Venogram Information Brochure
At the Center for Vascular Medicine, we believe in the words of Mahatma Gandhi: “A customer is the most important visitor on our premises. They are not dependent on us. We are dependent on them. They are not an interruption in our work. They are the purpose of it. They are not an outsider to our business. They are a part of it. We are not doing them a favor by serving them. They are doing us a favor by giving us an opportunity to do so.”

Thank you for choosing the Center for Vascular Medicine. Our staff is committed to the long-term treatment, monitoring and prevention of your Peripheral Vascular Disease (PVD). PVD is a chronic but treatable ailment. We do our utmost to provide immediate interventional care that may provide some relief to symptoms. However, please remember that long-term follow-up is an essential component to your overall vascular health. As a result, I must emphasize that today we are entering into a partnership. For optimal results, we must both keep our promises. The promises we seek from you are lifestyle changes like weight loss, smoking cessation and daily exercise. The promise we offer you is that we will treat you with intellectual integrity and dignity. We pride ourselves on offering the most advanced and patient-focused diagnostic and therapeutic modalities for the treatment of PVD. During the course of your treatments there will be times when you may debate the need to call your doctor or nurse after hours. Follow this simple rule “When in doubt, always call.” Amongst other things, we promise to be always available to our patients.
What is a Venogram?

A Venogram is an x-ray of the veins. It uses contrast dye and an x-ray camera (fluoroscopy) to visualize the veins. The veins are not visible under fluoroscopy without the use of the contrast dye. The dye is injected through a soft, flexible catheter that is guided from a vein in the groin and moved to the appropriate site by navigating through the vascular system. Once the catheter is in the right position, a dye is injected into the veins. X-ray is then taken at the precise time the dye flows through the veins. Images of the veins are then generated to identify abnormal blood flow patterns. You may experience a warm sensation in the abdominal and pelvic region when the dye is injected.

During the venogram procedure you will be given medicine through your IV to keep you comfortable but you will be awake. This type of anesthesia is frequently referred to as “twilight anesthesia” or “conscious sedation”. Local anesthetic is usually given in the groin area where a needle will be inserted. A stinging sensation may be felt with the injection of local anesthesia. The catheter is threaded through this needle. A warm feeling may be felt when the injected dye spreads through the veins. You will be asked to stay still and not move so that the images that will be taken are clear. Afterwards, the catheter is removed and the area where the catheter was removed is pressed firmly for about 15 minutes to prevent bleeding. The venogram usually takes about an hour. The recovery time is typically 2-4 hours. Expect your total time in the office to take 4-6 hours. The dye is passed through the kidneys. There will be no noticeable change in the color or odor of your urine.

Why do we Perform Venograms?

The test helps you and your doctor decide which treatment will improve your symptoms caused by:

- Blockages/narrowing in the veins
- Pelvic Congestion Syndrome
- Varicocele (in men)
- Deep vein thrombosis/post-thrombotic syndrome
- Varicosities in the high thigh, vulvar, or genital region(s)
**Pelvic Congestion Syndrome**

Pelvic congestion syndrome is a result of pelvic vein and/or ovarian vein dysfunction and/or dilation. Symptoms related to pelvic congestion may include chronic pelvic pain which may worsen with long periods of sitting or standing, onset of menstrual cycle, and/or with sexual intercourse. Other symptoms may include heaviness, fatigue, aching and/or swelling in the legs. Pelvic varicosities are not visible externally but may be associated with visible varicose veins on the thighs, buttocks, or in the vulvar or genital region. Pelvic varicosities can be viewed with ultrasound and venograms.

**Risk Factors Include:**

- Multiple pregnancies
- Family history
- History of varicose veins
- History of “tilted uterus”
- Endometriosis
- Women in child bearing years
- History of abdominal/pelvic surgery

**Treatment Options:**

Embolization of pelvic varicosities and ovarian vein(s) is performed to block blood flow to the ovarian vein and varicosities. Blocking the blood flow is done by inserting coils or injecting medication to close off the vein(s). It is a minimally invasive procedure which takes 60-90 minutes and is the same method as a venogram with the use of catheters to precisely place the coils or inject medication. Once the coils are placed they remain there permanently and cannot be removed.
What Are The Benefits Vs. Risks?

