

VSIknee

tips & tricks

# VSI indications

## CHONDRAL Defects

Size and Location – Staging  
Chondroplasty vs Microfracture  
Indications for ACI  
Indications for Resurfacing  
Osteotomy  
Total vs Partial Knee Replacement

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## PATELLOFEMORAL Pain

Persistent Pain  
Jumper's Knee  
Failed Non-operative Treatments

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## LOOSE Bodies

Negative MRI  
Mechanical Symptoms (catching/locking)  
Swelling/Pain

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## POST Surgery

Healing Evaluation  
    Meniscal Tear  
    Articular Cartilage Repair  
    Loose Bodies  
Healing Verification  
    Soft Tissue Repair  
    Cartilage Repair  
ACL Evaluation  
    Impingement Post Reconstruction



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# VSI technique

## ANALGESIA Administration

Employ traditional arthrocentesis techniques to sterilize the procedure site, using an antiseptic swab and isopropyl alcohol pad.

Use a 25-gauge 1½-inch 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 your trajectory and insert 2cc into the back of the joint
- As you back the needle out of the joint, fan 2-4cc around the point of entry to ensure a wide analgesic margin

Let the analgesia take effect for 8-10 minutes to **ensure patient comfort** and sufficient numbness along the cannula pathway.

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## WHY A **25** GAUGE NEEDLE?

It's a great tool to identify your cannula trajectory. As you advance the needle into the joint, probe with the tip inside the compartment.

If the needle touches the femoral condyle, you may choose to redirect distally or lower your portal placement.

# VSI technique

## SCOPE Insertion

**PORTAL ENTRY:** On either the medial or lateral side, enter with a low arthroscopy port just off the patellar tendon. The insertion point should be perpendicular to the proximal tibial surface and parallel to the tibial midline.

**TROCAR INSERTION:** 2 trocars are provided for specific usage

1. Use the SHARP trocar to break through the skin. You'll feel/hear a pop.
2. Switch to the BLUNT trocar to advance into the compartment without risking damaging tissue. You'll hear/feel another pop.

**CANNULA INSERTION:** Insert the cannula to an initial depth of 40-45mm. For OA pathology, 45mm is recommended.

### IRRIGATION & ASPIRATION:

1. 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 check to see that you are 40-45mm into the compartment. Irrigate in 1cc increments.
2. If the compartment has a lot of fluid/viscous synovial fluid, use a 10cc syringe to aspirate before irrigating. Always aspirate any irrigation saline at the end of the VSI procedure to ensure patient comfort post procedure.

**VARUS/VALGUS:** Rest the patient's foot gently on your knee/thigh and apply slight pressure to help open up the joint space.



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# VSI technique

## VSI **PAD** REMINDER

The keys to needle insertion success are three:

- **Position**
- **Angle**
- **Depth**

Keep our PAD reminder top of mind with each patient to help ensure first-time access success and patient comfort.

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### **P** Position

- Low Arthroscopy Port  
0.5cm – 1cm below the joint line and  
2 finger breadths (2cm) off the tibial midline

### **A** Angle

- Perpendicular to the proximal tibial surface and parallel to the tibial midline (not towards the notch)

### **D** Depth

- 40-45mm  
For OA pathologies, 45mm

Watch these VSI patient videos to learn more about procedure technique:

- Patient Positioning
- Anesthesia
- Scope Position, Angle and Depth (PAD)

Simply, click on the links below.

### **VisionScope Imaging Knee Case 3**

[https://www.youtube.com/watch?v=Ztmx\\_ZJL8y0](https://www.youtube.com/watch?v=Ztmx_ZJL8y0)

### **VisionScope Imaging Knee Case 4**

<https://www.youtube.com/watch?v=3iTLMhHnVLU>

### **VisionScope Imaging Knee Case 5**

<https://www.youtube.com/watch?v=IBDWpkR2Z3s>



# VSI workflow

tips & tricks

# workFLOW

The environment is probably the most critical component of VSI success. From **identifying the best VSI patient candidates** – to how to **talk about VSI** to your patients – to **engaging patients** during the procedure. All are key contributors to a positive experience for all.

Turn the page to read more about our suggestions on these topics. You know your practice best and we'll work together to modify these ideas (and more you will add) to meet your needs.

What we know for certain is this:

**An environment that seamlessly flows with calm, keeps patient anxiety at a minimum and maximizes everyone's outcomes and experience.**

Taking a favorite phrase from the culinary industry, this is what we call our **VSI Mis en Place.**

Simply put: putting it all in its place.

