



# Renal Angiogram

*How to prepare for your procedure*

**Renal angiography (X-ray of the arteries supplying blood to the kidneys) is performed for patients with elevated blood pressure or impaired kidney function thought to be caused by a blockage of the arteries connected to the kidneys.**

## **What is a renal angiogram?**

A renal angiogram is an X-ray study of blood vessels to the kidney. X-rays are taken while contrast dye is injected into a catheter (a tiny tube) that has been placed into the blood vessels of the kidneys to detect any signs of blockage, narrowing, or other abnormalities affecting the blood supply to the kidneys. If a narrowing is found, the patient may be a candidate for angioplasty (repair of the artery using a balloon).

## **Who gets a renal angiogram?**

Blockages of the renal arteries can cause high blood pressure and abnormal kidney function. Renal angiography is often performed for patients with high blood pressure at a very young age and for patients who are on 3 or more blood pressure medications or have intolerable side effects of high blood pressure medications.

Patients with impaired kidney function that is thought to be caused by a blockage of the arteries supplying blood to the kidneys are also candidates for renal angiography. Many patients with narrowed renal arteries are candidates for angioplasty at the same time.

## **How does the procedure work?**

The nurse will stay with you during the procedure to watch your blood pressure, heart rate, breathing rate, and your comfort level.

A radiology technologist will clean your skin with a special soap and may shave some hair to the right or left of your groin area. The nurse may place a tube in your bladder to drain urine.

Angiography involves placing a long, slim tube (called a catheter) into a blood vessel in the groin. To prevent you from feeling pain during catheter placement, you will be given a numbing drug at the groin site. You will also be given a drug through your IV to help you relax and feel as comfortable as possible.

Contrast (X-ray dye) is then sent into your blood vessel. You may feel a warm to hot flush spreading all over your body when the contrast goes in. You may also feel like you have to urinate or have a bowel movement. These feelings are normal and should only last a few seconds.

X-rays are taken of the blood flow through your kidneys while the contrast moves through your blood vessel. The X-rays show where an artery might be blocked, narrowed, leaking, or enlarged.

If an intervention can be done to repair the area, with angioplasty or a stent, that procedure may be done at this point. During the intervention, it is normal to feel pressure or slight pain at the site that is being worked on.

If an intervention is done, X-rays will be taken again to show the change in the blood flow.

During this time the interventional radiologist will also take pressure measurements of the blood flowing through your kidneys. This internal blood pressure measurement helps the doctor determine whether a visualized narrowing is actually reducing blood flow to the kidney.

If the doctors are happy with the change, the catheter is removed. Pressure is applied to the site for 20 to 30 minutes to prevent bleeding.

An angiogram takes about 1 hour if it is done on an outpatient basis. If an intervention is needed to fix a problem, more time will be needed. Advise friends or family to expect a 2- to 3-hour wait. If you have an angioplasty, you will likely be admitted to the hospital for an overnight stay.

### **How should I prepare for the procedure?**

Tell your healthcare provider if you have had any reactions to iodine-containing items such as contrast agent or seafood. If so, your primary healthcare provider will prescribe medicine for you to take before the procedure.

Tell your healthcare provider if you have any history of abnormal kidney functions related to your existing kidney disease.

Eat a light meal the night before, but do not eat or drink after midnight. If you have a late afternoon appointment, you may have clear liquids for breakfast (such as apple juice, Jell-O, or clear broth), but nothing after that.

If you have diabetes, consult with your primary doctor about what you cannot eat and how you should control your diabetes medicines during the procedure.

### **What should I expect when I arrive at the hospital?**

You will either check in at the front desk in Imaging Services or at the front desk of the Short Stay Unit. The check-in location will be based on your needs.

You will then change into a hospital gown. You will be given a bag for your belongings.

You will be taken to a special area where a nurse will see you and ask you questions about your health history.

An IV (intravenous line) will be started to give you fluid and medicine during the procedure.

The radiology doctor will see you in this area to discuss the procedure and obtain your consent. You will be able to ask any questions you have at this time.

### **What are possible risks of an angiogram?**

*You may have:*

- An allergic reaction to the contrast, which may cause hives, a drop in blood pressure, swelling of the skin, or unconsciousness.
- Minor discomfort if the local anesthetic does not completely numb the area and/or an allergic reaction to the drug used in the local anesthetic.
- A kidney problem that is made worse by the contrast.
- A clot that forms around the catheter and blocks your blood vessel.
- An injury to the groin artery from placement of the catheter, causing bleeding or a blockage of blood flow to the leg.
- Surgery to correct damage caused by the procedure.

## Questions?

Call 206-598-6209

Your questions are important. Call your doctor or health care provider if you have questions or concerns. UWMC Clinic staff are also available to help at any time.

Interventional  
Radiology/Angiography:  
206-598-6209

Imaging  
Services/Radiology:  
206-598-6200

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- A drop in blood pressure because your body is not used to the increased blood flow to the kidneys. Your body might translate the increase blood flow as hypertension and release hormones to decrease your blood pressure.
- An infection from the puncture site.

## What should I expect after my procedure?

You will be watched closely for a short time in the Imaging Services department.

Patients are usually monitored for 4 to 6 hours and must remain flat in bed during most of this time to reduce the likelihood of bleeding from the groin site. Plan to stay for this length of time.

Most patients then go to a Short Stay Unit within the hospital, unless your referring doctor has made other plans.

You should be able to eat, drink, and take your normal medicines.

Your family member or driver may go with you to this area.

If an intervention was needed, you may need to stay overnight.

Before you leave, a nurse will give you a written plan to follow at home.

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