Abscess Drainage



An abscess is an infected fluid collection within the body. Percutaneous abscess drainage uses imaging guidance to place a needle or catheter through the skin into the abscess to remove or drain the infected fluid. It offers faster recovery than open surgical drainage.

Patients who undergo this procedure are usually hospitalized. Inform your doctor if there's a possibility you are pregnant and discuss any recent illnesses, medical conditions, allergies and medications you're taking. Your doctor may advise you to stop taking aspirin, nonsteroidal anti-inflammatory drugs (NSAIDs) or blood thinners several days prior to your procedure and instruct you not to eat or drink anything for several hours beforehand. Leave jewelry at home and wear loose, comfortable clothing. You may be asked to wear a gown.

What is abscess drainage?

An abscess is an infected fluid collection within the body. In general, people who have an abscess will experience fever, chills and pain in the approximate location of the area that is involved. If a patient has these symptoms, it is not uncommon that they will undergo an imaging test, (usually a CT scan (http://www.radiologyinfo.org) or an ultrasound (http://www.radiologyinfo.org)), to assist in identifying and making the correct diagnosis of an abscess. Once the diagnosis of an abscess has been made, your physician and an interventional radiologist will work together to decide the appropriate therapy. As long as it is deemed safe, percutaneous abscess drainage offers a minimally invasive therapy that can be used to treat the abscess.

In percutaneous abscess drainage, an interventional radiologist uses imaging guidance (CT, ultrasound or fluoroscopy) to place a thin needle into the abscess to obtain a sample of the infected fluid from an area of the body such as the chest, abdomen or pelvis. Then, a small drainage catheter is left in place to drain the abscess fluid. It may take several days for all the fluid to be removed. Occasionally, abscesses that cannot be treated by percutaneous drainage may require surgical drainage in the operating room.

What are some common uses of the procedure?

Percutaneous abscess drainage is generally used to remove infected fluid from the body, most commonly in the abdomen and pelvis. The abscess may be the result of recent surgery or secondary to an infection such as appendicitis (https://www.radiologyinfo.org/en/info/appendicitis) or *diverticulitis (https://www.radiologyinfo.org/en/info/diverticulitis)* . Less commonly, percutaneous abscess drainage may be used in the chest or elsewhere in the body.

How should I prepare?

Patients who undergo percutaneous abscess drainage fall into two general categories:

- those who are hospitalized, frequently recovering from surgery.
- those who are not hospitalized and have symptoms as described above. In these cases, you may be admitted to the hospital on the day of your procedure.

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Tell your doctor about all the medications you take, including herbal supplements. List any allergies, especially to local anesthetic (http://www.radiologyinfo.org) , general anesthesia (http://www.radiologyinfo.org) , or contrast materials (http://www.radiologyinfo.org) . Your doctor may tell you to stop taking aspirin, nonsteroidal anti-inflammatory drugs (NSAIDs (http://www.radiologyinfo.org)) or blood thinners before your procedure.

Women should always tell their doctor and technologist (http://www.radiologyinfo.org) if they are pregnant. Doctors will not perform many tests during pregnancy to avoid exposing the fetus (http://www.radiologyinfo.org) to radiation. If an x-ray is necessary, the doctor will take precautions to minimize radiation exposure to the baby. *See the Radiation Safety (https://www.radiologyinfo.org/en/info/safety-radiation) page for more information about pregnancy and x-rays.*

Other than medications, your doctor may tell you to not eat or drink anything for several hours before your procedure.

The nurse will give you a gown to wear during the procedure.

You should plan to stay overnight at the hospital following your procedure.

What does the equipment look like?

A catheter is a long, thin plastic tube that is considerably smaller than a "pencil lead." It is about 1/8 inch in diameter.

Percutaneous abscess drainage is typically performed with the guidance of CT, ultrasound or x-ray fluoroscopic imaging.

CT

The CT scanner is typically a large, donut-shaped machine with a short tunnel in the center. You will lie on a narrow table that slides in and out of this short tunnel. Rotating around you, the x-ray tube and electronic x-ray detectors are located opposite each other in a ring, called a gantry. The computer workstation that processes the imaging information is in a separate control room. This is where the technologist operates the scanner and monitors your exam in direct visual contact. The technologist will be able to hear and talk to you using a speaker and microphone.

