



A GUIDE FOR CARDIOVASCULAR CATH LAB PATIENTS

VENOUS PROCEDURES

Bring this booklet on the day of your procedure.

DALE MICHELS CENTER FOR HEART CARE

430 E. Division Street, Fond du Lac • Cardiology (920) 926-8230

For additional information, visit agnesian.com/cathlab.

agnesian.com

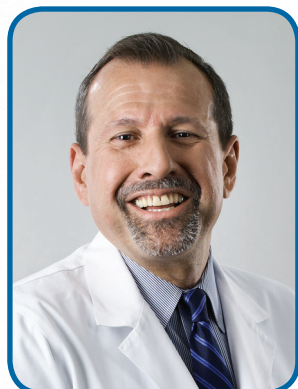
AGNESIAN HEALTHCARE IS SPONSORED BY THE CONGREGATION OF SISTERS OF ST. AGNES

AGNESIAN HEALTHCARE'S DALE MICHELS CENTER FOR HEART CARE

Agnesian HealthCare offers comprehensive heart care services close to home in Fond du Lac. These services, offered through the Dale Michels Center for Heart Care, bring to the region a diverse and complete package of quality cardiac and vascular procedures, including open-heart surgery (coronary artery bypass grafts), coronary angioplasty, stent placements, cardiac catheterizations, peripheral angiograms and other procedures.

For more information, call Cardiology Services at (920) 926-8230.

OUR INTERVENTIONAL CARDIOLOGISTS



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PROCEDURE DETAILS

Your Procedure: _____

Physician: _____

Date: _____ Arrival Time: _____

THE NIGHT BEFORE MY PROCEDURE:

- Do not eat or drink after _____.
- If you take insulin, decrease your nighttime dose by: _____

THE MORNING OF MY PROCEDURE:

- If you take insulin, decrease your morning dose by: _____
- Take all of your morning medications with sips of water **EXCEPT:** _____

- If you take Warfarin (Coumadin), have a contrast dye allergy or have impaired kidney function:

- Shower or bathe the night before or the morning of your procedure.

PLEASE BRING THE FOLLOWING WITH YOU ON THE DAY OF YOUR PROCEDURE:

- **If you use a CPAP at home, bring it with you.**
- You may want to bring a book or electronic device to entertain yourself while you wait for your procedure to start. Your start time may vary due to the length of procedures prior to yours, or if emergencies arise.
- A current list of your medications.
- Bring an overnight bag with home comforts if desired, as you may stay overnight.

Contact the Cardiology department at (920) 926-8230 with questions.

Please arrive on time to check in at hospital registration, located by Café Coffee, just off the hospital lobby. The main entrance is located off Division Street by the stop and go lights.

PROCEDURE INFORMATION

What do I need to do before my procedure?

- You will need to arrange transportation to the hospital and later that day or the following day depending on your procedure results. We will not know when you will be discharged until the procedure is completed. Plan to spend the night just in case.

When you arrive

- You can expect to spend about two hours in one of our pre-procedural rooms. During this time, we may:
 - Sign consent forms
 - Perform physical assessments
 - Update your medical history and medications
 - Obtain blood work
 - Perform diagnostic tests, such as an EKG
 - Start an IV to administer fluids and medications
 - Prep the skin area of your procedure site
 - Give oral medications in pill form prior to your procedure to prevent a contrast dye reaction and to help you relax
- The physician performing your procedure will speak with you. This is a good time for you to ask questions about your procedure and the recovery process.

During your procedure

- The procedure typically takes about an hour. Your loved ones will be taken to our waiting area until the procedure is done.

