



INSTRUCTIONAL CHECKLIST:

Administration of Total Parenteral Nutrition by an Electronic Pump

https://www.youtube.com/watch?time_continue=3&v=0im2OWCjM_g&feature=emb_logo

For additional education please contact your agency for assistance

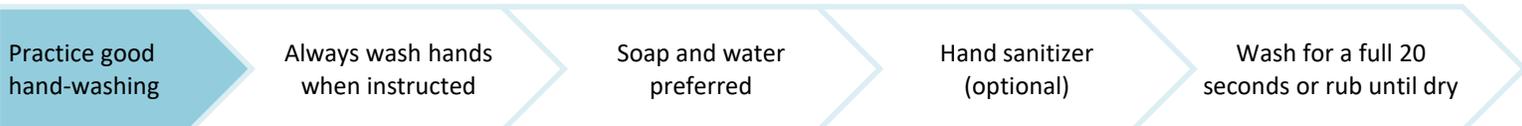
Four Components for Performing Infusions:

- Practice good hand-washing **1**
- Prepare supplies **2**
- Prepare TPN and Additives, Start TPN **3**
- Stop infusion, Disconnect, Flush **4**

Medication(s) to infuse:

Home Infusion Nurse (name, #):

Home Infusion Pharmacist (name, #):



STEP 1: PRACTICE GOOD HAND-WASHING

- Always remember to **WASH YOUR HANDS** for a full 20 seconds when instructed.
 - ❖ Soap and water is always preferred. If soap and water are not available, hand sanitizer is acceptable.
 - ❖ Make it a habit to wet your hands, apply soap, and lather for 20 seconds (hum the Happy Birthday song twice).
 - ❖ If using hand sanitizer, rub a dime-sized amount between your hands until dry. Never wave or blow on your hands to speed up drying.
 - ❖ Remember, if using gloves, you must still wash your hands when instructed.
 - ❖ Washing your hands helps reduce your chance of infection.



STEP 2: PREPARE SUPPLIES

- Note the time to start the infusion: _____ AM PM and how long the infusion is to run _____ hrs
- You may be ordered fat free (clear or yellow bag) or fat bags (white bag) containing lipids. Your orders will dictate how many days you are to receive each type. Please discuss the schedule with your care team.
 - ❖ **fat free bags** on **SUN MON TUE WED THU FRI SAT**
 - ❖ **fat bags** on **SUN MON TUE WED THU FRI SAT**

- Note the time to remove the TPN from refrigerator: _____ AM PM
 - ❖ Remove medication from refrigerator BEFORE the infusion. Follow your medication recommendations.
 - ❖ Your medication will infuse at the correct rate if administered at room temperature. If administered while cold, you will feel the medication as it infuses AND the infusion may take longer.
 - ❖ Do NOT attempt to warm the medication by other means.
 - ❖ TPN is good for no more than 24 hours at room temperature.

- Double-check your TPN compared to your orders to confirm the following information before the infusion :
 - ❖ Medication has my name and date of birth.
 - ❖ Medication name is correct.
 - ❖ Medication dose is correct.
 - ❖ Medication is not expired.
 - ❖ *If any of this information is incorrect, stop and call your home infusion pharmacist immediately.*

WASH YOUR HANDS.

- ❖ Soap and water are preferred, hand sanitizer optional if soap and water are not available.
- ❖ Wash for 20 seconds (hum the Happy Birthday song twice) or rub with hand sanitizer until your hands are dry.

- Clean your workspace and SASH mat with cleaning solution (alcohol/Chlorox wipes or Lysol and paper towels).
 - ❖ Try to select a dry, hard work surface to set up your medication and supplies.
 - ❖ Place the TPN bag and additives on your SASH mat where indicated.

WASH YOUR HANDS.

- ❖ Soap and water preferred (hand sanitizer optional).
- ❖ Wash for 20 seconds (hum the Happy Birthday song twice) or rub with hand sanitizer until your hands are dry.

- Gather the following supplies and place on your workspace (do not put on top of your SASH mat yet):

- ❖ 5—10 alcohol pads (to clean your supplies and hub (IV line tip))
- ❖ 2 prefilled saline syringes (to clear your IV line and remove any leftover medication)
- ❖ 1 prefilled heparin syringe (to clear your IV line and prevent blockage; your nurse will tell you if you need it)
- ❖ 1 electronic pump (to facilitate your infusion; use the electronic pump provided to you)
- ❖ 1 Carrier pouch (to place and carry your pump during your infusions)
- ❖ 1 Infusion Pump Tubing (to spike your bag and infuse through)
- ❖ 1 Trash Bag (small grocery bag will do for trash collection)
- ❖ 1 Sharps Container
- ❖ You will need to obtain additional supply items (syringe and needles) based on the below chart

Additive Name	Frequency of Use	Syringe Size	Needle to Add	Room Temp/Refrigerated

- Arrange your alcohol pads, wrapped prefilled syringes and tubing **above** your SASH mat in their respective location. Do not place any of these items on top of your SASH mat yet.