Ultrasound

Ultrasound machines consist of a computer console, video monitor and an attached transducer (http://www.radiologyinfo.org) . The transducer is a small hand-held device that resembles a microphone. Some exams may use different transducers (with different capabilities) during a single exam. The transducer sends out inaudible, high-frequency sound waves into the body and listens for the returning echoes. The same principles apply to sonar used by boats and submarines.

The technologist applies a small amount of gel to the area under examination and places the transducer there. The gel allows sound waves to travel back and forth between the transducer and the area under examination. The ultrasound image is immediately visible on a video monitor. The computer creates the image based on the loudness (amplitude), pitch (frequency), and time it takes for the ultrasound signal to return to the transducer. It also considers what type of body structure and/or tissue the sound is traveling through.

X-ray

This exam typically uses a radiographic table, one or two x-ray tubes, and a video monitor. Fluoroscopy converts x-rays into video images. Doctors use it to watch and guide procedures. The x-ray machine and a detector suspended over the exam table produce the video.

This procedure may use other equipment, including an intravenous (http://www.radiologyinfo.org) line (IV), ultrasound machine and devices that monitor your heart beat and blood pressure.

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How is the procedure performed?

Image-guided, minimally invasive procedures such as percutaneous abscess drainage are most often performed by a specially trained interventional radiologist in an interventional radiology (http://www.radiologyinfo.org) suite or under CT guidance in a separate area of the radiology department.

You will lie on the procedure table.

The doctor or nurse may connect you to monitors that track your heart rate, blood pressure, oxygen level, and pulse.

A nurse or technologist (http://www.radiologyinfo.org) will insert an intravenous (http://www.radiologyinfo.org) (IV) line into a vein in your hand or arm so that sedative medication can be given intravenously.

Your doctor will numb the area with a local anesthetic (http://www.radiologyinfo.org) . This may briefly burn or sting before the area becomes numb.

The nurse will sterilize the area of your body where the catheter is to be inserted. They will sterilize and cover this area with a surgical drape.

The doctor will make a very small skin incision at the site.

After the patient is sedated for the procedure, the interventional radiologist uses image-guidance to place a catheter (http://www.radiologyinfo.org) (a long, thin, hollow plastic tube) through the skin and into the abscess to allow for drainage of the infected fluid.

The doctor or nurse will remove your IV line before you go home.

This procedure is usually completed in 20 minutes to an hour.

Once in place, the catheter is connected to a drainage bag outside of your body. The catheter will remain in place until the fluid has stopped draining and your infection is gone. It may take several days to drain the abscess.

What will I experience during and after the procedure?

The doctor or nurse will attach devices to your body to monitor your heart rate and blood pressure.

You will feel a slight pinch when the nurse inserts the needle into your vein for the IV line and when they inject the local anesthetic. Most of the sensation is at the skin incision site. The doctor will numb this area using local anesthetic. You may feel pressure when the doctor inserts the catheter into the vein or artery. However, you will not feel serious discomfort.

If the procedure uses sedation, you will feel relaxed, sleepy, and comfortable. You may or may not remain awake, depending on how deeply you are sedated.

You will remain in the recovery room until you are completely awake and ready to be moved to your hospital bed.

In general, patients who undergo percutaneous abscess drainage will remain hospitalized for a few days. Further follow-up is usually done on an outpatient basis and you will be seen by your interventional radiologist at regular intervals to ensure that the healing process is proceeding according to plan. Once you have recovered and your interventional radiologist is satisfied that healing is complete, the catheter will be removed.

Who interprets the results and how do I get them?

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After the procedure is complete, the interventional radiologist (http://www.radiologyinfo.org) will tell you whether the procedure was a success.

What are the benefits vs. risks?

Benefits

- No surgical incision is necessary—only a small nick in the skin that does not need stitches.
- The procedure is minimally invasive and the recovery period is usually faster than after open surgical drainage.

Risks

- Any procedure that penetrates the skin carries a risk of infection. The chance of infection requiring antibiotic treatment appears to be less than one in 1,000.
- There is a very slight risk of an allergic reaction if the procedure uses an injection of contrast material (http://www.radiologyinfo.org) .
- Very rarely, an adjacent organ may be damaged by percutaneous abscess drainage.
- Occasionally bleeding may occur.
- The catheter placed at the time of percutaneous abscess drainage may become blocked or displaced requiring manipulation or changing of the catheter. In addition, a very large or complex fluid collection may require more than one abscess drain.

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