

Fertility Education: Injection Training Guide

General Information About
Self-Injection

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Injection Training Guide

This section covers general information about self-injection. Select any of the topics below for more information.

- Introduction
- Hygiene
- Setting Up Your Area for Injection
- Preparing Your Medication for Injection
- Preparing Your Injection Site
- Different Ways To Inject
- Safe Sharps Disposal
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Introduction



As you are undergoing fertility treatment you may need to learn how to self-inject certain medications. Each medication usually has a unique method for self-injection. This guide covers general information about self-injection.

Areas We Cover

There are different ways to self-inject. There may also be multiple steps involved with specific medications, such as mixing, changing needles and choosing an injection site. This guide will teach you more about the different ways to self-inject and the steps involved for specific medications.

Resources

Although this guide is meant to teach you about self-injection, your doctor, nurse and the manufacturer of your medication may have additional injection training resources. Your fertility center may also offer one-on-one or small-group injection training. Your entire team is here to help provide you with more information as you go through the treatment process. Call your doctor or nurse at your fertility center with any questions. Walgreens and AllianceRx Walgreens Pharmacy clinicians are also available to answer questions about your medications.

Hygiene

Before self-injecting medication, it is important to wash your hands thoroughly. The following steps take you through the hand-washing process with soap and water¹:

1. Wet your hands with clean, running water.
2. Put soap on your hands.
3. Place water and soap on all areas of the hands.
4. Rub hands back and forth.
5. Keep rubbing hands for about 15 to 20 seconds — the same time it takes to sing the Happy Birthday song two times.
6. Rinse soap off hands.
7. Before turning off the water, dry hands using a paper towel or air dryer. Then, use a paper towel to turn off the faucet.

Washing with soap and water is the most effective way to remove dirt. If soap and water are not available, use an alcohol-based sanitizer and follow these steps¹:

1. Put the sanitizer on the palm of one hand.
2. Rub hands together.
3. Cover all areas on the hands.
4. Keep rubbing hands together until hands are dry.

Setting Up Your Area for Injection

When planning to self-inject, it is important to get organized so your supplies are ready when you're giving yourself medication.²⁻¹⁴

1. Put your medication schedule in an area you can easily access or near where you are going to inject your medications. Your fertility doctor will provide you with a medication schedule.
 2. Pick your place to self-inject. You may find that your bathroom or kitchen have enough counter space to work.
 3. Gather all self-injection supplies, which may include:
 - Alcohol wipes.
 - Sterile gauze (optional).
 - Container for needle disposal.
 - Various needles for mixing and self-injection.
 - Diluent (provided by the manufacturer for mixing certain medications).
 - Pen device if you are using an injectable pen.
 - Prefilled syringe (needle) if your medication is prepared in this way.
- Once you receive your medications²⁻¹⁴:
- Group your medications by day so you can easily get to them.
 - Medications that need refrigeration should be put in the refrigerator as soon as you receive them.
 - All medications should be stored according to the manufacturer's storage guidelines.
 - Always follow the instructions provided by your physician.

Preparing Your Medication for Injection

Before injecting, be sure to take these important steps²⁻¹⁴:

1. Gather all medications you will be using during injection.
 - Remove medication from the refrigerator about 30 minutes before you self-inject.
 - This will allow it to warm up to room temperature.
2. Inspect your medications.
 - Check to make sure your medication has not expired.
 - See if the medication is cloudy or discolored (usually yellow).
 - Look for any particles floating in the medication vial.
 - Contact your doctor or pharmacy if there are any of the above medication problems.
3. Read your doctor's instructions for administration before getting started.

Preparing Your Medication for Injection

Mixing Medication

Some medications must first be mixed with a liquid called diluent.²⁻¹⁴

- Some medication instructions may require mixing diluent and powder medication for injection.
- When mixing liquid and powder together, you should swirl, not shake, the mixture.²⁻¹⁴
- A swirling motion means gently moving the vial around in a circle until all of the liquid diluent dissolves the powder in the vial.
- Other medication instructions may require mixing multiple vials of medication with the diluent.
- If this is the case, take these steps²⁻¹⁴:
 1. Take the mixed medication currently in the syringe and inject it into the next medication vial.
 2. Repeat as often as required by your prescription. For example, if you have two vials of medication, mix the diluent (if required) and the first vial of medication together as directed. Draw the mixed medication into the syringe. Then, inject that solution into the next vial of medication. Mix again, then draw all the medication into the syringe.
- Always follow the instructions provided by your physician.

