

Bland or Chemoembolization of the Liver

Your Appointment

You are scheduled for an embolization procedure on _____

Please arrive at **2 West** at _____

If you have to change or cancel your appointment, please call _____
at **716** _____

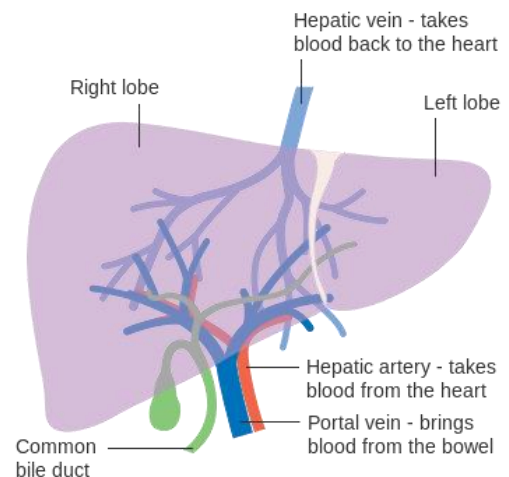
Liver Embolization Overview

Embolization is a procedure used to shrink tumors by cutting off their blood supply by blocking the blood vessels to the tumors. It's used to treat liver tumors that can't be removed with surgery because where they are located in the liver or because of the number of tumors present.

The liver gets its blood supply two ways.

- Most (75-80%) of its blood supply comes through the portal vein.
- The rest (20-25%) comes through the hepatic artery.

(Typically, liver tumors get that their blood supply from the hepatic artery. Embolizing in the hepatic artery starves the tumor cells but spares most of the healthy liver cells because they get their blood supply from the portal vein.)



There are a few ways to embolize liver tumors. This handout discusses chemoembolization and bland embolization of liver tumors. It does not discuss embolization procedures using radiation.

Chemoembolization (Transarterial Chemoembolization/TACE)

Chemoembolization, sometimes called is a procedure that combines embolization and localized chemotherapy to stop tumor growth and/or shrink the tumor(s).

- Chemotherapy is a treatment that uses powerful medications that interfere with the cancer cells' ability to multiply. (Cancer cells reproduce more quickly than most of the normal cells in your body, and if they cannot multiply, they die.) Delivering the chemotherapy directly into the tumor allows your doctor to use a stronger dose of medication while sparing much of the surrounding normal tissues from the effects of the chemotherapy.
- Embolization is a procedure that uses embolic agents* to block (occlude) the blood vessels that bring blood to the tumor(s). When the tumor cells don't get the nutrients they need to survive and grow, the tumor starves. * Currently, the most common embolic agents used in the liver are tiny gelatin particles or beads (microspheres).

Chemoembolization:

- ✓ is used most often to treat liver cancer or other cancers that have spread (metastasized) to the liver
- ✓ may be used alone or it may be combined with other treatments such as surgery or radiation therapy
- ✓ can help preserve liver function and allow for a relatively normal quality of life
- ✓ is used to slow the progression of the disease. It does not cure the cancer
- ✓ can be repeated if there is a recurrence of disease

If you have tumors on both sides of your liver, you may need 2 procedures— one side and then the other. Each procedure will require a separate hospital visit.

Bland embolization (Trans-arterial embolization/TAE)

This procedure is similar to TACE, described above, except *only* embolic agents are placed in the blood vessel(s) to block the blood flow to the tumor. There is no chemotherapy agent placed in the blood vessels.

How to Prepare for Your Procedure

On the day of your procedure, you will meet with the doctor who will perform the embolization. This will give you time to ask questions. You will have blood work drawn on this day, to evaluate how your liver is functioning.

Women should tell their doctor if there is *any chance* they could be pregnant. **Be prepared to tell your doctor about all the medications, vitamins, and supplements you are taking.** Some over-the-counter and prescription medications can interfere with normal blood clotting and increase the risk of bleeding.

Please refer to the chart on the next page for general instructions about taking certain medications before your procedure.

If your doctor gives you different instructions, ALWAYS follow your doctor's instructions.

7 days (1 week) before your procedure, stop:	<ul style="list-style-type: none"> • Aspirin and products containing aspirin Last dose: _____ • Vitamins, herbal supplements, garlic tablets • Fish Oil and Fish oil products (Vascepa®, Lovaza®) • Medication: _____ Last dose: _____
5 days before your procedure, stop:	Medication: _____ Last dose: _____
3 days before your procedure, stop:	<ul style="list-style-type: none"> • Non-steroidal anti-inflammatory medications (NSAIDs): <ul style="list-style-type: none"> ○ ibuprofen (Advil®/Motrin®) – etodolac (Lodine®) ○ naproxen (Aleve®/Anaprox®) – diclofenac (Voltaren®) ○ meloxicam (Mobic®) – piroxicam (Feldene®) ○ indomethacin ○ nabutamone/Relafen® • Medication: _____ Last Dose: _____
1 day (24 hours) before your procedure, stop:	<ul style="list-style-type: none"> • enoxaparin (Lovenox®) Last Dose _____

