About Your Portal Vein Embolization

This information will help you get ready for your portal vein embolization at Memorial Sloan Kettering (MSK).

About Your Portal Vein

Your portal vein is a vein that carries blood from your stomach and intestines to your liver. It then splits into the left and right portal veins. These branch into smaller vessels that deliver blood throughout your liver (see Figure 1).

Figure 1. Your portal vein
About Your Portal Vein Embolization

An embolization is a procedure that blocks the flow of blood to an area. A portal vein embolization blocks blood flow to the sections of your liver using tiny particles. The tiny particles are placed into your vein through a needle and catheter (small, flexible tube) (see Figure 2).

When the blood flow is blocked, the sections of your liver with the tumor will get smaller. At the same time, the other sections of your liver will get bigger. This is because more blood is flowing to the unblocked side.

About 3 to 4 weeks after your portal vein embolization you’ll have liver resection surgery to remove the part of your liver that has cancer. The enlarged side of your liver will make it easier for your healthcare provider to remove the other side of it.

Figure 2. Portal vein embolization in the right portal vein
Before Your Procedure

Ask About Your Medications

You may need to stop taking some of your medications before your procedure. Talk with your healthcare provider about which medications are safe for you to stop taking. We’ve included some common examples below.

Blood Thinners

If you take a blood thinner (medication that affects the way your blood clots), ask the healthcare provider performing your procedure what to do. Their contact information is listed at the end of this resource. Whether they recommend you stop taking the medication depends on the type of procedure you’re having and the reason you’re taking blood thinners.

Examples of blood thinners include:

- Apixaban (Eliquis®)
- Aspirin
- Celecoxib (Celebrex®)
- Cilostazol (Pletal®)
- Clopidogrel (Plavix®)
- Dabigatran (Pradaxa®)
- Dalteparin (Fragmin®)
- Dipyridamole (Persantine®)
- Edoxaban (Savaysa®)
- Enoxaparin (Lovenox®)
- Fondaparinux (Arixtra®)
- Heparin (shot under your skin)
- Meloxicam (Mobic®)
- Nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen (Advil®, Motrin®) and naproxen (Aleve®)
- Pentoxifylline (Trental®)
- Prasugrel (Effient®)
- Rivaroxaban (Xarelto®)
- Sulfasalazine (Azulfidine®, Sulfazine®)
- Ticagrelor (Brilinta®)
- Tinzaparin (Innohep®)
- Warfarin (Jantoven®, Coumadin®)

Do not stop taking your blood thinner medication without talking...
with a member of your care team.

Read *Common Medications Containing Aspirin, Other Nonsteroidal Anti-inflammatory Drugs (NSAIDs), or Vitamin E* (www.mskcc.org/pe/common_meds). It has important information about medications you’ll need to avoid before your procedure and what medications you can take instead.

### Medications for Diabetes

If you take insulin or other medications for diabetes, ask the healthcare provider who prescribes your medication what you should do the morning of your procedure. You may need to change the dose before your procedure. Your healthcare providers will be checking your blood sugar level during your procedure.

### Diuretics (Water Pills)

A diuretic is a medication that makes you urinate (pee) more often. Hydrochlorothiazide (Microzide®) and furosemide (Lasix®) are common diuretics.

If you take any diuretics, ask the healthcare provider doing your procedure what to do. You may need to stop taking them the day of your procedure.

### Contrast dye

Contrast is a special dye that makes it easier for your healthcare provider to see your internal organs. The contrast dye will be injected into your portal vein during your procedure. If you’ve had a reaction to contrast in the past, tell your healthcare provider.

### Remove Devices From Your Skin

If you wear any of the following devices on your skin, the manufacturer recommends you remove it before your scan or procedure:

- Continuous glucose monitor (CGM)
- Insulin pump
Talk with your healthcare provider about scheduling your appointment closer to the date you need to change your device. Make sure you have an extra device with you to put on after your scan or procedure.

If you’re not sure how to manage your glucose while your device is off, talk with the healthcare provider who manages your diabetes care before your appointment.

**Arrange for Someone to Take You Home**

You must have a responsible care partner take you home after your procedure. A responsible care partner is someone who can help you get home safely. They should be able to contact your care team if they have any concerns. Make sure to plan this before the day of your procedure.