Preparing Your Medication for Injection

Needles

Some medications require you to use more than one needle unless the medication is delivered in a prefilled syringe with an injection needle already attached.²⁻¹⁴

- Different medications require different kinds of needles²⁻¹⁴:

Q·Cap: small plastic vial adapter that attaches to a syringe and has a needle tip to puncture the vial, helpful for mixing certain medications



Mixing needles: longer needles used to draw fluid into the syringe

- Use the Q·Cap or mixing needles per the manufacturer's instructions or as directed by your doctor



Injection needles: different sizes, depending on the type of injection and manufacturer's instructions



Needles for pen devices: special needles that fit the pen devices used for certain medications



Preparing Your Medication for Injection

- Attaching and removing needles²⁻¹⁴
 - To attach a mixing or injection needle, take it out of its sterile packaging, keep the cap on it and push the base onto the syringe. Twist it to the right, or clockwise, for a secure fit.
 - To remove a needle from a syringe once you have recapped it, keep the cap on it and twist the needle base left, or counterclockwise, and pull the needle off of the syringe.
 - To attach a Q·Cap, take it out of its sterile packaging, place the base onto the syringe and twist it to the right, or clockwise, for a secure fit.
 - To remove a Q·Cap from a syringe, twist Q·Cap to the left, or counterclockwise.
 - To attach a needle to a pen device, first take the pen cap off the pen device and set aside. Remove needle from its sterile packaging by holding needle firmly in one hand and pull off the needle seal. Place the needle on the tip of the pen and twist to the right, or clockwise, for a secure fit. Take the outer needle shield off, but save it for recapping and needle removal after the injection. Keep the inner needle cap on the needle until ready to inject. You must remove the needle after each use and use a new needle for each injection with a pen device.
 - To remove a needle from a pen device, place the outer needle shield on a clean and flat surface. Take the pen and place it, with the needle on it, into the shield to connect the two together. Once the needle is covered, simply secure it in place with your free hand, then unscrew the needle by turning the outer needle shield (with the needle inside of it) to the left, or counterclockwise.
- Replacing a needle cap
 1. Place the cap on a hard, clean surface.
 2. Take your needle and place the needle into the cap as far as it will go without using your free hand.
 3. Scoop up the cap with the needle inside it. Take your free hand and firmly secure the cap in place without touching the needle.

Preparing Your Medication for Injection

Loading the Syringe for Injection²⁻¹⁴

1. Gather your injection supplies, including alcohol wipes and sterile gauze (optional).
2. Place the vial straight up on a hard surface, like a counter.
3. Take the plastic cap off of the vial.
4. Wipe the rubber top of the vial with an alcohol pad. Do not touch the top of the vial after wiping it with alcohol.
5. Hold the syringe with needle in your dominant hand.
6. Pull the syringe plunger back to pull in the right amount of air, as directed by your prescription. **(Skip this step if not required for your medication)**
7. Hold the vial with your nondominant hand.
8. Insert the syringe needle straight down into the rubber top of the vial to prevent the needle from bending.
9. Slowly push the plunger down into the vial. **(Skip this step if not required for your medication)**
10. Keep the vial and syringe connected, then take both of them off the counter and turn them upside down.
11. Make sure the needle is below the level of the fluid.
12. To remove fluid from the vial, pull the syringe plunger back to load the prescribed amount of fluid.

ALWAYS FOLLOW THE INSTRUCTIONS PROVIDED BY YOUR PHYSICIAN

Preparing Your Medication for Injection

13. Remove air bubbles from the syringe. While the needle is still in the vial, and they are both upside down:
 - a. Gently tap the sides of the syringe to force any air bubbles to the top.
 - b. Lightly push the plunger so the air is pushed back into the vial.
 - c. Pull the plunger back until you have the proper amount of medicine in the syringe.
 - d. Repeat these steps until most of the air is out of the syringe.
14. When most of the bubbles are removed, pull the needle straight out of the vial to prevent bending the needle.
15. Gently tap the sides of the syringe to force any remaining air bubbles to the top of the syringe. Gently push the plunger until the fluid level has reached the top of the syringe (this will push air out of the syringe).
16. Carefully recap the needle by scooping up the cap. Do not touch the needle or allow it to touch any surface.
17. Place the syringe and the vial on the counter.

