

patient education program

8200 Dodge Street Omaha, NE 68114-4113

402-955-5400

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Insulin

Insulin is a hormone that lowers blood sugars by moving sugar out of the blood stream and into the cells of the body for energy. It's produced in the beta cells of the pancreas. Insulin is essential for life.

	INSULIN NAME	ONSET	PEAK	DURATION	SHELF LIFE (ONCE OPENED)
ULTRA-RAPID ACTING INSULIN	Fiasp (aspart)	10-20 minutes	1.5-2 hours	5-7 hours	28 days
RAPID-ACTING INSULIN	Humalog (lispro)	15 – 30 minutes	1 – 3 hours	3 – 4 hours	28 days
	Admelog (lispro)			3 – 4 hours	
	Novolog (aspart)			3 – 5 hours	
	Apidra (glulisine)			3 – 4 hours	
LONG-ACTING INSULIN	Lantus (glargine)	3 – 4 hours	Almost no peak	Up to 24 hours	28 days
	Semglee (glargine-yfgn)				
	Basaglar (glargine) - pen only				
	Levemir (detemir)			42 days	
ULTRA-LONG-ACTING INSULIN	Tresiba (degludec)	1 hour	Almost no peak	42 hours	56 days
	Toujeo 300 unit/mL (glargine)	6 hours		36 hours	

There are several different concentrations of insulin. Never use insulin that has NOT been prescribed by your physician.

How to Use: Initially, the child's doctor will decide your/your child's insulin dose.

- Lantus/Semglee/Basaglar/Levemir/Toujeo **MUST be given at the same time every day.** Tresiba works best when given at the same time every day.
- Humalog/Admelog/NovoLog/Apidra/Fiasp work best when given before a meal. **Do NOT give more often than every 2.5 hours.**
- Rapid acting and long-acting insulin *can* be given at the same time of day, but do not inject into the same place on the body.

Storage:

- Keep insulin from extreme heat or cold temperatures (should be 40-85°F).
- Insulin will not be effective if it freezes (even slightly) and must be thrown away.
- UNOPENED insulin should be stored in the refrigerator and is good until the printed expiration date.
- OPENED insulin should be stored at room temperature and is only good for so many days. See above table.

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When NOT to Use:

- Do not use any of the above brands of insulin if they look cloudy, frosty, or if solid particles can be seen.
- Do not use insulin past the manufacturer expiration date that is printed on the bottle/pen/cartridge.

Additional Information:

- Insulin is measured in “units.”
- To avoid errors in giving the wrong insulin, put a rubber band around your short acting or long-acting insulin.
- Check the manufacturer and type of insulin before leaving the pharmacy to make sure it is correct.
- If blood sugars are highly erratic without any clear reason, start a new bottle/pen/cartridge.
- Do not mix or dilute long acting or ultra-long-acting insulin in same syringes with any other insulin or diluent.
- Always have back-up insulin available.
- Avoid having multiple vials/pens/cartridges open at once.

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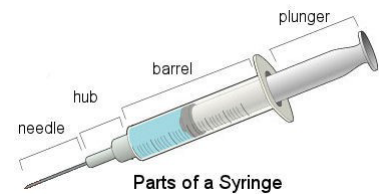
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A Guide to Subcutaneous Injections (shots)

Definition: A subcutaneous injection (shot) is a shot into the tissues just below the outer layer of the skin. The amount of medications for subcutaneous shots is small, no more than 1 mL (milliliter).

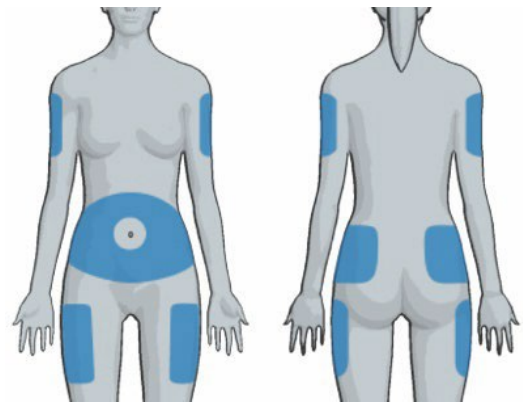
Getting medication ready:

- Gather supplies:
 - New syringe
 - Vial of medicine
 - Alcohol wipes
 - Hard plastic container to throw away needles and syringe
- Wash hands with soap and water.
- Use a new alcohol wipe to clean the top of the medication vial for 10 seconds. Allow alcohol to dry.
- Draw up the prescribed dose of medication into the syringe, as instructed.



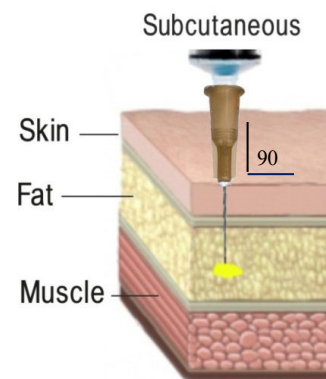
Preparing the site for a shot:

- Choose a spot on the body for the shot (see picture).
The preferred spots are:
 - Abdomen
 - Top or outsides of the thighs
 - Top of the buttocks
 - Backs of upper arms
- Avoid areas that are:
 - Bruised
 - Have signs of an infection, like redness or swelling
- Rotate preferred spots on the body with each shot.
- Cleanse spot with a new alcohol wipe for 10 seconds.
- Allow alcohol to dry (about 10 seconds).