- ❖ "S" = Saline

- ❖ “A” = Administer or Antibiotic (includes your medication bag and attached tubing)
- ❖ “S” = Saline
- ❖ “H” = Heparin

WASH YOUR HANDS.

- ❖ Soap and water are preferred, hand sanitizer optional if soap and water are not available.
- ❖ Wash for 20 seconds (hum the Happy Birthday song twice) or rub with hand sanitizer until your hands are dry.

Unwrap both saline syringes and the heparin syringe (if prescribed). Place the unwrapped prefilled syringes in the correct location **on top** of your SASH mat.

Check the unwrapped syringes for any air bubbles. If there are air bubbles, do the following:

- ❖ Remove the protective cap from the syringe and place the cap flat-side down on your SASH mat.
- ❖ Hold the syringe with the end up and plunger at the bottom.
- ❖ Pull back on the syringe plunger slightly to break the seal. You will be able to see the air bubble in the syringe.
- ❖ Slowly push the plunger up to let the air bubble out.
- ❖ Once the air is removed, pick up the protective cap from the table and put the cap back on the end of the syringe. Place the syringe back in its respective location on the SASH mat. Repeat for the other syringes.

Prepare your TPN Bag

- ❖ Remove your medication bag from the plastic bag if it is in one.
- ❖ Locate the inject port on the TPN bag (usually to the far right and it is covered with tin foil). This port is used to add the additives. Remove the foil and vigorously clean the end with an alcohol pad for 15 seconds.
- ❖ Place the unwrapped medication bag above the A of your mat. You can put a clean alcohol pad under the port to protect it from recontamination.
- ❖ Remove the pump tubing from the wrapping and place with the TPN bag.
- ❖ Place your carrying bag to the side until later

Check your infusion pump. Inspect for any obvious issues. Power the pump on by clicking and holding the ON/OFF button to be sure the pump starts. Power the pump back off by clicking the ON/OFF button and holding it till the pump beeps. Set the pump close to your TPN bag and tubing.

WASH YOUR HANDS.

- ❖ Soap and water are preferred, hand sanitizer optional if soap and water are not available.
- ❖ Wash for 20 seconds (hum the Happy Birthday song twice) or rub with hand sanitizer until your hands are dry.



STEP 3: PREPARE TPN AND ADDITIVES, START TPN

Double check your additives

- ❖ Review you're orders one last time to be certain you have the correct additives for your infusion day.
- ❖ Double check you have the correct supplies to accommodate each additive preparation

WASH YOUR HANDS.

- ❖ Soap and water are preferred, hand sanitizer optional if soap and water are not available.
- ❖ Wash for 20 seconds (hum the Happy Birthday song twice) or rub with hand sanitizer until your hands are dry.

- It is best practice to draw up one additive at a time and inject it into the TPN bag starting with the smallest volume.
 - ❖ For example, the smallest volume additive available is Regular Insulin using the orange insulin syringe, if applicable to your TPN formula prescription.

- Drawing up each additive and inject into the TPN (*If none ordered, skip this section*)
 - ❖ Your orders will have specific instructions on each additive and the prescribed dose. Refer to your orders for the volume to draw up with each syringe.
 - ❖ Remove the plastic caps from the additive vials and discard.
 - ❖ Clean the top of each vial with a separate alcohol pad by swiping the pad across the top of the vial one time.
 - ❖ Allow to dry for 15 seconds.
 - ❖ Open the packaging of your syringe and remove the syringe.
 - ❖ If your syringe does not include a needle, remove the separate needle from its packaging and place on the end of the syringe. (screw the needle onto end of the syringe)
 - ❖ If multi-vitamins are ordered and provided in two vials (one with a white top and one with a blue top), you will only need one syringe for both vials.
 - ❖ Remove the cap on the needle careful not to touch the needle itself.
 - ❖ Pull back on the plunger of the syringe the volume you intend to withdraw from the vial.
 - ❖ Place the tip of the needle directly over the center of the vial and gently push the needle into the vial.
 - ❖ Invert the vial so that the vial is upside down and above the syringe. Slowly push the plunger injecting some of the air into the vial.
 - ❖ Pull back on the plunger. You may have to adjust the vial so that the tip of the needle is in the fluid. Be sure to remove the total volume based on the order.
 - ❖ When you are certain you have the proper amount of drug in the syringe, pull the needle from the vial.
 - ❖ If you are drawing up the multi-vial multi-vitamin, withdraw an additional 5ml of air and follow the same steps as you did for the first vial.
 - ❖ Locate the cleaned valve on your TPN bag. Grasp the valve without touching the end of the valve. Insert your needle into the center of the valve careful not to push the needle through the sides of the bag. Push the fluid in the syringe into the TPN bag by pushing the plunger in until the syringe is empty.
 - ❖ Remove the empty needle and syringe from the TPN bag and place in the provided sharps container.

