

TPN Therapy Using a CADD Pump

If you have any problems with your infusion, please call us.

Fairview Home Infusion
612-672-2233 or 1-800-642-8845

Contact your Nursing Agency for questions on your nurse visits or IV catheter.

Important

Do not change any of the supplies listed here. Keep supplies away from children.

Only your home care nurse or persons trained by Fairview Home Infusion may give you IV medicines. If an untrained person gives you IV medicine, this could cause serious problems, including death. Call your nursing service if someone needs training.

Use these instructions with every infusion.

Words to know

Infusion—to give or get medicine into the body through a needle or tube inserted into a vein

IV—intravenous; it means “in the vein”

TPN—total parenteral nutrition; a way of feeding that bypasses the stomach and digestive tract by putting nutrients directly into the blood

Your doctor has ordered you to get nutrition through your IV line because you can't get enough through eating. Your TPN mixture may have some or all of the nutrients that your body needs.

Some medicines aren't stable enough to add to the TPN mixture at the pharmacy. For this reason, you may need to add more medicines to your TPN.

Your doctor will tell you if you may eat or drink while on TPN. Your nurse will teach you how to give yourself TPN at home.

Getting ready

See video lessons on how to set up and infuse your TPN at <https://www.fairview.org/pharmacy/Fairview-Home-Infusion/Resources>.

Take the TPN bag out of the fridge 6 to 8 hours before use. **Don't** warm the bag in the microwave, in direct sunlight, with hot water, or any other way. Let it warm up naturally.

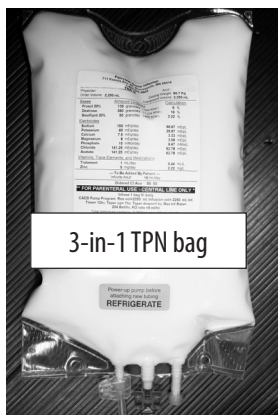
Read the label on the TPN bag. Check for your name and the discard, or "use by," date. If the date has passed or any part of the label is wrong, **don't** use the TPN. Call your Home Infusion team.

Clean your workspace

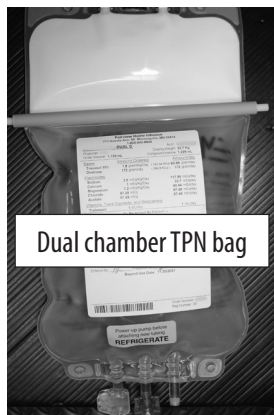
Clean your work area (disinfect it) with soap and water, or disinfectant wipes. Let it dry.

Gather your supplies

- TPN bag at room temperature
- IV pump tubing with filter
- CADD pump and 4 AA batteries
- Alcohol pads
- Sharps container
- 2 pre-filled saline syringes
- 1 pre-filled heparin syringe, if ordered

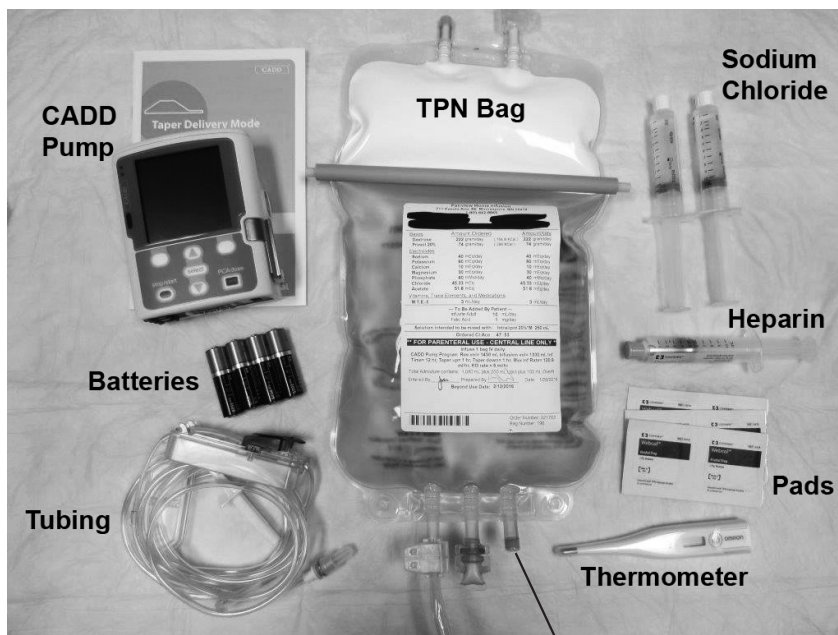


3-in-1 TPN bag



Dual chamber TPN bag

Your TPN bag may look like either of the ones above.



