

Home Total Parenteral Nutrition

Introduction

Total parenteral nutrition is usually called TPN for short. It involves giving nutrients directly into a major vein. The nutrients are in a premixed formula. The TPN formula has all the nutrients your body needs. They are given through a thin tube called a central venous catheter. There are many types and you will learn about the one you will have before it is put in. At home, TPN is generally given over 10–12 hours during the night.

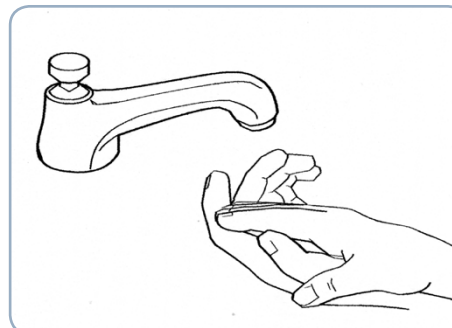
Always check the formula label. Make sure the name and content is what has been ordered for you. Check the expiration date when you receive your shipment. Call your doctor, nurse, or home care provider if there is an error. Call the company providing the formula if it is out of date. Your nurse will guide you through the steps to administer TPN. This document will serve as a review.

Preparation

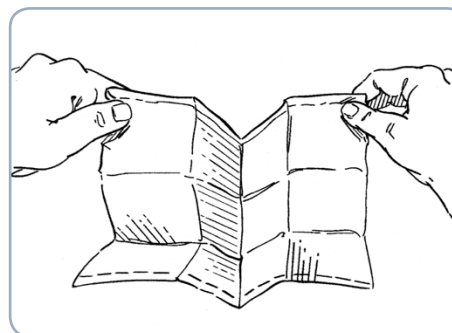
Select an area in your home that is free from drafts, visible dirt, dust, and clutter. A good place could be the kitchen or dining room area. **Do not prepare TPN in the bathroom or in the presence of animals.** Choose a smooth table, counter-top, or tray, away from an open window or doorway. Clean the smooth surface with soap and water. Dry it with a paper towel.

Assemble your equipment.

- Sterile barrier or drape
- TPN solution administration set with filter
- One or two 10mL syringes
- Insulin syringe (if needed)
- Alcohol wipes (swabs)
- Premixed bag of TPN formula
- MVI (as ordered)
- One sharps container
- A waste basket



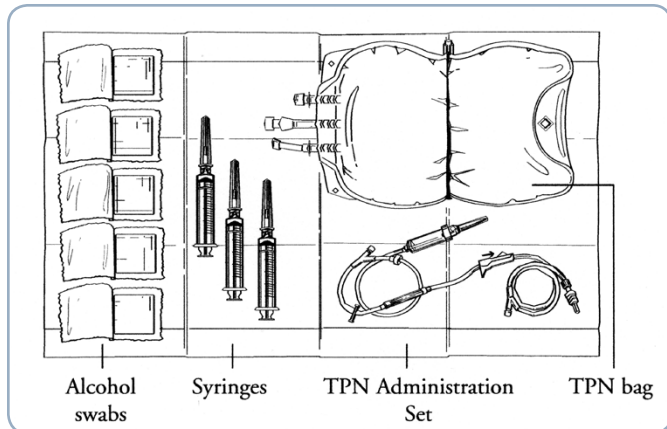
Wash your hands, and then dry them with a paper towel. If you have to interrupt the procedure at any point, you must wash your hands again before resuming the process.



Open the sterile barrier and place it on a clean workspace.



Open five or six alcohol wipes by tearing off three edges of the wrapping. Peel the top back while being careful not to touch the inside. Place each on the sterile barrier.



Take the syringes out of the wrappers and push in the plunger. Place on the sterile barrier.

Take the premixed TPN solution out of its protective bag. Before adding your medicines, check the solution for cloudiness, particles, or a change in color. If lipids have been added to the bag by the company, check the solution for separation. It should look smooth. **Do not use the solution if you see any of these.** Return any defective formula to your supplier. Place the TPN bag on the sterile barrier.

