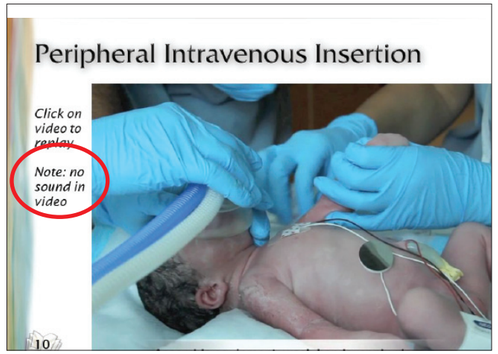
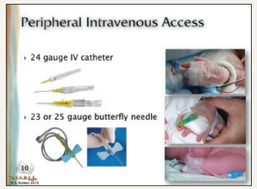
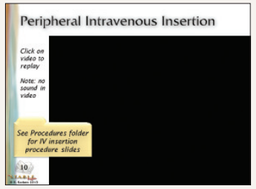
When a video appears in the program, there will be a note regarding whether sound is present on the video or not. If there is sound, then you will need to connect your computer to speakers.

Speakers will also be required for other sound clips (grunting and stridor) that are incorporated into slides in the Airway module.

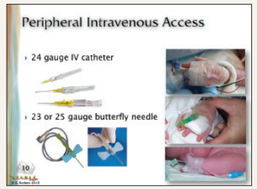


NICU





Non NICU



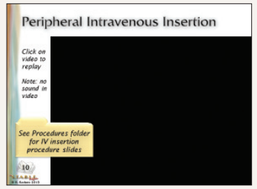


Figure 1.3. Setting up for and securing a peripheral IV.

Insertion of a Peripheral IV

For most infants, appropriate sizes are:
24 gauge IV catheter or 23 or 25 gauge butterfly needle (with ¾ inch needle length).

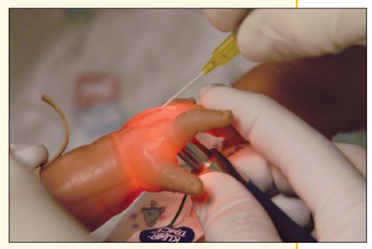
⚠ To reduce the risk of a needle stick injury and exposure to bloodborne pathogens, use a needle or catheter system with a safety device. When finished with the procedure, promptly and properly dispose the shielded stylet or needles in a regulation sharps container and wash hands or apply an antibacterial cleansing solution to hands.

Preparation for Insertion of a Peripheral IV

- Wash and dry hands or apply an antiseptic solution to hands before beginning.
- Assemble all of the equipment that will be necessary for the procedure.
- Prepare the tape and clear surgical dressing so that it is ready to use when the IV is inserted.
- Apply gloves.
- Clean the skin with antiseptic solution around the insertion site and allow the solution to dry.
- Optional: a non-latex material tourniquet may be placed on the extremity above the area where you will insert the needle (take care to not cut off the blood supply).

⚠ Observe evidence-based guidelines for hand hygiene before and after patient contact![38]

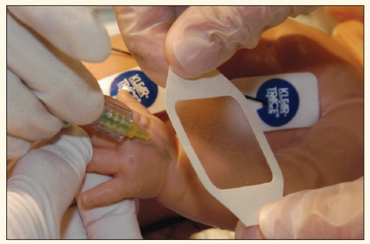
Step 1

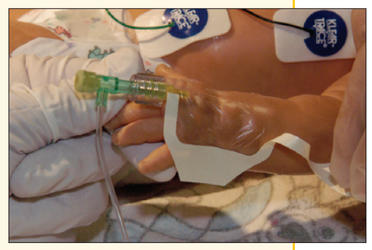


A (cold light) transillumination light or a bright pen light held beneath the hand or foot helps the veins become visible. Insert the needle or catheter into the vein and ensure there is good blood return. Hypotensive infants may have very slow blood return, so be patient. Remove the tourniquet (if one was used) when blood return is noted. If using a catheter, follow the manufacturer's recommendation for advancing the catheter and for discarding or securing the needle stylet.

⚠ Take care to check that any light source used does not transmit heat, which could burn the skin.

Step 2





If using a catheter, secure it by placing a small piece of sterile transparent semipermeable membrane dressing over the catheter from the hub down to below the insertion site. If this dressing is not available, then secure the hub with a piece of ½ inch tape. Avoid covering the needle insertion site with tape as this will obscure observation of the site for infiltration or redness. If using a butterfly needle, place the tape such that it also covers the butterfly wings.

Step 3

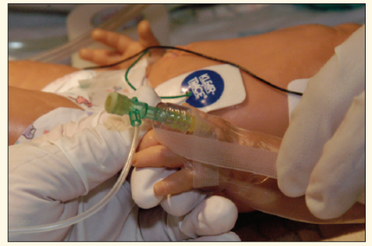
While taping, periodically ensure patency by flushing the IV with a small amount of sterile normal saline (NS).