TPN supplies: Your TPN bag may look slightly different.

The injection port is the small rubber or plastic port on the right side of the bag.

Clean your hands and record your temperature

- Wash your hands for at least 20 seconds using liquid soap or hand sanitizer.
- Check your temperature and write it down in the log provided. Call Fairview Home Infusion if it's 2 degrees higher than your normal (baseline) temperature.

□ Adding insulin or vitamin K to the TPN bag (if ordered, add before multi-vitamins)

1. Gather these supplies:
 - Alcohol pads
 - Pre-filled insulin syringe and the 1-inch (22 gauge) needle that came with the syringe
 - Pre-filled vitamin K syringe and the needle that came with it in the brown plastic bag
 - Your TPN bag

If you are adding insulin *and* vitamin K, add the insulin first.

2. Wash your hands well for 20 seconds. Use liquid soap or hand foam.
3. Read the label on the syringe. Check to be sure your name, the medicine name, and the dose are correct. Also check the discard, or "use by," date. If the date has passed or any of the information is wrong, **don't** use the syringe. Call your Home Infusion pharmacy team.
4. Take the plastic cover or rubber tip off the syringe. **Don't** touch the tip.
5. Attach the needle to the syringe by twisting it on.
6. With a fresh alcohol pad, scrub the short rubber or plastic port at the bottom of your TPN bag. Scrub for 15 seconds and let air dry.
7. Take the cover off the needle by pulling it straight off. **Don't** twist it off and **don't** touch the needle.

8. Insert the needle into the injection port at the bottom of your bag. Inject (push) all of the liquid into the bag. Remove the needle and syringe from the port.
9. Throw the empty syringe with attached needle into your sharps container.
10. If you are adding vitamin K, repeat steps 3 to 9.



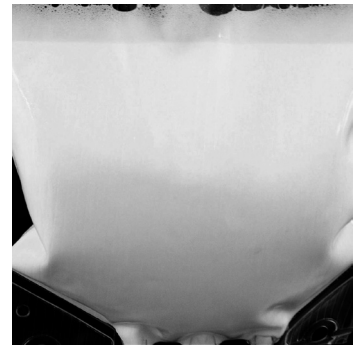
□ Adding vitamins to the TPN bag

1. Gather these supplies:
 - Alcohol pads
 - Two vials of vitamins with caps of different colors.
 - Two 10-ml syringes with needles
 - TPN bag
2. Wash your hands well for 20 seconds. Use liquid soap or hand foam.
3. Open one vial by lifting the cap off.
4. Use a fresh alcohol pad to scrub the top of the vial. Scrub for 15 seconds and let air dry.
5. Use a fresh alcohol pad to scrub the short rubber or plastic injection port at the bottom of your TPN bag. Scrub for 15 seconds and let air dry.

6. Take the cover off one of the needles by pulling it straight off. **Don't** twist it off and **don't** touch the needle.
7. Draw back the plunger to fill the syringe with 5 ml air. **For children's multivitamins, follow your nurse's instructions.**
8. Use the tip of the needle to pierce the center of the opened vial. Push all the air into the vial.
9. Keep your thumb on the plunger of the syringe. Turn the vial upside down, and then withdraw all the liquid from the vial.
10. Tap the side of the syringe, moving any air bubbles to the top. Inject these back into the vial. This way, you'll make sure that all the air is out of the syringe. It's OK to have tiny bubbles on the inside of the syringe.
11. Remove the needle and syringe from the vial.
12. Insert the needle into the center of the injection port of your TPN bag. Push all of the liquid into the bag. Remove the needle and syringe from the port.
13. Throw the empty needle and syringe into your sharps container.
14. Take up the second syringe and vial. Repeat steps 3 through 13.

