

VNUS ClosureFast Manual

Preoperative Ultrasound scanning of the treated vein



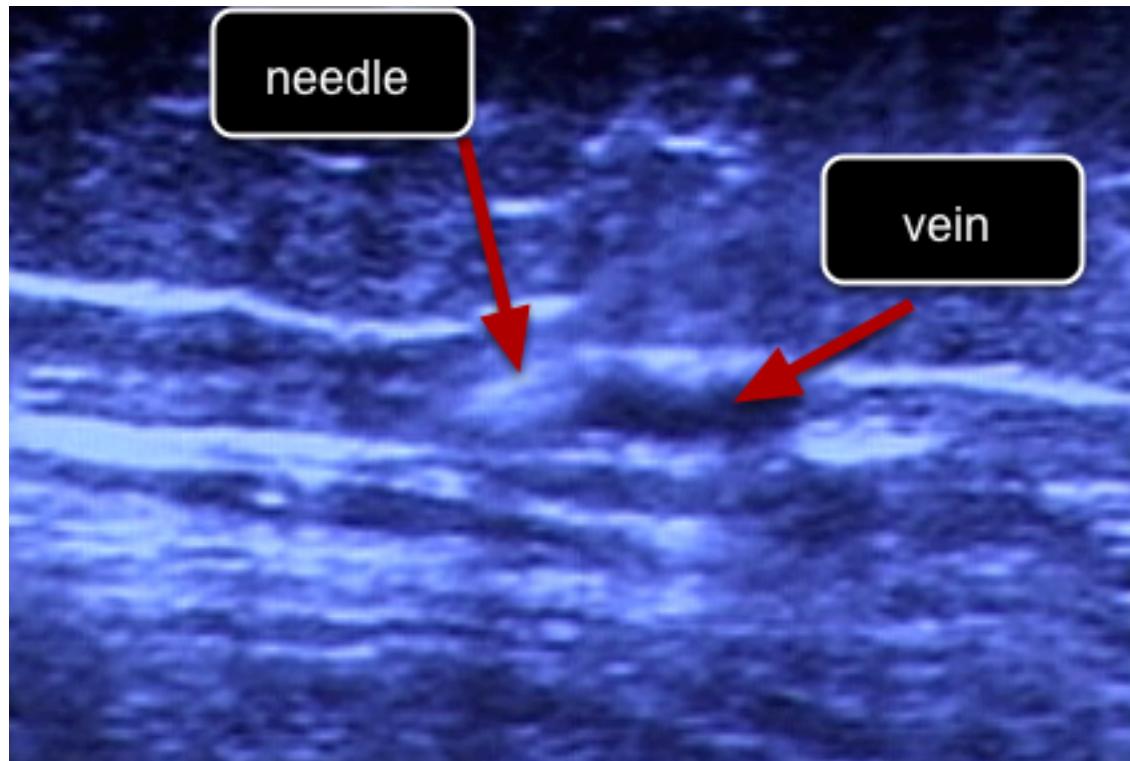
A typical procedure begins with noninvasive ultrasound imaging of the saphenous vein to trace its location. This allows the physician to determine the site where the Closure catheter will be inserted and to mark the desired position of the catheter tip to begin treatment.

Find the saphenous vein by Ultrasound below the knee for puncturing



Position the patient for vein access. Lowering the patient's legs below the level of the heart will increase vein diameter, which may facilitate vein access

puncture the vein under control of ultrasound



Try what is convenient to you . It is possible to puncture with the probe longitudinal or transverse. Learn to do both. Some surgeons use a vascular assistant to help you with holding the probe

puncture of the greater saphenous vein below the knee



Access the vein to be treated via a percutaneous stick using a 19G ultra thin-walled needle

Insert a small guidewire through the needle



Be careful with passing the wire. If you feel resistance stop and look with the probe, what is the reason of the obstruction. Mostly it is a side branch or a damaged valve. Manipulate the area and stretch the vein. Try to use the other side of the wire.