ALWAYS FOLLOW THE INSTRUCTIONS PROVIDED BY YOUR PHYSICIAN

Preparing Your Injection Site

Choose your injection site as directed by your doctor. Your medication instructions will also instruct you on the kind of injection (subcutaneous or intramuscular) you will be giving. Take some simple steps to prepare the injection site²⁻¹⁴:

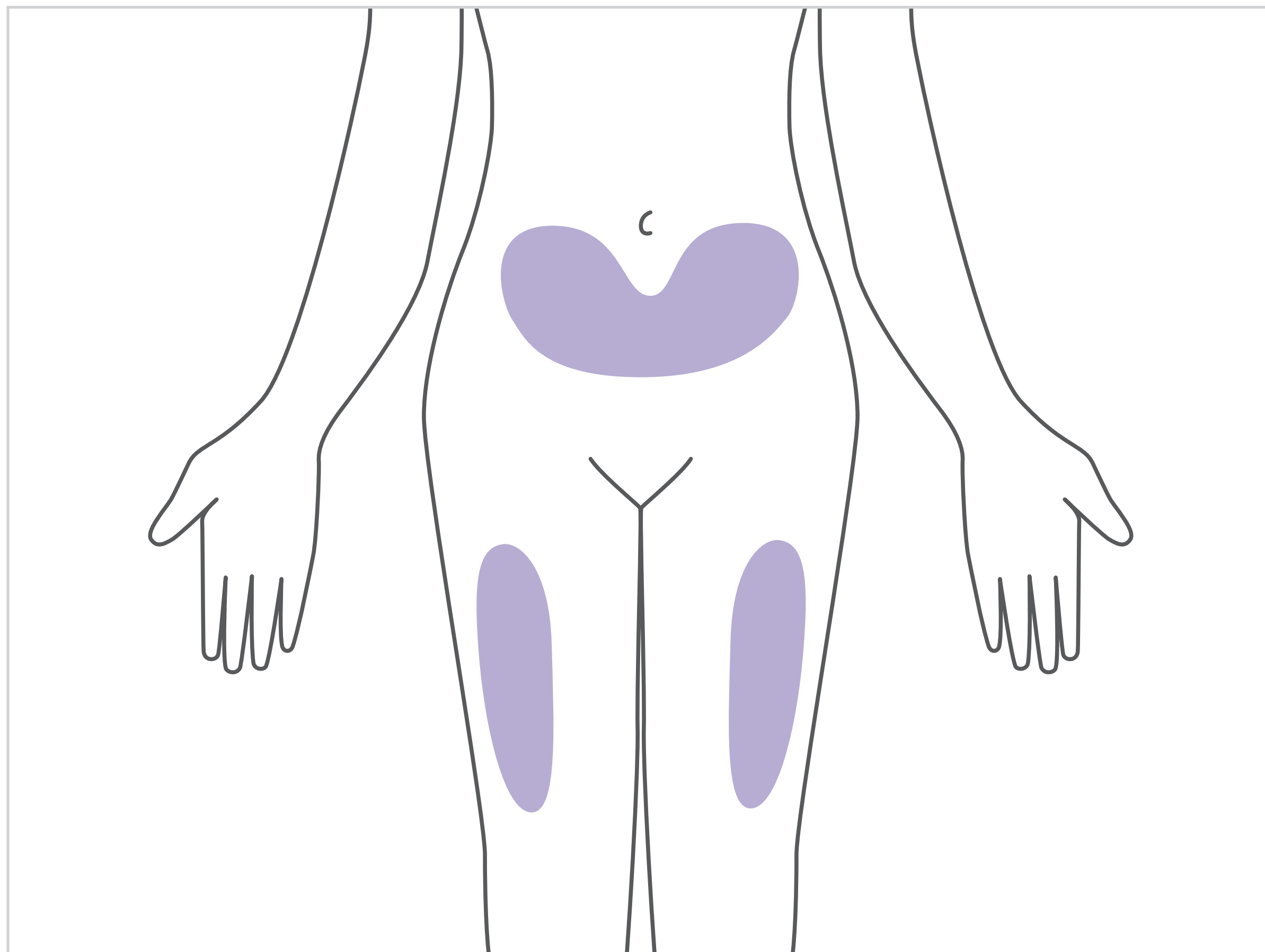
1. Take out your injection supplies and place them on a clean surface area.
2. Set aside alcohol wipes.
3. Choose an injection site according to your doctor's instructions.
4. Open an alcohol wipe and clean the injection site starting at the puncture site. Use firm pressure cleaning in a circular motion outward about 2 inches.
5. Let the skin dry for a few seconds.
6. Perform the injection. The next few sections will explain the technique for each type of injection, step by step.

