



A GUIDE FOR CARDIOVASCULAR CATH LAB PATIENTS

CAROTID ANGIOGRAM

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 • Vascular Services (920) 926-8540

For additional information, visit agnesian.com/cathlab.



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PROCEDURE INFORMATION

What do I need to do before my procedure?

- You will need to have transportation to the hospital and possibly later that day or the following day depending on procedure results. We will not know when you will be discharged until the procedure is completed. Plan to spend the night just in case and bring an overnight bag.
- Please shower prior to your procedure.
- Make a list of your current medications and bring with you the day of your procedure.
- **If you use a c-pap at home, bring it with you the day of your procedure.**

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 important assessments including a detailed neurological assessment
 - 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
 - You will be given three medications in pill form prior to your procedure. The first is aspirin, which is given to you to help thin your blood so catheters can be more easily manipulated. The second medication is Benadryl. This is given to prevent a contrast dye reaction and also helps you relax. The last medication is Valium and is given to you to relax.

- When you arrive the cardiovascular lab staff do their best to make you comfortable and keep you informed prior to entering the lab suite.
- 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.
- Pain management is often a concern for patients undergoing a procedure. Our nursing staff are specially trained to administer conscious sedation, also known as moderate anesthesia to manage pain/discomfort during the procedure.

RESOURCES

Agnesian Pharmacy

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

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

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

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 -
Health Plaza
421 Camelot Drive, Fond du Lac
(920) 926-5455

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
630 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
630 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 Lab

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

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 to 10:00 a.m.;
11:00 a.m. to 1:30 p.m.;
4:30 to 6:30 p.m.

Café Coffee (Proudly serving Starbucks)

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

FREQUENTLY-ASKED QUESTIONS (CONTINUED)

Q: How long does the procedure take?

The length of your procedure varies and is based upon your procedure findings. If your procedure is taking longer than an hour a Cardiovascular lab staff member will go to the family waiting area to update your family/friends.

Q: Will I be asleep for the procedure?

Cath lab procedures are performed while you are awake but sedated. A Cardiovascular 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.

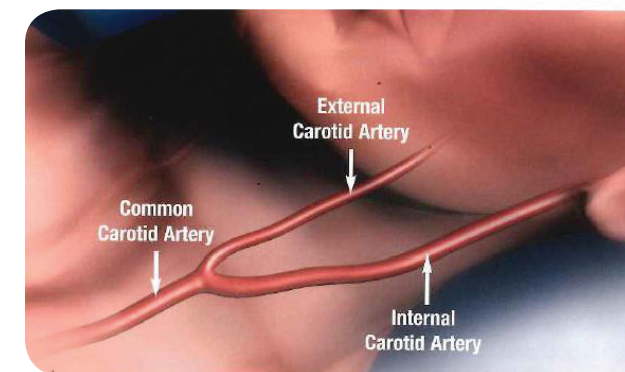
Q: Why do I need to be on bed rest?

You will be on bed rest from anywhere between three to eight hours after your procedure. Bed rest gives the artery puncture adequate time to heal to prevent bleeding complications.

CAROTID ARTERY DISEASE

What is a carotid artery?

Your brain needs constant supply of oxygen and nutrient rich blood. A substantial amount of blood flow to your brain comes from the carotid arteries. The common carotid artery is on both sides of your neck, which divides into two vessels which are called the external carotid and the internal carotid artery. The external carotid artery brings blood to your face and the internal carotid artery brings blood to the front part of your brain.



What is carotid artery disease?

This is also known as atherosclerosis allowing a buildup of fatty substances like cholesterol, plaque or blood clots, which thicken and harden within the artery. This can result in slow blood flow. Build up atherosclerosis can lead to a stroke in two different ways.

1. Buildup of plaque over time narrows the blood vessel and the flow to the brain is diminished or blocked.
2. The plaque breaks off within the blood vessel and travels to smaller vessels of the brain causing blockages.

How is carotid artery disease diagnosed?

A series of tests may be completed to diagnose carotid artery disease. Your physician may order an ultrasound, CT scan or MRI. If there is atherosclerosis noted on one of those tests your physician may recommend having an angiogram performed in the Cardiovascular lab.

During your procedure

- The procedure typically takes one hour. Your loved ones will be taken to our waiting area until the procedure is done. A Cardiovascular lab associate will update your family if the procedure is longer than expected.
- You will be brought to the Cardiovascular 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 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 soap. A sterile covering will drape over you, and it will be very important for you to lie still.
- Throughout the procedure your vital signs are monitored by a trained Cardiovascular lab associate.
- The nurse with you in your procedure 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.
- A tiny needle will be used to inject local anesthetic into the skin. This numbs the area when the puncture or incision is made. This injection may cause a mild stinging sensation, but only lasts a brief amount of time. The benefit of using a local anesthetic is reduction of discomfort at the insertion site.

CAROTID ARTERY DISEASE (CONTINUED)

- A long narrow tube called a catheter is inserted into a puncture made in the groin. It is guided to your carotid artery using special 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. Blocked or narrowed arteries can be opened quickly with a balloon. To ensure that the blocked artery stays open, a stent is used to increase blood flow through the artery.
- If you begin to experience discomfort, please let the nurse or physician know so that we can make you comfortable.
- In order to get the proper images, we will move the table and the lights will occasionally turn off. This is normal. It is essential to keep your head still. The nurse may ask you questions during the procedure or you squeeze a stress ball to assess your neurological function.
- The physician or nurse may ask you to hold your breath occasionally throughout the procedure to allow easy passage of the catheter in your arteries.
- A sterile dressing will be applied to the site. You will receive instructions on caring for the dressing and site before discharge.
- The physician will speak to you and your family about your results when the procedure is completed or you are discharged.

After your carotid angiogram

- After the procedure is completed the small hollow tube will be removed and the puncture site will be sealed with a special closure device. You will be on bed rest for three to four hours. While you are on bed rest, it will be important for you to lie still, keep your head on your pillow, and not bend your leg. A nurse will perform regular neurological assessments; monitor your vital signs, procedure site and pulses frequently.
- Depending on the results of the procedure and what interventions were done will determine how long you will need to stay after your procedure. If we used a balloon or inserted a stent, you will stay overnight in the intensive care unit. This allows us to monitor you closely. If we did not fix your arteries, you will be able to go home later that day. You will be given discharge information prior to leaving.
- You may be prescribed an antiplatelet or anticoagulant medication to prevent blood clotting.

Risks of the procedure, although very rare:

- Bleeding, bruising, infection, or pain at the catheter insertion site
- An allergic reaction to the contrast dye
- Artery damage
- Kidney problems
- Heart attack or heart arrhythmia
- Stroke
- Death (very rare)

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 aspirating when we administer conscious sedation.

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. Where does my family go during my procedure?

Your family will be taken to the cath lab waiting room and the physician will speak to them after the procedure while we are getting you ready for recovery.

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. Who will be present during my procedure?

In addition to your physician, there will be one nurse in the room with you, and either a radiology technician or nurse assisting the physician and another staff member who closely monitor you.

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.