

Factor concentrate at home

Your child needs to be given factor concentrate (often called “factor”) at home by IV.

Name of factor:

Dose: _____

How often to give it: _____

Give it into your child’s:

- central venous catheter
- heparin lock IV
- implanted port
- peripheral vein

Saline solution

Amount to give: _____ ml

When to give it:

Before **and** after giving factor in an indwelling IV

Heparin solution _____ units/ml

Amount to give: _____ ml

When to give it:

- every _____
- after giving factor in an indwelling IV

How should I store the factor?

Most factor products need to be refrigerated. Read the storage instructions on the package insert for proper storage temperature.

Keep the diluent (liquid used to mix the factor) at room temperature so it mixes easily.

Preventing infection

It is very important to prevent infection, which might require removal of the indwelling IV. The nurse will show you how to keep your supplies sterile, so no germs will enter the IV and cause an infection.

Cleanliness is a must! Each time you give factor, follow these steps:

1. Prepare a clean work area by cleaning a solid surface with household cleanser (such as Lysol® or another brand) and lay a clean towel on it.
2. Clean your hands well, using one of the following methods:
 - Use an alcohol hand sanitizer (Purell® or another brand) according to directions.
 - If hands are dirty or sanitizer is not available, wash your hands for **at least 15 seconds** with antibacterial soap, rubbing all surfaces briskly, including under fingernails. Use a paper towel or clean hand towel to dry your hands, and then use the towel to turn off the faucet.

3. Before **EACH TIME** you flush or give factor into the IV, scrub the injection cap **FIRST** for 30 seconds with a fresh chlorhexidine wipe, using friction. Let it dry. Do not fan or blow on it.

Note: Filled syringes have an air bubble in them. Before using, squirt the air bubble out.

How do I give the factor?

Preparing the factor

1. Prepare the work area (see page 1).
2. Clean your hands well (see page 1).
3. Gather supplies:
 - alcohol wipes
 - chlorhexidine wipes
 - factor kit (includes filter needle, double-ended needle, and diluent)
 - gloves
 - heparin syringe (1)
 - normal saline syringes (2)
 - non-coring needle and tubing for accessing an implanted port, if your child has one
 - sharps container, such as:
 - a special container for this purpose
 - coffee can with cover
 - plastic detergent bottle with lid
4. Put supplies in order of use on the work surface.
5. Look on top of the box or on the vial to find the number of units in each vial. Select the correct number of units of factor to equal the prescribed dose. Your dose may not exactly match the units on the vial, but should be close, within 10% of the prescribed amount. Please call your doctor if you are not sure of the dose.
- Check the vials for the expiration date. If expired, throw away and use another.
6. Check the labels of the normal saline and heparin syringes before giving them. Make sure they are the right medicines and the heparin is in the right strength.
- If you don't have pre-filled syringes, draw up the correct amount into separate syringes. (See the education sheet, "IV medicines: Preparing at home.")
7. Open packages without touching anything inside.
8. Put on the gloves.
9. Remove the plastic caps from the factor and diluent vials.
10. Scrub the stoppers of both vials for 30 seconds, using a fresh alcohol wipe for each. Let them dry. Do not fan or blow on them. After cleaning, be careful not to touch the stopper with your fingers. If you do touch it, scrub it again with a fresh alcohol wipe.
11. Pick up the double-ended needle. Break the seal with a gentle twisting motion. The short end of the needle will be exposed. Push the short end of the needle into the diluent bottle.
12. Remove the cap from the long end of the needle. Turn the diluent bottle upside down and push the long end of the needle into the middle of the stopper on the factor vial. The diluent should be pulled into the factor vial on its own.
13. After the diluent has drained into the factor bottle, remove the diluent bottle, leaving the needle exposed. Carefully remove the needle and place it in the sharps container.

14. Gently rotate the vial until the factor is dissolved. **Do not shake.** Hold the vial up to the light to be sure there are no lumps or flakes. This should take less than 5 minutes.
15. Scrub the stopper of the factor vial with a fresh alcohol wipe for 30 seconds and let it dry.
16. Put the filter needle on the syringe, using sterile technique.
17. Draw air into the syringe by pulling the plunger back to the line that marks the amount of factor to be drawn up.
18. Insert the needle into the stopper and push the air into the vial.
19. Turn the vial upside down and pull back on the plunger to fill the syringe with the factor.
20. Check the syringe for air bubbles. To remove air bubbles, tap the syringe to make the bubble go to the top. Squirt the air bubble into the vial.

