

## How to do Rope Ladder Cannulation

**Welcome!** In this course you will learn:

1. What Rope ladder cannulation is, and how it works.
2. Why Rope ladder might be right for you.
3. How Tandem Hand Cannulation can help you.
4. How to troubleshoot common issues.

For this course, we assume that you have a working and mature fistula.

### Words to Know:

**Cannulate:** Place needles for hemodialysis (HD).

**Fistula:** A surgeon links an artery to a vein. This is done under the skin of your arm.

**Graft:** A piece of man-made tubing links an artery to a vein. This is done under the skin.

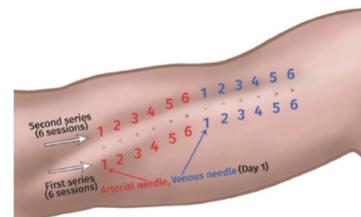
**Self-cannulate:** To place your own needles.

**Vascular access:** A way to reach your blood so it can be cleaned.

### Rope Ladder is the ONLY Safe Way to Place Needles in a Graft.

There are two safe ways to place needles in a fistula: **Rope ladder** and **Buttonhole**.

1. **Rope ladder (RL):** At each treatment, sharp needles are placed into two fresh sites. RL scabs form a pattern like knots on a rope. RL is used in most clinics.
2. **Buttonhole (BH):** Sharp needles are placed into the same exact two sites at the same exact angle each time for a few weeks. Scar tissue forms tunnel tracts, like pierced earring holes. Then, blunt needles are used. If you have a short or twisty fistula, BH may be a better choice for you.



Rope Ladder Cannulation

**Learn to Look, Listen, and Feel.** One of the first things you will learn is how to check your fistula. Your nurse will show you how to:

- **Look** for new bumps or bruises. Is your skin color normal? Any signs of infection?
- **Listen** to the *bruit* "BREW-ee" sound. Tell your nurse if you hear changes.
- **Feel** your fistula. The *thrill* (buzz) should feel the same each day. Your skin and hand temperature should be normal, not too hot or cold.

If needles scare you, we can help. Visit our [Overcoming Needle Fear](#) course to learn more.

### Placing needles for Rope Ladder:

- Look for the scabs from the last treatment. Avoid those places for the skin hole and needle tracks.
- Place needles at least one finger width apart.
- Use the whole length of your access. This gives each site more time to heal before it is used again.

**Clean Hands Keep You Safe.** One of the best and easiest way to prevent infection is to remove as many germs from our hands as we can, with soap and water.

### Signs of Infection to Watch For:

- Redness
- Pus
- Irritation
- Warmth
- Swelling
- Fever
- Pain
- Itching
- Chills

If you have any of these, call your clinic right away!  
Never place needles into a site that might be infected!

Worried about needle pain? Ask your doctor about EMLA® cream.



**Access Hygiene Matters:** When a needle goes through your skin, it can pick up and carry germs into your body. Wash and disinfect the skin over your access well to avoid this.

### Practice Safe Taping.

There are two good ways to tape needles:



Chevron



Butterfly

**Need to adjust a needle? Remove the tape and re-do it. Do not just add more tape.**

### Learn the Warning Signs of Sepsis.

Sepsis is an immune response to a blood infection that can be deadly. People on dialysis are more at risk. If you notice new symptoms, ask yourself "Could this be sepsis?"

When it comes to sepsis, remember **IT'S ABOUT TIME™**. Watch for:

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<b>TEMPERATURE</b> higher or lower than normal	<b>INFECTION</b> may have signs and symptoms of an infection	<b>MENTAL DECLINE</b> confused, sleepy, difficult to rouse	<b>EXTREMELY ILL</b> severe pain, discomfort, shortness of breath

If you experience a combination of these symptoms: seek urgent medical care, call 911, or go to the hospital with an advocate. Ask: "Could it be sepsis?"

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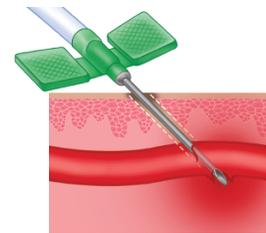
If any of these things happen to you, go to an urgent care or ER right away!

### Protect Your Skin.

Be extra careful around your access. The skin over your access needs to stay dry and intact. After the needle sites have stopped bleeding, let your arm breathe. Pull the tape off slowly and carefully. Check for skin irritation. Shift the placement of the tape next time. This gives your skin a chance to heal.

**Watch for Infiltration.** This means goes through (not into) your access. You may feel pain and pressure from bleeding under your skin. If this happens:

- Stop treatment.
- Take a deep breath.
- Control bleeding and swelling.
- Your nurse will teach you how to place a new needle, apply ice, or both.



### IF Infiltration Happens—Don't Panic!

Sometimes things go wrong. The more you prepare, the easier it will be to stay calm, make good choices, and stay safe. Talk to your nurse about clinic policy for infiltrations.

*"... Everyone who can see and reach their access needs to learn to needle themselves. It's like brushing your teeth: once you learn it, you will never let Mom (or anyone else) do it for you."*

– Henning Sondergaard

### Conclusion:

When you learn how to self-cannulate, you are in the driver's seat of your HD care. You are the only one who can feel both ends of the needles. This means you have the best chance to get them right eachtime. Rope Ladder is great for long fistulas, and the only safe choice for grafts.