

Caring for a Tenckhoff Catheter



UHN

A Patient's Guide

What is a Pleural Effusion?

There is a small space between the outside of your lung and the chest wall (ribs). This space is called the “pleural space.” There is always a small amount of fluid in the pleural space. This is normal.

- If too much fluid gathers in this space it is called a “pleural effusion.”
- If there are cancer cells in the fluid, it is called a “malignant pleural effusion”

What is a Tenckhoff Catheter?

A Tenckhoff catheter is a soft, see-through, silicone rubber tube. It is placed by a doctor into your pleural space to drain fluid from around your lung (pleural effusion). The catheter is tunneled through the tissue just under your skin and brought out through a skin exit site. The Tenckhoff catheter is capped off with a special cap.

You may have a Tenckhoff catheter in your chest for several weeks or months.

Who will help me to take care of my Tenckhoff Catheter?

Your healthcare team will arrange for nurses from the Community Care Access (CCAC) team to visit you. They will come to your home to help you take care of your Tenckhoff catheter. They will visit you every day in the beginning. The nurses will teach you and your family member(s) how to take care of your Tenckhoff catheter.

Once you are comfortable with taking care of the Tenckhoff yourself, the visiting nurses will not visit as often.

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What happens when my Tenckhoff Catheter is first put in?

The Tenckhoff catheter is attached to a drainage bag. This will be used to hold the fluid that is leaving your pleural space through the Tenckhoff catheter. The catheter must drain all the time for the first 72 hours (3 days). The CCAC nurse will come into your home each day. He or she will attach a new drainage tubing and bag each day for the first 3 days. Then, new tubing and a bag will be used each time the Tenckhoff is hooked up to drain.

After the first 3 days

If there is no leaking around the Tenckhoff catheter, it can be removed from the drainage system. It should then be attached to the bag and drained as per the chart below. You will know when the fluid is building up in your chest. You may feel:

1. Short of breath
2. Increasing chest fullness
3. Discomfort

If you have any of these symptoms, you should drain the fluid from your chest using your Tenckhoff catheter. Please use the chart below to help you to know how much to drain each time.

Drainage Guide

1. The drainage bag must be lower than your chest. This lets gravity help to drain the pleural fluid.
2. The amount of fluid that drains will be different each time. Use the amount of fluid that drained the last time as a guide.

Drain your Tenckhoff Catheter using this guide

Fluid collected on last drain?	How often should I drain?
More than 300ml	Drain every day
Between 100ml to 300ml	Drain every other day
Less than 100ml	Drain it twice a week

If your Tenckhoff catheter drains less than 100cc for 2 weeks in a row, you may cut back and drain it only once a week.

How do I drain my Tenckhoff Catheter?

The equipment that you will use to drain your Tenckhoff catheter must not be used more than once (1x). This means you must use a **new** tubing set and **new** bag each time. Sometimes your bag may fill up completely during one drainage session. If this happens, you will need to attach another **new** bag.

Before you start to drain the fluid, gather all of your equipment. You will need:

1. Sterile secondary intravenous (IV) tubing
2. Sterile IV bag
3. Alcohol or Chlorhexidine swabs

Before starting to drain the pleural fluid from your chest, you must prepare the equipment. The IV bag will be full of fluid. You must drain this fluid. **The CCAC nurse will teach you how to do this.** It is very important to keep everything sterile.

Step 1:

To drain the IV bag, you must:

1. Close the roller clamp on the IV tubing.
2. Remove the cap on the end of the IV bag. Do NOT touch the end of the bag once the cap is removed.
3. Remove the cap from the pointed end of the IV tubing. Do NOT touch the end of the IV tubing once the cap is removed.
4. Plug the IV tubing into the IV bag.
5. Open the roller clamp and let the fluid drain into the sink. You want the IV bag empty.
6. Close the roller clamp.

Step 2:

Once your IV bag and tubing are prepared, you are ready to start. To drain the fluid:

1. Get into a comfortable position.
2. Clean the end of the MaxPlus® connector well with an alcohol or Chlorhexidine swab. Allow it to dry for 30 seconds.
3. Remove the cap at the end of the IV tubing.
4. Attach the IV tubing to MaxPlus® connector.

