

Ultrasound: Guided Aspiration to Remove Fluid

About paracentesis and thoracentesis

This handout explains ultrasound-guided thoracentesis and paracentesis. Read this handout to learn more about the procedures, how to prepare, what to expect during and after your procedure, and how to get your results.

What is an ultrasound-guided aspiration?

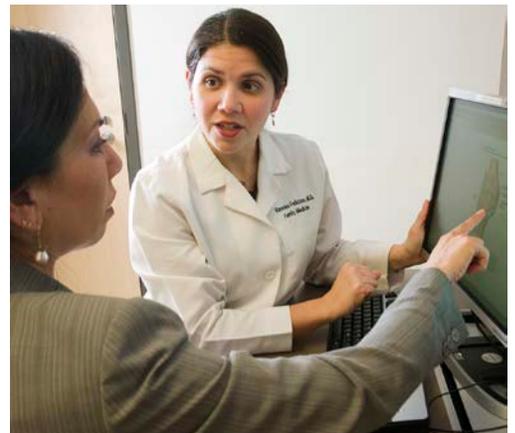
An *ultrasound* exam uses sound waves to take pictures of your body's organs and tissues. An *aspiration* is a procedure to remove extra fluid from a part of your body. If the fluid is:

- In your belly, the procedure is called *paracentesis*
- In your chest cavity, it is called *thoracentesis*

These procedures may be done to ease your symptoms or to remove some fluid so that it can be sent to the lab. A needle or *catheter* (a thin, flexible tube) is used to remove this fluid safely from your body.

How does the procedure work?

- After gel is applied to your skin, the *sonographer* (ultrasound technologist) presses a *transducer* against your skin. A transducer is a hand-held device that sends and receives sound waves.
- As the sound waves bounce off your body's tissues, images of your tissues show on a monitor.
- Your radiologist will then use ultrasound to guide the insertion of a needle or catheter into your skin.
- The insertion usually only takes a few seconds or minutes. The aspiration may take minutes or 1 hour or longer. The length depends on why you are having the procedure and how much fluid is being removed.



Talk with your doctor if you have any questions about your procedure.

How should I prepare?

Medicines

- If you usually take aspirin or another *anticoagulant* medicine (blood thinners), follow the instructions Imaging Services scheduling staff gave you. They have checked with our clinic doctors about whether you should stop taking the blood thinners before your aspiration.
- Take your regular medicines as prescribed by your doctor, unless your doctor or the radiology clinic staff have told you otherwise.

Day of Your Procedure

- Eat lightly on the day of your procedure.
- If you will have a lot of fluid taken, you will not be able to drive yourself home after your exam. Your healthcare provider will tell you if you will need to bring someone to drive you home.
- If your doctor wants you to have an infusion of *albumin* for your procedure, we may ask you to arrive before your procedure time. Albumin is a protein that helps balance fluid levels in your body. It can help prevent side effects that can occur when large amounts of fluid are removed from your body. Imaging Services scheduling staff will give you instructions if you need albumin.

At the Hospital

- We will ask you to change into a hospital gown for your procedure. All of your belongings will stay with you during your visit.
- The radiologist who does your procedure, or an assistant, will explain your procedure. They will describe possible complications, and give you instructions and self-care tips for after your procedure. Be sure to ask all the questions you may have.
- You will need to sign a consent form that says you understand what we talked about and that you agree to have this procedure.

How is the ultrasound-guided aspiration done?

- The sonographer will help you get into position on the ultrasound table. You will either lie down or sit, depending on where the fluid to be collected is and other factors.
- The first few ultrasound images will show your doctor the area that will be aspirated and the safest place to insert the needle or catheter.
- Once this location is confirmed:
 - The insertion site will be marked on your skin.

- Your skin around the insertion site will be scrubbed and disinfected, and a sterile drape will be put over it.
- A local *anesthetic* will be injected. This will numb the area so that you do not feel the incision.
- The needle or catheter will be inserted through this incision.
- We may ask you not to move or cough while the needle or catheter is being inserted. You may also need to hold still or hold your breath at times during the procedure. Holding still will help your doctor insert the needle safely into the right area.
- Using the ultrasound image for guidance, your doctor will direct the needle or catheter to the correct site and remove the fluid. After enough fluid is taken, the needle or catheter will be removed.
- After any bleeding at the insertion site has stopped, a bandage will be placed over the site. Bleeding will be minor and you will not need stitches. It is very rare to have bleeding that requires more treatment or a hospital stay.
- If you have a lot of fluid to be removed, it can build up again. This means you may need to repeat the procedure in the near future.
- If a thoracentesis is done, we may order a chest X-ray after your procedure to make sure you do not have any complications, such as *pneumothorax* (collapse of the lung). This is a rare but serious complication. If you have pneumothorax, we may need to place a drain in your chest and monitor you for a while before you leave the hospital.
- Most patients may leave the hospital after their procedure.

What will I feel during the procedure?

- When local anesthetic is injected, you will feel a pin prick from the needle. You may feel a burning sensation as the medicine is injected and takes effect. The area will quickly become numb.
- You may feel pressure from your doctor's hands or from the needle or catheter. You should not feel any pain.
- If you are having **thoracentesis** and a larger amount of fluid is being removed from your chest cavity, you may start to cough. If this happens, we will pause or stop the procedure.
- If you are having a **paracentesis** and larger amounts of fluid are being removed from your belly, you may feel some relief from the pressure and weight the fluid was causing. You may also feel a little dizzy after the procedure. To lessen these complications, you may receive an infusion of albumin to help balance your body fluids.

What should I expect after the procedure?

- Most times, you may remove your bandage 24 hours after your procedure.
- You may shower the day after your procedure.
- Do **not** do any heavy lifting, a lot of stair climbing, or sports activities for 1 full day after your procedure.
- You may return to your usual activities 2 days after your aspiration, if you feel up to it.
- Talk with your radiologist if you plan to travel by air within 24 hours after your procedure.
- Your needle site may be sore as the local anesthesia wears off. It should start to feel better 12 to 48 hours after your procedure.

When to Call for Help

Severe bleeding from an aspiration is rare. It occurs in less than 3% of patients (less than 3 out of 100). Symptoms of bleeding include:

- Pain and swelling where the aspiration was done
- Rapid pulse (heart rate)
- Overall weakness
- Pale skin
- Chest pain or shortness of breath, especially after a thoracentesis

If you have any of these symptoms, go to the nearest emergency room or call 911. Call your doctor as soon as possible after you have received emergency treatment.

Who interprets the results and how do I get them?

The radiologist will send a detailed report to your doctor who referred you for your aspiration. It may take a few days to a week, or more, for your doctor to get all of your lab results. This is called the *pathology* report. Your referring doctor or nurse will talk with you about these results.

Questions?

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

- UWMC Imaging Services: 206.598.6200
- Harborview Radiology: 206.744.3105