- If you take medications to treat or prevent blood clots, talk to your doctor about when, or if, you should stop taking your medication before your procedure.
- If you have diabetes, please check with your primary doctor about what medications and dosages you should take the night before, and the morning of, your embolization.
- You will receive moderate sedation before this procedure and pain medication after the procedure. **Most patients stay overnight. (Note: If you do go home the same day as the procedure, you must arrange to have an adult drive you home.)**
- **DO NOT eat or drink anything for 8 hours before your procedure except for sips of water. Stop drinking water 2 hours before your procedure.**

The Day of Your Procedure

- In the morning, *take only the medications your doctor has instructed.* You can take them with a very small sip of water. Usually pain medications and blood pressure medications are allowed.

- Arrive at the hospital at your appointment time and check in at 2 West.
- An intravenous (IV) needle will be placed in a vein in your arm before the procedure.
- You will be on bed rest for 2 hours before the procedure.

During the Procedure

- The embolization procedure is done in the Interventional Radiology Department, by a specially trained radiologist.
- On the treatment table, you will get sedation medication through your IV to lessen anxiety and discomfort. This medication may make you drowsy or sleepy.
- We will check your vital signs (pulse, respiratory rate, blood pressure, body temperature) during and after the procedure.
- A local anesthetic (like the novocaine you get at the dentist) is injected, and a very small cut is made in the skin of your groin area.
- A long, thin tube (catheter) is placed into the femoral artery in the groin. You may feel some pressure in your groin.
- Imaging is used to guide the catheter up the artery towards the liver. A contrast dye is used to show the arteries feeding the tumor(s). You may get a feeling of warmth when the dye is injected.
- When the catheter is in vessel(s) to the tumor(s), either
 - both chemotherapy medications and embolic agents (particles that plug up the blood vessels,) are mixed together and injected through the catheter (chemoembolization) -OR-
 - only the embolic agent is injected through the catheter (bland embolization) **No chemotherapy agents are given.**

Note: You may experience pain in your upper abdomen that radiates to your shoulder, and possibly a warm, flushing feeling.

- After the procedure, the catheter is removed and pressure is applied to the site to stop the bleeding where the catheter was inserted. We may apply a small closure device, if necessary, and then cover the site with a dressing.
- You will be on the x-ray table for about 60-90 min.

What You Can Expect After the Procedure

- You will remain on flat bed rest for 2-4 hours.
- You will recover on 2 West or on the floor where you are admitted.
- You will stay overnight.
- There may be mild tenderness and swelling (about the size of a dime) in your groin where we inserted the catheter.
- You may restart all of your regular medications, unless otherwise directed. **Do not take acetaminophen (Tylenol®) until 2 weeks after your procedure.**
- Do not lift anything weighing more than 10 pounds for 7 days after the procedure. Do not take part in strenuous exercise such as running or tennis. Light activity/exercise such as walking is encouraged.
- After discharge, you should be able to resume your normal activities within the week.

Side Effects and Risks

- **Common side effects are pain, nausea and vomiting, fatigue, decreased appetite, weakness, and a low grade (under 100°F) fever.** All of these symptoms are managed well with medication. Fatigue and decreased appetite are most common a week after treatment.
- Though this procedure is minimally invasive, any invasive procedure carries some risk. Your doctor will review the benefits and risks of embolization with you before the procedure. Ask questions if you have any concerns. Risks include infection, bleeding, allergic reaction to the contrast dye, kidney damage in people with pre-existing kidney disease, and liver damage.

Follow-up

- We will give you a follow-up appointment to see your doctor in approximately 4 weeks. A nurse will call you in 2 weeks to see how you are doing. Your doctor may have you get some blood work done 2 weeks after your procedure.
- Your doctor will order follow up scans to see how the treatment worked and to check for new tumors. If new tumors arise, chemoembolization can be repeated, which usually occurs 2 to 4 weeks after the first treatment.

When to Call your Doctor

Call your doctor immediately if you have:

- increased shortness of breath, difficulty breathing, or chest pain
- any sign of infection: Fever of **100.4°F (38°C)** or higher; chills; sore throat; redness, heat, increased swelling, or drainage where the catheter was put in (groin) or where you had your IV.

Questions or Concerns

- If you have any questions about your procedure, please call _____
- Clinic hours are Monday through Friday, 8 a.m. to 5 p.m.
- During evenings, weekends, and holidays, please call the main hospital number **716-845-2300** or toll free at **1-800-ROSWELL (1-800-767-9355)**, and our Call Center staff will assist you.
- If it is decided you need to be seen, you may be asked to come to our Assessment & Treatment Center (ATC), which is open 24/7. You need to be referred to the ATC by your Roswell Park provider (or the provider on-call); it is not a walk-in clinic.