Patient & Family Guide

2026

Tunneled (Hickman™) Catheter

Important phone numbers

If you are a cancer or hematology patient, you can call:

QE II Cancer Centre
- › Phone: 902-473-6000
- › Hours: 8:30 a.m. to 3:30 p.m., Monday to Friday

Cape Breton Cancer Centre
- › Phone: 902-567-8000
- › Hours: 8 a.m. to 4 p.m., Monday to Friday

Hematology Clinic, QE II
- › Phone: 902-473-6605
- › Hours: 8:30 a.m. to 3:30 p.m., Monday to Thursday
  Friday: 8 a.m. to 3 p.m.

Sydney Hematology Clinic
- › Phone: 902-567-7876
- › Hours: 8 a.m. to 4 p.m., Monday to Friday

To talk with your oncologist or hematologist outside of these hours:

- Call the QE II switchboard and ask for the oncologist or hematologist on call.
  - › Phone: 902-473-2700
- If you are not able to reach your oncologist or hematologist, or for any other concerns, call your local hospital and ask for your call to be forwarded to the infusion clinic or Medical Day Unit/Ambulatory Care Unit. **If it is an emergency, go to the nearest Emergency Department right away.**

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Tunneled (Hickman™) Catheter

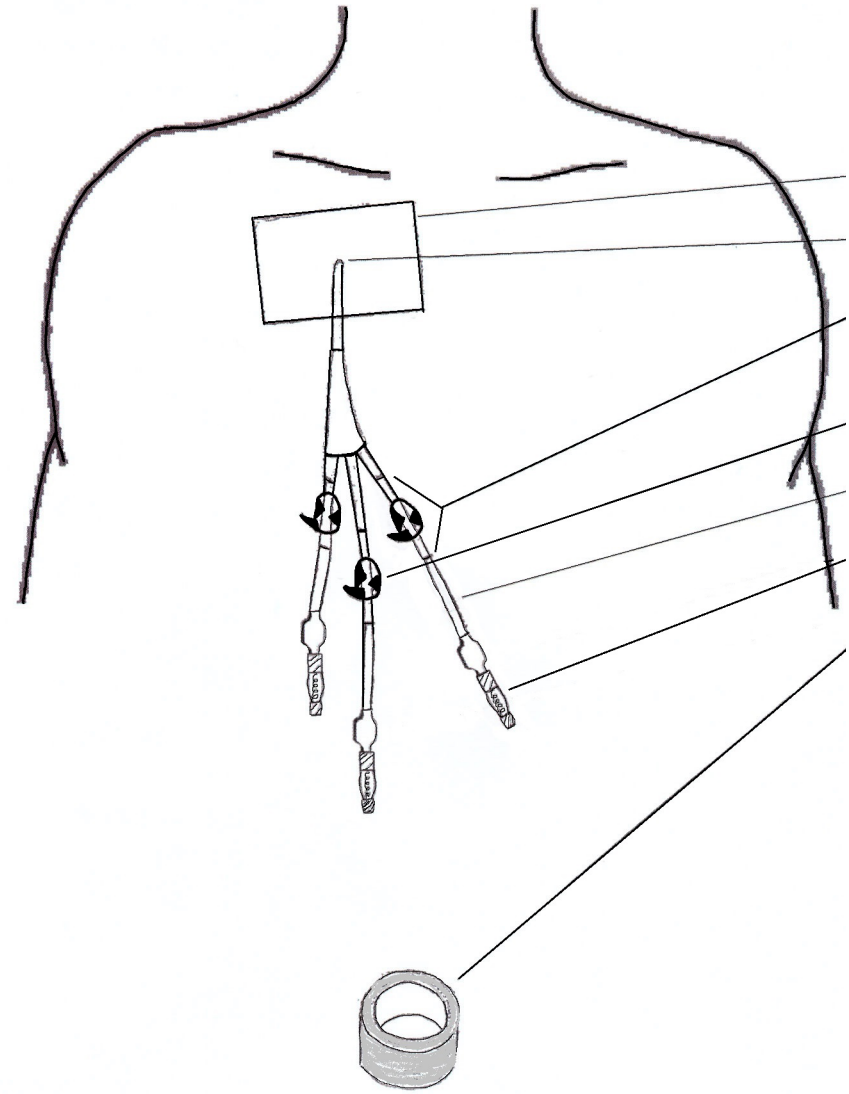
What is a tunneled (Hickman™) catheter?

