Drawing Insulin with Vial and Syringe

The use of syringe magnifiers or tactile measurement devices can make it a simple matter to measure a correct dose of insulin using a vial and syringe, even if you have severe vision loss. If you go with either of these methods, you will need to know how to get rid of air bubbles in the syringe. Although not a danger if injected, air bubbles left in the syringe mean that you will have missed part of your dose of insulin. Since you won't be able to see these bubbles, you will need a reliable way to make sure that they've been pushed out of the syringe. Follow these steps:

1. Fill the syringe with the amount of air that equals your dose of insulin.
2. Inject the air into the insulin bottle.
3. Turn the syringe and bottle so that the bottle is on top, facing down. With most of the measurement devices, this is easy because the devices hold the syringe and bottle together.
4. Pull the plunger out, and push it back in three times. The first time you do this, you will probably hear air bubbles going into the insulin bottle. By the third time, you will not hear any more air bubbles.
5. Draw your dose of insulin.

If you are using a device to mix two types of insulin:

1. Draw and inject air into your longer-acting insulin first, but do not draw any insulin.
2. Inject air into your shorter-acting insulin, and go through the procedure above.
3. Finally, simply draw the longer-acting insulin. Do not push any insulin back into the bottle.

When to Throw Out an Insulin Vial

If you are drawing insulin from a vial, you need to know when it's time to throw it out. Every vial of insulin contains 1,000 units and has a shelf life of about four weeks, so if you use less than 1,000 units per month, it's a good rule of thumb to replace your insulin vial once a month. If you use more than one vial per month, it's important to replace the bottle before all the insulin runs out. If the level of insulin dips below 50 units, it becomes easier to draw air into the syringe without being aware of it. If you are unable to assess the amount remaining visually, you can work it out mathematically.

Remember, every bottle of insulin has 1,000 units, and you want to replace it before you draw the last 50 units. To figure out how many days you can use a bottle of insulin:

1. Subtract 50 from the total amount; you will use 950 units from a new vial.
2. Divide 950 units by your daily dose. For example, if you use 50 total units of insulin every day (either in one dose, or in two or more doses added together), that's 950 divided by 50, which comes to 19 days worth of insulin per vial.
3. If the dose does not divide exactly into 950, leave more, rather than less, insulin in the vial. For example, if you take 48 units of insulin per day, you would still use the vial of insulin for 19 days.

Here’s an easy way to keep track of when to change your vial of insulin:

1. If you take insulin once a day, count out the number of syringes you would use to leave at least 50 units in the bottle. In the example above, if you take all 50 units in one dose, you would count out 19 syringes.

2. If you take insulin more than once a day, multiply the number of days by the doses in one day. In the example above, if you take 25 units per dose, and you take insulin twice a day, multiply 19 days by two doses, and you need 38 syringes.

3. Set aside the number of syringes you have counted out. Put them in a box, cup, drawer, or other container. When you have used them up, it’s time to start a new vial.

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