**1. Room Set Up**

**2. Roles & Responsibilities**

**3. Patient Engagement**

# VSIglossary

1. CCU



2. Camera Head

3. Light Sheath

4. Needle Scope  
(not visible in this picture.  
assembled inside the light sheath)

# VSIglossary

**125mm** Shoulder

**95mm** Knee, Shoulder

**60mm** Small Joints: Ankle, Wrist, Elbow



Needle Endoscopes

# VSIglossary



1. Light Sheath

2. Graduated Cannula

3. Sharp Trocar

4. Blunt Trocar

# VSIglossary

- Saline Syringes (3)
- Empty Syringes (2)
- Anesthesia Needles (2)
- Betadine Swabs (pack of 3)
- Sterile Drape
- Sterile Gauze (2)
- Alcohol Pads (2)
- SteriStrips (pack of 10)
- Bandage (1)



# MISenPLACE

## CRIB

## SHEET

### START THE DAY

1. Put the system in the room
2. Plug in, attach scope and turn on the system
3. Put your day's supply of Procedure Kits in the room
4. Put your day's supply of PrepPaks in the room

### BEFORE THE PATIENT IS IN THE ROOM

1. Load in patient information
2. Set up the PrepPak supplies as you like them
3. Remove the PK from the box and set by the system (don't remove tray seal)
4. Open a package of sterile gloves and place on top of CCU (assistant's gloves, not physician's gloves)
5. Last thing: remove seal from the PK tray. Don't remove the plastic lid yet

### BEGINNING OF THE PROCEDURE (ANESTHESIA)

1. Remove plastic lid from the PK tray
2. Put on a sterile glove (dominant hand)
3. Assemble scope/sheath
4. White balance
5. Make sure CCU screen is on the camera tab
6. Put on other sterile glove if you want to have both hands sterile
7. Be ready to pass the camera to the physician
8. Watch for physician needs

### CLEAN UP

1. Remove the sheath from the scope and place in the PK tray
2. Sheath, syringes and gloves: throw out in trash or biohazard trash
3. Trocars, cannulas and needles: throw out in the sharps container
4. Clean up counters and system area and get ready for the next patient

# MISenPLACE

## CLINIC Supplies

**Put these in the room before the patient arrives**

1. Analgesia syringe (as determined by physician)
2. Sterile gloves for physician
3. Sterile gloves for VSI system support person

ROOM

**SUPPLIES**

## VISIONSCOPE Supplies

**Put these in the room before the patient arrives**

1. VSI Procedure Kit (disposable scope components)
2. VSI CCU and Camera Head
3. VSI Needle Endoscope
4. VSI PrepPak™ (procedure-specific components)

# MISenPLACE

## CCU StartUp

**Set up the system before the patient arrives**

1. Plug CCU into a wall outlet
2. Plug camera head into the CCU
3. Attach the needle endoscope to the camera head
4. Turn on the CCU by pressing the power button on the front panel
5. Rest the camera head/needle endoscope in the CCU cradle

## SYSTEM SET UP

## PATIENT Entry

**Complete this set up before the patient arrives**

1. Select New Patient
2. Enter Patient ID number (or other identifier)
3. Enter Last Name and First Name
4. Select Sex
5. Enter Birthday
6. Select Physician from dropdown menu
7. Select Procedure from dropdown menu
8. Save
9. Review data and Save

\* You will be prompted to white balance. Wait to white balance until after the light sheath is attached to the scope.

# MISenPLACE

## LIGHT SHEATH Assembly

**Begin this process as the physician anesthetizes the patient**

1. Peel back the top seal on sterile disposable kit packaging. Discard.
2. Remove the inside sterile lid (be careful not to touch sterile contents!)
3. Put a sterile glove on your desired (dominant) hand.
4. Hold camera head with your ungloved hand and take the light sheath from the sterile tray with your sterile-gloved hand.
5. Insert the needle endoscope into the light sheath.
6. Line up the icons  and twist a 1/4-turn counter clockwise to lock into place. 
7. Gently guide the sheath over the camera head with your sterile hand.
8. Switch and hold the camera head in your sterile hand.
9. Pull sheath cord over the camera head and cable with your ungloved hand. Do not touch the sheath.

## WHITE Balance

**Perform white balance before passing the scope to the physician/inserting into patient**

1. Point the assembled scope at a piece of white gauze (about 4-6cm away from the gauze – careful not to touch it!)
2. Short press the top (middle/round) button on the camera head.
3. When system reports completed white balance, tap screen (with non-sterile hand) to show image screen.

SYSTEM **SET UP**

# MISenPLACE

## IMAGE Management

### Saving the current procedure on a flash drive

1. Select the **Media Tab** at the top of the screen
2. Select the **Flash Drive icon** on the bottom of the screen
3. Enter the **System Password** [\_\_\_\_\_]
4. Tap the image thumbnails to save or Tap the “**Select All**” box
5. Select the format for saved images from dropdown menu. The default is a PDF report for the patient file (only still images will be saved).
6. Select **Save**
7. A dialog box will tell you when the data is successfully saved

SAVE **IMAGES**

## IMAGE Management

### Saving a previous procedure on a flash drive

1. Select the **Patient Tab** at the top of the screen
2. Select the patient from the **Patient List** on the right hand side of the screen
3. Select the **Procedure Date** from the dropdown menu
4. Select the **Media Tab** at the top of the screen
5. Select the **Flash Drive icon** on the bottom of the screen
6. Enter the **System Password** [\_\_\_\_\_]
7. Tap the image thumbnails to save or Tap the “**Select All**” box
8. Select the format for saved images from dropdown menu. The default is a PDF report for the patient file (only still images will be saved).
9. Select **Save**
10. A dialog box will tell you when the data is successfully saved