Memorial Sloan Kettering Cancer Center

PATIENT & CAREGIVER EDUCATION

About Your Thoracentesis With Local Anesthesia and Sedation

This information describes your thoracentesis (THOR-uh-sen-TEE-sis) procedure with local anesthesia (A-nes-THEE-zhuh) and sedation (seh-DAY-shun).

- Local anesthesia is medicine that makes an area of your body numb.
- When you're under sedation, you'll get a sedative. This is medicine that makes you relaxed during your procedure.

This resource is for people who are getting sedation. If you're not getting sedation, read *About Your Thoracentesis With Local Anesthesia* (www.mskcc.org/pe/thoracentesis-local-anesthesia) instead.

About your thoracentesis

Thoracentesis is a procedure that takes out fluid from the space between your chest wall and lung. This space is called the pleural (PLOOR-ul) cavity.

The procedure is done to help ease breathing problems caused by fluid buildup. It may also be done to take a fluid sample for testing if your healthcare provider asks for it.

What to do before your thoracentesis

Talk with your care team and plan your care

You and your care team will work together to get ready for your procedure. Help us keep you safe by telling us if any of these things apply to you, even if you're not sure.

- I take any prescription medicines. A prescription medicine is one you can only get with a prescription from a healthcare provider. Examples include:
  - Medicines you swallow.
  - Medicines you take as an injection (shot).
  - Medicines you inhale (breathe in).
  - Medicines you put on your skin as a patch or cream.
- I take any over-the-counter medicines, including patches and creams. An over-the-counter medicine is one you can buy without a prescription.
- I take any dietary supplements, such as herbs, vitamins, minerals, or natural or home remedies.
- I have a pacemaker, automatic implantable cardioverter-defibrillator (AICD), or other heart device.
- I have had a problem with anesthesia in the past. Anesthesia is medicine to make you sleep during a surgery or procedure.
- I'm allergic to certain medicines or materials, including latex.
- I'm not willing to receive a blood transfusion.

Always be sure your healthcare providers know all the medicines and supplements you're taking.

You may need to follow special instructions before your procedure based on the medicines and supplements you take. If you do not follow those instructions, your procedure may be delayed or canceled.

- I use recreational drugs, such as marijuana.

About drinking alcohol

It's important to talk with your healthcare providers about how much alcohol you drink. This will help us plan your care.

If you drink alcohol regularly, you may be at risk for problems during and after your procedure. These include bleeding, infections, and heart problems.

If you drink alcohol regularly and stop suddenly, it can cause seizures, delirium, and death. If we know you're at risk for these problems, we can prescribe medicine to help prevent them.

Here are things you can do before your procedure to keep from having problems.

- Be honest with us about how much alcohol you drink.
- Try to stop drinking alcohol once your procedure is planned. Tell us right away if you:
    - Get a headache.
    - Feel nauseous (like you're going to throw up).
    - Feel more anxious (nervous or worried) than usual.
    - Cannot sleep.

  These are early signs of alcohol withdrawal and can be treated.
- Tell us if you cannot stop drinking.
- Ask us questions about drinking and procedures. We will keep all your medical information private, as always.

About smoking

If you smoke or use an electronic smoking device, you can have breathing problems when you have a procedure. Vapes and e-cigarettes are examples of electronic smoking devices. Stopping for even a few days before your

procedure can help prevent breathing problems during and after your procedure.

Your healthcare provider will refer you to our Tobacco Treatment Program if you smoke. You can also reach the program by calling 212-610-0507.

About sleep apnea

Sleep apnea is a common breathing problem. If you have sleep apnea, you stop breathing for short lengths of time while you're asleep. The most common type is obstructive sleep apnea (OSA). With OSA, your airway becomes fully blocked during sleep.

OSA can cause serious problems during and after a procedure. Tell us if you have or think you might have sleep apnea. If you use a breathing device, such as a CPAP machine, bring it on the day of your procedure.

Ask about your medicines

You may need to stop taking some of your usual medicines before your procedure. Or, you may need to take a different dose (amount) than usual. Talk with your healthcare provider about how to take your medicines before your procedure. Do not change how you take your medicines without talking with a healthcare provider.

This section lists some examples of medicines, but there are many others. **Make sure your care team knows all the prescription medicines, over-the-counter medicines, and dietary supplements you take.** A prescription medicine is one you can only get with a prescription from a healthcare provider. An over-the-counter medicine is one you can buy without a prescription.



It's very important to take your medicines and supplements the right way in the days before your procedure. If you don't, we may need to reschedule your procedure.

Anticoagulants (blood thinners)

A blood thinner is a medicine that changes the way your blood clots. Blood thinners are often prescribed to help prevent a heart attack, stroke, or other problems caused by blood clots.

