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).

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 will 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 doctor to remove the other side of it.

**Before Your Procedure**

**Ask about your medications**

You may need to stop taking some of your medications before your procedure. Talk with your doctor about which medications are safe for you to stop taking. We have included some common examples here.
Anticoagulants (blood thinners)

If you take a blood thinner (medication that affects the way your blood clots), ask the doctor 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 reason you’re taking it.

**Do not stop taking your blood thinner medication without talking with your doctor.**

### Examples of Blood Thinners

<table>
<thead>
<tr>
<th>Medication</th>
<th>Brand Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>apixaban</td>
<td>Eliquis®</td>
</tr>
<tr>
<td>dalteparin</td>
<td>Fragmin®</td>
</tr>
<tr>
<td>meloxicam</td>
<td>Mobic®</td>
</tr>
<tr>
<td>ticagrelor</td>
<td>Brilinta®</td>
</tr>
<tr>
<td>aspirin</td>
<td></td>
</tr>
<tr>
<td>dipyridamole</td>
<td>Persantine®</td>
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<tr>
<td>nonsteroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen (Advil®) or naproxen (Aleve®)</td>
<td></td>
</tr>
<tr>
<td>tinzaparin</td>
<td>Innohep®</td>
</tr>
<tr>
<td>celecoxib</td>
<td>Celebrex®</td>
</tr>
<tr>
<td>edoxaban</td>
<td>Savaysa®</td>
</tr>
<tr>
<td>pentoxifylline (Trental®)</td>
<td></td>
</tr>
<tr>
<td>warfarin</td>
<td>Coumadin®</td>
</tr>
<tr>
<td>cilostazol</td>
<td>Pletal®</td>
</tr>
<tr>
<td>enoxaparin</td>
<td>Lovenox®</td>
</tr>
<tr>
<td>prasugrel</td>
<td>Effient®</td>
</tr>
<tr>
<td>clopidogrel</td>
<td>Plavix®</td>
</tr>
<tr>
<td>Fondaparinux</td>
<td>Arixtra®</td>
</tr>
<tr>
<td>rivaroxaban</td>
<td>Xarelto®</td>
</tr>
<tr>
<td>dabigatran</td>
<td>Pradaxa®</td>
</tr>
<tr>
<td>heparin (shot under your skin)</td>
<td></td>
</tr>
<tr>
<td>sulfasalazine (Azulfidine®, Sulfazine®)</td>
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</tbody>
</table>

Please read our resource *Common Medications Containing Aspirin and Other Nonsteroidal Anti-inflammatory Drugs (NSAIDs)* ([www.mskcc.org/pe/common_meds](http://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 doctor who prescribes the medication what you should do the morning of your procedure. You may need to change the dose before your procedure.

**Diuretics (water pills)**

If you take any diuretics (medications that make you urinate more often), ask
the doctor performing your procedure what to do. You may need to stop taking them the day of your procedure. Diuretics are sometimes called water pills. Some examples are furosemide (Lasix®) and hydrochlorothiazide.

**Contrast dye**

Contrast is a special dye that makes it easier for your doctor 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 doctor or nurse.

**Arrange for someone to take you home**

You must have a responsible care partner take you home after your procedure. Make sure to plan this before the day of your procedure.

If you don’t have someone to take you home, call one of the agencies below. They will send someone to go home with you. There’s usually a charge for this service, and you will need to provide transportation.

**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 develop any illness (fever, cold, sore throat, or the flu) before your procedure, call a nurse in Interventional Radiology at 212-639-2236. A nurse is available Monday through Friday from 9:00 am to 5:00 pm. After 5:00 pm, 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 before your procedure. If your procedure is scheduled on a Monday, you will be called on the Thursday before. The staff member will tell you what time you should arrive at the hospital for your procedure. They will also tell you where to go for your procedure. If you don’t receive a call by noon the business day before your procedure, please call 212-639-5051. If you need to cancel your procedure for any reason, please call the doctor who scheduled it for you.
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**Instructions for eating and drinking before your procedure**

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

- Between midnight and up until 2 hours before your scheduled arrival time, you may drink a total of 12 ounces of water (see figure).

- Starting 2 hours before your scheduled arrival time, do not eat or drink anything. This includes water.

**The Day of Your Procedure**

**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 doctor will help you onto the exam table where you will lie on your back.

Your doctor will numb the area. They will insert 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 doctor will place the needle into your portal vein and insert a catheter into it. Once the catheter is where your doctor wants it to be, 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 doctor will bring you to the recovery room. You may have bleeding, but this is rare.

While you’re in the hospital, let your doctor or nurse know if you have pain. They will give you medication.

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

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

**Follow-Up Care**
• You will 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.

**Call Your Doctor Or Nurse If You Have:**

• A temperature of 100.4° F (38.0° C) or higher.
• Pain that is worse, new, or doesn’t get better with medication.

**Contact Information**

If you have any questions or concerns, please call Interventional Radiology at 212-639-2236. You can reach a staff member Monday through Friday from 9:00 AM to 5:00 PM. After 5:00 PM, during the weekend, and on holidays, please call 212-639-2000 and ask for the fellow on call for Interventional Radiology.

For more resources, visit [www.mskcc.org/pe](http://www.mskcc.org/pe) to search our virtual library.