

Tips & Techniques

For using the TwoVu™ ST Outflow Sheath

Tip #1: Gaining Consistent Fluid Flow in Two-portal Knee Arthroscopy

Two-portal knee arthroscopy has been steadily growing in popularity. However, the drawback to this technique is reduced fluid flow efficiency (when utilizing standard instrumentation) that often results in a frustrating lack of visual clarity and debris removal. To work around this issue, surgeons have had to open and close the scope sheath stopcocks, alternating between inflow and outflow, to clear the visual field, or insert a shaver (further traumatizing the joint) for additional suction.

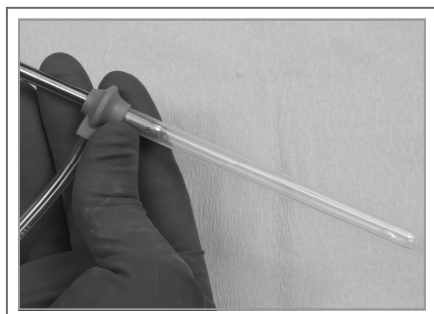


Fig 1—The TwoVu ST is easily mounted onto an arthroscope sheath

The TwoVu ST Outflow Sheath can be effectively used with existing equipment to significantly enhance fluid flow and, thereby, visualization and debris evacuation. To use the TwoVu, slip the device over a scope sheath* (Fig 1) and introduce the scope sheath with the TwoVu into the joint with the obturator. Connect irrigation inflow tubing to the scope sheath's inflow lure connection. Connect the outflow tubing, if used, to the TwoVu or leave the TwoVu open to gravity. Once in place, remove the Obturator and insert the scope into the viewing portal. The amount of outflow desired is easily controlled with the pinch clamp (Fig 2).

In addition to improving visualization and debris removal, the continuous flow capability of the TwoVu helps to prevent joint-fluid temperature buildup when using bipolar or monopolar radio frequency (RF) devices.

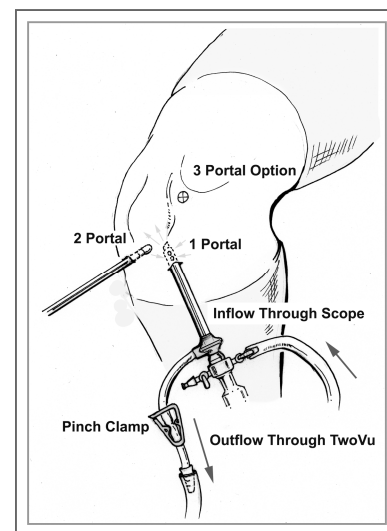


Fig 2—One and two-portal knee arthroscopy with the TwoVu ST Outflow Sheath

**Refer to the Cannuflow TwoVu ST Brochure Scope Compatibility section for the correct TwoVu size to fit a particular scope sheath.*

Tip #2: Better Fluid Flow and Temperature Safety in Subacromial Arch Decompression and Bursectomy Procedures

Shoulder arthroscopies seldom involve the use of a separate outflow cannula. Therefore, maintaining adequate fluid flow in the shoulder space can be problematic. In subacromial arthroscopic decompressions (SAD) and bursectomy procedures, obtaining clear visualization in the restricted subacromial space can be particularly troublesome. Maintaining safe irrigation fluid temperatures while using RF is another important patient safety consideration. In a typical surgical approach to the shoulder with standard posterior, lateral, and anterior

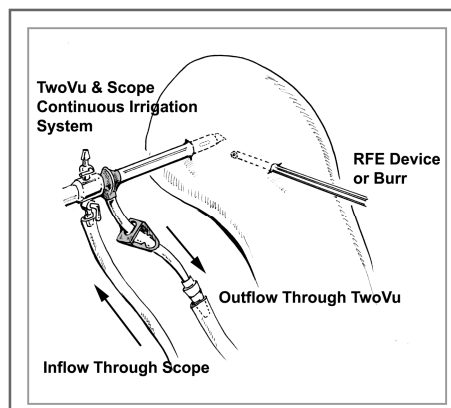


Fig 3—Typical surgical approach to the shoulder with standard posterior, lateral, and anterior portals

portals, the posterior portal is used as the arthroscopic viewing portal and the lateral portal is used for an instrument such as an RF wand or a shaver (Fig 3).

When a percutaneous technique is used with the scope sheath, in place of a separate screw-in or press-fit type cannula, the TwoVu Outflow Sheath provides less traumatic entry as well as immediate clarity upon entry into a joint and delivers efficient and effective fluid flow throughout a procedure. Additional outflow cannulae or portals are not required.