5. Put IV bag lower than your chest. This lets gravity help to drain the pleural fluid.
6. Open the roller clamp on the IV tubing.
7. Take a few deep breaths and cough.
8. If the fluid does not drain, look at the tubing and MaxPlus® connector carefully. Check for blood strands or fibrin. If blocked, follow “MaxPlus® connector change” guide or the flushing guide in this booklet.
9. Wait until all the fluid stops draining.
10. Leave the bag attached and wait for 5 minutes after the fluid stops draining.
11. Close the roller clamp on the IV tubing.
12. Unscrew the tubing from the MaxPlus® cap. The cap seals automatically.
13. Measure the amount of fluid in the bag.
14. Mark down the amount of fluid that drained on the sheet at the back of this booklet. Keep an ongoing record of the drainage amounts.
15. Throw out the pleural fluid and equipment in the garbage.

Your CCAC nurses will show you how to throw out the fluid and equipment safely.

Remember that you will use new equipment for the next drainage session.

The fluid usually takes from 15 to 90 minutes to drain each time.

The fluid should run freely. If it does not flow when you attach the tubing, make sure the roller clamp is open. Take a few deep breaths and cough. If that does not start the fluid to flow, try standing up. Walk around the room if you are able to.

Sometimes you may have some discomfort, shortness of breath, pain or you may cough while the fluid is draining. If this happens, slow the flow of fluid. You do this by partly closing the roller clamp on the IV tubing. You may need to close the roller clamp completely. This will stop the fluid drainage completely. Wait 15 to 30 minutes, then open the roller clamp part way. Allow the fluid to drain very slowly.

If you feel well and have no symptoms of fluid in your chest, discontinue the drainage procedure for this session. Next time you drain the fluid, drain at a slower rate. If you have symptoms of the pleural fluid in your chest, but are too uncomfortable to drain the fluid, you must notify the CCAC nurse or your doctor.

Documentation

It is important for you to keep track of the amount of fluid that drains. This will help you to know how often to drain your Tenckhoff catheter and will help your CCAC nurse and doctor know how things are going for you. A sample tracking chart is included at the end of this package.

The MaxPlus® connector must be changed either every 7 days or as per the manufacturer's recommendation. You will also need to change the MaxPlus® connector if it is blocked. Please write down the date and time.

What happens if no drainage comes out when I am hooked up?

If no fluid comes out, try changing your position 2 or 3 times. Take some deep breaths in and cough. Stand up, walk around, or do both if you are able to. Check to make sure that the Tenckhoff system is not blocked anywhere.

- The MaxPlus® cap may need to be changed.
- Your Tenckhoff catheter may need to be flushed.
- If there is still no drainage, but you feel symptoms of fluid in your chest, you must contact your CCAC nurse or your doctor right away.

If there is no drainage once connected but you feel well (i.e., no shortness of breath), stop the drainage procedure for this time. Try again at your next scheduled drainage time.

What happens if my Tenckhoff catheter is blocked and won't drain any fluid?

Sometimes the Tenckhoff catheter can get blocked. A small amount of fibrin (a part of your blood) or a blood clot can cause a blockage. The blockage may be in the Tenckhoff catheter itself, or, the block may be in the connectors at the end of the Tenckhoff.

If this happens:

1. The cap on the end may need to be changed, or
2. The Tenckhoff may need to be flushed to get the blockage out

The cap on the end of the Tenckhoff catheter is called a MaxPlus® Tru-Swab Positive Displacement Connector (MaxPlus®). **If a blockage is seen in the connectors, the cap should be changed first.** This cap must only be changed following proper instructions.

If the Tenckhoff is still blocked and won't drain, the CCAC nurse will flush it. In the beginning, the CCAC nurses will flush the tube for you. They will also change the cap on the end. The CCAC nurses may teach you how to do this yourself. They will not leave you to do this on your own until you are comfortable caring for the Tenckhoff yourself.