Giving the shot:

- With your thumb and first finger, grasp the skin on both sides of the spot that you just cleaned (similar to a pinching position).
- Hold the syringe like a pencil at a 90-degree angle.
- Using a quick, smooth motion, insert the entire needle into the skin.
- Slowly press down on the syringe plunger; release your grasp on the skin.
- Remove the needle smoothly, pulling out at the same angle as it was inserted.
- Cover the injection site with a finger for a couple seconds. Avoid using a tissue or cotton ball for this.
- Do not place the plastic cover back on the needle.
- Placed the used syringe in a hard plastic container.



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A Guide to Subcutaneous Injections (shots) – Insulin Pens

Definition: A subcutaneous injection (shot) is a shot into the fatty tissue just below the outer layer of the skin. The amount of medication for a subcutaneous shot is small.

Getting insulin ready:

- Gather supplies:
 - New pen needle
 - Insulin pen
 - Alcohol wipes
 - Hard plastic container to throw away pen needles
- Wash hands with soap and water.
- Remove insulin pen cap.
- Use a new alcohol wipe to clean the top of the insulin pen for 10 seconds. Allow alcohol to dry.
- Remove the paper cover on the sterile pen needle. A new needle should be used with each injection.
- Gently screw the pen needle straight onto the top of the insulin pen.
- Remove the clear cover and then remove the smaller colored cover.
- Prime the needle to ensure it is working properly.
 - Turn the dial on the bottom of the pen to 2 units, press and hold the dial until insulin comes out of the needle. Repeat until you see insulin come out of the needle tip.
 - If insulin is not seen after the 3rd attempt, put the clear plastic cap back on the pen needle, twist the pen needle to remove it from the pen and throw it away in a hard plastic container.
 - Get a new pen needle and repeat the above steps.
 - Once insulin is seen coming out of the tip of the pen needle, the needle is primed.
- Priming **MUST** be done before every injection.
- Once the insulin pen is primed, dial the prescribed or calculated dose of insulin into the pen.



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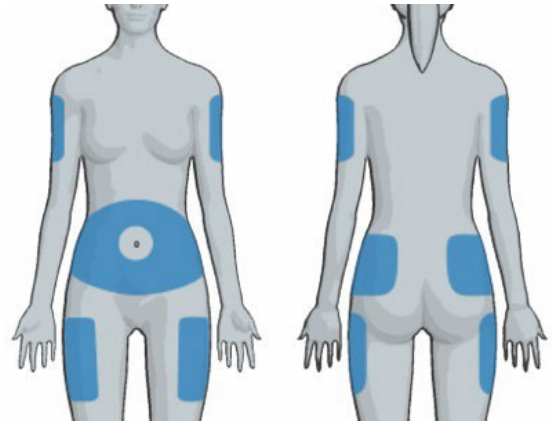
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A Guide to Subcutaneous Injections (shots) – Insulin Pens continued

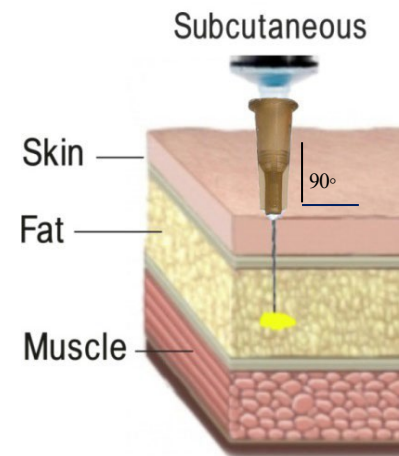
Preparing the site for a shot:

- Choose a spot on the body for the shot (see picture).
The preferred spots are:
 - Abdomen
 - Top or outsides of the thighs
 - Top of the buttocks
 - Backs of upper arms
- Avoid areas that are:
 - Bruised or
 - Have signs of an infection, like redness or swelling.
- Rotate preferred spots on the body with each shot.
- Cleanse spot with a new alcohol wipe for 10 seconds.
- Allow alcohol to dry (about 10 seconds).



Giving the shot:

- With your thumb and first finger, grab the skin around the spot that you just cleaned and pinch your fingers together.
- Hold the syringe like a pencil at a 90-degree angle.
- Using a quick, smooth motion, insert the entire needle into the pinched skin between your thumb and first finger.
- Slowly press and hold down on the insulin pen dial, once the insulin pen dial returns to zero, count to 10 slowly.
- Release your pinch on the skin, remove the needle smoothly, pulling out at the same angle as it was inserted.
- Cover the injection site with a finger for a couple seconds. Avoid using a tissue or cotton ball for this.
- Place the clear plastic cover back on the needle.
- Twist the pen needle to remove it and place it in a hard plastic container.



Insulin pens are for individual use only and are not to be shared.