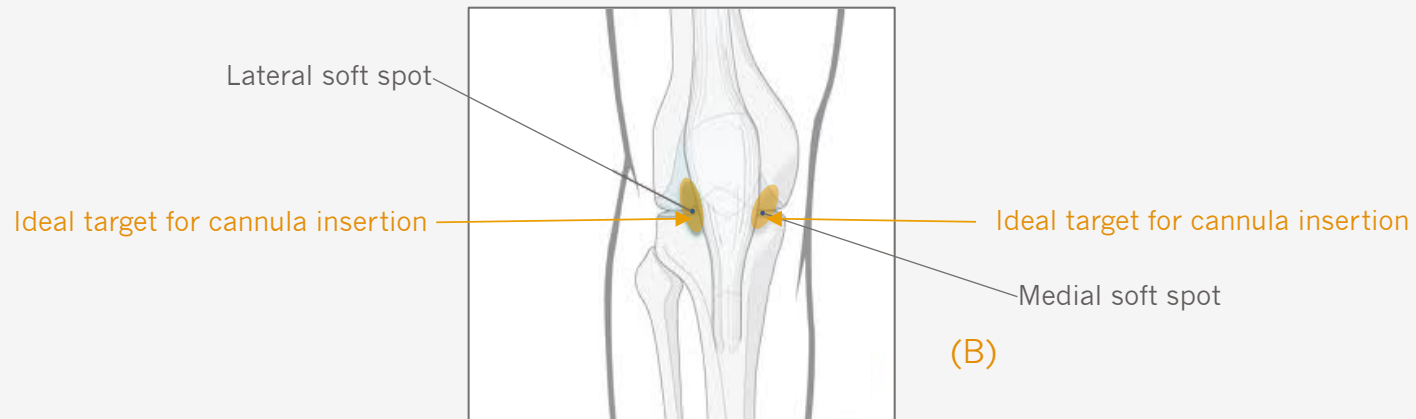
1. Palpate the inferior pole of the patella and the medial and lateral soft spots.
2. With firm pressure, mark the specific point of entry, approximately $\frac{1}{2}$ -1 cm below the joint line and two finger breadths (2cm), lateral or medial, off the tibial midline. (B)

TECHNIQUE TIP

KEEP IN MIND: CANNULA INSERTION ANGLE

When marking the procedure point of entry, keep in mind that the cannula should be inserted perpendicular to the proximal tibial surface and parallel to the tibial midline (see [insertion technique tips](#) on page 8).

STAY CLEAR: Cannula insertion should avoid the fat pad.



4 ADMINISTER ANALGESIA

1. Employ traditional arthrocentesis techniques to sterilize the procedure site using an antiseptic swab and isopropyl alcohol pad.
2. Use a 25-gauge, 1½” needle with a 10cc syringe to administer analgesia of choice. Administer a total of ~8-10cc of analgesia:
 - 2cc in the skin
 - 2cc in the capsule
 - Advance the needle into the joint to determine the cannula angle and insert 2cc in the back of the joint
 - Back the needle out of the joint, fanning 2-4cc around the point of entry to ensure a wide analgesic margin

TECHNIQUE TIP

25-GAUGE NEEDLE

Using a 1 ½” needle can serve as a guide for the cannula trajectory. As you advance the needle into the joint, you can use the tip of your needle to probe within the compartment. If the needle touches the femoral condyle, it may be best to redirect distally or lower the portal entry.


ANALGESIA

Analgesia that includes epinephrine has been shown to minimize potential bleeding, but is not required for a VSI procedure.

OPTIMAL ANALGESIC EFFECT

Administer analgesia 8-10 minutes prior to commencing a VSI procedure. System set-up can occur during this waiting period.