If you take a blood thinner, ask the healthcare provider doing your procedure what to do before your procedure. They may tell you to stop taking the medicine a certain number of days before your procedure. This will depend on the type of procedure you're having and the reason you're taking a blood thinner.

Here are some examples of blood thinners. There are others, so be sure your care team knows all the medicines you take. **Do not stop taking your blood thinner without talking with a member of your care team.**

- Apixaban (Eliquis®)
- Aspirin
- Celecoxib (Celebrex®)
- Cilostazol (Pletal®)
- Clopidogrel (Plavix®)
- Dabigatran (Pradaxa®)
- Dalteparin (Fragmin®)
- Dipyridamole (Persantine®)
- Edoxaban (Savaysa®)
- Enoxaparin (Lovenox®)
- Fondaparinux (Arixtra®)
- Heparin injection (shot)
- Meloxicam (Mobic®)
- Nonsteroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen (Advil®, Motrin®) and naproxen (Aleve®)
- Pentoxifylline (Trental®)
- Prasugrel (Effient®)
- Rivaroxaban (Xarelto®)
- Sulfasalazine (Azulfidine®, Sulfazine®)
- Ticagrelor (Brilinta®)
- Tinzaparin (Innohep®)
- Warfarin (Jantoven®, Coumadin®)

Other medicines and supplements can change how your blood clots. Examples include vitamin E, fish oil, and nonsteroidal anti-inflammatory drugs (NSAIDs). Ibuprofen (Advil®, Motrin®) and naproxen (Aleve®) are examples of NSAIDs, but there are many others.

Read *How To Check if a Medicine or Supplement Has Aspirin, Other NSAIDs, Vitamin E, or Fish Oil* (www.mskcc.org/pe/check-med-supplement). It will help you know which medicines and supplements you may need to avoid before your procedure.

Diabetes medicines

If you take insulin or other diabetes medicines, talk with your MSK healthcare provider and the healthcare provider who prescribes it. Ask them what to do before your procedure. You may need to stop taking it or take a different dose (amount) than usual. You may also need to follow different eating and drinking instructions before your procedure. Follow your healthcare provider's instructions.

Your care team may check your blood sugar levels before and after your procedure.

GLP-1 medicines for weight loss

It's important to tell your healthcare provider if you take a GLP-1 medicine. You must follow special eating and drinking instructions before your surgery or procedure. **It is very important to follow these instructions if you have taken a GLP-1 medicine at any time in the last 30 days. If you do not follow them, your surgery or procedure may be delayed or canceled.**

- **Start following a clear liquid diet at 6 a.m. the day before your surgery or procedure.** Do not eat any solid food. Read *Clear Liquid Diet* (www.mskcc.org/pe/clear-liquid-diet) to learn more.
- **Stop drinking 8 hours before your arrival time.** Do not eat or drink anything after this time, including clear liquids. You can have small sips of water with your medicines.

To learn more, read *Eating and Drinking Before Your Surgery or Procedure When Taking GLP-1 Medicines* (www.mskcc.org/pe/eat-drink-glp1).

Here are some examples of GLP-1 medicines. There are others, so be sure your care team knows all the medicines you take. Sometimes, these are prescribed to help manage diabetes or other conditions. Other times, they're prescribed for weight loss.

• Semaglutide (Wegovy®, Ozempic®, Rybelsus®) • Dulaglutide (Trulicity®)	• Tirzepatide (Zepbound®, Mounjaro®) • Liraglutide (Saxenda®, Victoza®)

Diuretics (water pills)

A diuretic is a medicine that helps control fluid buildup in your body. Diuretics are often prescribed to help treat hypertension (high blood pressure) or edema (swelling). They can also be prescribed to help treat certain heart or kidney problems.

You may be taking a diuretic. If so, ask the healthcare provider doing your procedure what to do before your procedure. You may need to stop taking it the day of your procedure.

Here are some examples of diuretics. There are others, so be sure your care team knows all the medicines you take.

• Bumetanide (Bumex®) • Furosemide (Lasix®)	• Hydrochlorothiazide (Microzide®) • Spironolactone (Aldactone®)

Get a letter from your doctor, if needed

If you have an automatic implantable cardioverter-defibrillator (AICD), talk with your cardiologist (heart doctor) about your procedure. You may need to get a clearance letter from them before your procedure. This is a letter that says it's safe for you to have the procedure. Follow your care team's instructions.

Arrange for someone to take you home

You must have a responsible care partner take you home after your procedure. A responsible care partner is someone who can help you get home safely. They should be able to contact your care team if they have any concerns. Make sure to plan this before the day of your procedure.