- A tunneled catheter is a type of **catheter** (thin, hollow tube). It is an intravenous (I.V.) catheter that is put into a large vein near your heart.
- Tunneled means that part of the catheter is put under the skin on your chest.
- A tunneled catheter may also be called a **Hickman™ catheter**.
- The part of the catheter that sits just under your skin is called the **cuff**. The cuff helps to keep the catheter stay put. It may feel like a small bump under your skin.
- The end of the tunneled catheter leaves your body from a small incision (cut) on your chest. This incision is called the **exit site**.
- **Handle your tunneled catheter gently. Even with the cuff, you can still pull the catheter out by mistake.**
- Your tunneled catheter may have 1, 2, or 3 lumens (tubes) at the end.
- **If it has 3 lumens, each one will be a different colour:**
  - **Red:** this is used to take blood samples, and to give blood products (red blood cells, plasma, platelets), medications, and I.V. fluids, if needed.
  - **White and blue:** these are mostly used to give medications and I.V. fluids.

Why is a tunneled catheter used?

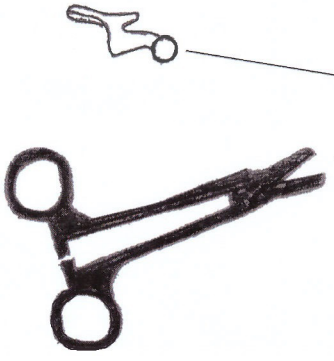
- A tunneled catheter:
  - Lowers the number of needles you may need for blood tests or I.V. medications. You can have blood taken and get medications through the tunneled catheter instead of having to use a new needle and I.V. line each time.
  - Can be used for a longer time than other types of I.V. catheters.
  - Lets you move around more easily than other types of tunneled catheters.

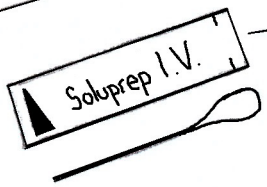
Tunneled catheter with 3 lumens



Clear dressing
Exit site
Reinforced clamping sleeve
Line clamp
Lumen
Needleless connector
+/- Waterproof tape

Normal saline syringe
Scissor-style and bulldog clamps





Antiseptic swabs

Infection

- When you are caring for your tunneled catheter at home, it is important to keep it and your supplies as clean as you can. This will lower your risk of infection.
- **If you get an infection, you will need medical treatment.** Your tunneled catheter may need to be changed or taken out.
- **Check the skin around your catheter every day for these signs of infection:**
  - › Skin around the exit site is hot or warm
  - › Redness, swelling, drainage (leaking fluid), or pain around the exit site, or along the area where the line is tunneled
  - › Fever (temperature above 38 °C or 100.4 °F)
  - › ChiIIs
  - › Shaking
  - › Fast heartbeat when you are not active
  - › Feeling sick for no reason

Preventing infection

- **Always wash your hands well** before caring for your tunneled catheter.
- Follow all instructions when caring for or storing your tunneled catheter.
- **Use sterile (germ-free) supplies only**.
  - › Follow all instructions to keep your supplies clean and germ-free. The instructions will tell you what parts you can and cannot touch.
  - › **Use sterile items (like syringes) only once. Do not reuse any single-use supplies.**
- Change your dressing if it gets dirty, loose, or wet.
- You or your support person should wear a mask when changing your dressings, especially if you or your support person are sick.

If you think you have an infection, see page 15.

Supplies

Storing your supplies

- Most of your supplies will be in paper or plastic packages to keep them sterile.
- Store your supplies in a clean, dry place where the packages will not be opened or damaged (like a cupboard or a closet where children and pets cannot reach them).
- Before you use your supplies, check the packages. **Do not** use the supplies if the packages are soiled (wet, ripped, or have a dried water stain). Put any soiled supplies in the garbage.
- **Do not** use solutions (liquids) if they are cloudy. Take them to the pharmacy for replacements.
- Check the expiry dates on your flushing solutions. If they are expired, take them to the pharmacy for replacements.

Do not use expired supplies.