5 PERFORM VSI PROCEDURE

1. With a firm, fluid motion (rotating hand back & forth ) , follow the anesthetized injection trajectory and guide the cannula (with the trocar) through the surrounding soft tissue until it “pops” through and glides into the capsule. Avoid telescoping (forward/backward) or stop/start motions to minimize unnecessary tissue damage, bleeding and obstruction of view.
2. Insert the cannula to an initial depth of 40-45mm. (For OA pathology, 45mm is ideal for good visualization).

TECHNIQUE TIP

SHARP AND BLUNT TROCARS

Use the sharp trocar to break through the skin (first pop) and to continue through the capsule (second pop). Switch to the blunt trocar to advance into the compartment.

0° SCOPE


Since the VSI endoscope has a 0 viewing angle, reference hand position to guide scope adjustments.

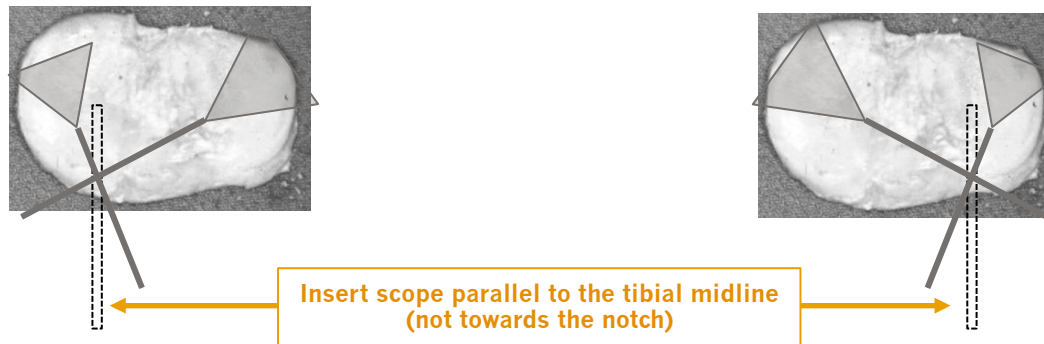
IRRIGATION

Avoid irrigation until some visualization has been achieved. If there is irrigation resistance, the scope may not be seated in the knee compartment. Redirect and make sure you are 40-45mm in the compartment. If the compartment has a lot of fluid/viscous synovial fluid, use a 10cc syringe to aspirate before irrigating.

Irrigate in 1cc increments

5 PERFORM VSI PROCEDURE

1. Place the knee under slight varus/valgus stress to help open up the joint space.
2. Pan the scope slowly  and locate the ACL (navigational landmark) to confirm your location and check your visibility inside the joint capsule.
3. When oriented, triangulate the correct path to view the meniscus.
4. If required, adjust depth of scope and flush with fluid (1cc at a time) to optimize the view.



TECHNIQUE TIP

ASPIRATION

Prior to removing the scope and cannula, aspirate any fluid introduced during the procedure.

V Optimize the view

V OPTIMIZE THE VIEW

1. SEE THE FIBERS CLEARLY

Confirm crisp images, during white balance, by pointing the assembled scope (from a short distance) at a piece of white gauze.



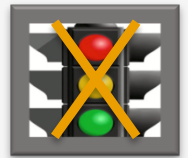
2. HEAR THE POP

Insert the cannula (with trocar) with a firm, continual motion until it 'pops' through the tissue into the joint space.



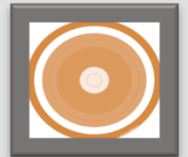
3. FEEL A SMOOTH GLIDE

Avoid telescoping (forward/backward) or stop-and-start motions when inserting the cannula. These actions can cause unnecessary tissue damage and bleeding.



4. FIND HOME BASE

Target a major navigational landmark (such as the ACL). Return to this point of reference if there is a sense of disorientation during the procedure.



5. GIVE A LITTLE SPACE

Keep the scope 6-8mm away from target of the examination. Getting too close can result in blurry images.

