Memorial Sloan Kettering Cancer Center

PATIENT & CAREGIVER EDUCATION

How To Give Your Child a Sargramostim (Leukine®) Injection

This information explains how to give your child a sargramostim (Leukine) injection (shot).

Leukine comes in a vial in powder form. You will need to add sterile water and mix the medicine before you inject it.

Give the injection in the morning before your child's naxitamab (Danyelza®) treatment appointments. Give it around the same time of day each time.

Read *What To Expect During Your Child's Naxitamab (Danyelza®) Treatment* (www.mskcc.org/pe/during-naxitamab) to learn more about their naxitamab treatment appointments.

How to store the Leukine injection supplies

- Keep the Leukine vials in the carton they came in until you're ready to use them. This helps protect them from light.
- Store the Leukine vials in the refrigerator. They should

stay between 36 and 46 °F (2 and 8 °C). Do not freeze them.

- Store the vials of Sterile Water for Injection at room temperature. They should stay between 68 and 77 °F (20 and 25 °C). Do not freeze them.
- Do not mix the Leukine injections ahead of time. Once the powder is mixed with sterile water, it needs to be injected within 1 hour.

How to give the Leukine injection

Gather your supplies

Place your supplies on a clean, flat surface. You will need:

- **1 or 2 vials of powdered Leukine.** Your child's care team will tell you how many vials you'll need to make the right dose (amount). Check the expiration date on the vials to make sure they're not expired before using them.
- **1 vial of Sterile Water for Injection.** Usually, this is a 10 milliliter (mL) vial. You will need 1 mL of sterile water for each vial of powdered Leukine.
- **3 or 4 alcohol wipes.** You will need 1 wipe for each vial plus 1 wipe to clean the injection site.
- **1 needle and syringe to mix the medicine.**
- **1 needle and syringe to inject the medicine.** Sometimes, this needle comes already attached to the syringe.

- **1 small bandage,** such as a Band-Aid®.
- **A sharps container or other solid container to throw away the syringes and needles.** For example, you can use a heavy plastic laundry detergent bottle with a lid. Read *How To Store and Get Rid of Your Home Medical Sharps* (www.mskcc.org/pe/sharps) for instructions for choosing a sharps container.

Clean your hands

Once you have your supplies, clean your hands with soap and water or an alcohol-based hand sanitizer.

- If you're washing your hands with soap and water, wet your hands and apply soap. Rub them together well for at least 20 seconds, then rinse. Dry your hands with a disposable towel and use that same towel to turn off the faucet.
- If you're using an alcohol-based hand sanitizer, be sure to cover all parts of your hands with it. Rub your hands together until they're dry.

Mix the medicine

1. Take the plastic caps off the Leukine vials. If the vial of sterile water has a plastic cap, take that off too. You'll see a rubber stopper under the plastic caps.
2. Clean each vial's rubber stopper with an alcohol wipe.

Scrub them for at least 15 seconds, then let them air dry. Use a new alcohol wipe for each vial.

3. Take the needle and syringe you're using to mix the medicine out of their packaging. If the needle is not already attached to the syringe, gently twist it on. Take the cover off the needle and throw it away.
4. Use one hand to hold the vial of sterile water steady on a flat surface. With your other hand, put the needle through the rubber stopper into the vial.
5. Without taking the needle out, pick up the vial and turn it upside down. Adjust the needle so the tip is in the sterile water. Gently pull the plunger to draw 1 mL of sterile water into the syringe. Take the needle out of the vial and set the vial aside. Keep holding the needle and syringe.
6. Use one hand to hold the powdered Leukine vial steady on a flat surface. With your other hand, put the needle through the rubber stopper into the vial. Gently push the plunger to put 1 mL of sterile water into the vial. Take the needle out of the vial.
    - If you're using 2 powdered Leukine vials, repeat steps 4 to 6 to put 1mL of sterile water into the second vial. Use the same needle and syringe.
7. Drop the used syringe and needle into the sharps

container. Drop it in needle-first.

8. Gently roll each Leukine vial between your hands to mix the sterile water and Leukine powder. Roll them until the powder dissolves (mixes in) completely and the liquid is clear. Do not shake the vials.

Once the powder is mixed with the sterile water, it needs to be injected within 1 hour.

Choose an injection site (place to give the injection)

- Choose an injection site on the back of your child's arm or the front of their upper thigh. Choose a site where there's enough skin to pinch.
- Use a different injection site each time you inject. This is called rotating injection sites. Rotating injection sites helps keep scar tissue from forming. If scar tissue forms, it can keep the medicine from working like it should. It can also make it harder to put the needle into the skin.

Give the Leukine injection

1. Take the needle and syringe you're using to give the injection out of their packaging. If the needle is not already attached to the syringe, gently twist it on.
2. Clean the injection site with an alcohol wipe. Scrub it for at least 15 seconds, then let it air dry.

3. Take the cover off the needle and throw it away. Use one hand to hold the Leukine vial steady on a flat surface. With your other hand, put the needle through the rubber stopper into the vial.
4. Without taking the needle out, pick up the vial and turn it upside down. Adjust the needle so the tip is in the medicine. Gently pull the plunger to draw _____ mL of the medicine into the syringe. Take the needle out of the vial.
    - If you're using a second Leukine vial, repeat steps 3 and 4 to put the needle in the second vial and draw up another _____ mL. This makes a total dose of _____ mL in the syringe.
5. Check the syringe for air bubbles. If there is an air bubble, hold the syringe with the needle pointing up. Gently tap the syringe until the air bubbles rise to the top, near the needle. Slowly push the plunger up to push the air bubbles out.
6. Hold the syringe like you would hold a dart or pencil, keeping your fingers off the plunger. Gently pinch your child's skin at the injection site. Keeping your fingers off the plunger, put the needle into their skin at a 45-degree angle in one smooth motion. Once the needle is in place, move your finger or thumb to the plunger. Press down to inject the medicine.

7. When the syringe is empty, pull the needle out of your child's skin. Pull out at the same angle you put it in. Drop the used needle and syringe into the sharps container.
8. Cover the injection site with a small bandage, such as a Band-Aid.

When to call your child's care team

Call 911 and seek emergency care if:

- Your child has shortness of breath.
- Your child has trouble breathing.
- You have any concerns about your child's breathing.

Call your child's care team if:

- Your child's lips, tongue, or throat are swelling.
- You have any questions or concerns.

Contact information

Contact a member of your care team directly if you have questions. You can reach them Monday through Friday from 8 a.m. to 6 p.m. After 6 p.m., during the weekend, and on holidays, call 212-639-2000 and ask for the pediatric fellow.

If you have a question that does not need an answer right away, you can send a message to your care team though

MSK MyChart. MSK MyChart is MSK's patient portal.

For more resources, visit www.mskcc.org/pe to search our virtual library.

How To Give Your Child a Sargramostim (Leukine®) Injection - Last updated on August 18, 2025

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