Can my Tenckhoff Catheter leak?

Sometimes fluid may leak out around your Tenckhoff catheter. Your CCAC nurse will check to make sure that your Tenckhoff is not blocked and causing a leak. If the catheter is not blocked but is still leaking, your Tenckhoff catheter must be put back to drain all the time for 2-3 days. This the same as when the Tenckhoff was first put in.

If your Tenckhoff Catheter is leaking at the insertion site

If your Tenckhoff catheter is not blocked, but leaking at the insertion site, leave the catheter to straight drainage for 48 to 72 hours. If the leakage persists, notify your CCAC nurse or your doctor who inserted the Tenckhoff catheter.

If your Tenckhoff catheter is blocked and leaking at the site, look at the catheter and MaxPlus® adapter to see if they are blocked.

- If you can see a blockage in the MaxPlus® adapter, change it following the attached protocol.
- If you cannot see a blockage, try to flush the catheter following the attached protocol.
- **If it is still blocked, call your CCAC nurse or your doctor who inserted the Tenckhoff catheter.**

If necessary, complete dressing change (refer to Dressing Change Protocol) and secure the catheter to skin.

What should I do if the drainage bag attached to my Tenckhoff Catheter fills with air?

Sometimes, the drainage bag can fill up with air. This air must be let out of the bag. If it is not let out, your Tenckhoff catheter will not drain properly. You may also get some air caught in your body tissue. This will look like an area of swelling. This is called "subcutaneous emphysema." It will start around the area where your Tenckhoff catheter comes out of your chest. This swelling is not dangerous, but it will keep getting worse if the problem is not fixed.

We call letting the air out of the bag, “**burping**” the bag. Your CCAC nurses will teach you how to do this yourself at home.

To “burp” the bag, you must:

1. Close the roller clamp on the IV tubing. This will stop air from entering your chest.
2. Everything must be kept sterile. Carefully pull the tubing out from the drainage bag. You must not touch the end of the tubing. You must not touch the end of the drainage bag.
3. Gently squeeze the air out of the bag. Once the air is out, plug the tubing back into the bag.
4. Open the roller clamp on the tubing.

Changing the dressing

You will have 2 dressings at first.

1. One covers the site where the Tenckhoff catheter was put in (insertion site).
2. The second dressing covers the exit site. This is the area where the Tenckhoff catheter comes out of your chest.

Check the dressings for drainage or leakage. Make sure the dressing is well taped to your skin. If the dressings are clean and dry, they do not need to be changed for the first 3 days. If they are wet or coming off, your CCAC nurse will change the dressings each day and as needed.

After the first 3 days, your CCAC nurse will take off the dressing at the insertion site. If the site looks well healed, you will no longer need a dressing on this area.

After the first 3 days, your CCAC nurse will change the dressing at the exit site. This dressing will be changed every 2 days. It will be changed more often, if needed. After 2 weeks, it can be changed once a week.

You must not get the dressing wet for the first 2 weeks. Once the incisions have healed, you may take a shower with the dressing off. After the shower, a new dressing must be put on.

You must keep your incision sites clean and sterile. To change the dressing, follow these instructions:

1. Wash your hands
2. Remove the old dressing
3. Wash your hands again
4. Check the catheter exit site. You are looking for any bleeding, leakage, swelling, redness, odor or increased pain. This may mean that there is an infection at the site. If it looks like the site may be infected, your CCAC nurse can send a sample to the laboratory to see if you have an infection.
5. Clean around and under your Tenckhoff. Use sterile saline or Chlorhexidine.
6. Apply a dry 2x2 gauze dressing over the exit site. Cover with tape.
7. After 2 weeks and, once the site is well healed, change the dressing each week. A piece of Opsite® (a clear, see-through dressing) can be put on directly over the site. No gauze is required. The Opsite® will let you see the exit site easily. You will be able to see any changes if an infection is forming.
8. Tape the Tenckhoff securely to the skin below the dressing. This will avoid any tension on the Tenckhoff.