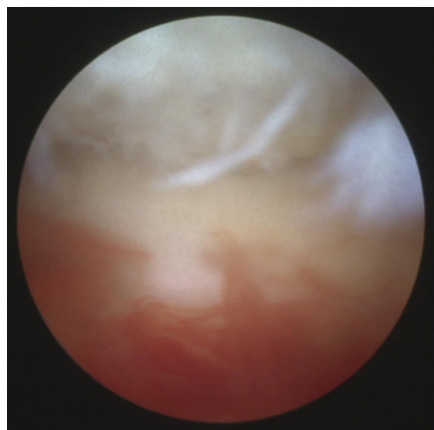


6. KEEP IT CLEAN

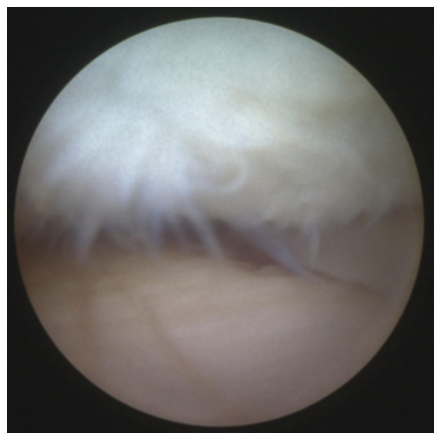
Every time the scope is removed from the procedure site, wipe the lens clean with a sterile gauze pad to ensure view optimization.