Getting your supplies

- If you need supplies, call your local pharmacy or home health centre. Most will carry the supplies you need.
- If you have private insurance, check with your insurance provider if you need a prescription.
- Your health care provider will give you a list of supplies you will need. Every 7 days (1 week) you will need:
  - Masks
  - Pre-filled normal saline syringes
  - Needleless connectors
  - Clear dressings
  - Disinfectant swabs (chlorhexidine gluconate 2% with isopropyl alcohol 70%)
  - Clamps are sold separately. **You should always have an extra clamp.** Clamps should have smooth edges, so they do not cut into the catheter.

Checking for blood

When you flush your tunneled catheter, the first thing you will do is check for blood. This makes sure the line is still in the right place in your vein.

How to check for blood:

1. Wash your hands.
2. Scrub the clear needleless connector with a disinfectant swab for 15 seconds, then let it dry fully.
   or
   Put a single-use disinfectant cap on the hub of the needless connector.
3. Connect a pre-filled normal saline syringe to the clear needleless connector.
4. As you are flushing the **last 1 ml** of saline, close the clamp on the lumen.
5. Remove the syringe from the needleless connector and throw the syringe in the garbage.

If you do not see blood when you pull the plunger back:

1. Move your body (like raising your arms above your head, turning your head, taking deep breaths, or coughing).
2. Then gently pull back on the syringe plunger.

If there is still no blood:

1. Flush the line with **1 ml** of saline.
2. Gently pull back on the syringe plunger again.
3. Close the clamp on the lumen.
4. Remove the syringe from the needleless connector and throw the syringe in the garbage.

- **Do not push down hard on the syringe or try to inject the saline too fast.**

If you can inject the saline easily, but you do not see blood when you pull back the plunger:

- **Call the Medical Day Unit/Ambulatory Care Unit or your primary health care provider (family doctor or nurse practitioner) right away.**
- Your tunneled catheter may be partly blocked and should be checked.

If you cannot draw blood back from your tunneled catheter or you cannot inject saline:

- **Call your local infusion clinic or Medical Day Unit/Ambulatory Care Unit.**

Positive pressure

- Positive pressure is a way of closing the clamps on your tunneled catheter. Keeping the clamps closed prevents blood from backing up into the lumens. If blood backs up into the lumens, it can stop them from working.

To keep positive pressure when you are flushing your tunneled catheter:

- **Always close the clamp on the lumen as you are flushing the last 1 ml of saline.** Then remove the syringe.
- Always close the clamp over the reinforced clamping sleeve. Your nurse will show you how to do this.

Changing your dressing

- To prevent infection, change your dressing once every 7 days, or more often if your dressing gets loose or soiled.
- You (or your support person) should wear a mask when changing your dressings, especially if you (or your support person) are sick.
- Use a disinfectant swab (chlorhexidine gluconate 2% with isopropyl alcohol 70%) to clean your skin and catheter. **Do not** use a disinfectant swab on broken skin.
- Your nurse will show you how to change your dressing. If you have questions about this, talk to your nurse.

How to change your dressing:

1. Clean the area where you will be putting your supplies. You can use warm water and soap or disinfectant wipes.
2. Wash your hands with soap and water or use alcohol-based hand rub. Dry your hands with a clean paper towel.
3. Gather your supplies:
   - Mask
   - Disinfectant swabs (chlorhexidine gluconate 2% with isopropyl alcohol 70%)
   - One (1) 4-inch by 4-inch clear dressing
   - Plastic bag for garbage
4. Loosen the edges of your old dressing on all sides. Take off the old dressing by gently pulling up towards the exit site. **Do not** pull on the catheter. **Do not** touch the exit site with your hands. Put the old dressing in the garbage bag.
5. Wash your hands again. Dry them with a clean paper towel.
6. Look for these signs of infection at the exit site, and in the area where the line is tunneled:
   - Redness
   - Drainage
   - Pain
   - Swelling

   If you see any of these signs, put a dressing over the exit site and call the Medical Day Unit/Ambulatory Care Unit or your primary health care provider.
7. Open 3 swab packages, so each swab is easy to get when you need it.
8. Use 1 hand to hold the end of the tunneled catheter and lift it away from your skin. Keep holding the catheter away from your skin until you have finished cleaning it and your skin.
9. Use the first swab to clean your skin. Use 1 side of the swab to gently wipe from side to side about 4 inches around the exit site.
10. Use the other side of the swab to gently wipe up and down across the same area. Then put the swab in the garbage.
11. Using the second swab, start at the exit site and gently wipe up about 4 inches. Always start at the exit site and wipe out 4 inches in the same direction. Keep doing this until you have made a full circle around the exit site.

