

Diabetes: How to Give a Mixed-Dose Insulin Shot



Insulin is normally made by the pancreas, a gland behind the stomach. In people with diabetes, the pancreas no longer makes enough insulin or stops making it. Without insulin, your blood sugar level rises to dangerous levels. When this happens, you need insulin shots to keep your blood sugar in a target range.

Getting started

- Gather your supplies. You will need an insulin syringe, your bottles of insulin, and an alcohol wipe or a cotton ball dipped in alcohol. Keep your supplies in a bag or kit so you can carry the supplies wherever you go.
- Check the labels on the bottles and contents. When you use an insulin bottle for the first time, write the date on the bottle. On the 30th day after you opened it, throw away the bottle with any remaining insulin. Insulin may not work as well after 30 days of use.
- Wash your hands with soap and running water. Dry them well.

How to prepare the shot

1. Roll the insulin bottles gently between your hands to warm the insulin. Roll the **cloudy insulin** bottle until the white powder has dissolved and the insulin is mixed.
2. Wipe the rubber lid of both insulin bottles with an alcohol wipe or a cotton ball dipped in alcohol. (If you are using a bottle for the first time, remove the protective cover over the rubber lid.) Let the alcohol dry before putting a needle into the insulin bottle.
3. Remove the plastic cap from the needle on your insulin syringe. Take care not to touch the needle.
4. Pull the plunger back on your insulin syringe, and draw air into the syringe equal to the number of units of **cloudy insulin** to be given.
5. Push the needle of the syringe into the rubber lid of the **cloudy insulin** bottle. Push the plunger of the syringe to force the air into the bottle. This equalizes the pressure in the bottle when you later remove the dose of insulin. Remove the needle from the bottle.
6. Pull the plunger of the syringe back and draw air into the syringe equal to the number of units of **clear insulin** to be given.
7. Push the syringe needle into the rubber lid of the **clear insulin** bottle. Push the plunger to force the air into the bottle. Leave the needle in place.
8. Turn the bottle and syringe upside down and hold them in one hand. Position the tip of the needle so that it is below the surface of insulin in the bottle. Pull back the plunger to fill the syringe with slightly

- more than the correct number of units of **clear insulin** to be given.
9. Tap the syringe barrel so that trapped air bubbles move into the needle area. Push the air bubbles back into the bottle. Make sure that you have the correct number of units of insulin in your syringe. Remove the needle from the **clear insulin** bottle.
 10. Insert the needle into the rubber lid of the **cloudy insulin** bottle. Don't push the plunger. If clear insulin is mixed in the bottle of cloudy, it will change the action of your other doses from that bottle.
 11. Turn the bottle and syringe upside down and hold them in one hand. Position the tip of the needle so that it is below the surface of insulin in the bottle. Slowly pull back the plunger of the syringe to fill the syringe with the correct number of units of **cloudy insulin** to be given. This will prevent air bubbles from entering the syringe. Remove the needle from the bottle.
 12. You should now have the total number of units for the **clear** and **cloudy** insulin in your syringe. For example, if 10 units of clear and 15 units of cloudy are needed, you should have 25 units in your syringe. Now you are ready to give the shot.
4. Bend your wrist, and quickly push the needle all the way into the pinched-up area.
 5. Push the plunger of the syringe all the way in so the insulin goes into the fatty tissue.
 6. Take the needle out at the same angle that you inserted it. If you bleed a little, apply pressure over the shot area with your finger, a cotton ball, or a piece of gauze. Don't rub the area. Check your blood sugar more often on days when bleeding occurs.
 7. Don't use the same needle more than once.

Where to give the shot

You can inject insulin into:

- The belly, but at least 2 inches from the belly button. This is thought to be the best place to inject insulin.
- The top outer part of the thighs. Insulin usually is absorbed more slowly from this site, unless you exercise soon after giving the shot.
- The outside of the upper arms or the buttocks. You may need help giving shots in these areas.

Your doctor will tell you how to give your shots in different places on your body each day (site rotation). If you rotate sites, use the same site at the same time of each day. For example, each day:

- At breakfast, give the shot in one of your arms.
- At lunch, give the shot in one of your legs.
- At dinner, give the shot in your belly.

Change the spot where you give an insulin shot slightly each time. Using the same spot each time can cause bumps or pits in the skin. It may also slow down how the insulin is absorbed into your body.

How to give the shot

1. Clean your skin with alcohol. Let it dry. Relax your muscles in the area so the shot will be less painful.
2. Slightly pinch a fold of skin between your fingers and thumb of one hand.
3. Hold the syringe like a pencil close to the site. Keep your fingers off the plunger. Usually the syringe is at a 90-degree angle to the shot site.