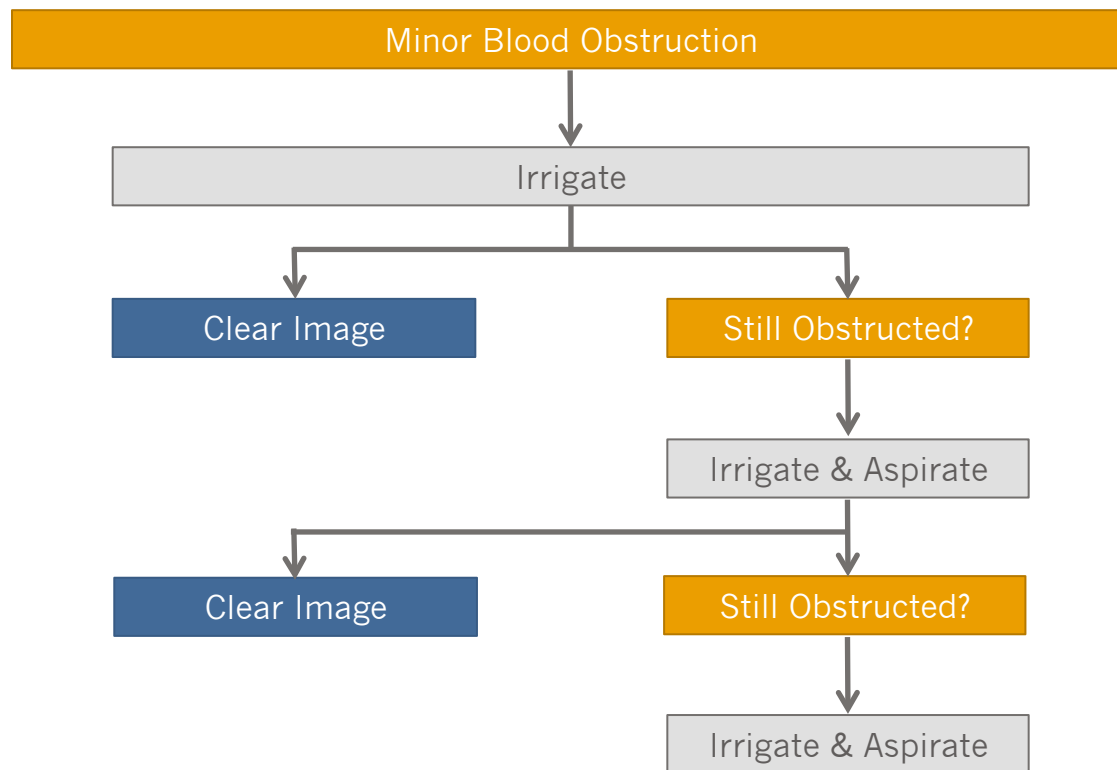
V THE VIEW: CLEARING MINOR BLOOD OBSTRUCTION



Before: blood obstruction



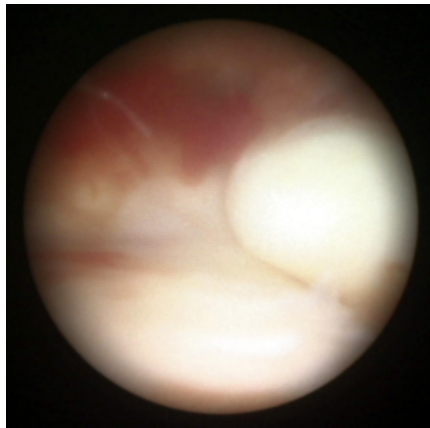
After: irrigation



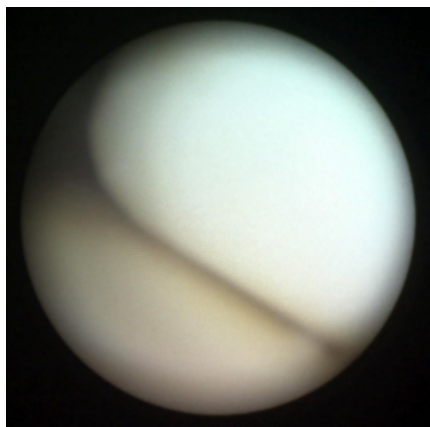
REMINDER

Aspirate any fluid introduced during the procedure before removing scope and cannula