12. Use the other side of the swab to gently wipe down from the exit site across the same area. Then put the swab in the garbage.
13. Use the third swab to clean the catheter. Starting at the exit site, clean the top of the catheter. Use 1 side of the swab to wipe up, cleaning about 4 inches of the catheter.
14. Use the other side of the swab to clean the bottom side of the catheter in the same way. Then put the swab in the garbage.
15. Let the catheter air dry.
16. Let go of the catheter. **Let your skin air dry fully. This is important.** Putting a dressing over wet skin can raise your risk of skin breakdown (also called a pressure injury [ulcer] or bedsore).
17. Open the dressing package and take out the dressing.
18. Take the backing off the dressing. Touch only the outer edges of the dressing. If you touch another part of the dressing, you may get germs on it. The germs could cause an infection.
19. Put the dressing on over your catheter. Make sure the exit site is in the centre of the dressing. **Do not** put the dressing over your nipple area. This area can be sensitive when you remove the dressing.
20. Peel the frame off the dressing.
21. Gently press the edges of the dressing to your skin so that they stick well.
22. Use the bulldog clamp to clip the catheter to your clothes so it is secure.
23. Put any used dressings and swabs in the garbage.
24. Wash your hands.

If your skin gets irritated by the dressing:

› Use a 4-inch by 4-inch gauze dressing instead.

If there is no drainage from the exit site:

› Change the dressing every 7 days, as usual.

If there is drainage from the exit site:

› Make sure the dressing is **always** clean and dry. Change the dressing every day or more often if there is a lot of drainage from the site.

› Call your local infusion clinic or Medical Day Unit/Ambulatory Care Unit.

If your tunneled catheter has been in place for more than 6 weeks and the exit site has healed:

- You **may** be able to stop using a dressing.
- If you have a weak immune system, it may be safer for you to keep using a dressing. **Talk about this with your primary health care provider or call your local infusion clinic.**

My dressing change day is: _____

Can I shower with a tunneled catheter?

- Yes. If you have a gauze dressing, change the dressing after you shower.
- After the exit site has healed, you can shower as usual. Gently pat the area around your tunneled catheter dry. **Do not rub.**

Flushing your tunneled catheter

- You must flush your tunneled catheter to keep it working well. Flushing clears any blood or medications and keeps it clean.
- **If your tunneled catheter is not being used regularly:**
  - Flush each lumen with **20 ml of saline** once every 7 days.
- Change the needleless connector at the end of each lumen and flush your tunneled catheter every 7 days. Do this at the same time on the same day each week.
  - Change the needleless connectors before flushing.
- Each syringe is filled with 10 ml of saline. You will use 2 syringes to flush each lumen.

Changing the needleless connector and flushing your tunneled catheter

These are the steps for changing the needleless connector and flushing **1 lumen** of your tunneled catheter. If your line has more than 1 lumen, **repeat the steps for each lumen**.

1. **Getting ready**
   a. Wash and dry your work area.
   b. Wash your hands well with soap and water or use an alcohol-based hand rub. Dry your hands with a clean paper towel.
   c. Gather your supplies:
      › Mask
      › 2 pre-filled normal saline syringes **for each lumen**
      › 1 needleless connector **for each lumen**
      › Disinfectant swabs (chlorhexidine gluconate 2% with isopropyl alcohol 70%)
      › Waterproof tape, if needed
   d. Before you use your supplies, check the packages. **Do not** use the supplies if the packages are soiled. Put any soiled supplies in the garbage.
   e. Check the saline syringes. **Do not use the syringes if:**
      › They are expired
      › The saline looks cloudy
      › There are particles (small pieces) in the saline
      › The saline has any colour or is cloudy. It should be clear.