If your child does not have an indwelling IV

Follow the instructions you have been given about putting in a peripheral IV.

Give the factor within **4 hours** after mixing.

Giving the factor into an indwelling IV

Give the factor within **one hour** of mixing it.

If your child has an **implanted port**, follow the instructions for accessing it in the education sheet, “Implanted port: Care at home”.

1. Scrub the injection cap at the indwelling IV site with a chlorhexidine wipe and let it dry.
2. Unclamp the IV.
3. Flush the IV with normal saline to be sure it is not blocked, using the push-and-pause method.
 - If your child has an implanted port, pull back on the syringe plunger to make sure you get a blood return **before** injecting the normal saline.
 - If your child has a heparin lock IV, and there is any pain or swelling, stop giving the saline. The IV will need to be replaced. Call the clinic or Home Care nurse.
4. When empty, remove the saline syringe.
5. Scrub the injection cap with a chlorhexidine wipe and let it dry.
6. Remove the filter needle from the factor syringe and place it in the sharps container.
7. Twist the tip of the factor syringe into the injection cap. Give the factor at a rate of 10 ml per minute. Remove the syringe.
8. Scrub the injection cap with a chlorhexidine wipe and let it dry.

9. Flush with normal saline using the push-and-pause method. Remove the syringe.
10. Scrub the injection cap with a chlorhexidine wipe and let it dry.
11. Flush with heparin using the push-and-pause method. Remove the syringe.
12. Clamp the IV line.

Throw away used supplies. Clean up any spills with bleach solution (1 part bleach to 9 parts water).

What else do I need to know?

An allergic reaction to the factor concentrate does not happen often. If it does happen, it is usually within the first 20 doses, as the factor is being given or shortly afterwards. It can also happen later. Allergic reactions can vary from mild to life-threatening; all are serious and should be treated, because they can get worse.

What are the signs of an allergic reaction?

- | | |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mild reaction | <ul style="list-style-type: none"> • hives (red welts on skin) • itching • stuffy, runny nose • coughing • fever |
| Moderate reaction | <ul style="list-style-type: none"> • spreading hives • intense itching |
| Life-threatening reaction | <ul style="list-style-type: none"> • spreading hives • throat or chest tightness • shortness of breath • chest pain |
| Call 911 | <ul style="list-style-type: none"> • wheezing • swelling in face • pale color • dizziness, fainting |

What should I do?

1. Stop giving the factor.
2. Give checked medicine **right away**:
 - diphenhydramine (Benedryl® or another brand), _____ mg (_____ ml or _____ tablets)
 - prednisone _____ mg (_____ tablets) **or**
 - prednisolone _____ mg (_____ ml)
3. Call the hematology clinic for more instructions.
4. Watch for trouble breathing. If it happens:
 - **Call 911.**
 - Give Epi-Pen®.

To use the EpiPen, remove the gray safety cap. Push the EpiPen against the outside of the thigh and hold for several seconds. This releases a spring-activated plunger. The plunger then automatically pushes the needle through the clothes into the thigh muscle, and the epinephrine dose goes into the muscle. The injection is fairly painless.

When you remove the EpiPen you will see a short needle poking out of the end of the pen. Put the EpiPen in a sharps container.

Problem-solving for a heparin lock IV

Note: If your child has an indwelling IV, see the problem-solving chart in the education sheet for the type of IV your child has.

Problem	Possible cause	What to do
IV site is sore, painful, reddened, swollen, or draining	<ul style="list-style-type: none"> • IV has come out of the vein • Irritation of the vein • Infection at the site 	<ul style="list-style-type: none"> • Do not give the medicine. • Call the home care nurse.
Infusion painful to child	<ul style="list-style-type: none"> • IV out of vein • Irritation of the vein 	<ul style="list-style-type: none"> • Check IV site for redness or swelling. • Flush IV gently with normal saline or heparin. • If IV flushes easily, continue to give the factor and observe the child. • If the IV is hard to flush or the child is uncomfortable, call the home care nurse.
Dressing becomes loose or soiled	<ul style="list-style-type: none"> • Leaking IV fluid • Bathing • Accidental pull 	<ul style="list-style-type: none"> • Change the dressing if you have been taught how. • Put tape over existing dressing or reinforce edges with tape to secure the IV until it can be re-taped. • Use stockinette and/or armboard as directed. • Call the home care nurse for more suggestions.

Questions?

If you have any questions, please call _____

For more reading material about this and other health topics, please call or visit the Family Resource Center library, or visit our Web site: www.childrensm.org.