If you don't have a responsible care partner to take you home, call one of the agencies below. They'll send someone to go home with you. There's a charge for this service, and you'll need to provide transportation. It's OK to use a taxi or car service, but you still need a responsible care partner with you.

Agencies in New York

VNS Health: 888-735-8913

Agencies in New Jersey

Caring People: 877-227-4649

What to do the day before your thoracentesis

Note the time of your procedure

A staff member will call you after 2 p.m. the day before your procedure. If your procedure is scheduled for a Monday, they'll call you on the Friday before. If you do not get a call by 7 p.m., call 212-639-5014.

The staff member will tell you what time to arrive for your procedure. They'll also remind you where to go.

Visit www.msk.org/parking for parking information and directions to all MSK locations.

Instructions for eating

Important: If you take a GLP-1 medicine, do not follow these instructions. Follow the instructions in *Eating and Drinking Before Your Surgery or Procedure When Taking GLP-1 Medicines* (www.mskcc.org/pe/eat-drink-glp1) instead.



Stop eating at midnight (12 a.m.) the night before your surgery or procedure. This includes hard candy and gum.

Your healthcare provider may have given you different instructions for when to stop eating. If so, follow their instructions. Some people need to fast (not eat) for longer before their surgery or procedure.

What to do the day of your thoracentesis

Instructions for drinking

Important: If you take a GLP-1 medicine for weight loss, do not follow these instructions. Follow the instructions in *Eating and Drinking Before Your Surgery or Procedure When Taking GLP-1 Medicines* (www.mskcc.org/pe/eat-drink-glp1) instead.

Between midnight (12 a.m.) and 2 hours before your arrival time, only drink the liquids on the list below. Do not eat or drink anything else. Stop drinking 2 hours before your arrival time.

- Water.
- Clear apple juice, clear grape juice, or clear cranberry juice.
- Gatorade or Powerade.
- Black coffee or plain tea. It's OK to add sugar. Do not add anything else.
  - Do not add any amount of any type of milk or creamer. This includes plant-based milks and creamers.
  - Do not add honey.
  - Do not add flavored syrup.

If you have diabetes, pay attention to the amount of sugar in your drinks. It will be easier to control your blood sugar levels if you include sugar-free, low-sugar, or no added sugar versions of these drinks.

It's helpful to stay hydrated before procedures, so drink if you are thirsty. Do not drink more than you need. You may get intravenous (IV) fluids during your procedure.



Stop drinking 2 hours before your arrival time. This includes water.

Your healthcare provider may have given you different instructions for when to stop drinking. If so, follow their

instructions.

Things to remember

- Follow your healthcare provider's instructions for taking your medicines the morning of your procedure. It's OK to take them with a few small sips of water.
- Wear something comfortable and loose-fitting.
- If you wear contact lenses, wear your glasses instead. Wearing contact lenses during your procedure can damage your eyes. If you don't have glasses, bring a case for your contacts.
- Do not wear any lotion, cream, deodorant, makeup, powder, perfume, or cologne.
- Do not wear any metal objects. Take off all jewelry, including body piercings. The tools used during your procedure can cause burns if they touch metal.
- Leave valuable items at home if you don't need them. Examples include extra credit cards, extra cash, and jewelry.
- If you're menstruating (have your monthly period), use a sanitary pad, not a tampon. We'll give you disposable underwear and a pad if you need them.

What to expect when you arrive

Many staff members will ask you to say and spell your name and birth date. This is for your safety. People with the same or a similar name may be having a procedure on the same day.

We'll give you a patient gown to wear when it's time to change for your procedure. You may also get nonskid socks and a hat to wear. You'll take off your glasses or contacts, hearing aids, dentures, prosthetic devices, wig, and religious articles.

Meet with a nurse

You'll meet with a nurse before your procedure. Tell them the dose of any medicines you took after midnight (12 a.m.) and the time you took them. Make sure to include prescription and over-the-counter medicines, patches, and creams.

Your nurse may place an intravenous (IV) line in one of your veins, usually in your arm or hand. If your nurse does not place the IV, your anesthesiologist (A-nes-THEE-zee-AH-loh-jist) will do it in the procedure room.

The IV will be used to give you the sedative. You may also get fluids through the IV during your procedure.

Meet with an anesthesiologist

You'll also meet with an anesthesiologist before your procedure. An anesthesiologist is a doctor with special training in sedation. They will give you the sedative during your procedure. They'll also:

- Review your medical history with you.
- Ask if you've had any problems with sedation in the past. This includes pain or nausea (feeling like you're going to throw up).
- Talk with you about your comfort and safety during your procedure.
- Talk with you about the kind of sedation you'll get.
- Answer your questions about your sedation.