- You will be brought to the Cardiovascular Cath Lab procedure room where you are expected to lay flat on the X-ray table with the support of a pillow for your head. The procedure room tends to be very cool, which is by design, so we will comfort you with a warm blanket. Cardiovascular Cath Lab associates will then proceed to prep you for the procedure by attaching a heart monitor and other pertinent equipment. You will have oxygen placed in your nose and your procedure site will be washed with an antibacterial cleanser. A sterile covering will drape over you, and it will be very important for you to lie still.
- The nurse with you in the procedure room will administer conscious sedation through your IV to help you relax and stay comfortable. We will administer sedation while closely monitoring your vital signs for your safety.
- If you begin to experience any discomfort, please let the nurse or physician know so that we can make you comfortable.
- A tiny needle will be used to inject local anesthetic into the skin at the procedure sites. You will feel a pinch and a burn from this medication but the area will become numb very quickly.
- Next, a small hollow tube, or catheter, is inserted into the vein on each side of your groin area. The physician will inject contrast dye through this catheter as X-ray images are taken in order to look for blockages in your veins.
- As the X-ray images are taken, the table will move and the lights will turn on and off.
- An ultrasound catheter is also inserted through one side of the groin as another means to look for blockages.

PROCEDURE INFORMATION (CONTINUED)

After your venogram

- After the procedure is completed the small hollow tubes will be removed. We will apply pressure over the veins to stop bleeding.
- A sterile dressing will be applied to the sites. You will receive instructions on caring for the dressings and sites before discharge.
- Depending on how fast your blood clots and what medications are given during the procedure, we may leave the tubes in your groin for a couple hours after the procedure. Later, a Cardiovascular Lab Associate will come to your room and remove each tube and apply firm pressure over the insertion sites for about 20 minutes. This is to keep the area from bleeding. A dressing will then be applied to the puncture sites.
- You will need to remain on bed rest for approximately three to four hours after the procedure. If we had to leave tubes in your groin, your bed rest will begin after the tubes are removed.
- The physician will speak to you and your family about your results when the procedure is completed.
- A nurse will monitor your vital signs and procedure sites.
- Depending on the results of the procedure and what interventions were done will determine how long you will need to stay after your procedure. Some patients will stay for up to eight hours or overnight. You will be given discharge information prior to leaving.
- You may be prescribed an antiplatelet or anticoagulant medication to prevent blood clotting.
- Approximately six to eight weeks after your procedure, an ultrasound will be ordered to evaluate your venous circulation in your lower extremities.

Risks of the procedure, although are very rare:

- Bleeding, bruising, infection or pain at the catheter insertion site
- An allergic reaction to the contrast dye
- Artery or vein damage
- Kidney issues
- Death (very rare)
- Deep vein thrombosis (DVT)
- Pulmonary embolism

ILIAC VEIN COMPRESSION SYNDROME

What is iliac vein compression syndrome?

- Iliac vein compression syndrome is when one of the iliac veins is compressed by one of the iliac arteries.

Symptoms of iliac vein compression

- Chronic leg swelling from pooling of blood
- Discoloration of the skin of the legs
- Leg ulcers known as venous stasis ulcers

How is iliac vein compression syndrome diagnosed?