Different Ways To Inject

Each medication has a specific injection technique and a preferred injection site that your doctor directs you to use. Please read your medication injection instructions completely and always follow the instructions provided by your physician. Here are three different ways to self-inject medication. Click on any of the links below to go directly to that section²⁻¹⁴:

- [Subcutaneous Injection](#)
- [Intramuscular Injection](#)
- [Pen Devices](#)

Subcutaneous Injection



Selecting an area for a subcutaneous injection will depend on directions from your doctor. The most common site for subcutaneous injection is the belly, in the area at least two inches away from the left side, right side or bottom of the belly button. You will choose a different site for each new injection.²⁻¹⁴ The picture on the left shows common sites used for subcutaneous injection.

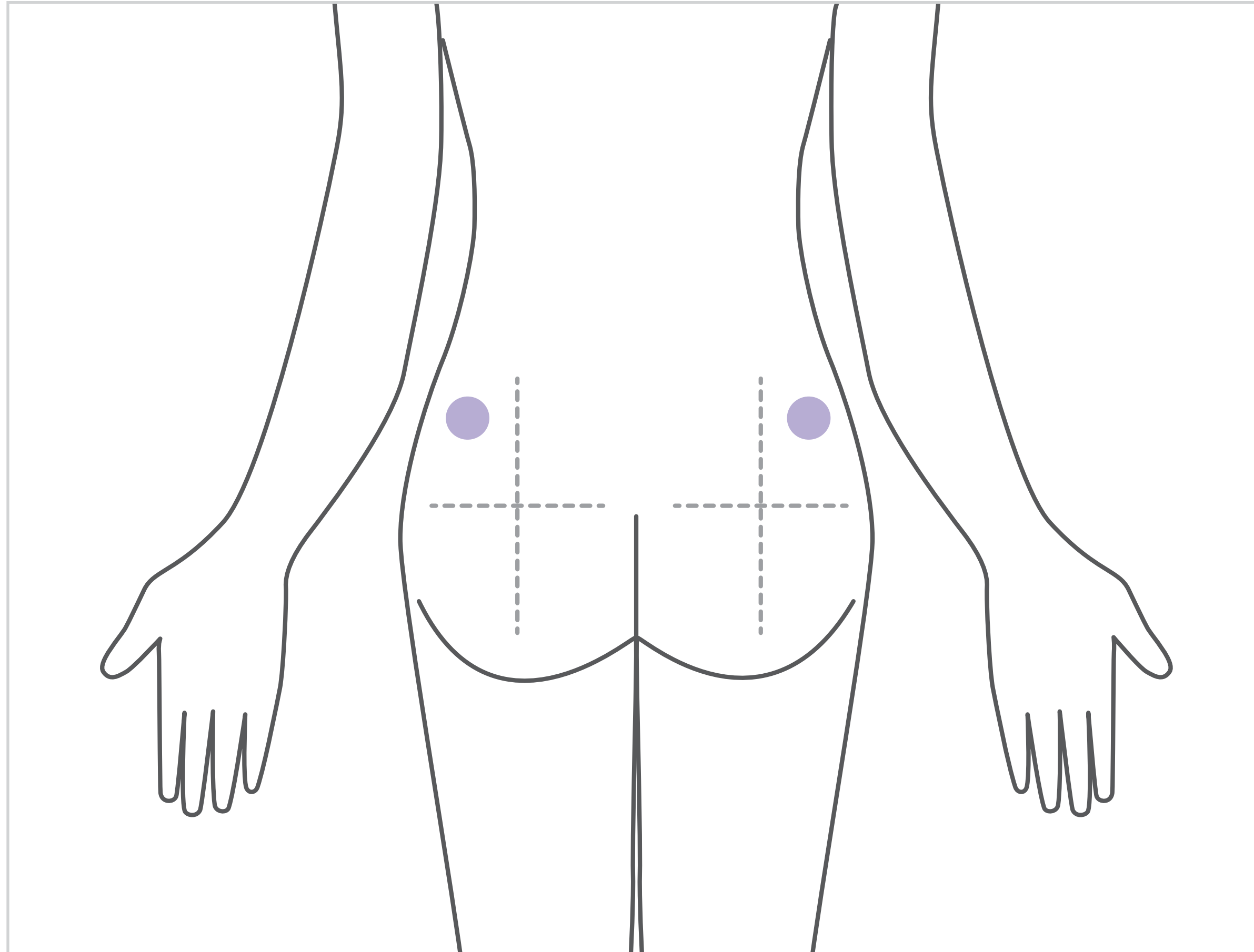
Steps for Subcutaneous Self-Injection²⁻¹⁴