❑ Mixing lipids and TPN

1. If your TPN bag has a lipid chamber (with white, milky liquid), check these things before using it:
 - The white liquid at the top should look like milk, without brown streaks or cracking.
 - The liquid at bottom will look clear or slightly yellow. It should **not** look murky or milky, or contain any solid pieces.
 - If you notice anything unusual in your TPN liquid, **don't** use the TPN. Call your Fairview Home Infusion team.



At left: Mixture is streaked.
Above: Mixture has separated.

2. After you complete the above checks, mix the two chambers. Do this just before hooking up your TPN for the day:
 - Pull on the rubber tube, then pull the silver strip from between the two chambers.



Pull the silver strip from between the 2 chambers

- Gently knead the bag until the liquids are well mixed. Once mixed, TPN is only good for 24 hours.

Attaching the tubing

1. Remove the IV tubing from its package. Pull the blue clip from the cassette, then tear off the white paper strips.
2. Holding the TPN bag, remove the seal from the large center port at the bottom of the bag. Once the seal is removed, **don't** touch or clean the open port. **Don't** use the clamped port.
3. Take the cover off the tubing spike. Push and twist the spike into the center port of the bag. **Don't** let either the port or the spike touch anything.



Twist the spike into the center port

CADD pump setup and operation

Change the batteries

You should change the batteries every day.

1. Make sure the pump is stopped and powered off. Using your fingers, the pump key, or a coin, turn the knob on the battery door counter-clockwise to open the battery door on the top of the pump.

2. While holding the pump at an angle, place 4 AA batteries in the pump from the bottom up. Match the + and - markings on the batteries with the markings on the pump.



Put the batteries in the pump

3. Using your fingers, the pump key, or a coin, close the battery door by turning the knob on the battery door clockwise.
4. Press and hold the power switch to turn the pump on.
5. The pump will beep after completing self-tests, and "Ready To Begin" will appear on the home screen.

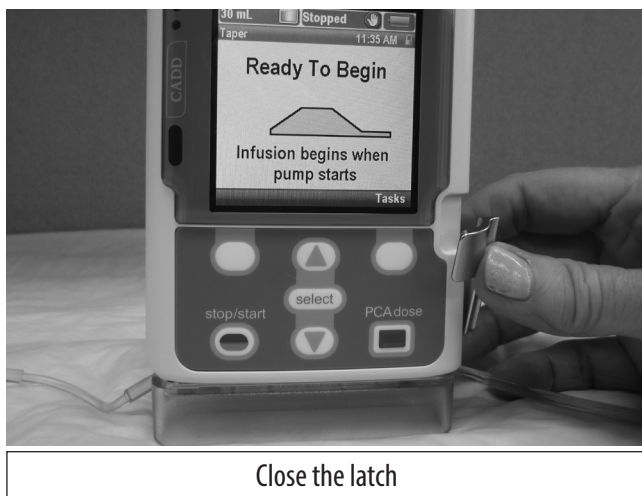
Connect the tubing to the pump

6. Open the cassette latch to a 90-degree angle.



Open the latch lever to a 90-degree angle

7. Attach the TPN tubing cassette to the pump by connecting the hooks on the cassette to the hinge pins on the bottom of the pump.
8. Place the pump on a firm, flat surface, and press down on the cassette so it fits tightly against the pump.
9. Lift the cassette handle into the closed position.
10. Make sure the cassette is attached correctly. The top of the cassette should line up evenly with the bottom of the pump and be securely attached.



Reset the reservoir volume

11. “Reset reservoir volume to ___mL?” will appear on the home screen. Select **Yes**.

Note: Make sure the volume number in the upper-left corner of the pump screen matches the “Res Vol” on the TPN label. If it **doesn’t** match, **STOP** and call your Fairview Home Infusion team.

