

Percutaneous Ethanol Injection (PEI) to Treat Solid Tumors

What to expect

This handout explains the purpose of percutaneous ethanol injection. It describes what you can expect before, during, and after treatment.



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Why do I need this treatment?

Your doctors have found a tumor (or tumors) in an organ in your body (usually the liver, kidney, or lung). There are many treatments for tumors, but certain ones work best for certain people.

Our team of experts believes percutaneous ethanol injection (PEI) of the tumor is the best option for you now. The goal of this treatment is to destroy the tumor. After this, other options (such as chemotherapy, chemoembolization, or surgery) may also be recommended for you.

How does PEI work?

PEI is a treatment that uses image guidance to place a needle through the skin into a tumor. Ethanol is injected through the needle into the tumor. The ethanol destroys the cancer cells.

Only the tumor itself and a small border of normal tissue around it will be destroyed. The scar that is formed will shrink over time.

How is the procedure done?

PEI is done by an *interventional radiologist*, a doctor or advanced practice provider who specializes in procedures that are guided by X-ray images. Because you must be perfectly still during the treatment, we will give you *general anesthesia* to make you sleep.

- The procedure is done in an interventional radiology suite or a *computed tomography (CT)* scanner. It takes about 1 to 3 hours, depending on the size and number of tumors being treated.
- Once you are asleep, a radiology technologist will clean your skin around the area of your procedure with a special soap. Tell them if you have any allergies. The technologist may need to shave some hair in the area where the doctor will be working.

- Your doctor will insert the probe into your tumor. The probe may need to be inserted more than once into the same tumor. If you have many tumors, several of them may be treated in 1 session.
- The probe is removed after the tumor is destroyed. The only sign of the treatment will be small quarter-inch nicks in your skin where the probes were placed.

What are the side effects?

The most common side effect is pain. The pain can usually be treated with pain medicines. Other side effects include nausea, slight fever, or chills that can last about a week

What are the risks?

All medical procedures involve some risk. But the potential benefits of percutaneous ethanol injection far outweigh the risks.

The most common complications are:

- Bleeding
- Liver (or other organ) function gets worse
- Infections (such as a liver abscess). You will be given antibiotics prior to the procedure to reduce this risk.

Your doctor will talk with you about these risks before the procedure. Please be sure all your questions and concerns are answered.

Before Your Procedure

A nurse will call you within 5 days of your procedure. They will give you important instructions and answer any questions you have.

- You will meet with an anesthesia care provider to talk about your medicines for the procedure. This visit will be either in the hospital or in a clinic. We will arrange this visit for you.
- If you do not understand English well enough to understand the instructions from the nurse or the details of the procedure, tell us right away. We will arrange for a hospital interpreter to help you. A family member or friend **cannot** interpret for you.
- Most patients need blood tests done before the procedure. We may be able to do your blood tests when you arrive for your procedure. We will tell you if we need a blood sample before that day.
- If you take any blood-thinning medicines (such as Coumadin, Lovenox, Fragmin, or Plavix), you may need to stop taking the medicine for 3 to 9 days before your procedure. Do NOT stop these medicines unless your doctor or nurse has told you to do so. We will give you instructions as needed.

- You must arrange for a responsible adult to drive you home after your procedure and stay with you the rest of the day. You **cannot** drive yourself home or take a bus, taxi, or shuttle.

The Day of Your Procedure

To prepare for sedation, follow these instructions exactly:

Starting at midnight, the night before your procedure

- Do not eat or drink anything.
- Do not take any of the medicines that you were told to stop before this procedure.
- If you must take medicines, take them with only a sip of water. Do not skip them unless your doctor or nurse tells you to.
- Do not take vitamins or other supplements. They can upset an empty stomach.

Bring with you to the hospital a list of all the medicines you take.

Please plan to spend most of the day in the hospital. If there is a delay in getting your procedure started, it is usually because we need to treat other people who have unexpected and urgent health issues. Thank you for your patience if this occurs.

At the Hospital

A staff member will give you a hospital gown to put on and a bag to put your belongings in. You may use the restroom at that time.