1. Wash your hands.
2. Clean and prepare the space you will be using.
3. Gather your injection supplies.
4. Prepare the medication for injection.
5. Choose an injection site. Remember to choose a different area each time you inject. **(See the diagram on the left for subcutaneous self-injection sites)**

Subcutaneous Injection

- Clean the injection site with an alcohol pad starting at the puncture site. Use firm pressure cleaning in a circular motion outward about 2 inches.
- Let the skin dry for a few seconds.
- Hold the prepared syringe with your dominant hand and uncap the needle.
- Do not touch the needle.
- Place the thumb and forefinger of your nondominant hand 2 inches to 3 inches apart around the injection site. Gently pinch your fingers together to create a thick fold in the skin.
- Insert the needle into the pinched skin area at a 90 degree angle to the skin, unless you were instructed otherwise.
- With one swift motion, push the needle into the skin. Inserting it until skin meets the needle hub.
- Let go of the skin.
- Slowly and steadily push the syringe plunger to inject all the medication into the skin.
- Pull the needle straight out of the skin in one smooth motion.
- Firmly press the injection site with a gauze pad for a few seconds, if needed.
- Place the used syringe and needle into a puncture-resistant sharps container ([See Safe Sharps Disposal](#)).

Intramuscular Injection



Choosing an area for an intramuscular injection will depend on directions from your doctor and medication's instructions. The most common site for intramuscular injection is the buttocks, in the upper outer area below the hip bone. Check with your doctor or nurse if you have questions. If possible, ask someone to help you perform this injection. The picture on the left shows common sites used for intramuscular injection.²⁻¹⁴

Steps for Intramuscular Injection²⁻¹⁴

1. Wash your hands. Anyone helping you should also wash his or her hands.
2. Clean and prepare the space you will be using.
3. Gather your injection supplies.
4. Prepare the medication for injection.
5. Choose an injection site. Remember to choose a different site each time you inject. **(See the diagram on the left for intramuscular injection sites)**

Intramuscular Injection

6. Clean the injection site with an alcohol pad starting at the puncture site. Use firm pressure cleaning in a circular motion outward about 2 inches.
7. Let the skin dry for a few seconds.
8. Relax the muscle you will be injecting by turning your feet slightly inward and shifting your weight to the side of your body that is not getting the injection.
9. Hold the syringe with the dominant hand and uncap the needle.
10. Do not touch the needle.
11. The person giving the injection should place the thumb and forefinger of the nondominant hand on the area around the injection site. Gently spread the skin until it is taught.
12. Point the needle directly at the skin (**90° angle**).
13. With one swift motion, push the needle deep into the skin until it disappears.
14. The step of slowly “pulling back” on the plunger of the syringe to see if blood flows into the syringe is specific to how you were instructed to give yourself an injection. It is important that you understand and follow your physician’s or medication’s specific instructions.
 - a. If you were NOT instructed to pull back on the plunger, OR if you were instructed to do so and NO blood enters the syringe:
 - I. Depress the plunger slowly and steadily so solution is correctly injected.
 - II. Let go of the skin.
 - III. Remove the needle gently but quickly, and firmly press the injection site with a gauze pad for a few seconds, if needed. Apply a bandage if necessary.

Intramuscular Injection

- b. If you were instructed to pull back on the plunger AND blood entered the syringe (**this does not happen often**):
 - I. Do NOT give the injection.
 - II. Remove the needle quickly, and firmly press the injection site with a gauze pad for a few seconds, if needed. Apply a bandage if necessary.
 1. Note: Your physician or some medication instructions may direct you to replace the needle only and proceed.

or
 1. Dispose of the needle and syringe as instructed.
 2. Prepare another injection using previous instructions.
 - III. Use another injection site. Go back and begin instructions at Step 1 and proceed as needed.
15. Place the used needle and syringe into a puncture-resistant sharps container. Do not recap needle after use. ([See Safe Sharps Disposal](#))