- Once all the additives have been added to the TPN bag, gently swirl the bag massaging it with your hands to be sure it is mixed. (DO NOT SHAKE)

WASH YOUR HANDS.

- ❖ Soap and water are preferred, hand sanitizer optional if soap and water are not available.
- ❖ Wash for 20 seconds (hum the Happy Birthday song twice) or rub with hand sanitizer until your hands are dry.

'Spike the bag' in order to attach the medication tubing to your medication bag:

- ❖ Pull the plastic protective tab off the medication bag. Just pull. Do not twist.
- ❖ Remove the clear protective cap from the spike (located on your medication tubing).
 - *Make sure the spike does not touch anything. If the spike touches anything, throw that tubing set away and begin again with a new tubing set.*
- ❖ Insert the tubing spike into the medication bag (where the tab was removed).
 - Use a "push and twist" motion (like putting a key into an ignition).
 - You will know the bag is spiked when you see the tip of the tubing spike in the medication bag and when you see medicine in the drip chamber

- Load the pump with a new medication bag with attached tubing:
 - ❖ Place your new medication bag with attached tubing next to the pump.
 - ❖ On the medication tubing, find the section of tubing with the black plastic piece. It looks like a LEGO piece.
 - ❖ Line up the medication tubing with the pump. Slide the black piece (with the smooth side facing up) into the channel.
 - ❖ Close the pump door and shut the latch.

- Open all clamps on your tubing

- Power the pump on by pressing the power button. Review the program settings.
 - ❖ The pump make a beeping sound as it performs a self-check.
 - ❖ The pump screen will then ask you if you want to REPEAT or RESUME. Press REPEAT.
 - ❖ Make sure the settings on the pump screen match the settings on your medication order form.
 - ❖ Follow the directions to scroll through the pump screen.

- Hit the PRIME/PIGGY button. If prompted enter 10 ml into the prime volume. Click the start button until the pump begins to prime the IV tubing. Be sure to prime over a trash can or sink and be sure fluid runs from the end of the tubing before completing the priming of your IV.

- WASH YOUR HANDS.**

- ❖ Soap and water are preferred, hand sanitizer optional if soap and water are not available.
- ❖ Wash for 20 seconds (hum the Happy Birthday song twice) or rub with hand sanitizer until your hands are dry.

- Sit down to prepare your IV line.

- ‘Scrub the hub.’ Clean the end cap (hub) by wrapping the alcohol pad over and around the sides for at least 15 seconds.
 - ❖ Use the first alcohol pad above your SASH mat (the one before the first “S”).
 - ❖ Once you have cleaned the hub, hold the hub with two fingers. Keep the hub from touching anything else.
 - ❖ If your hub touches anything, **wash your hands** and scrub the hub again with a new alcohol pad.

- Flush your IV line with saline (“pulse flush”):

- ❖ Hold the hub in one hand. Grasp the saline syringe on the first “S” of your SASH mat with your other hand.
- ❖ Remove the protective cover on the saline syringe. Screw the syringe onto the hub using a “push and twist” motion. It’s like putting a key into an ignition.
- ❖ Once the syringe is connected to the hub, open the clamp on your IV line and slowly push 1 to 2 mL of saline at a time. Stop and push 1 to 2 mL more. Repeat this “pulse flush” until the saline syringe is empty. Flushing this way each time helps keep your IV line from getting clogged.
- ❖ If you have trouble flushing your IV line, double check to make sure the clamp on your IV line is open. *If your clamp is open and you are still having trouble, stop and call your home infusion nurse.*

- Remove the empty saline syringe from your IV line. Throw it away.

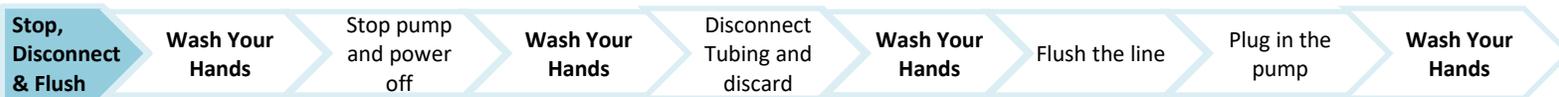
- ❖ Do not remove the end cap from the hub of your IV line. Be sure you are holding the IV line by the end cap (the blue device) to prevent from unscrewing the cap from your line.