Widen the puncture place



After some local anesthesia around the guide wire ,widen the opening with a 11 blade knife

Insert the introducer sheath



Insert the introducersheet . Take care that you do not push the guidewire inside the vein . Check if the sheath is inside the vein and remove guidewire and dilator

After measuring the vein prepare the Katheter



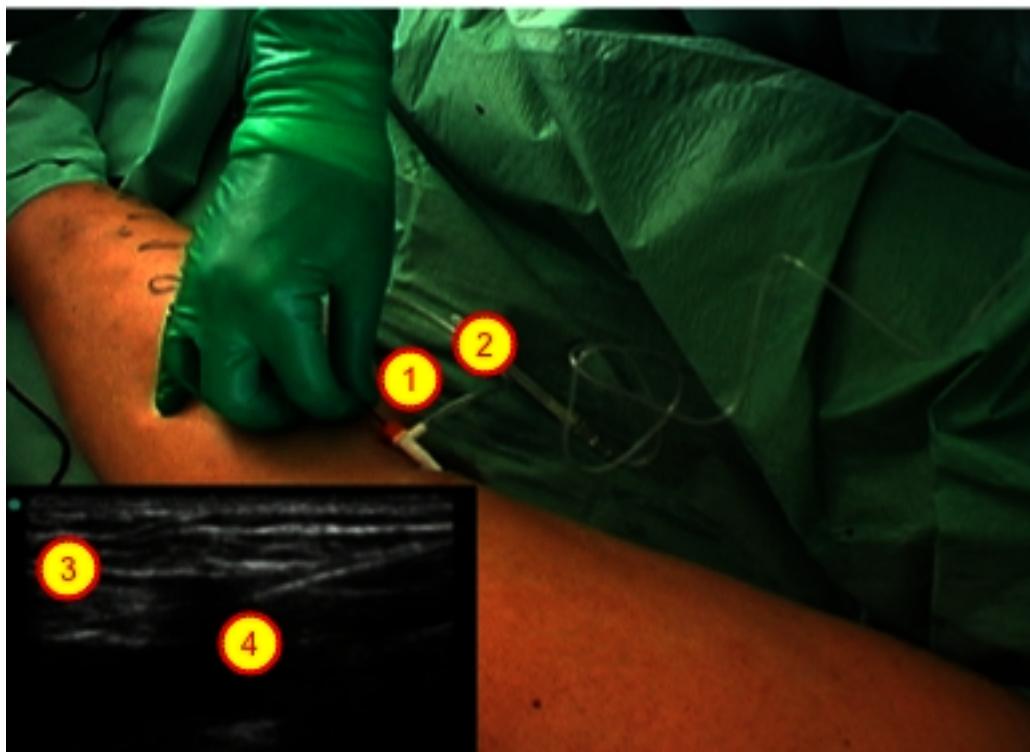
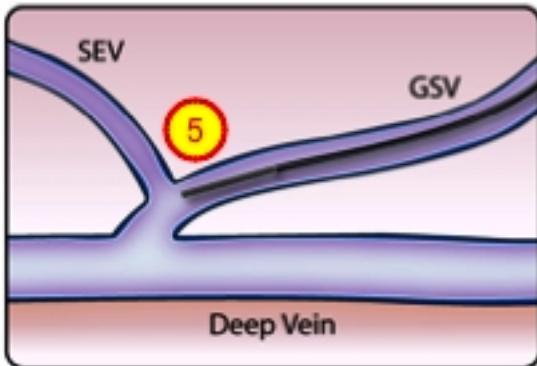
The first step in preparing the catheter for use is to plug the cable into the RF generator. This should always be done as quickly as possible to avoid getting any fluid in the cable connector.

Next, the catheter lumen is flushed with saline or heparanized saline and capped, as shown.



After the physician accesses the saphenous vein, the ClosureFast catheter is inserted into the vein and advanced to the uppermost segment of the vein

Positioning of the catheter



1. Estimate the length of catheter to be inserted in the vein
2. Note approximate length of catheter that will remain outside vein
3. Obtain a longitudinal or oblique view of the SFJ
4. Advance catheter into sheath until tip enters image
4. Position catheter tip
5. Just distal to SEV ostium or 2cm distal to SFJ if SEV is not visualized

Tumescent anesthesia infiltration



Use tumescent infiltration of dilute local anesthetic or saline into the perivascular space to create a circumferential fluid layer around the vessel to be treated. It is more effective if you use a dispenser. To achieve contact between the catheter heating element and the vein wall, an approximate volume of 10cc per cm of vein to be treated is recommended. Infiltrate up to approximately 5cm distal to the Saphenofemoral Junction (SFJ) or Saphenopopliteal Junction (SPJ); infiltration over and beyond the SFJ or SPJ will be performed after confirmation of final tip position.