Pen Devices



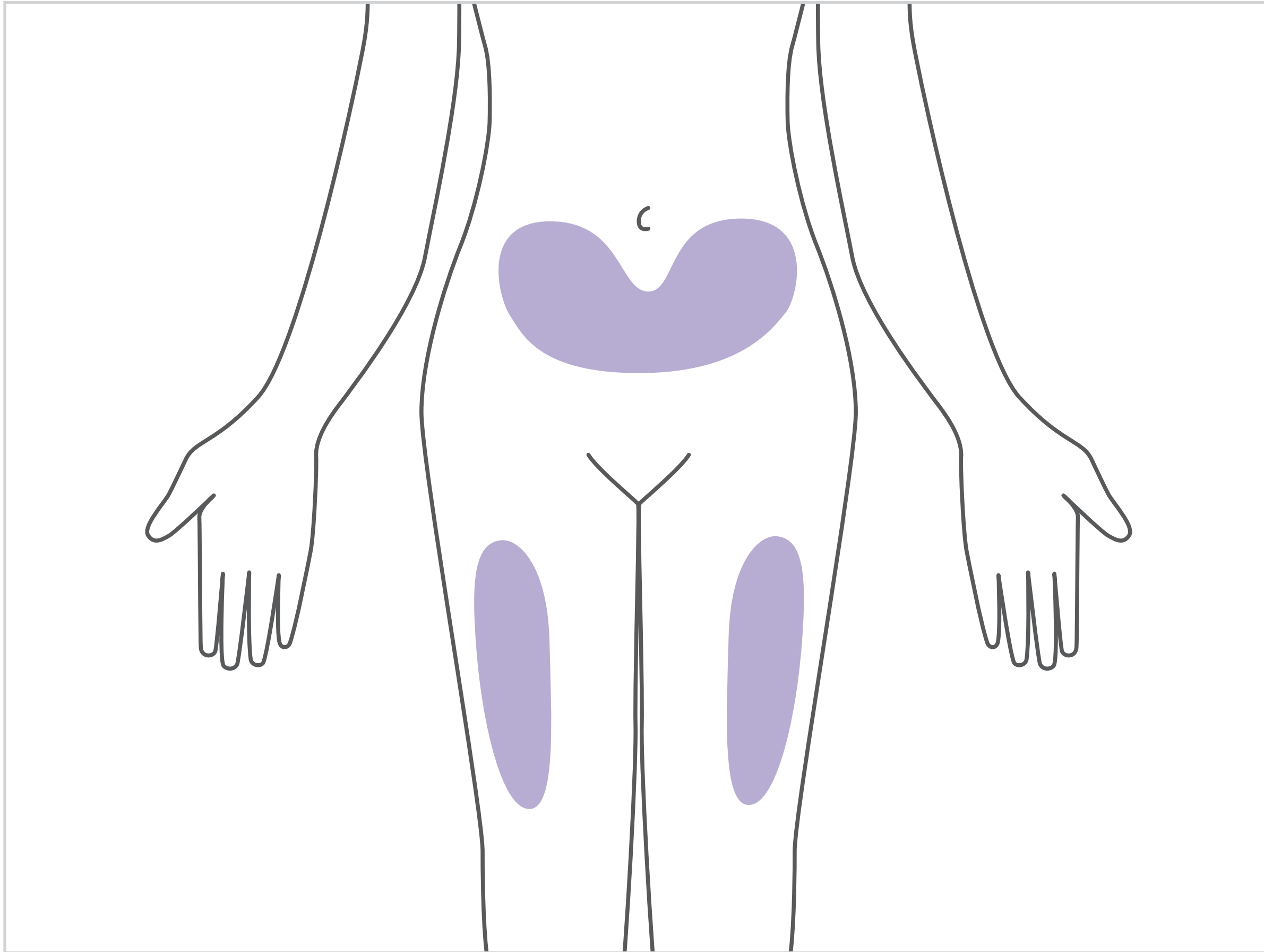
Some pen devices may be preloaded with medication. Other pen devices may require some preparation, including inserting the medication cartridge into the pen and attaching the needle. If you are using a pen device, be sure to read the manufacturer's instructions and always follow the instructions provided by your physician. Using a pen device is similar to subcutaneous injection because the needle is injected just below the skin. However, there are a few differences, so please review the following steps for injection information.^{3,7}

Steps for Injecting With a Pen Device^{3,8}

For more detailed instructions on pen devices, please refer to [Addendum](#).

1. Wash your hands.
2. Clean and prepare the space you will be using.
3. Gather your injection supplies.
4. Prepare the medication and pen device and attach the needle for injection. Follow the medication instructions to assemble the device and prepare the medication.