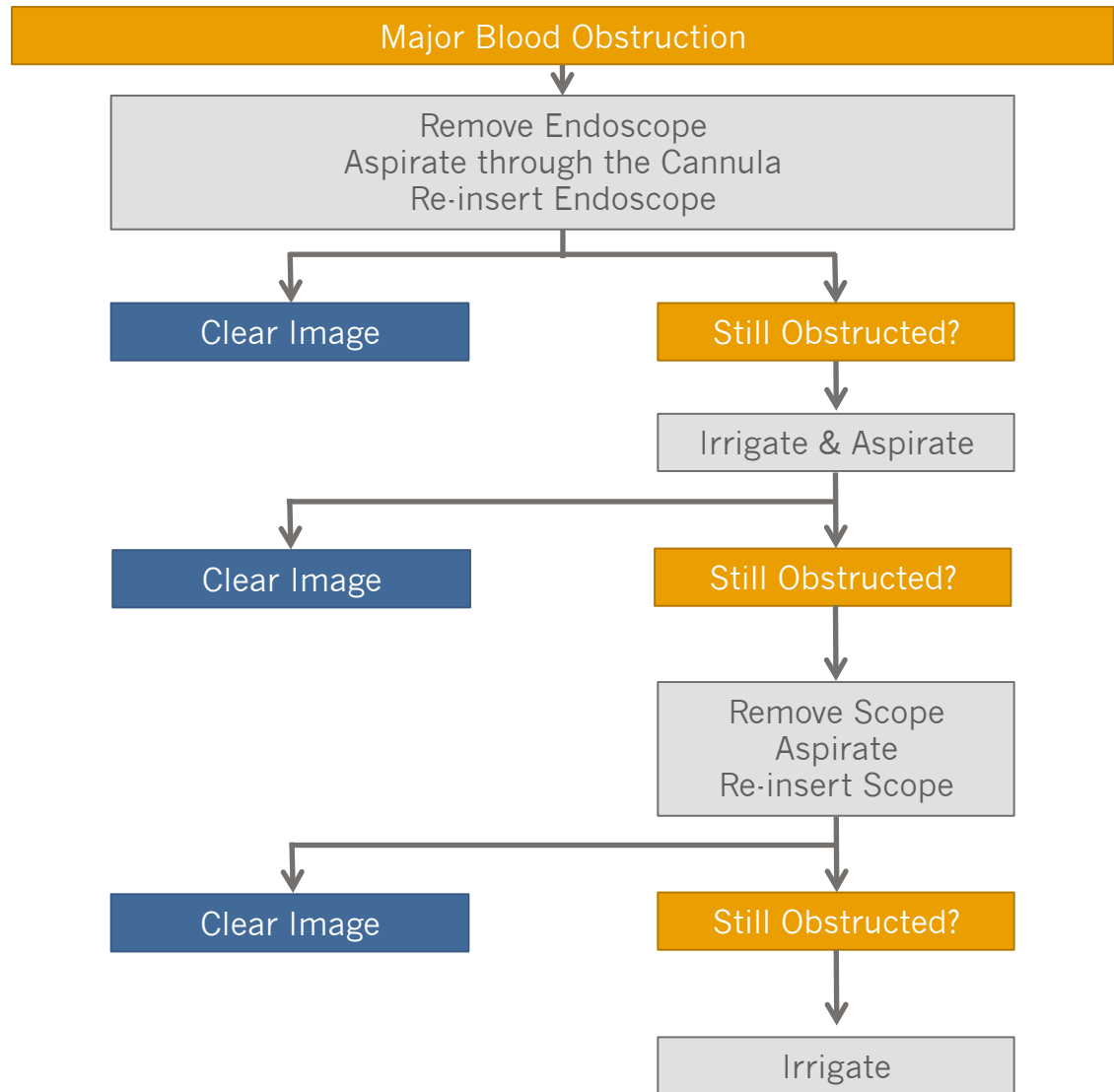
V THE VIEW: CLEARING MAJOR BLOOD OBSTRUCTION



Before: blood obstruction



After: aspirate through the cannula



REMINDER
Aspirate any fluid introduced during the procedure before removing scope and cannula