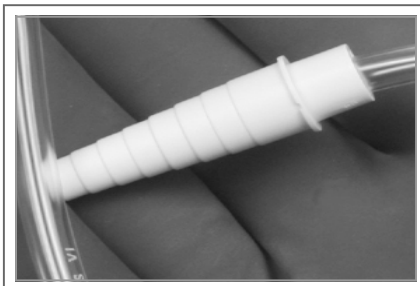
Additionally, using a TwoVu during RFE treatment will help to maintain efficient fluid flow and to remove debris and heated irrigation fluid. Heated irrigation fluid has been implicated in potential complications and morbidity, especially to

articular cartilage, the glenohumeral capsule, and adjacent nerves.¹ Adequate fluid flow has been shown to reduce this heat buildup.² The TwoVu has been shown to provide excellent flow in this type of procedure setup.

Tip #3: Using TwoVu with Arthroscopic Pumps

The TwoVu ST Outflow Sheath can work effectively with most arthroscopic fluid pump systems to help assure more constant fluid flow and smoother pump operation. To use TwoVu with a pump, connect the inflow tubing from the pump to the arthroscope sheath's inflow fitting, as directed. For one-channel pump systems, simply connect the return or outflow tubing to the TwoVu for gravity or suction. For two-channel pump systems connect to the pump outflow according to the manufacturer's directions. The male outflow "Christmas tree" fitting of the TwoVu will securely attach to most return or outflow tubes; if necessary, the tube-set end fitting may be snipped off for a

press fit to the TwoVu Christmas tree male end fitting.



Once the TwoVu is attached, connect the pressure sensing lines, if present, according to manufacturer's instructions. Be sure the scope sheath or bridge outflow valve is closed.

TIP #4: Reduce Clogging In Shavers

When performing a bursectomy in conjunction with an ASAD, the fibrous sac tissue of the bursa can be stringy, wrap around the burr shaft, and clog the arthroscopic shaver. Clearing this tissue can be time consuming. The TwoVu can provide an extra volume of debris removal capa-

bility, reducing dependence on a shaver alone for fluid and bone debris removal. Using TwoVu as the main evacuation means helps to prevent the shaver burr from becoming clogged with soft tissue and bone debris.

Tip #5: Removing Bone Debris

The TwoVu is effective in helping to remove bone debris generated during acromioplasty. Resection of inflamed bursa with its associated bleeding also requires good flow to prevent "red-outs."

The constant-flow feature of the TwoVu is also very effective in establishing and maintaining clarity and in preventing the collapse of the surgical space when using a burr shaver connected to full suction.

Quick Tips:

- Before mounting the TwoVu, it is important to wet the scope sheath. This ensures that the device will slip on easily.
- During insertion, with the pinch clamp open, fluid outflow from the TwoVu confirms positioning in the joint.
- Should the TwoVu become clogged with debris, remove the device from the scope sheath and give it a quick flick across the wrist to clear the debris in the cannula. Replace the TwoVu on to the arthroscope and continue working.
- When a TwoVu has been added to a scope sheath it may be necessary to slightly increase the incision size by one to two millimeters to ensure smooth entry into the joint.
- If using a screw-in type instrument cannula, remove the TwoVu before inserting the arthroscope through the elastic seal of the instrument cannula. This will help prevent damage to the seal as well as to the TwoVu. The TwoVu is designed for insertion into skin incision (percutaneous) portals only.

TwoVu ST Outflow Sheath Specifications

Scope sheath size	TwoVu size
5.5 to 5.8mm OD 110mm length min.	TwoVu ST-5
5.5 to 5.8mm OD 123mm length min.	TwoVu ST-5L
5.8 to 6.5mm OD 83mm length min.	TwoVu ST-6S
5.8 to 6.5mm OD 110mm length min.	TwoVu ST-6
5.8 to 6.5mm OD 123mm length min.	TwoVu ST-6L

References

¹Yan Lu, John Bogdanske, Monica Lopez, Brian Cole, Mark Markel. Effect of Simulated Shoulder Thermal Capsulorrhaphy Using Radiofrequency Energy on Glenohumeral Fluid Temperature. *Arthroscopy: The Journal of Arthroscopic and Related Surgery*, Vol. 21, NO. 5, pp 529-596. May 2005

²Cannuflow White Paper: *The Cannuflow® TwoVu™ ST Outflow Sheath provides superior fluid flow for better management of joint fluid*



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