Meet with your doctor

You'll talk with your doctor before your procedure. They'll explain the procedure and answer your questions.

What to expect during your thoracentesis

When it's time for your procedure, you'll go into the procedure room. A member of your care team will help you onto the exam table. You'll lie on your side.

Your patient gown will be open at the back. Your healthcare provider will use ultrasound imaging on your back to find where the fluid is in your pleural cavity. An ultrasound is an imaging scan that uses sound waves to create pictures of the inside of your body.

Once they find the fluid, your healthcare provider will give you a sedative through your IV. The sedative helps relax you during the procedure.

Your healthcare provider will clean the skin on your back with an antiseptic solution. This is a liquid that kills bacteria and other germs. Then, they'll give you a local anesthetic to numb the area where they'll drain the fluid from. You'll get the anesthetic as an injection (shot).

Once the area is numb, your healthcare provider will start the procedure. They'll put a needle through the numbed area and into your pleural cavity. They may ask you to breathe out or hold your breath at different times during the procedure. You may feel like you need to cough but try not to move while the needle is in place.

Once the needle reaches the fluid in your plural cavity, your healthcare provider will thread a catheter through the needle. A catheter is a thin, flexible tube. They'll take out the needle, leaving one end of the catheter in the fluid. The other end stays outside your body and is attached to a suction or vacuum bottle. The suction pulls the fluid out of your pleural cavity and into the bottle.

You may feel some discomfort in your shoulder or at the insertion site (the place where the needle went in). This can happen toward the end of your procedure. The discomfort should get better once the procedure is over. If you feel any pain during the procedure, tell your healthcare provider.

When your healthcare provider feels that enough fluid has drained, they'll take out the catheter. You will not go home with the catheter.

When you're done, your healthcare provider will put a bandage (Band-Aid®) over the insertion site.

What to expect after your thoracentesis

After your procedure, a member of your care team will bring you to the recovery room.

You may cough for some time after your procedure. This is normal. Coughing helps your lung expand again, now that the fluid is gone.

After some time, a staff member will take you out of the recovery room to get a chest X-ray. The X-ray is done to make sure the fluid is gone, and your lung is working like it should. You can go home after your X-ray is done.

You can go back to your normal activities after your procedure.

Caring for yourself at home

You may have some side effects after your procedure, such as:

- Coughing.
- Discomfort at the insertion site. Call your healthcare provider if the discomfort gets worse or you have pain at the insertion site.
- Pressure in your chest. Call your healthcare provider if the pressure in your chest gets worse. If you have chest pain, call 911 or go to the nearest emergency room.

Fluid leaking from the insertion site

If no fluid is leaking from the insertion site 24 hours (1 day) after your procedure, you can take off the bandage.

If fluid is leaking from the insertion site, change the bandage. Do not leave a wet bandage on. It can make your skin irritated and sore. After you change the bandage, put gauze over it. Then, put another bandage over the gauze.

Call your healthcare provider if fluid is leaking from the insertion site for more than 2 days.

Lab results

The fluid taken from your pleural cavity may be sent to a lab for testing. Most people can get their results 5 to 7 business days (Monday through Friday) after their procedure. The healthcare provider who ordered your thoracentesis will go over your results with you.

If you have an MSK MyChart account, you'll be able to see your results as soon as they're available. You may see them before your healthcare provider does. While some results are easy to understand, others may be confusing or worrying. You can choose to look at your results, but we recommend waiting until you talk with your healthcare provider. They can explain what your results mean.

If you do not have an MSK MyChart account, you can sign up at mskmychart.mskcc.org. You can also ask a member of your care team to send you an invitation.

If you need help with your account, call the MSK MyChart Help Desk at 646-227-2593. They're available Monday through Friday, from 9 a.m. to 5 p.m.

When to call your healthcare provider

Call your healthcare provider if you have:

- A fever of 101° F (38.3° C) or higher.
- Chills (shaking or shivering).
- Shortness of breath. If you have trouble breathing, call 911 or go to the nearest emergency room.
- Chest pressure that does not go away. If you have chest pain, call 911 or go to the nearest emergency room.
- Pain or redness at the insertion site that's getting worse.
- Fluid leaking from the insertion site for more than 2 days.

If you have questions or concerns, contact your healthcare provider. A member of your care team will answer Monday through Friday from 9 a.m. to 5 p.m. Outside those hours, you can leave a message or talk with another MSK provider. There is always a doctor or nurse on call. If you're not sure how to reach your healthcare provider, call 212-639-2000.

For more resources, visit www.mskcc.org/pe to search our virtual library.

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