2. **Changing the needleless connector**
   a. Take off any tape from the lumen (if there is any).
   b. Open 1 needleless connector package. Open 3 swab packages.
   c. Open 1 syringe package. Remove the cap from the tip of the syringe. **Do not** touch the tip. Hold the syringe with the tip pointing up and push the air out of the syringe.
   d. While holding the syringe in 1 hand, use your other hand to take a swab and a needleless connector from their packages.
   e. Use a swab to clean the end of the new needleless connector.
   f. Attach the tip of the syringe to the end of the needleless connector. Flush the needleless connector with a small amount of saline.
   g. While still holding the syringe, take a new swab from its package. Clean the area where the old needleless connector joined the lumen for 15 seconds.
   h. Check that the clamp on the lumen is closed.
   i. While still holding the lumen, remove the old needleless connector by turning it counter-clockwise. Put the old needleless connector in the garbage.
   j. You will now see the open end of the lumen. **Do not** touch the end of the lumen or the part of the new needleless connector that connects to the lumen.
   k. Remove the cap from the tip of the new needleless connector and attach the needleless connector to the lumen. Turn the needleless connector clockwise until it is snug. Clean the connection with a swab for 15 seconds. Use tape, if needed.

3. Flushing the lumen with a syringe

a. Open the clamp on the lumen. Pull back the plunger of the syringe and check for blood.

b. Inject the saline using the **start and stop method**.

Start and stop method for flushing your lumen

1. Start by flushing your lumen with about **3 ml of saline**, then stop flushing.
2. Flush with another **3 ml of saline**, then stop again.
3. Flush the rest of the saline. As you are flushing the last **one (1) ml of saline**, close the clamp on the lumen.

This method is also called **turbulent flushing**. It helps your tunneled catheter work better.

d. Remove the syringe from the needleless connector by turning the syringe counter-clockwise. **Do not touch the needleless connector or put the lumen down.**

e. Use a second syringe to flush the lumen again. **If you touched the needleless connector or put the lumen down, clean the needleless connector with a new swab before flushing.**

f. Put any used supplies in the garbage.

If you cannot inject the saline:

- The lumen may be blocked. Call your local hospital and ask for your call to be forwarded to the infusion clinic or Medical Day Unit/Ambulatory Care Unit.
  - › If it is after hours, you may need to leave a voicemail.
- **Do not push down hard on the syringe or try to inject the saline too fast.**

Important things to remember

- Never flush your tunneled catheter with a syringe that is **smaller than 10 ml**.
- Change your needleless connector **once every 7 days**.
- Always flush your new needleless connector with a small amount of saline before changing it.
- Always clean connections with a disinfectant swab (chlorhexidine gluconate 2% with isopropyl alcohol 70%) for **30 seconds** before changing the needleless connector or attaching a syringe to flush the lumen.
- Always flush your lumen after changing the needleless connector.
- Always close the clamp on the lumen **as you are flushing the last one (1) ml of saline**, then remove the syringe.
- When you are flushing your lumens with saline, **always use the start and stop method** (see page 12).

Caring for your tunneled catheter

- Check your tunneled catheter **every day** for signs of infection.
- Do your tunneled catheter care during hours when help is most available, if possible.
- **Once every 7 days:**
  - › Change all your needleless connectors.
  - › Flush all your lumens with saline (after changing the needleless connectors).
  - › Change your dressing.

  Try to do these all on the same day.

My needleless connector change, flush, and dressing change day is: _____

The day after caring for your tunneled catheter, use this chart to track the exit site. Check for signs of problems every day.

Date:							
Time:							
The exit site is:							
Red							
Swollen							
Painful							
OK							
Other:							
Swelling of your hand, arm, or neck on the side of your tunneled catheter							

Problems, possible causes, and what to do

Redness, swelling, heat, pain, or drainage at the exit site:

Possible cause

- Infection

What to do

- If there is discharge, clean the exit site with a disinfectant swab (chlorhexidine gluconate 2% with isopropyl alcohol 70%) and put on a gauze dressing.
- Check your temperature and watch for signs of fever (temperature above 38 °C or 100.4 °F), like a fast heart rate, chills, shaking, or feeling sick.
- **Go to the nearest Emergency Department right away.**

Fever (temperature above 38 °C or 100.4 °F), fast heart rate, chills, shaking, feeling sick:

Possible cause

- Blood infection

What to do

- **Go to the nearest Emergency Department right away.**
- **If you are a hematology patient, bring your yellow fever card with you.**

Not able to see blood when flushing with saline:

Possible cause

- Catheter is kinked (bent) or resting against the wall of a vein
- There is blood at the tip of the catheter
- Clamp on lumen is closed

What to do

- Make sure the clamp on the lumen is open.
- Change the position of the clamp on the lumen.
- Change your position. Try bending over from side to side and forward, raising your arms, and taking deep breaths.