If you don’t have a responsible care partner to take you home, call one of the agencies below. They’ll send someone to go home with you. There’s a charge for this service, and you’ll need to provide transportation. It’s OK to use a taxi or car service, but you still need a responsible care partner with you.

**Agencies in New York**
- Partners in Care: 888-735-8913
- Caring People: 877-227-4649

**Agencies in New Jersey**
- Caring People: 877-227-4649

**Tell Us if You’re Sick**

If you get sick (such as have a fever, cold, sore throat, or the flu) before your procedure, call your doctor in Interventional Radiology. You can reach them Monday through Friday from 9 a.m. to 5 p.m. After 5 p.m., during the weekend, and on holidays, call 212-639-2000 and ask for the Interventional Radiology fellow on call.

**Note the Time of Your Appointment**

A staff member from Interventional Radiology will call you 2 business days (Monday through Friday) before your procedure. If your procedure is scheduled on a Monday, they’ll call you on the Thursday before. If you don’t
get a call by noon on the business day before your procedure, call 646-677-7001.

The staff member will tell you what time to arrive at the hospital for your procedure. They’ll also remind you where to go.

Use this area to write down the date, time, and location of your procedure:


If you need to cancel your procedure for any reason, call the healthcare provider who scheduled it for you.

The Day Before Your Procedure

Instructions for Eating Before Your Procedure

Do not eat anything after midnight the night before your procedure. This includes hard candy and gum.

The Day of Your Procedure

Instructions for Drinking Before Your Procedure

You can drink a total of 12 ounces of water between midnight and 2 hours before your scheduled arrival time. Do not drink anything else.

Do not drink anything starting 2 hours before your scheduled arrival time. This includes water.
Things to remember

- Take the medications you were instructed to take the morning of your procedure. Take them with a few sips of water.
- Don’t apply cream or petroleum jelly (Vaseline®). You can use deodorant and light moisturizers.
- Don’t wear eye makeup.
- Remove any jewelry, including body piercings.
- Leave all valuables, such as credit cards and jewelry, at home.
- If you wear contact lenses, wear your glasses instead, if possible. If you don’t have glasses, please bring a case for your contacts.

What to bring

- A list of the medications you take at home.
- Medications for breathing problems (such as inhalers), medications for chest pain, or both.
- A case for your glasses or contacts.
- Your Health Care Proxy form, if you have completed one.
- If you use a CPAP or BiPAP machine to sleep at night, please bring your machine with you, if possible. If you can’t bring your machine with you, we will give you one to use while you’re in the hospital.

During Your Procedure

Your healthcare provider will help you onto the exam table where you’ll lie on your back.

Your healthcare provider will numb the area. They’ll place a needle into the skin by your liver, in the upper right part of your abdomen. Using real-time x-rays (fluoroscopy) and contrast dye, your healthcare provider will place the needle into your portal vein and insert a catheter into it. Once the catheter is in the right place, the particles will be injected.
The catheter will be removed and a small bandage will be placed on the site. Your procedure will take about 2 to 3 hours.

**After Your Procedure**

After your procedure, your healthcare provider will bring you to the recovery room. You may have bleeding, but this is rare.

While you’re in the hospital, let your healthcare provider know if you have pain. They’ll give you medication.

If you’re going home the same day, your nurse will remove your IV. They’ll also explain your discharge instructions to both you and your caregiver before you go home.

If you’re staying in the hospital overnight, you’ll be transferred to a hospital room. Most people are discharged the day after their procedure.

**Follow-Up Care**

- You’ll have a computed tomography (CT) scan 3 to 4 weeks after your procedure. It will help your surgeon see how your liver has changed. The part of your liver that had the portal vein blocked should be smaller. The other part should be bigger.
- Your liver resection surgery will be scheduled around this time.

**When to Call Your Healthcare Provider**

Call your healthcare provider if you have:

- A fever of 100.4 °F (38.0 °C) or higher.
- Pain that is worse, new, or doesn’t get better with medication.
If you have any questions, contact a member of your healthcare team directly. If you're a patient at MSK and you need to reach a provider after 5:00 p.m., during the weekend, or on a holiday, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.