Remove the TPN solution administration set with its filter from its carton. Close the roller clamp and place the set on the sterile barrier. Assemble any prescribed medicines and place them on the sterile barrier. Your nurse will circle the names of your medicine(s) below.

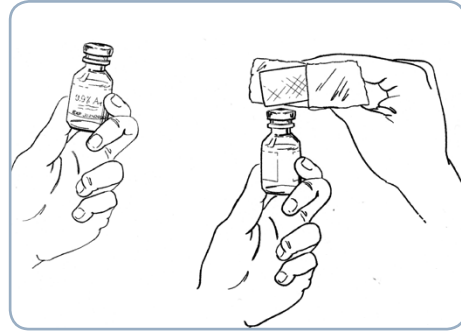
MEDICATION	SYRINGE	AMOUNT
Regular Humulin® insulin or Novolin® insulin	Insulin syringe	As ordered
Ranitidine	10 mL	As ordered
Adult MVI	10 mL	10 mL
Pediatric MVI with 5 mL vial of sterile water	10 mL	5 mL

You are now ready to prepare and add medicine(s) to the TPN solution.

Do not clutter your work area. Discard all wrappers and disposable items in the waste receptacle after use.

Preparing and Adding Medication(s) to the TPN Formula

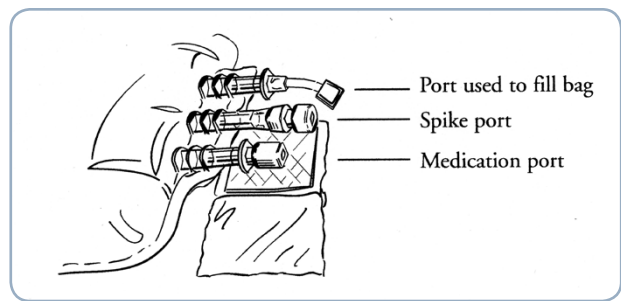
Check the medicine label and expiration date.



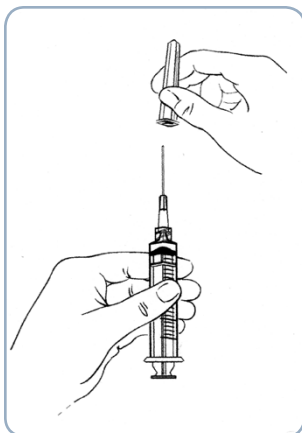
Remove the protective cover from the medicine vial. Hold the alcohol wipe in its foil and swab the top of the vial with the wipe. Place the vial on the sterile barrier.



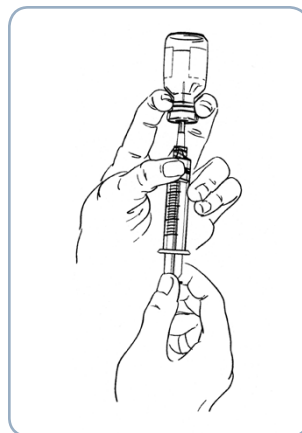
Repeat the above procedure for all medicines that you will add to the TPN bag. Clean the medication port of the TPN bag with an alcohol wipe. This port is the one with a top through which you inject the medicine. (The spike port has a pull-tab and then an opening through which the spike is inserted.) The medication port may be located on the outside or the middle of the TPN bag.



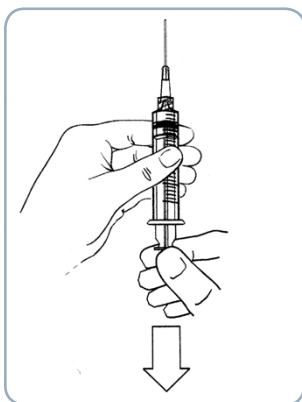
Rest the clean port on a new alcohol wipe.