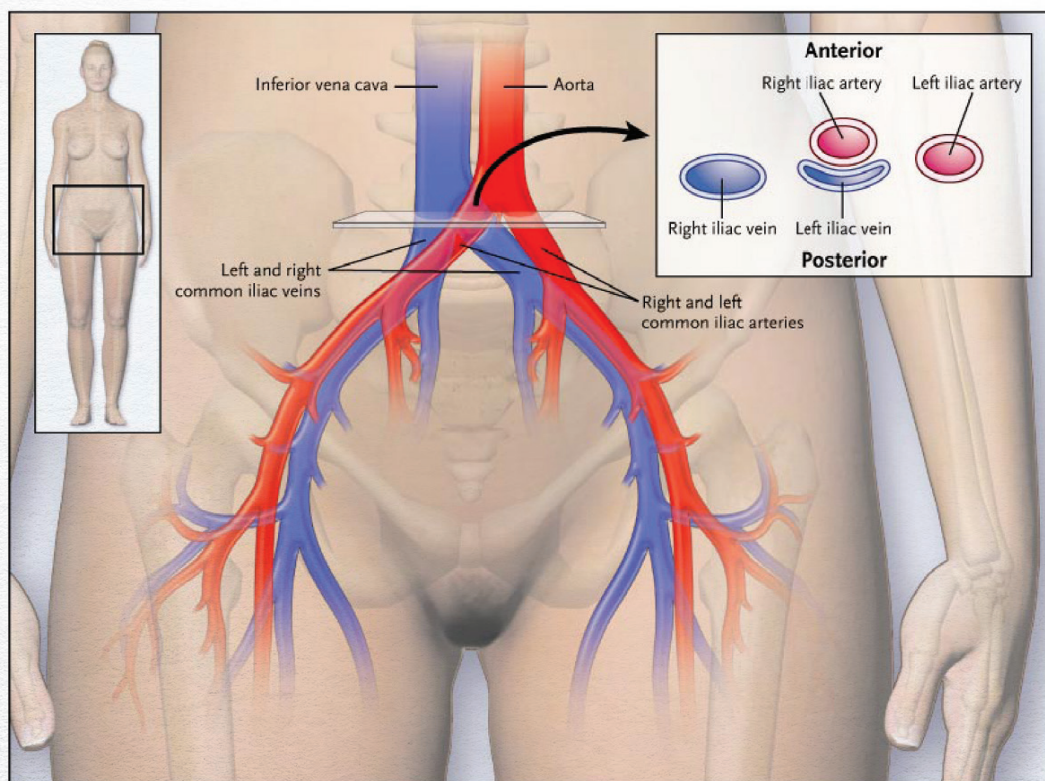
- Your provider will order an ultrasound of your legs prior to your procedure. However, even if the results are negative, your provider may find it necessary to still perform a venogram in the cath lab.

What is a peripheral venogram?

- This procedure is performed by an interventional cardiologist and a team of nurses and technicians to find out if you have disease (blockages or compression) of the veins in your legs. A tiny hollow tube is inserted into a large vessel in both

groins. This procedure uses X-ray technology called fluoroscopy and contrast dye to obtain real time moving pictures of the blood flow in your arteries. These images can identify the exact location of your narrowed or blocked arteries.

- Intravascular ultrasound is used to obtain accurate measurements of your veins.
- Multiple views of your arteries are taken with contrast dye that is injected into your blood stream. It is normal to feel a warm sensation when the dye is injected. This is only temporary. The results of the venogram and ultrasound images will help your healthcare provider determine which treatment option is best. If there is a narrowing or compression of the vein that the physician determines needs to be fixed at that time, a balloon and stent will be used.
- If there is compression or narrowing in both legs, only one leg will be fixed at this time. You will need to come back for another procedure to fix the other leg.



FREQUENTLY-ASKED CARDIOVASCULAR CATH LAB PROCEDURE QUESTIONS

Q. Why can't I eat before my procedure?

We do not want you to have anything to eat or drink before your procedure to make sure that your stomach is empty. This helps to decrease the risk of nausea, vomiting and breathing complications.

Q. Why can't I take my Metformin?

Contrast will be given to you in your arteries during the procedure. Your kidneys get rid of the contrast through your urine, which is how Metformin is excreted as well. By not taking your Metformin, it allows your kidneys to completely excrete the contrast minimizing the risk of damaging your kidneys. This is also why it is important to stay hydrated after your procedure, to flush out the contrast dye from your system.

Q. Why do I need an IV started before the procedure?

An IV is started to administer IV fluids and medications, such as conscious sedation, pain medication and blood thinners.

Q. Why do I have to have my procedural site shaved?

Removing hair just prior to the procedure using a clipper reduces the risk of infection.

Q. Why do I have to arrive 1.5 hours prior to my procedure start time?

You have to arrive early to provide adequate time for your laboratory results to be reported and to allow your nurse enough time to complete the pre-procedural assessments, history review and procedural preparation tasks.

Q. Why are the cath lab procedural rooms so cold?

The temperature is kept below a certain level to maintain equipment sterility; this was done by design per regulations. Also so our specialized X-ray equipment doesn't overheat.

Q. How long do stents last and are they removable?

Stents are permanent and cannot be removed. There are no nerve endings inside your arteries so you will not feel your stent. Stents cannot move after being deployed by the physician. Also, the stent will not rust.