Pen Devices



5. Choose an injection site. Remember to choose a different site each time you inject. **(See the diagram on the left for pen device injection sites.)**
6. Clean the injection site with an alcohol pad starting at the puncture site. Use firm pressure cleaning in a circular motion outward about 2 inches.
7. Let the skin dry for a few seconds.
8. Remove any protective packaging from the pen device but do not touch the needle.
9. Set your device to the prescribed amount of medication per the manufacturer's instructions.
10. Review the medication instructions to learn how to remove air bubbles and check if the device is working properly.
11. Place the thumb and forefinger of your nondominant hand, 2 inches to 3 inches apart around the injection site. Gently pinch your fingers together to create a thick fold in the skin.

Pen Devices

12. Point the needle directly at the skin fold (**90° angle**).
13. With one swift motion, push the needle into the skin.
14. Let go of the skin.
15. Slowly and steadily push the injection button all the way in, until the button stops clicking, to inject all the medication.
16. Follow the medication's instructions on how long you need to keep the needle in the skin.
17. Pull the needle straight out of the skin in one smooth motion.
18. Firmly press the injection site with a gauze pad for a few seconds, if needed.
19. Look at the pen device to make sure you injected the right amount of medication per the manufacturer's instructions.
20. Remove the used needle from the pen device, by placing the outer needle shield on a clean and flat surface. Take the pen and place it, with the needle on it, into the shield to connect the two together.
21. Once the needle is covered, simply secure it in place with your free hand, then unscrew the needle by turning the outer needle shield (with the needle inside of it) to the left, or counterclockwise. This must be done after each injection.
22. Place the used needle into a puncture-resistant sharps container. ([See Safe Sharps Disposal](#))
23. Recap the pen and store any remaining medication according to the manufacturer's instructions.

→ [Safe Sharps Disposal](#)

Safe Sharps Disposal

Safe disposal of needles and syringes is your responsibility. After each injection, you should place the used needle/syringe into a puncture-resistant sharps container. Remember these tips when disposing of used needles and syringes¹⁵⁻¹⁷:

- Keep the puncture-resistant sharps container out of the reach of children or animals. Getting stuck by a used needle may cause:
 - Injury
 - Bacterial or viral infections
 - Emotional trauma from worrying about developing illness after being stuck.
 - Unnecessary medical expenses **(testing for illnesses after getting stuck)**.
- When the sharps container is about two-thirds full, securely tape the lid shut.
- You can request a new container with your next refill or by calling our pharmacy 24/7 at 800-424-9002.
- Dispose of all sharps containers in identified areas for needle disposal, including:
 - Drop-off collection sites.
 - Household “hazardous waste centers”.
 - Residential “special waste pickup services”.
 - Syringe exchange programs.
 - Mail-back services.
 - Home needle destruction services.
- Practice safe needle use and disposal:
 - Never reuse needles or recap needles on a syringe.
 - Do not throw loose needles or syringes in the garbage.
 - Never flush loose needles or syringes down the toilet.
 - Do not place loose needles or syringes in recycling bins or containers.
- Instead, immediately put used needles and syringes in a puncture-resistant sharps container.

Frequently Asked Questions

What are common injection site reactions?

Pain, bruising and swelling can develop after self-injection. Check your medication instructions to find out what type of reactions might occur. If you have any concerns, contact your doctor or nurse immediately.²⁻¹⁴

Should I pick a set time to inject the medication?

Yes. Try to pick a set time each day for your injections. Follow your doctor's instructions. They will specify a window of time that is best for injections.²⁻¹⁴

Who can perform injections?

You can perform subcutaneous self-injection and pen device self-injection. However, it may be helpful for a family member or friend to perform an intramuscular injection.²⁻¹⁴ If you have any questions, talk with your doctor or nurse.

Should I keep track of injection sites?

Yes. Keep a log, listing the side of the body and general location that you used for each injection. This helps ensure that you are following instructions from your doctor and the medication manufacturer. It also helps you choose a new site each time you inject. For example, if you subcutaneously inject in the lower left side of the belly in the morning, you can switch to the lower right side of the belly in the evening.²⁻¹⁴

How do I safely remove a used needle on a pen device?

Place the cap on a hard surface. Take your hand away from the cap. Hold the pen device in your dominant hand and aim the needle at the cap opening. Slide the needle into the cap until most of it is inside. With your free hand, push the cap onto the pen needle so it is secure. Unscrew the capped needle from the pen by turning it to the left, or counterclockwise. Place the needle into a puncture-resistant sharps container.^{3,8}

Frequently Asked Questions

Why are there so many different kinds of needles?

Each medication may have different needles for different stages in the injection process, including mixing and injecting. Read your medication instructions carefully to see the type and size of needles that come with your medication. In the case of a Q-Cap or mixing needle, you will need to change the needle after the medication is prepared or mixed. Depending on your injection type, please review the instructions for subcutaneous injection, intramuscular injection or pen device injection.²⁻¹⁴

What if I have a latex allergy?