Benefits:

- Minimally invasive procedure when compared to the open surgery alternative.
- Relief of symptoms: Approximately 65 to 70 percent of women who have their Pelvic Venous Congestion Syndrome treated by ovarian vein embolization (OVE) experience either significant reduction or complete resolution of their pain-related symptoms.
- Durable effect: Follow-up studies lasting several years have shown that it is rare for pelvic vein congestion syndrome to recur.

Risks:

- Catheter-related risks: Any procedure that involves placement of a catheter inside a blood vessel comes with a risk of bleeding, bruising, infection, and even the need for open vascular surgery.
- Early onset menopause: In the majority of women undergoing OVE, normal menstrual cycles resume after the procedure. However, in approximately one percent of women, menopause occurs shortly after embolization. This appears to occur more commonly in women who are older than 45 years when they have the procedure.
- Need for hysterectomy: Although the goal of embolization is to cure symptoms without surgery, some women may eventually need to have a hysterectomy because of infection or persistent symptoms. The likelihood of requiring hysterectomy after embolization is low—less than one percent.
- Allergy to x-ray contrast material
- X-ray exposure
**Blockages or Narrowing of Veins (Iliac Vein Outflow Obstruction)**

Iliac vein obstruction is a partial or total occlusion of the iliac vein creating insufficient blood flow out of the leg(s) and contributing to venous hypertension. Symptoms can include achiness, heaviness, fatigue, and swelling in the lower legs. There may be the presence of varicose veins, hyperpigmentation, or open ulcers on the ankles. Iliac vein obstruction can be thrombotic (DVT) or non-thrombotic (iliac vein compression).

**Risk Factors Include:**

- History of deep vein thrombosis (DVT)
- More frequent occurrence in women
- History of venous insufficiency or varicose veins in the legs

**Additional Diagnostic Procedures:**

- Intravascular Ultrasound (IVUS): Ultrasound probe on the tip of the catheter which allows us to visualize the inside of blood vessels during a venogram. See sample image to the right.

**Treatment Options:**

- Venoplasty: Expansion of narrowed veins with the use of a balloon tipped catheter. See sample image to the right.

- Iliac vein stent: Placement of a stent (a metal mesh cylinder) in the iliac vein which gives additional support. Stenting specifically alleviates pain and swelling and promotes sustained ulcer healing. The stent becomes a permanent part of the body and cannot be removed.

- Patients that have stents placed will be started on appropriate blood thinners until cleared to be stopped by the physician.
What Are The Benefits Vs. Risks?

**Benefits**

- Minimally invasive: Minimally invasive procedure which results in marked clinical improvement with a long-term high patency rate, and a low rate of narrowing within the stent

**Risks**

- Catheter-related risks
- Allergy to x-ray contrast material
- X-ray exposure

**Varicocele**

Approximately 15% of men have a varicocele. Varicocele occurs when the network of veins that leave the testes (pampiniform plexus) become elongated and enlarged similar to varicose veins people get in their legs. It is a well-known clinical entity that may result in pain, testicular atrophy, and infertility.

**Treatment Options:**

- Embolization is performed to block blood flow to the internal spermatic vein, testicular vein, and surrounding varicosities. Blocking the blood flow is done by inserting coils or injecting medication to close off the vein(s). It is a minimally invasive procedure which takes 60-90 minutes and is the same method as a venogram with the use of catheters to precisely place the coils or inject medication. Once the coils are placed they remain there permanently and cannot be removed.
**What Are The Benefits Vs. Risks?**

**Benefits:**
- Minimally invasive: Minimally invasive procedure with success rates ranging from 80% to 100% with a low recurrence rate

**Risks:**
- Catheter-related risks
- Allergy to x-ray contrast material
- X-ray exposure

**General Risks and Benefits of Endovascular Procedures**

At the Center for Vascular Medicine we pride ourselves in providing minimally invasive endovascular procedures to our patients. Our physicians and clinical staff are highly trained and efficient in delivering expert care in this field. There are general risks and benefits to all of these procedures.

**Benefits of Endovascular Procedures:**
- Minimally invasive: Minimally invasive outpatient procedures require no hospital stay with a short recovery period. Most procedures allow patients to return to normal activity within a few days
- Lower level of anesthesia: Patients remain comfortable with minimal anesthesia delivery under constant monitoring.
- High success rate: There is a high success rate of endovascular procedures with relief of symptoms.