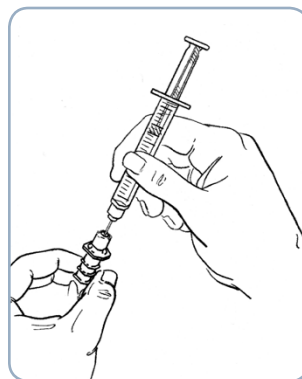
Pick up a syringe and remove the protective cap



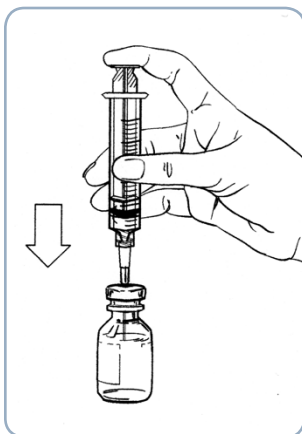
Carefully turn the vial upside down with the needle still in it. Make sure the solution covers the tip of the needle. Pull back the plunger end and fill the syringe with the desired amount of solution. Check to be sure that you have the correct amount of medication in the syringe. Remove the needle and set the medication vial to the side on your work area.



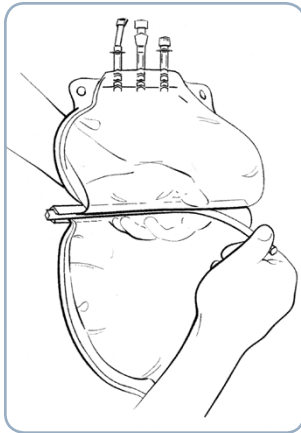
Pull back the plunger, holding the round end only. Draw air into the syringe to the number of mL of medicine that the doctor prescribed.



Insert the needle into the medication port and inject the solution. Rest the port on the alcohol wipe again. Discard the syringe in your sharps container. Use a new syringe for each medicine. Repeat the above procedure to draw and inject all required medicines. Save any vials that have multiple doses in the refrigerator until they are empty or expired. Gently rock the TPN bag to mix the medicine(s) throughout the TPN formula. The formula will turn yellow. Check it for cloudiness or particles. **If you see any cloudiness or particles, do not use the bag.** Save it and notify your home care provider. Then begin the process with a new bag.

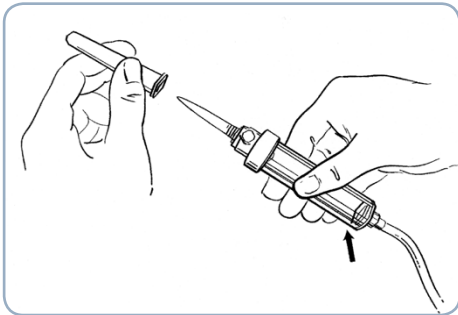


Hold the syringe like a pen or pencil. Push the needle into the rubber top of the medication vial. Push the plunger so the air enters the vial.

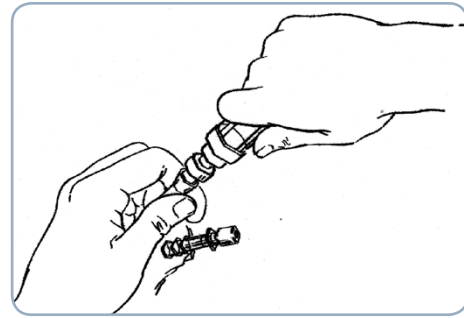


Some bags have a partition device to separate the formula from the lipids. If yours does, remove it. Rock the bag to mix the lipid with the TPN solution. Check the bag for fat globules or separation of lipid. **Do not use the solution if you see any of these.** Return any defective formula to your supplier. Repeat the process with a new bag.

Attaching the Administration Set to the TPN Bag

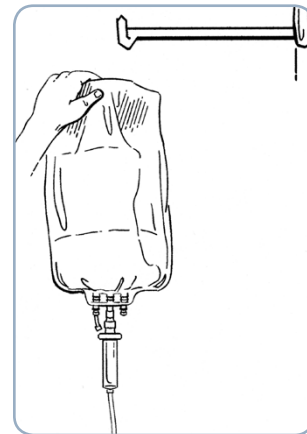


Remove the protective covering (pull-tab) from the TPN bag spike port and place it back on the sterile barrier. **Do not touch the exposed end or allow it to come into contact with anything.** Pick up the TPN administration set. Hold it below the sharp end of the spike tip in one hand, and remove the protective covering.