Q. Can I walk through metal detectors if I have a stent?

Yes. Stents will not set off metal detectors.

Q. Why do I have to take an anti-platelet medication after receiving a stent?

Anti-platelet medication reduces the risk of your stent becoming clogged because the medication works with the stent's special drug coating.

Q. Can I stop taking my medication if I feel better?

No, you must continue to take your medications as prescribed even if you feel better. If you stop taking your medications, you are at an increased risk of a blood clot forming in or near your stent which may lead to complications.

Q: Will I be asleep for the procedure?

Cath lab procedures are performed while you are awake but sedated. A Cardiovascular Cath Lab staff member will start an IV and administer conscious sedation to you once you are in the procedure room. This way of sedation allows you to be comfortable and for your physician to still be able to communicate with you.

If you have any questions prior to your procedure, please call the Cardiology department at (920) 926-8230, or write down your questions for the physician on the last page of this booklet and bring along on day of your procedure.

RESOURCES

Agnesian Pharmacies

Agnesian Pharmacy Main Street
145 N. Main Street, Fond du Lac
(920) 926-4660

Agnesian Pharmacy Markesan
730 N. Margaret Street, Markesan
(920) 398-3261

Agnesian Pharmacy
North Fond du Lac
723 Park Ridge Lane
North Fond du Lac
(920) 926-8660

Agnesian Pharmacy Plus
420 E. Division Street, Fond du Lac
(920) 926-8585

Agnesian Pharmacy Waupun
904 W. Main Street, Waupun
(920) 324-3010

Agnesian Pharmacy West
912 S. Hickory Street, Fond du Lac
(920) 929-7480

Agnesian Prescription Center
Brownsville
900 Main Street, Brownsville
(920) 583-1310

Agnesian Prescription Center
Health Plaza A
421 Camelot Drive, Fond du Lac
(920) 926-5455

Agnesian Prescription Center
Mayville
360 S. Mountin Drive, Mayville
(920) 387-7570

Anticoagulation Management Services

Ripon Medical Center
845 Parkside Street, Ripon
(920) 745-3320

St. Agnes Hospital
430 E. Division Street, Fond du Lac
(920) 926-4580

Waupun Memorial Hospital
620 W. Brown Street, Waupun
(920) 324-8444

Cardiac Rehabilitation

Ripon Medical Center
845 Parkside Street, Ripon
(920) 745-3655

St. Agnes Hospital
430 E. Division Street, Fond du Lac
(920) 926-5041

Waupun Memorial Hospital
620 W. Brown Street, Waupun
(920) 324-6544

Cardiology Clinic

Fond du Lac Regional Clinic
420 E. Division Street, Fond du Lac
(920) 926-8230

Cardiothoracic Surgery

Fond du Lac Regional Clinic
420 E. Division Street, Fond du Lac
(920) 926-8231

Cardiovascular Cath Lab

St. Agnes Hospital
430 E. Division Street, Fond du Lac
(920) 926-5006

Pacemaker Clinic

Fond du Lac Regional Clinic
420 E. Division Street, Fond du Lac
(920) 926-4781

Vascular Services

Fond du Lac Regional Clinic
420 E. Division Street, Fond du Lac
(920) 926-8540

Nurses' Station

St. Agnes Hospital
4 South: (920) 926-5140
5 West: (920) 926-4230
5 South: (920) 926-5150
6 South: (920) 926-5160
Day Surgery: (920) 926-4900
Intensive Care Unit: (920) 926-4730

Creekside Café (St. Agnes Hospital Cafeteria)

Hours of Operation:
Monday through Sunday
6:30 a.m. to 6:30 p.m.

Weekday Grill Hours:
6:30 a.m. to 10 a.m.
11 a.m. to 1:30 p.m.
4:30 p.m. to 6:30 p.m.

Café Coffee (Proudly serving Starbucks)

St. Agnes Hospital
Hours of Operation:
Monday through Thursday
6:30 a.m. to 5:30 p.m. &
Friday 6:30 a.m. to 3:30 p.m.

Closed on Weekends