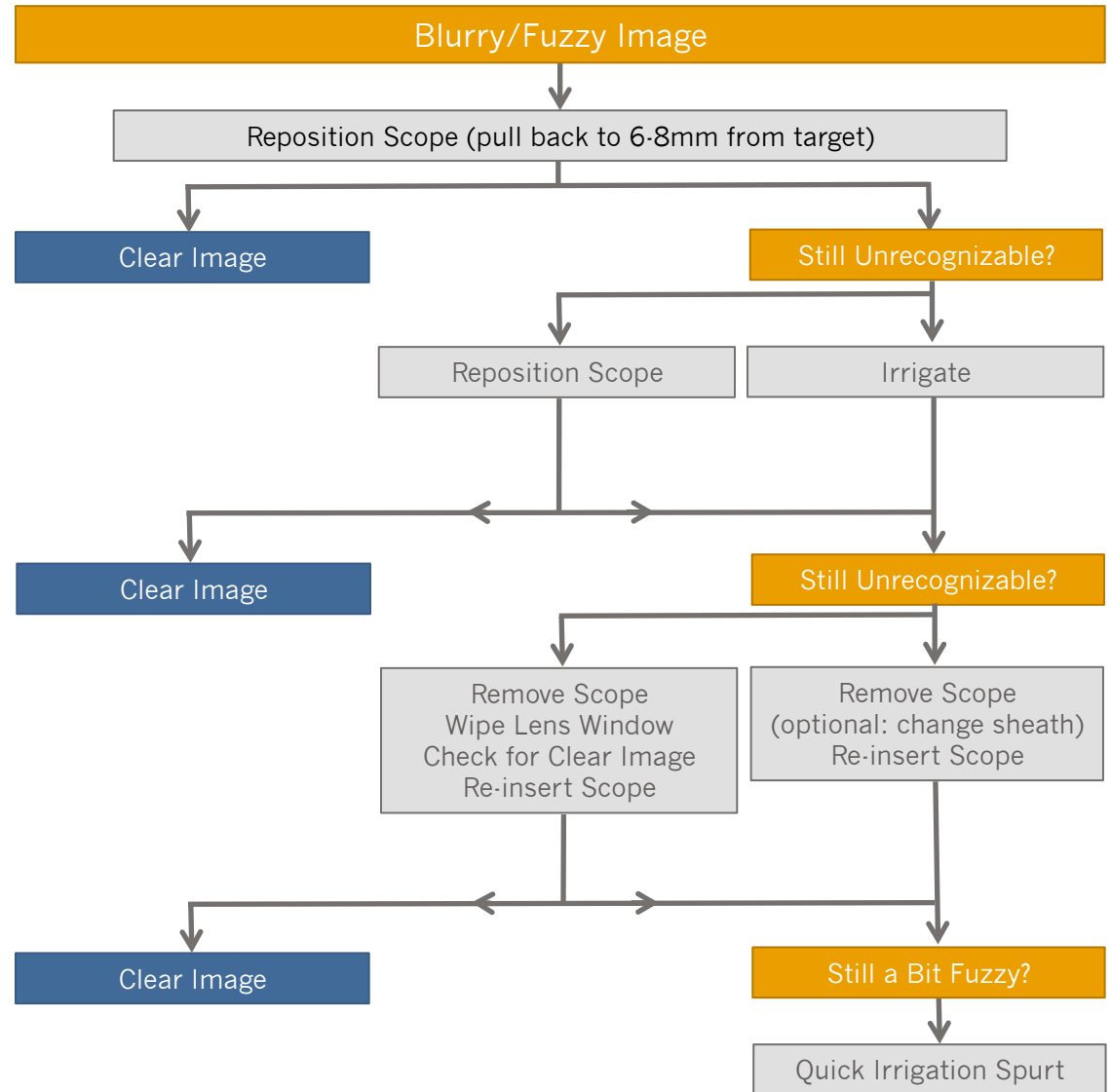
V THE VIEW: BRINGING A BLURRY/FUZZY IMAGE INTO FOCUS



Before: image is fuzzy

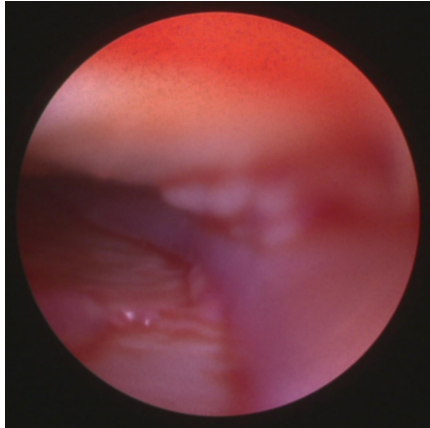


After: reposition & pull back to 4-8mm

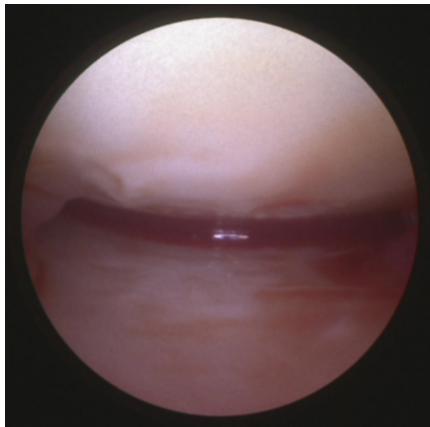


REMINDER
Aspirate any fluid introduced during the procedure before removing scope and cannula