If the reset reservoir volume prompt **doesn’t** appear on the pump, you can reset it by following these steps:

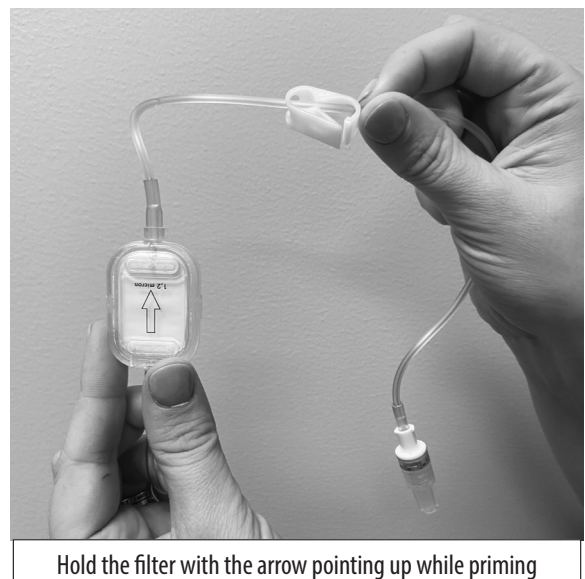
- Select **Tasks**.
- Select **Reset Reservoir Volume**.
- “Reset Reservoir Volume to ___mL?” will appear on the home screen. Select **Yes**.
- Select **Back**.

Prime the tubing

12. “Prime tubing?” will appear. Select **Yes**
13. **Warning! Don’t prime the line with the tubing connected to a patient.**
14. Screen will display: “Disconnect tubing from patient, open clamps, then press **Prime**.” Press **Prime**. The pump will automatically start priming.
15. **Important!** To remove the air from your TPN bag while priming, lift the bag with the tubing toward the ceiling until the fluid moves into the tubing. (This may take a few minutes.)



16. Continue priming, holding the tubing filter with the arrow pointing up like the picture. (If your tubing doesn’t have an arrow, turn the filter upside down so it can fill from the bottom up.) This will help get rid of air bubbles.



Hold the filter with the arrow pointing up while priming

17. Prime until the fluid reaches the end of the tubing, and all the air is gone. Then press **Stop Priming**. If “Continue priming” appears, select No.

18. “Start infusion” will appear. Select No.

Flush the IV catheter with saline

19. Scrub the end cap on your IV line with a new alcohol pad. Scrub for at least 15 seconds and let it air dry. **Don't** let it touch anything after it's cleaned. If it does, repeat this step with a new alcohol pad.

20. Remove air from the saline (sodium chloride) syringe as your nurse instructed.

21. Connect the saline syringe to the end cap by turning the syringe clockwise until it's secure.

22. Push the saline in using a pulse-flush method. (See the teaching sheet, [“Flushing the Line with Heparin, Saline or Citrate: Central IV Line Care”](#) included in your Home Infusion folder.) **Flush with the amount ordered by your doctor.**

23. Remove the saline syringe by turning it counter-clockwise.

Connect the pump tubing to the IV catheter

24. Scrub the end cap on your IV line with a new alcohol pad. Scrub for at least 15 seconds and let it air dry. **Don't** let it touch anything after it's cleaned. If it does, repeat this step with a new alcohol pad.

25. Remove the plastic cover from the end of the tubing. Be careful not to touch it with any surface.

26. Connect the end of the tubing to the IV catheter end cap by pushing in and turning clockwise until the tube is secure.

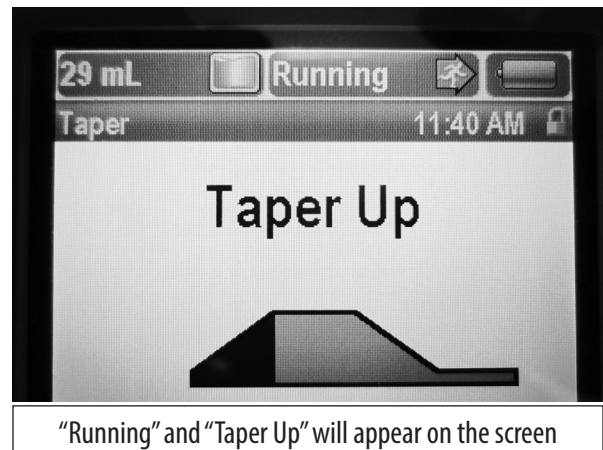
Note: If you have more than 1 lumen, TPN should be infused through the same lumen each time. Your nurse will help you pick which lumen to use.