Note: When the vein is located near the skin surface, a subcutaneous distance of >1cm between the anterior vein wall and skin should be created by tumescent infiltration/solution of saline or dilute local anesthetic solution. Infiltrate tumescent fluid over and beyond the junction using ultrasound guidance.

Look at the generator



If you reach the tip of the catheter with your tumescent the temperature on the screen will go down. I prefer to cool the tumescent as low as 19 degrees Celsius

Put the patient in Trendelenburg position (head down)



To empty the treated vein put the patient in a trendelenburg position.

Power on and start treatment



Power on and start treatment. Before initiating treatment, it is important to achieve good vein wall contact by compressing the vein around the catheter. Failure to adequately compress the vein over the full length of the heating element may result in incomplete treatment or even damage to the heating element.

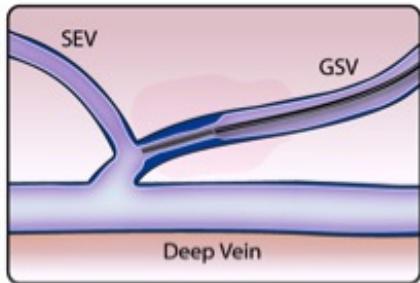
Thorough vein compression and exsanguination is achieved with:

Perivenous tumescent infiltration

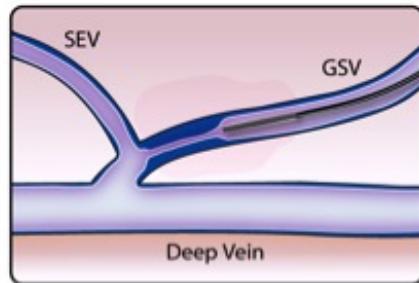
Placing the patient in the Trendelenburg position

Applying external compression along the full length of the heating element

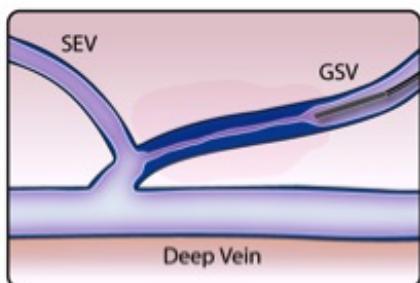
Indexing and Treatment



1. Apply external compression and deliver energy to vein segment; **deliver two 20-second RF cycles to the segment closest to the SFJ**



2. Withdraw catheter to next shaft marker, apply compression and deliver energy



3. Repeat withdrawal, compression and treatments until desired length treated

Enable RF energy delivery by pressing the “RF Power” button on the RF generator, which will cause the RF Power button to start blinking. If the “RF Power” button does not light or start blinking, observe any displayed message and respond. Refer to the RF generator Operator’s Manual for further detail. Initiate RF energy delivery by pressing the button on the catheter handle, or by pressing the “START RF” button below the screen on the RF generator. During treatment, energy delivery can be turned off by pressing the button on the catheter handle again, or by pressing the “STOP RF” button on the RF generator, or by pressing the “RF Power” button on the RF generator.

Note: Power will typically begin at 40W and drop to below 20W within 10 seconds if compression is located correctly and the vein segment being treated has been properly exsanguinated. Note: If the set temperature is not reached within 5 seconds after RF energy delivery initiation, or if the power level is maintained above 20W there may be flow within the vein that is cooling the treatment segment. Terminate RF energy delivery, verify effectiveness of exsanguination methods and proper tip position, correct as necessary, and re-initiate treatment of the segment. Note: Continuous temperature

readings below the set temperature may result in incomplete treatment. If this occurs, stop the treatment and reconfirm vessel apposition to the catheter heating element and absence of blood flow in the vessel segment to be treated. Apply more firm external compression if needed and retreat the segment.

The sequence of indexing and treatment is as follows:

Apply external compression and deliver energy to the vein segment then

Index the catheter to the next shaft marker, re-apply compression and deliver energy

Remember that there is a 0.5cm treatment overlap between segments

Repeat catheter indexing, compression, and treatment until the last treatment segment is reached

Last segment

Last Treatment Segment



Hatched area of ClosureFAST catheter indicates catheter is in last treatment segment for 11cm sheath

This picture shows the hatched area of the ClosureFAST catheter, indicating the catheter is in the last treatment segment for an 11cm sheath.. First pull out the sheath to the end of the hatched area, and then pull the catheter out to the beginning of the hatched area.

last segment movie