- Connect your medication tubing to the hub of your IV line by doing the following:

- ❖ Hold the hub in one hand. Find the end of the medication tubing. Remove the medication tubing cap.
- ❖ Connect the medication tubing to the hub of your IV line. Use the same “push and twist” motion as before.

- Press the “Start” or “Ok” button on your pump to start the infusion. You will see the drip picture on the pump screen and a blinking green light on the face of the pump.
 - ❖ Watch the pump for the rate to begin titrating upwards over the first hour of the infusion. If you do not see the titration occur, call the home infusion team for direction.
 - ❖ If your pump alarms, read the message on the pump screen. Check the clamps to make sure they are all open. Check the medication tubing and IV line tubing for kinks.
 - ❖ If these steps don’t work and the pump still alarms, *stop and call your home infusion nurse immediately.*

- Place the pump and TPN bag into the carry pouch provided.



STEP 4: STOP, DISCONNECT, AND FLUSH

- Your pump will beep when the infusion is complete. You should immediately check the pump bag to be sure the infusion is complete. If it is not, please contact your home infusion provider for additional assistance.

- WASH YOUR HANDS.**

- ❖ Soap and water are preferred, hand sanitizer optional if soap and water are not available.
- ❖ Wash for 20 seconds (hum the Happy Birthday song twice) or rub with hand sanitizer until your hands are dry.

- Hit the STOP button on the pump and turn the pump off by hitting and holding the START/STOP button until the pump beeps and power down.

- WASH YOUR HANDS.**

- ❖ Soap and water are preferred, hand sanitizer optional if soap and water are not available.
- ❖ Wash for 20 seconds (hum the Happy Birthday song twice) or rub with hand sanitizer until your hands are dry

- Disconnect the pump tubing from your vascular access device by grasping the blue end cap and the end of the pump tubing. Unscrew the tubing from the blue end cap being sure to leave the blue end cap on the vascular access device.

- Remove the infusion bag from the carry bag. Open the pump by pulling up on the door latch. Remove the tubing from the pump and discard the pump tubing and bag into the regular trash.

- WASH YOUR HANDS.**

- ❖ Soap and water are preferred, hand sanitizer optional if soap and water are not available.
- ❖ Wash for 20 seconds (hum the Happy Birthday song twice) or rub with hand sanitizer until your hands are dry

- ‘Scrub the hub’ of your IV line with a NEW alcohol pad for at least 15 seconds.

- ❖ Use an alcohol pad to scrub the end of the port tubing.
- ❖ Once you have cleaned the hub, hold the hub with two fingers. Keep the hub from touching anything else.
- ❖ If your hub touches anything, **wash your hands** and scrub the hub again with a new alcohol pad.

- Flush your IV line with saline (“pulse flush”):

- ❖ Hold the hub in one hand. Grasp the saline syringe on the first “S” of your SASH mat with your other hand.

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- ❖ Remove the protective cover on the saline syringe. Screw the syringe onto the hub using a “push and twist” motion. It’s like putting a key into an ignition.
 - ❖ Once the syringe is connected to the hub, open the clamp on your IV line and slowly push 1 to 2 mL of saline at a time. Stop and push 1 to 2 mL more. Repeat this “pulse flush” until the saline syringe is empty. Flushing this way each time helps keep your IV line from getting clogged.
 - ❖ If you have trouble flushing your IV line, double check to make sure the clamp on your IV line is open. If your clamp is open and you are still having trouble, stop and call your home infusion nurse.

Remove the empty saline syringe from your IV line. Throw it away.

Plug your pump into the charger for the rest of the day until needed.

Make a habit to:

- Find a **CLEAN WORKSPACE** to perform infusions and store supplies.
- WASH YOUR HANDS** for at LEAST 20 seconds.
 - ❖ Soap and water preferred (use hand sanitizer if soap or water are unavailable).
 - ❖ Hum the Happy Birthday song twice.
- CHECK YOUR MEDICATION** to confirm:
 - ❖ Your name and date of birth AND the dose, expiration date and medication name.
- REMOVE YOUR MEDICATION** from the refrigerator BEFORE the infusion.
- FOLLOW THE SASH PROTOCOL:**
 - ❖ Saline flush → Administer medication → Saline flush → Heparin flush
- BE SURE TO MONITOR FOR INITIAL TITRATION**

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