

## SUBCUTANEOUS FLUID ADMINISTRATION

### *Are there any alternatives? I don't really want to do this.*

This is a normal reaction for most people. Giving injections is outside the comfort zone for most everyone not in the medical professions. However, fluid administration is not nearly as difficult as it sounds. The benefits provided to your dog will make it well worth your time to learn this simple technique.

### *How the equipment is assembled?*

The equipment consists of a bag of IV fluids, an IV set, and a needle. The IV set is a tube which connects the fluid bag to the needle. The following steps should be followed:

1. Remove the outer, protective bag from the inner IV bag.
2. Remove the IV set from its packaging.
3. The top end of the IV set has a large, pointed end with a protective cap. Remove this cap, but do not permit it to become contaminated. IT SHOULD NOT TOUCH ANYTHING.
4. Pull the protective covering from the exit port on the bottom end of the IV bag. This will expose a hole which will accept the pointed end of the IV set.
5. Push the pointed end of the IV set into the open hole of the IV bag. It must be seated firmly to prevent leaks.
6. Remove the protective cap from the lower end of the IV set, but do not discard it. Do not permit it to become contaminated. IT SHOULD NOT TOUCH ANYTHING.
7. Close the lock in the middle of the IV tubing by moving the roller. (The lock on a new IV set is often already in the open position.)
8. Gently squeeze and release the bulb at the top of the drip set until the bulb chamber is about half full with fluid.
9. Open the lock (roller) on the tubing and then hold or suspend the IV bag; fluid should flow freely.
10. Be sure that all air bubbles run out of the tubing.
11. Close the lock on the IV line by rolling the roller downward.
12. Remove the protective cap on the lower end of the IV set.
13. Break the protective covering around the needle so that the open end (not the sharp end) is exposed. Do not permit it to become contaminated. IT SHOULD NOT TOUCH ANYTHING.
14. Remove the protective cap from the lower end of the IV set, and place the open end of the needle on it. Seat it firmly.

### *Where is the needle inserted?*

Insert the needle just under the skin in locations that have unusually loose skin. The most comfortable and safest for the dog are just over each shoulder blade. This area is located at the top of the front legs about 1/2-1 inch (1.3-2.5 cm) from the midline.

### *How is the needle inserted?*

1. Choose a location where you will treat your dog. This may be on a table, counter top, or in your lap. For large dogs, it may be easiest to work with the dog on the floor.
2. Hang the IV bag about 3 feet (1 meter) above the level of your dog's head.
3. Place your dog in the treatment location. Be sure both of you are in a position that will be comfortable for about 10-15 minutes. The end of the IV set should easily reach your dog.

4. Pick up a roll of loose skin over either the right or left shoulder blade.
5. Lay the point of the needle at the base of the roll of skin with the needle horizontal and pointing to the dog's head. This assumes that the dog is in an upright or standing position.
6. Advance the needle slightly forward while pulling the roll of skin backward. That should place the point of the needle under the skin.
7. Release the roll of skin. The point of the needle should remain under the skin.
8. Grasp the IV set lock in one hand. Begin the flow of fluids by rolling the roller upward.

**Note:** It is not necessary to "sterilize" the skin with alcohol before inserting the needle. In reality, wiping a little alcohol on the skin does not really sterilize it, and the odor and feel of alcohol may aggravate your dog.

#### ***What should I expect as the fluids are running?***

Most dogs tolerate this procedure quite well. However, if the fluids are unusually cold or hot, they may be uncomfortable. Ideally, they should be stored at body temperature or warmed by placing the bag under running hot water. If you warm them, test the temperature of the fluids on your forearm as you would do for a baby's formula. However, as long as they are at room temperature, most dogs are fine. Do not refrigerate them.

As the fluids are running, a lump will form under the skin. Do not be alarmed; this is the fluids.

#### ***What if air bubbles are carried under the skin?***

There is no problem if a few bubbles of air are injected under the skin. If quite a bit of air gets under the skin, you may feel a crackling sound when you push on the skin, and your dog may experience mild discomfort for a couple of hours, but no real harm will occur. The body will eventually absorb the air.

#### ***What if the fluids quit running?***

This often happens when the end of the needle moves against the skin or the underlying tissue. Do not remove the needle; rather, gently reposition it until the fluids begin to flow again. Experiment with the needle's position until the fluids flow freely.

#### ***How much do I give?***

We will determine in advance how much fluid you will give for your dog's specific situation. As a rule, the average sized dog should receive 100-150 ml of fluids per 10 pounds (4.5 kilograms) of bodyweight at one time. Half of the prescribed amount is placed in the locations mentioned above over each of the front legs.

#### ***What do I do when I have given the prescribed amount?***

1. Stop the flow of fluids by rolling the roller in the IV set lock downward firmly. If you do not close it well and the bag is left hanging, fluid will drip.
2. Remove the needle and *replace it with a sterile needle*. This is very important - bacteria picked up on the used needle can migrate up the IV tubing line and contaminate the fluids.
3. Store the equipment in a safe place until the next fluid administration.

#### ***Is there anything different about giving fluid on subsequent treatments?***

The administration is the same. The fluids are less likely to be contaminated by bacteria from the skin if you discard the used needle at the end of each administration. Replace it with a sterile needle before you put the fluids away. Before discarding the old needle, replace the protective cap on it so someone will not be stuck. If you wish, you may return it to our hospital for proper disposal.



***I tried to give fluids, but the flow was very slow. What should I do?***

When you are finished giving fluids, you should close the lock firmly. However, closing the lock firmly may crush the tubing so that fluid will not flow well on subsequent use. If this happens, move the lock to another place on the IV tubing, and open the crushed area of the tube by pinching it with your fingers.

***How long until the lump of fluid is gone?***

It will take about 2-4 hours for all of the fluid to be absorbed. In some cases, it might even be up to 6 hours. If absorption is slow, gravity may cause the fluids to migrate downward. They could move under the skin of the front or rear legs. However, if this happens, they will still be absorbed.

***I have used this bag for several treatments, and now the fluid is cloudy. What does that mean?***

If any cloudiness or discoloration occurs, do not use the bag. It usually means that the fluids have become contaminated with bacteria. If you administer these fluids to your dog, a serious infection may occur under the skin.

**SPECIFIC INSTRUCTIONS**

1. Give \_\_\_\_\_ ml of fluids at each treatment.
2. Treat your dog as indicated:  
\_\_\_\_\_ time(s) per day  
\_\_\_\_\_ time(s) per week.  
every \_\_\_\_\_ days
3. Return \_\_\_\_\_ for further tests to monitor treatment progress.