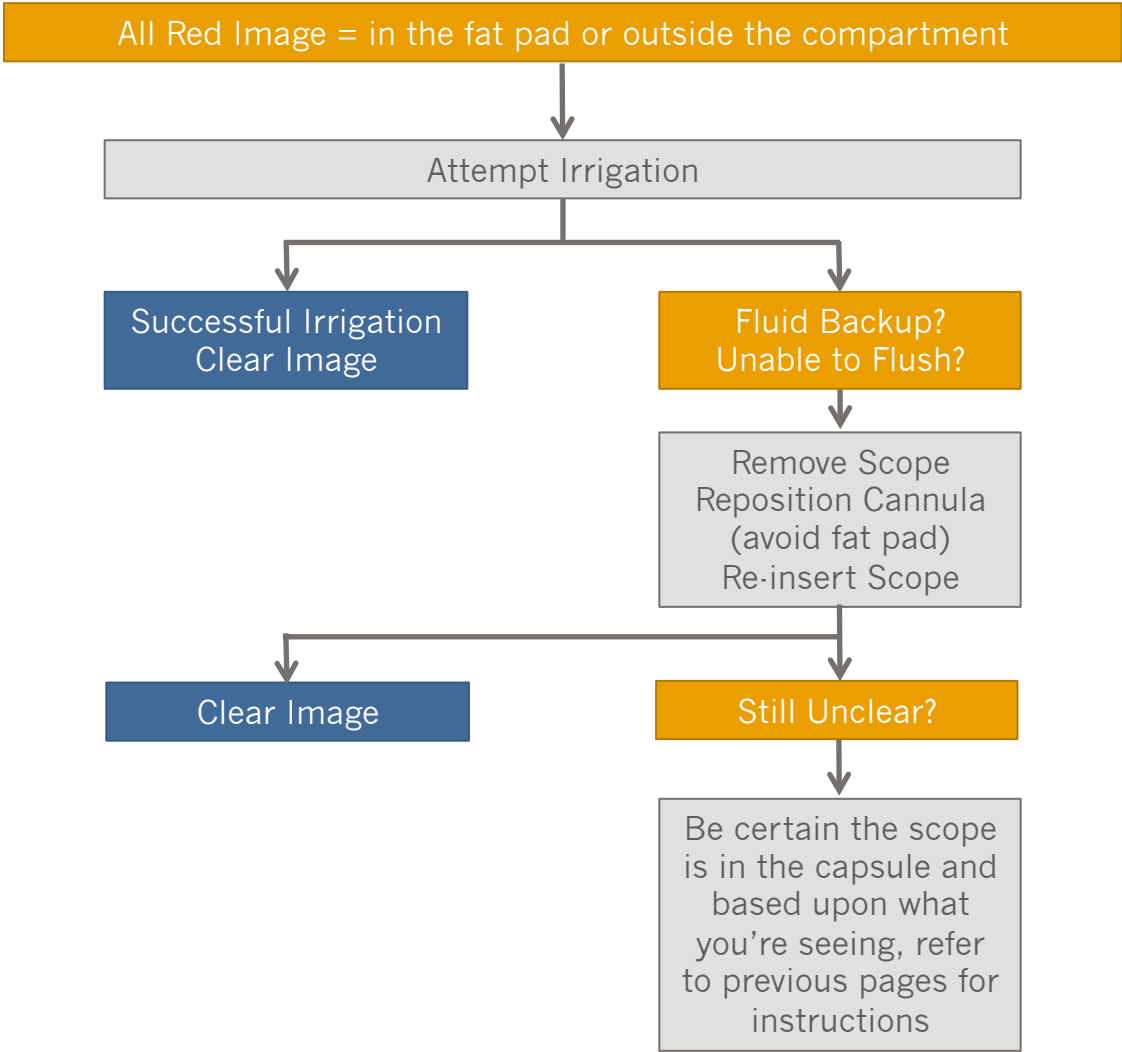
V THE VIEW: GETTING THE RED OUT



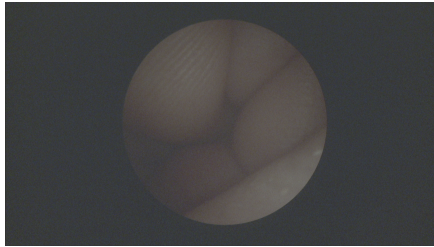
Before: misaligned



After: cannula re-positioned



REMINDER
Aspirate any fluid introduced during the procedure before removing scope and cannula



Before: dim image

Dim Image

1

Light Source On?

