

# Thoracentesis

## What is thoracentesis?

The lungs are surrounded by two membranes (the pulmonary pleurae): an inner membrane (pleura visceralis) and an outer membrane (pleura parietalis). The inner membrane is attached to each lung, while the outer membrane is attached to the wall of the chest cavity. Both pleurae expand and contract when you breathe. The area between these two membranes (the pleural space) is filled with a small volume of fluid (pleural fluid). Among other things, this fluid ensures both pleurae can slide effortlessly over each other.

In some people, excess pleural fluid is produced, which results in a tight-chested feeling. This accumulation of pleural fluid can be the result of an infection, a heart condition or a malignant tumor, among other things.

During a thoracentesis, a fluid sample is taken from between the two pleurae for testing in the laboratory (diagnostic thoracentesis) or to relieve the lungs when excess pleural fluid is present (therapeutic thoracentesis).

## Preparation

You are free to eat and drink before the procedure. As such, we recommend that you eat as normal, unless you are not permitted to do so in preparation for another test. If you use an anticoagulant such as Sintrom® (Sintrommitis®), Acenocoumarol, Marcoumar® or Fenprocumon, Persantin, Plavix or Ascal, please notify your lung specialist in advance. He or she will then decide whether you should stop taking these medicines. If you are allergic to certain medicines, please let your lung specialist know in good time.

## The test

We will ask you to sit on the edge of the examination table and to lift up your top. You will be given a cushion to place on your knees and we will ask you to lean slightly forward, using the cushion for support. The lung specialist will usually stand behind you. Using ultrasound (a soundwave-based examination method), we will examine your lungs. The lung specialist will apply a gel to your skin, which will help him or her get a clear picture. Your chest cavity will be examined using an ultrasound scanner. The lung specialist will inspect both of your lungs, but he or she will only treat one side at a time. Based on the ultrasound images, the lung specialist will identify an appropriate puncture site. The doctor will also press on your back to feel where the space between your ribs is located. Using a marker pen, the lung specialist will place a mark on your back. Once this has been done, it is very important that you do not move.

### Diagnostic thoracentesis

The lung specialist will disinfect the puncture site with a disinfectant. Once done, the lung specialist will insert a thin needle with a syringe between your ribs and down into the space between the two membranes (pleural space). Next, the lung specialist will slowly draw out some pleural fluid for diagnostic testing. Once the lung specialist is ready, he or she will apply a plaster to the puncture site, which can be removed after 24 hours. You can shower as normal while wearing the plaster. The assistant will remove any excess disinfectant from your back as much as possible.

### Therapeutic thoracentesis

The lung specialist will disinfect the puncture site with a disinfectant. Next, the lung specialist will administer a local anaesthetic to your skin and the pleurae using a thin needle. This will feel like a normal injection and might cause some mild pain. Due to the anaesthetic, the rest of the procedure will be painless. The lung specialist will prepare a sterile field on which the equipment for your therapeutic thoracentesis will be placed. A green sterile drape will also be affixed to your back. The lung specialist will check whether your skin has been properly anaesthetised before inserting a catheter (tube) in between two ribs and down into the space in between the two pleurae (the pleural space). Using a syringe, the lung specialist will draw a pleural fluid sample for diagnostic testing. The remainder of the pleural fluid will be drained into a bag. While the fluid is being drained, you may cough and/or experience some pain, as your lungs relax back into their normal position. You can cough as normal. If you feel any pain, please tell us: if necessary, we can pause the procedure, leaving the catheter in place. Once your pain has subsided, we can continue. Once the thoracentesis has been completed, a plaster will be applied to the puncture site. This can be removed after 24 hours. You can shower as normal while wearing the plaster. The assistant will remove any excess disinfectant from your back as much as possible.

### **After the test**

We recommend taking it easy for the first half hour after the test. Thoracentesis does not affect your ability to drive. Nevertheless, we recommend that you do not drive yourself, as you may not feel as fit as usual following the test.

### **Resuscitation policy**

The Lung Disease Treatment Room is only used for tests/treatment, and the chance of complications is small. Nevertheless, we would like to point out that, in principle, all patients will be resuscitated in the event of complications, unless the patient has explicitly notified the doctor that he/she would prefer not to be resuscitated.

For inpatients, we will respect the resuscitation policy agreed as part of their hospital treatment.

### **Questions**

If you have any concerns or questions after the test, feel free to contact the Lung Disease Treatment Room, location 5A.72, on +31 20 444 4324.

Outside of normal hours, you can contact the on-call lung specialist via +31 20 444 4444.