ADMINISTERING AN INSULIN INJECTION

When you think about managing medications for your family member or friend, you probably think about pills. But medications also come in other forms. This video, one of a series produced by Home Alone Alliance™, shows how to inject insulin, a medication used to treat diabetes.

In this video, set in a hospital emergency department, a nurse demonstrates to a woman and her son how to inject insulin using a syringe. The patient has injured her wrist and cannot manage the injection herself, and her son will be doing it for her until she recovers. He is understandably anxious about this new responsibility. If you haven’t injected insulin before, you may share these feelings. Even if you’re experienced, the video can be a good refresher. It may be reassuring to know that an estimated seven million people in the United States require insulin injections, often more than once a day, so you are not alone.

Note that this video does not cover injection with an insulin pen or pump; if either is the prescribed method in your case, check with the health care provider or manufacturer for instructions.

What Is Insulin?
Insulin is a natural hormone produced by the pancreas, a small organ in the abdomen. The pancreas regulates your body’s use of sugar (glucose) from carbohydrates in food. Insulin helps keep your blood sugar level from getting too high or too low. In people who have diabetes, and whose blood sugar level is not controlled by diet, exercise, or pills, an injectable form of insulin can substitute for the body’s inability to create a normal level.

Unlike many other medications, which have routine doses, insulin management can involve changes according to its effect on blood sugar, requiring calculations and adjustments in dose. Insulin comes in quick-acting, intermediate-acting, long-acting, combined, and other forms. You may have to administer injections once, twice, three, or more times a day.

Blood sugar must be monitored closely, usually through finger pricks. To see how treatment is going, the doctor may order an A1C test, typically twice a year. This test gives a picture of the person’s average blood sugar level over the past two to three months. For more information on this test, go to www.niddk.nih.gov/health-information/diabetes/overview/tests-diagnosis/a1c-test. Dosages may be adjusted if the A1C test results change. Check with a health care provider about how to manage this aspect of insulin administration.

You will be instructed to “rotate” the sites for the injection. This means choosing a different site each time you inject. Good sites are those with fatty tissue, such as the abdomen, outer thigh, upper arm, or upper buttocks. You can use four quadrants around the abdomen, as shown in the video. Don’t inject the insulin near the navel or close to the hip bone and avoid muscle tissue or scars.

Getting Ready
Make sure you have all the equipment you need and that it is easily accessible:

> Vial (bottle) of insulin, which should be at room temperature. If the insulin has been stored in the refrigerator, as advised, warm it by rolling it in your hands before using. (Do not store insulin in the freezer.)
> Syringe
> Alcohol wipe (available in drug stores)
> Safe disposal container

Now you are ready to start:

> Wash and dry your hands thoroughly.
> Check the insulin bottle label to make sure it is the right prescription and hasn’t expired.
> Take the plastic cover off the insulin bottle.
> Remove the cover and wipe the top of the bottle with an alcohol wipe.
> Pull back the plunger of the syringe and draw in air equal to the prescribed dose of insulin.
> Insert the syringe needle into the rubber tip of the insulin bottle.
> Inject air into the bottle by pushing the syringe plunger forward.
> Turn the bottle upside down.
> Make sure the tip of the needle is in the insulin and pull back on the plunger to draw the correct dose into the syringe.
> Check to make sure there are no air bubbles in the syringe before removing the needle. If you see air bubbles, hold the syringe and bottle straight up and tap the syringe lightly to let the air bubbles float to the top. Then push on the plunger to move the air bubbles back into the bottle.
> Finally, withdraw the correct dose by pulling back on the plunger.

Now you are ready to inject the insulin:
> Clean the person's skin at the injection site with an alcohol wipe. (an optional step)
> Pinch a fold of skin and inject the needle. If the person has fatty tissue at the injection site, you can insert the needle at a 90-degree angle. If the person is thin, a 45-degree angle works best.
> Check the injection site for bleeding. If there is bleeding, apply light pressure for a few minutes.

**Insulin injection technique**

- 90°
- 45°

Fat

Muscle

Skin

**Disposing of the Syringe and Needle**

You're not done yet! Be sure to dispose of the syringe and needle safely. Hospitals and health care offices use special containers for this purpose. At home you can use a plastic bottle or other container with a secure lid. An empty fabric softener or laundry detergent bottle works well. Safe Needle Disposal, a division of Needy Meds, has a state-by-state map and guide to local regulations regarding safe disposal of syringes and sharps (the technical term for needles and syringes) as well as an instructional video. Go to www.safeneedledisposal.org.

The Food and Drug Administration has a list of “dos and don'ts” for safe disposal of sharps. Go to www.fda.gov/media/82389/download. Make sure you store the container in a place that is not accessible to children or pets. Final caution: Never share an insulin prescription with another person.

**Follow-Up: Check for Problems**

Be alert to potential problems. Look at the injection site for redness or swelling. Other side effects may include rashes, fever, wheezing, blurred vision, or shortness of breath. If these or any other side effects occur, call the health care provider immediately. If this is an emergency (such as difficulty breathing), call 911 or go directly to an emergency department.

**Additional Resources**

In addition to the links already cited in this resource guide, check out these other resources:

Medline Plus, a publication of the US National Library of Medicine, has a guide on giving insulin injections as well as other information about insulin and diabetes. Go to www.medlineplus.gov/ency/patientinstructions/000660.htm.

Family Doctor, an educational website produced by American Family Physician, has useful information on insulin therapy in a Q&A format. Go to www.familydoctor.org/insulin-therapy/.

Recently, the cost of insulin has been increasing rapidly. If you need financial assistance to pay for insulin, check with the manufacturer for charitable resources. Also check the Needy Meds website at www.needymeds.org/ for other options.

There are many other videos and resource guides in this series. Go to www.aarp.org/nolongeralone for a complete listing.

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