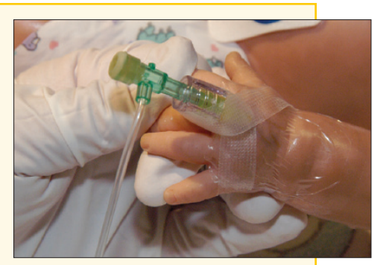
NICU

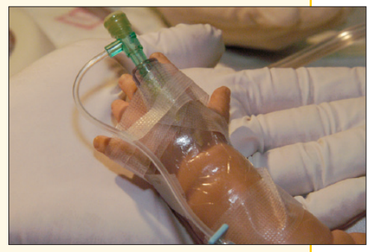
Non NICU

Step 4

Place a ½ inch piece of tape over the hub. Avoid placing tape over the insertion site of the needle or catheter so that the site can be monitored during infusion of fluids or medications. The sterile transparent semipermeable membrane dressing will allow for optimal observation, yet hold the needle/catheter securely.

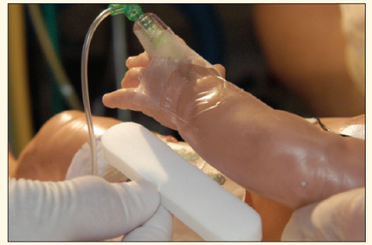


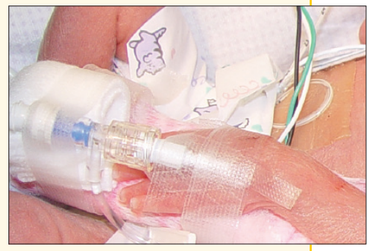


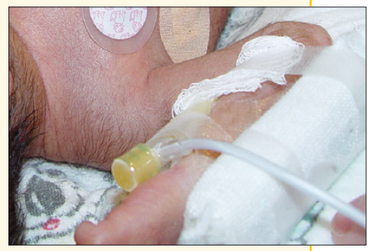


Step 5

At times it may be necessary to use a padded “board” to prevent flexion of the arm or leg. Try to secure the area in the most anatomically correct position. To help prevent accidental dislodgment of the IV, secure the tubing with a ½ inch piece of tape such that the tape does not touch the hub or wings of the IV needle. Double back tape or cushion the tape with a gauze pad to prevent unnecessary contact with the skin.

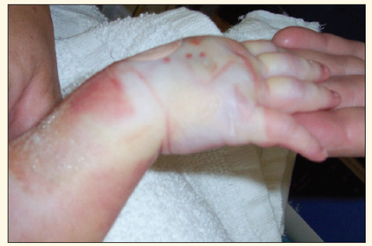


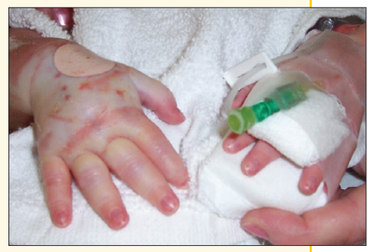




Monitoring

Observe the IV site closely for swelling or redness which may indicate infiltration. If these signs are observed then it is safest to remove the IV and insert a new one in another area. Document hourly the appearance of the IV and the amount of fluid that was infused in the past hour. Protect the IV from dislodgment whenever the infant is moved.





Clinical Tips are present throughout the modules and are intended to provide additional, relevant information regarding topics under discussion.

Clinical Tip

Pointers from intensive care nursery nurses on starting IVs in infants

1. Use two people to start the IV. One should bundle and comfort the infant while the other prepares the materials and places the IV.
2. This is a painful procedure. If the infant is able to suck on a pacifier, this may reduce discomfort during the procedure. When possible, a few drops of sucrose placed on the tongue should be provided for pain and comfort.
3. When placing an IV in the scalp, swab the skin with alcohol immediately before piercing the vein. This will help to briefly dilate the vein. Because the alcohol dries quickly, the infant should not feel a sting.
4. Palpate for arterial pulsation prior to placing an IV in scalp veins. If a pulse is felt, the vessel is likely an artery and should not be used. If the skin blanches once the IV is inserted, the IV is in an artery and should be removed. Apply pressure to the site for at least several minutes to be sure all bleeding has stopped.
5. Move slowly and be patient. Blood return may be very slow in infants who are hypotensive or otherwise compromised. Once you see the flashback of blood, slowly advance the IV catheter off the stylet into the vein.
6. Use any protective devices provided with your IV equipment to protect against accidental needle sticks and immediately discard needles in a proper disposal container.
7. When using a butterfly needle, enter the skin approximately ¼ inch away from where you plan on entering the vein. This will improve stability of the IV needle once it is placed. Once you have a blood return, don't try to cannulate the vein further because the butterfly needle may go through the vein.

III. Some infants are at increased risk for low blood sugar (glucose) or "hypoglycemia."

Preterm infants (less than 37 weeks gestation), small for gestational age (SGA) infants, large for gestational age (LGA) infants, infants of diabetic mothers (IDM), and stressed, sick infants are at increased risk for becoming hypoglycemic.[39,40] In addition, some medications given to pregnant women increase the risk for neonatal hypoglycemia. These medications and their effect on glucose metabolism are described in Table 1.1.