**Risks of Endovascular Procedures:**
- Catheter-related risks: Any procedure that involves placement of a catheter inside a blood vessel carries certain risks. These risks include damage to the blood vessel, bruising or bleeding at the puncture site, and infection. The chance of any of these events occurring is rare.
- Allergy to x-ray contrast material: Patient may have an allergic reaction to the x-ray contrast material used during endovascular procedures. These episodes range from mild itching to severe reactions that can affect breathing or blood pressure. Patients having procedures are carefully monitored by a physician and a nurse during the procedure, so that any allergic reactions can be detected immediately and reversed.
- X-ray exposure: Endovascular procedures are done under x-ray. Exposure levels usually are well below those where adverse effects on the patient or future children would be a concern.
Preparing For Your Procedure

1. You will need to have current blood work done and may be asked to have a chest X-ray and EKG prior to your procedure if indicated.

2. Shave the bikini area/groin area the day before the procedure.

3. Arrange for a responsible adult to drive you to the facility and home after your procedure.

4. Do not eat or drink after midnight the night before your scheduled procedure.

5. Take all of your medications with sips of water the morning of your procedure except for diabetic medications and other medications that you may be instructed not to take.

6. If you are prescribed any special medications that need to be taken for your procedure, please take all doses prescribed and as ordered.

7. Arrive at the office at your scheduled time.

8. Please give at least 48 hours’ notice for rescheduling when possible. Please contact us as soon as possible for last minute conflicts.

What Will Happen During Your Recovery?

1. The catheter will be removed from your groin area and direct pressure will be applied over the area for 15 minutes.

2. You will need to lay flat and keep your leg straight for 30 minutes following the removal of the catheter.

3. Total recovery time is typically 2-3 hours.

Discharge after your Procedure

- You must have a responsible adult available to drive you home.

After your procedure most patients will be able to resume a fairly normal level of activity within a day or two of the procedure. We do ask that you adhere to the following care instructions. We value your health, well-being and comfort. If you do have any questions or issues related to your procedure please feel free to call the office. If it is after hours or on the weekend your call will go through to our answering service.
**Activity Restrictions**

Following your discharge, we ask that you please refrain from any heavy lifting (i.e. no more than 10 lbs.), straining, pushing or impact exercises (i.e. running, jogging, cycling) for the first 5 days following the procedure. You may walk, climb steps and possibly drive, so long as you do not have excessive bruising, swelling or pain at the puncture site.

NOTE: Do not drive and/or operate any type of machinery the day of discharge.

**Dressing Removal**

You will be discharged with a dressing over the puncture site. This may be removed the next morning. Please inspect the puncture site daily for the first few days and notify us for any significant changes; especially bleeding and swelling with increased pain. Bruising around the area may be present.

If you do notice bleeding, swelling, or increase in bruising apply constant direct pressure over the area and seek medical attention immediately.

**Showering & Bathing**

You may shower 24 hours after of your procedure. We ask that you refrain from soaking in a bathtub, hot-tub or pool until the puncture site is healed (about 5 days). Failure to do this may cause infection.

**Eating & Drinking**

You may resume your normal diet following your procedure. We encourage you to drink lots of water and non-caffeinated beverages for the first 2 days after your procedure.

**Medication**

Outside of certain blood thinning agents, most medications can be continued immediately following your procedure. Medications such as Coumadin (Warfarin) and injectable Heparin/Lovenox are potent blood thinners that can cause delayed bleeding from the puncture site. We ask that these blood thinners be held for a period of time prior to the procedure. We will provide you with specific instructions.

**Pain Medication**

Abdominal pain/lower back discomfort is typical for 1-2 weeks following the procedures and is best treated with NSAIDS (Ibuprofen, Motrin, Aleve, Advil, etc.). Warm compresses and heating pads to the abdominal region or lower back is also helpful in reducing the pain. Narcotic pain medication is not typically needed with these procedures. Prescriptions will be provided only when absolutely necessary.

*Please call our office at (888) 206-1110 if you notice any of the following signs or symptoms:*

- Increased swelling or bleeding at the puncture site.
- Increased bruising down the leg or by the abdomen.
- Painful, cold leg or foot with or without discoloration.
- Increasing low back, abdominal, or leg pain.
- Redness, swelling and/or drainage from the puncture site with fever.
- Swollen, painful calf with or without fever.

If you are unable to reach our office and have noticed any of the above conditions, please report to the nearest Emergency Room for prompt medical attention.
Appointment Date: ________________

Appointment Time: ________________
Center for Vascular Medicine Clinic Locations

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