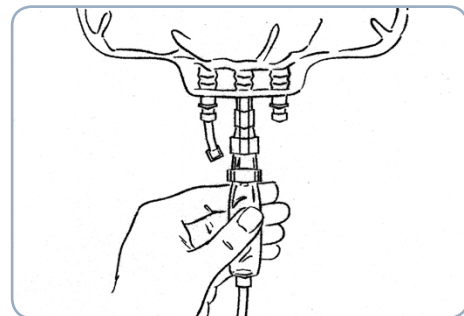


Use a twisting motion to insert the tip of the administration set completely into the spike port of the TPN bag.

Starting the TPN

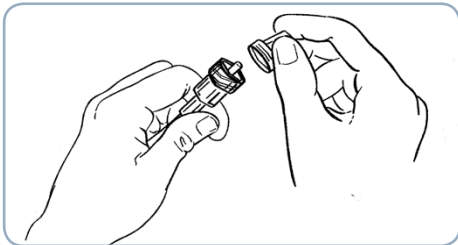


Hang the TPN solution on a pole. If you have a portable pump, an IV pole will not be necessary.

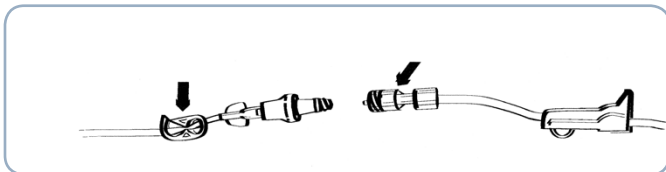


Hold the end of the tubing over the wastebasket. Squeeze the chamber of the administration set once.

Open the roller clamp and allow the solution to fill the entire length of the tubing, making sure that there is no air trapped in the solution in the tubing. Close the clamp when the tubing is filled. Thread the tubing through the infusion pump as instructed by your home care nurse. Use the illustrated instructions your home care nurse will give you as a guide.



Remove the protective cap from the TPN tubing. Swab the catheter connection with alcohol.



Carefully attach the tubing to the catheter connector. **Do not touch the exposed areas or allow them to come in contact with anything.** If the tubing has accidentally come into contact with something, replace it with new tubing. Open all clamps, turn the infusion pump on, and start the TPN.

Discontinuing TPN

An alarm will sound on the pump when the infusion is finished. You must flush the central venous catheter after TPN is given. Your nurse will give you instructions on the procedure and the supplies necessary.

To discontinue the TPN and flush the catheter, first gather your equipment.

- Syringe(s) with solution(s) as indicated above
- One sharps container
- Alcohol wipes

CATHETER	SOLUTION
Broviac® or Hickman®	10 mL Normal saline and 5 mL heparin (10 units/mL)
Femoral, jugular, or subclavian line	10 mL Normal saline and 5 mL heparin (10 units/mL)
PICC-Groshong®	10 mL Normal saline
PICC-nonGroshong	5 mL heparin (10 units/mL)
Mediport®	10 mL Normal saline and 3 mL heparin (100 units/mL)

Turn the infusion pump “OFF.” Close the clamp on the TPN tubing. Disconnect the TPN tubing from the catheter.

Wipe the catheter cap with an alcohol swab. Unclamp the catheter tubing. Push the air out of the prefilled syringes and recap them. Screw the end of each solution-filled syringe into the rubber stopper of the catheter cap and instill the solution. Clamp the catheter. Unscrew the syringe and discard it. Repeat with each medicine.

You have completed the TPN administration. Discard all disposable materials in the waste container. Your nurse will help you practice these steps until you are comfortable doing it yourself. If you have any questions, please write them in the back of this booklet and check with your doctor or nurse.

When to Call Your Doctor or Nurse

Call your primary doctor or your nurse, if you have:

- Severe pain.
- Chills.
- Shortness of breath.
- Blood in vomitus or stool.
- A temperature above 100.4° F (38° C).

Your nurse should give you a PN Complication Chart and review it with you. If you have any of the complications, call your doctor or nurse. You should also call your doctor or nurse if your TPN formula is not delivered.

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