How do I change the MaxPlus® connector?

The MaxPlus® connector should be changed:

1. Every 7 days, or as per the manufacturer's recommendations
2. If the MaxPlus® is blocked with fibrin or a blood clot

You must keep the end of the Tenckhoff catheter and MaxPlus® sterile. To change the MaxPlus®, follow these instructions:

1. Wash your hands.
2. Remove the pink waterproof tape holding your Tenckhoff catheter to your side.
3. Open up the MaxPlus® adaptor package. Loosen the cap on the end of the MaxPlus®. Do not remove the cap yet. Do not touch the capped end of the MaxPlus®.
4. Open an alcohol swab. Clean the area with the small white plastic piece (called a luer lock adaptor) connecting the Tenckhoff catheter to the MaxPlus®.
5. **Kink the Tenckhoff catheter over on itself. Never use any kind of clamp on the Tenckhoff catheter. The tubing is very soft. A clamp may cause a hole.**
6. Unscrew the old MaxPlus® from the luer lock adaptor.

7. Clean the end of the Tenckhoff catheter with a new alcohol swab.
8. Remove the cap on the new MaxPlus® and screw it into the luer lock adaptor.
Remember not to touch the ends of the MaxPlus® or luer lock adaptor.
9. Tape your Tenckhoff catheter to your side using fresh, pink waterproof tape.

If you are changing the MaxPlus® because the Tenckhoff catheter is blocked, and it is still blocked after changing the MaxPlus®, try flushing the Tenckhoff.

How do I flush my Tenckhoff Catheter?

The Tenckhoff catheter should be flushed **ONLY** if it is blocked. Do not flush the catheter on a routine basis.

Equipment Required:

1. 10 cc sterile injectable normal saline
2. 10 cc interlink syringe
3. alcohol swabs

You must keep the end of the MaxPlus® sterile. To flush your Tenckhoff catheter, follow these instructions:

1. Wash your hands.
2. Clean the end of the MaxPlus® with an alcohol swab.
3. Let the MaxPlus® dry for 30 seconds.
4. Remove the cap from the end of the syringe filled with saline.
5. Screw the luer lock sterile syringe onto the MaxPlus®.
6. Slowly inject the saline into the Tenckhoff catheter.
7. Unscrew the syringe from the end of the MaxPlus®.
8. If the saline flushes easily and you have no shortness of breath, pain or discomfort, attach the IV tubing and bag. Open the roller clamp. Drain the pleural fluid as usual.
9. If there is very little or no drainage once the drainage tubing and bag are connected and you feel well, detach the drainage system from the MaxPlus® and leave it until your next scheduled drainage time.
 - **If there is resistance when you are flushing** your Tenckhoff, try changing your position. Try to flush the Tenckhoff again.
 - If there is still resistance, **stop** and call your CCAC nurse or your doctor who inserted the Tenckhoff catheter.

Removal of my Tenckhoff Catheter

Your Tenckhoff catheter may be ready to be taken out if there has been no drainage for 3 weeks. Contact your surgeon's office. You will come into the hospital and have a CXR done. On the same day, you will be seen by your doctor in the clinic. If it is safe to do so, the surgeon will remove the Tenckhoff catheter in the clinic.

When your Tenckhoff catheter is taken out, your surgeon will put in a few stitches at the site where the catheter was. These stitches need to stay in for 1 week. They can then be removed by your family doctor or CCAC nurse.

Who can I call if I have questions?

If you have any questions or concerns regarding the above protocols, please talk to your CCAC nurse.

You may also call Susan Walker (for University Health Network Thoracic surgery patients only). Susan is the Nurse Practitioner - Adult, Thoracic Surgery, (416) 340-4038.

For any medical concerns, please contact your family doctor or palliative care doctor.

Drainage Amounts and MaxPlus® Connector Change Schedule

The MaxPlus® must be changed every 7 days, as per the manufacturer’s recommendations and as needed.

Number of Days	Date	Amount of Fluid Drained from Tenckhoff Catheter
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		