Tell your doctor and nurse before beginning treatment or ordering any medications as some may contain latex.

Whom should I call with questions?

Contact your fertility center doctor or nurse with questions about medication, injection techniques, medication reactions or other general information about your treatment. You can also call our pharmacy for questions about your medications at 800-424-9002. We are all here to help.

Addendum

Click below to go to our website and click on Medication guide for medication-specific injection instructions.

[➤ Walgreens.com/Fertility](#)



Medication Guide
Step-by-step instructions on how to take specific fertility medications

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References

1. Wash your hands. Centers for Disease Control and Prevention Web site. <https://www.cdc.gov/features/handwashing/>. Updated August 10, 2021. Accessed January 6, 2022.
2. Fertility Medication Information: Cetrotide. EMD Serono Fertility Web site. <https://www.emdseronofertility.com/en/home/our-medications/cetrotide.html>. Updated July 2021. Accessed January 6, 2022.
3. Fertility Medication Information: Follistim AQ Cartridge. Merck Connect Web site. <https://www.merckconnect.com/follistim/patient-education/>. Updated June 2021. Accessed January 6, 2022.
4. Fertility Medication Information: Ganirelix Acetate Injection. Merck Connect Web site. <https://www.merckconnect.com/ganirelix/patient-education/>. Updated June 2021. Accessed January 6, 2022.
5. Fertility Medication Information: Fyremadel (ganirelix acetate) Injection. Ferring Reproductive Medicine and Maternal Health Web site. <https://www.ferringfertility.com/>. Updated January 2022. Accessed April 19, 2022.
6. Fertility Medication Information: Gonal-f Multi-Dose. EMD Serono Fertility Web site. <https://www.emdseronofertility.com/en/home/our-medications/gonal-f-multidose.html>. Reviewed April 2021. Accessed January 6, 2022.
7. Fertility Medication Information: Gonal-f RFF 75 IU. EMD Serono Fertility Web site. <https://www.emdseronofertility.com/en/home/our-medications/gonal-f-rff-75iu.html>. Reviewed July 2021. Accessed January 6, 2022.
8. Fertility Medication Information: Gonal-f RFF Redi-ject. EMD Serono Fertility Web site. <https://www.emdseronofertility.com/en/home/our-medications/gonal-f-rff-rediject.html>. Reviewed July 2021. Accessed January 6, 2022.
9. Fertility Medication Information: Novarel. Ferring Reproductive Health Web site. <https://novarelhcp.com/>. Accessed January 6, 2022.
10. Fertility Medication Information: Pregnyl. Merck Connect Web site. <https://www.merckconnect.com/pregnyl/dosing-administration/>. Reviewed June 2021. Accessed January 6, 2022.

References

11. Fertility Medication Information: Leuprolide acetate injection. DailyMed Web site. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=8bd72c1e-2751-4498-a346-bc5e3acbba0b>. Updated June 1, 2020. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=a3b01473-30c7-4945-bd60-2484221aaaad>. Updated January 31, 2019. Accessed January 6, 2022.
12. Fertility Medication Information: Menopur. Ferring Reproductive Health Web site. <https://menopur.com/>. Accessed January 6, 2022.
13. Fertility Medication Information: Ovidrel PreFilled Syringe. EMD Serono Fertility Web site. <https://www.emdseronofertility.com/en/home/our-medications/ovidrel.html>. Accessed January 6, 2022.
14. PROGESTERONE. DailyMed Web site. <https://dailymed.nlm.nih.gov/dailymed/drugInfo.cfm?setid=83cfc12e-75d1-4284-bcc3-beadcbd27171>. Updated December 14, 2018. Accessed January 6, 2022.
15. Protect Yourself, Protect Others: Safe Options for Home Needle Disposal. US Environmental Protection Agency Web site. <https://www.epa.gov/rcra/protect-yourself-protect-others-safe-options-home-needle-disposal>. Accessed January 6, 2022.
16. Safely Using Sharps (Needles and Syringes) at Home, at Work and on Travel. US Food and Drug Administration Web site. <https://www.fda.gov/medical-devices/consumer-products/safely-using-sharps-needles-and-syringes-home-work-and-travel>. Updated November 19, 2021. Accessed January 6, 2022.
17. North American Syringe Exchange Network Web site. <https://www.nasen.org/>. Accessed January 6, 2022.

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