Infusing your TPN

Start the infusion

1. Open all clamps (pump tubing and IV line).
2. Press the **Stop/Start** button. “Start pump?” will appear, Select Yes.

Note: “Running” and “Taper Up” will appear on the screen. The top row on the pump screen should be **green**. After a few minutes the screen will go blank, but the green light will keep flashing, showing that the pump is still running. Press any button to view the pump screen again.



Take your temperature and blood sugar

- Take your temperature right before TPN and 1 hour after you start TPN. Record it on the log provided. Call Fairview Home Infusion if your temperature is 2 degrees higher than normal (your baseline temperature), or if you have chills while infusing.
- If you were told to check your blood sugar, check it 1 hour after starting TPN, in the middle of TPN, and 1 hour after stopping TPN. Record them on the log. If your blood sugar is higher than 180 or lower than 70, call Fairview Home Infusion.
- Weigh yourself daily at the same time each day and record it. If you gain or lose 2 pounds in 1 day, or 5 pounds or more in a week, call Fairview Home Infusion.

When the infusion is complete

When your TPN infusion is done, the pump alarm will sound, and “Reservoir volume low” or “Infusion complete” will appear on the screen.

- If “Reservoir volume low” is on the screen, select **Acknowledge**. “Infusion complete” will appear on the screen. Select **Acknowledge**.
- If “Infusion complete” is already on the screen, select **Acknowledge**.

If you **don’t** disconnect now, the pump will switch by itself to KVO rate (very slow rate). It will stay at this rate until you are ready to disconnect or until the reservoir volume reaches “0.”

Note: You can stop the infusion any time the pump is in KVO rate.

Finishing up

Stop the pump

1. Stop the pump by pressing the **Stop/Start** button. “Stop infusion?” will appear on the screen.
2. Select **Yes**. “Stopped” will appear on the status bar at the top of the screen, and the amber light will blink.
3. If there is a clamp on the pump tubing and IV line, close it.
4. Remove the TPN tubing from the end cap of your IV line by turning it counter-clockwise. Be careful to not remove the end cap from your IV line.

Flush the IV catheter with saline

5. Scrub the end cap on your IV line with a new alcohol pad. Scrub for at least 15 seconds and let it air dry. Don’t let it touch anything after it’s cleaned. If it does, repeat this step with a new alcohol pad.
6. Remove air from the saline (sodium chloride) syringe as your nurse instructed.
7. Connect the saline syringe to the end cap by turning the syringe clockwise until it’s secure.
8. Push the saline in using a pulse-flush method. (See the teaching sheet, [“Flushing the Line with Heparin, Saline or Citrate: Central IV Line Care”](#) included in your Home Infusion folder.) **Flush with the amount ordered by your doctor.**
9. Remove the saline syringe by turning it counter-clockwise.

If ordered: Flush the IV catheter with heparin

10. Scrub the end cap on your IV line with a new alcohol pad for at least 15 second. Let it air dry. Don’t let it touch anything after it’s cleaned. If it does, repeat this step with a new alcohol pad.
11. Remove air from the heparin syringe, connect it to the end cap, and pulse flush the IV catheter the same way that you did with the saline.
12. Remove the heparin syringe by turning it counter-clockwise. If there’s a clamp on your IV line, close it.

Remove the tubing cassette from the pump

13. Remove the cassette from the pump by pushing down on the cassette latch until the cassette comes loose.



Open the latch on the side of the pump and hold it down to release the cassette

14. Press and hold the power switch to turn the pump off. “Power down?” will appear. Select **Yes**.
15. **Don’t** turn off the pump before you remove the tubing cassette.
16. Open the door to the battery compartment and remove the batteries. You’ll use fresh batteries at your next infusion.
17. Throw the TPN bag, tubing and supplies in the trash.

Important tips

- While infusing, keep the pump and TPN bag at waist or heart level to make sure the pump works as it should.
- If you have more than 1 lumen, flush the unused lumen with saline, heparin, or both, in the way your nurse taught you.
- Please see the pump manual for details on pump alarms, messages, and how to troubleshoot them.
- If you have any problems with your infusion, please call Fairview Home Infusion at 612-672-2233 or 1-800-642-8845.

Remember

- Wash your hands before touching supplies.
- “Scrub the hub”—Clean the end cap on your IV line for 15 seconds before connecting to it.