Tap the Setup Tab
Make sure the light source switch is turned on
Light will shine through the camera base when light is on

2

Acceptable Brightness Scale?

Tap the Camera Tab
Make sure the brightness scale is ≥ 1
Adjust scale by pressing top center button on Camera Head

3

Sterile Barrier Sheath Locked in Place?

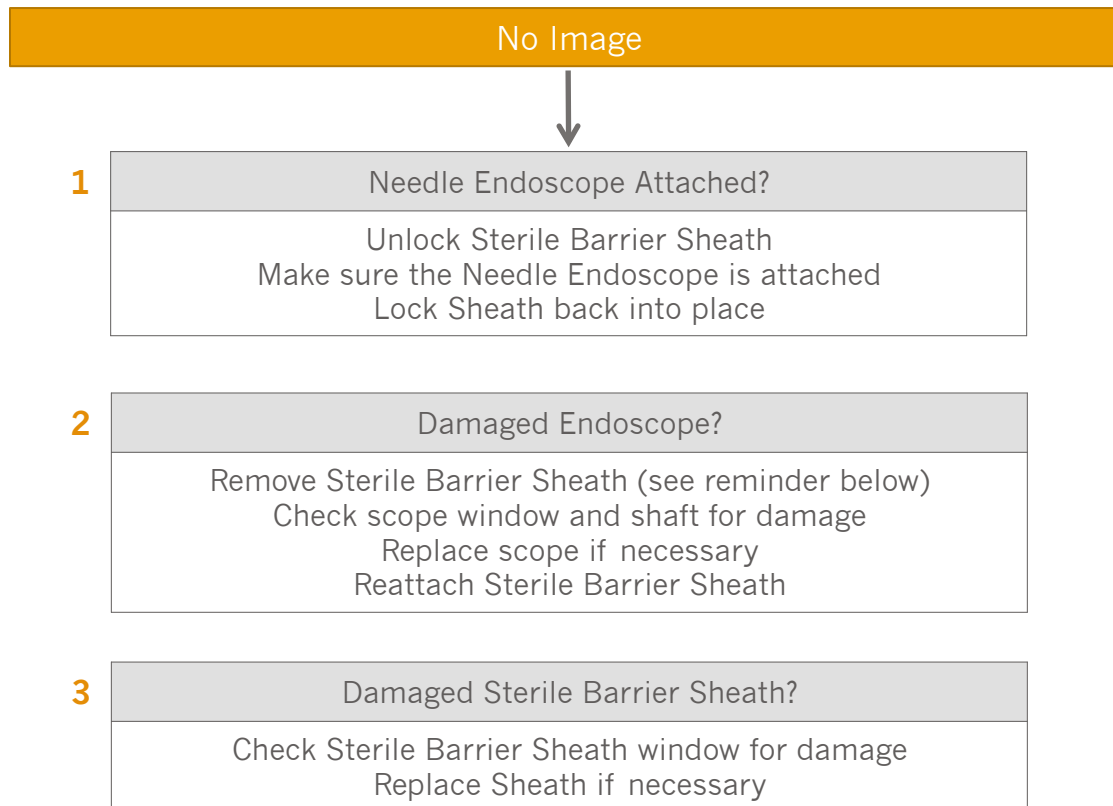
Align sunbeam icons on camera and sheath to make a full sun
Sheath is locked when you hear/feel a quiet "lock" into place

V

THE VIEW: STARTING WITH A VISIBLE IMAGE



Before: no scope attached



REMINDER

The distal tip of the endoscope could break if the scope is removed from the sheath at an angle. To avoid breakage, remove scope level with the sheath.

For more VSI information – and to see
VSI patient videos – visit our website.

myvsi.com

Or call us directly at 1 888 808 8357.

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