A staff member will take you to a pre-procedure area. There, a nurse will do a pre-procedure assessment. A family member or friend can be with you in the pre-procedure area.

An IV line will be started. You will be given fluids and medicines through the IV.

An interventional radiology doctor will talk with you about the procedure, answer any questions you have, and ask you to sign a consent form, if you have not already done this.

The anesthesia care provider will meet you and go over your health history before you go into the procedure room. They will give you medicine to make you sleep and monitor you during and after the procedure.

After Your Procedure

You will be moved to a room on the short-stay unit on the hospital.

Once you are settled in your room:

- Your family member or friend will be able to be with you.
- You will need to rest for 2 to 6 hours to allow your puncture site to heal.
- You will be able to eat and drink.

Before you get up to walk, we will assess you to make sure you can walk safely. A staff member will help you get out of bed.

You will be able to go home the same day when:

- You can eat, drink, and use the restroom
- Your nausea and pain are under control
- Your vital signs are stable

For 24 Hours

The medicine that you were given to make you sleepy will stay in your body for several hours. It could affect your judgment. You may also be lightheaded or feel dizzy. Because of this, for 24 hours:

- Do not drive a car.
- Do not use machines or power tools.
- Do not drink alcohol.
- Do not take medicines such as tranquilizers or sleeping pills unless your doctor prescribed them.
- Do not make important decisions or sign legal documents.
- Do not be responsible for children, pets, or an adult who needs care.

To help your recovery:

- Do only light activities and get plenty of rest.
- Keep the puncture site covered with the dressing. Make sure it stays clean and dry.
- A responsible adult should stay with you overnight.
- Eat as usual.
- Drink lots of fluids.
- Resume taking your medicines as soon as you start to eat. Take **only** the medicines that your doctors prescribed or approved.

For 48 to 72 Hours

- Do not lift anything that weighs more than 5 to 10 pounds (a gallon of milk weighs almost 9 pounds).
- Do only gentle activities. This will allow your puncture site to heal.

Dressing Care

- For 24 hours, keep the puncture site covered with the dressing. Make sure it stays clean and dry.
- After 24 hours, remove the dressing and check the site for any signs that your wound needs care. See the list under “When to Call,” on page 5.

- You may shower after 24 hours. Do not scrub the puncture site. Allow warm soapy water to run gently over the site. After showering, gently pat the site dry with a clean towel.
- Do not apply lotion, ointment, or powder to the site. You may apply a new bandage.
- If you apply a new bandage, change it every day for the next few days. Always check the site for any signs that your wound needs care when you remove the bandage.
- Do not take a bath, sit in a hot tub, go swimming, or allow your puncture site to be covered with water until it is fully healed.
- You may have a little discomfort at the site for 1 to 2 days.

When to Call

Call us right away if you have:

- Mild fever, pain, redness, swelling at the puncture site or dizziness
- Mild shortness of breath, chest tightness or chest pain
- Any other non-urgent questions or concerns

Call 911 and go to the nearest emergency department if you have:

- Severe bleeding or any bleeding that does not stop after you have applied gentle pressure for about 15 minutes
- Drainage from your incision
- Fever higher than 101°F (38.3°C) or chills
- Shortness of breath that is getting worse
- New chest pain
- Dizziness
- Vomiting
- Yellowing of your eyes or skin

Questions?

Your questions are important. Call your doctor or healthcare provider if you have questions or concerns.

UWMC – Montlake:

206.598.6209, option 2

UWMC – Northwest:

206.598.6209, option 3

Harborview Medical Center:

206.744.2857

After hours and on weekends and holidays:

Call 206.598.6190 and ask to page the Interventional Radiology resident on call.

Who to Call

University of Washington Medical Center and Northwest Hospital

Weekdays from 8 a.m. to 4:30 p.m., call the Interventional Radiology Department:

- Montlake: 206.598.6209, option 2
- Northwest: 206.598.6209, option 3

Harborview Medical Center

Weekdays from 8 a.m. to 4:30 p.m., call the Interventional Radiology Department at 206.744.2857.