- Cough.
- Turn your head.
- Try to pull back the plunger on the syringe.
  - › If there is still no blood, flush with a small amount of saline, then pull back the plunger and try again.
  - › If there is still no blood or you cannot flush the saline, the lumen is partly or fully blocked.
- Call your primary health care provider, or call the Vascular Clinic or the Medical Day Unit/Ambulatory Care Unit at your local hospital for help.

To prevent this from happening again:

- Flush the lumens regularly, as shown on pages 10 to 12.

Drainage or blood leaking from the catheter:

Possible cause

- A tear or hole in the catheter

What to do

- Hold your breath and bear down, like you are having a bowel movement (pooping). Then clamp the catheter with a scissor-style clamp between the exit site and the tear or hole.
- **Do not flush the catheter.**
- Wrap a gauze dressing around the tear or hole and tape it in place, if possible.
- **Call the Medical Day Unit/Ambulatory Care Unit at your local hospital or go to the nearest Emergency Department right away.**

To prevent this from happening again:

- Avoid activities and sports that could damage your catheter.
- Tape your tunneled catheter to your skin, so it is not hanging loose.
- **Do not** use anything sharp (like scissors, pins, or needles) near your catheter.

Tingling or pain at the exit site:

- Your catheter is moving out of the exit site

Possible cause

- Pulling on the catheter

What to do

- **Do not** use the catheter.
- **Call the Medical Day Unit/Ambulatory Care Unit at your local hospital or go to the nearest Emergency Department right away.**

To prevent this from happening again:

- **Do not** pull on the catheter.
- Avoid activities and sports that could cause your catheter to be pulled out.

Blood leaking from a needleless connector:

Possible cause

- A loose needleless connector

What to do

- Make sure the clamp on the lumen is closed.
- Change the needleless connector.
- Flush the needleless connector with **20 ml of saline**.

To prevent this from happening again:

- Make sure the needleless connector is screwed on tightly.

Cough, shortness of breath or trouble breathing, chest pain:

Possible cause

- Air in your blood (this may happen if the lumen is not clamped while you change the needleless connector)

What to do

- Make sure the clamp on the lumen is closed.
- **Go to the nearest Emergency Department right away.**

To prevent this from happening again:

- Always make sure that the lumen is clamped when changing the needleless connector.
- Avoid getting a tear or a hole in the catheter.

Swelling in your hand, arm, or neck on the side of your tunneled catheter, or pain or redness at the insertion site (where the catheter goes into your body):

Possible cause

- A blood clot (clump of blood) at the catheter tip or inside the catheter

What to do

- **Call the Medical Day Unit/Ambulatory Care Unit at your local hospital or go to the nearest Emergency Department right away.**

Catheter falls out:

Possible cause

- Pulling on the catheter by mistake

What to do

- Hold your breath and bear down, like you are having a bowel movement.
- Use your hand to put pressure on the site for 5 to 10 minutes.
- Put a gauze dressing over the site and tape it in place.
- **Call the Medical Day Unit/Ambulatory Care Unit at your local hospital or go to the nearest Emergency Department right away.**
- **Bring your catheter with you.**

To prevent this from happening again:

- **Do not** pull on the catheter.
- Avoid activities and sports that could cause your catheter to be pulled out.

If you have questions or concerns about caring for your tunneled catheter:

- Practice caring for your tunneled catheter before you leave the hospital, so you will feel ready to care for it on your own.
- Talk about any questions or concerns with your health care provider before you leave the hospital.

What are your questions?
Please ask a member of your health care team.
We are here to help you.

Questions for my health care team:

Notes:

This pamphlet is for educational purposes only. It is not intended to replace the advice or professional judgment of a health care provider. The information may not apply to all situations. If you have any questions, please ask your health care provider.

Find all patient education resources here:
www.nshealth.ca/patient-education-resources

Connect with a registered nurse in Nova Scotia any time:
Call 811 or visit: https://811.novascotia.ca

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To be reviewed July 2029 or sooner, if needed.
Learn more: https://library.nshealth.ca/patient-education-resources