



## **PetCare Veterinary Hospital**

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# Subcutaneous Fluid Administration in Dogs

## **Why has my veterinarian recommended at-home subcutaneous fluid treatment?**

Administering supplemental fluids can benefit dogs with a variety of medical conditions. Most commonly, home fluid therapy is recommended for dogs with kidney disease or chronic renal failure (CRF). If your dog is diagnosed with a condition that will benefit from fluid therapy, your veterinarian can teach you to perform this simple procedure. Don't be alarmed - it is normal to feel hesitant or apprehensive about administering any treatment to your pet. Giving injections is outside the comfort zone for almost anyone outside the medical profession. However, subcutaneous fluid administration is not nearly as difficult as it sounds. **The benefits that your dog receives will make it well worth your time to learn this simple technique.**

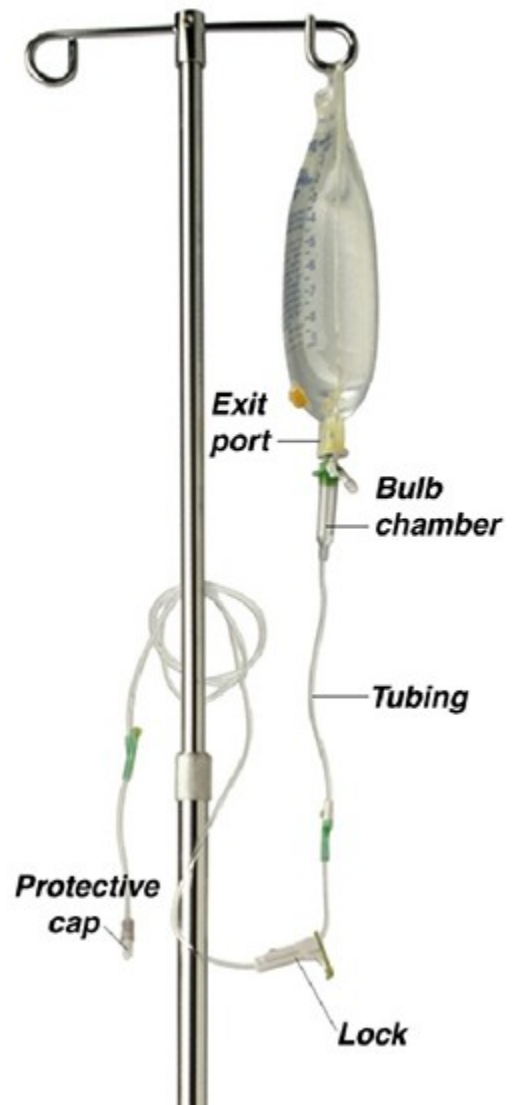
## **What equipment do I need?**

The equipment for home fluid therapy typically consists of a bag of fluids, a fluid drip set, and a needle. The fluid drip set is simply a tube that connects the fluid bag to the needle.

## How do I set up the equipment?

A member of our veterinary professional staff will go through the steps with you in person. The steps are as follows:

1. Remove the intravenous fluid bag and the fluid drip set from their protective packaging.
2. Close the line lock in the middle of the fluid tubing, by moving the roller so that it squeezes the tubing. The lock on a new fluid set is usually set in the open position.
3. The top end of the fluid bag has a large, pointed end with a protective cap. Remove this cap, but do not allow it to become contaminated. IT SHOULD NOT TOUCH ANYTHING.
4. Pull the protective covering from the exit port on the bottom end of the fluid bag. This will expose a hole that will accept the pointed end of the fluid set.
5. Push the pointed end of the fluid set into the open hole of the fluid bag. It must be seated firmly to prevent leaks.
6. Gently squeeze and release the bulb at the top of the drip set until the bulb chamber is about half full with fluid.
7. Remove the protective cap from the lower end of the fluid set, but do not discard it. Do not allow it to become contaminated. IT SHOULD NOT TOUCH ANYTHING.
8. Open the line lock or roller on the tubing and then hold or suspend the fluid bag; fluid should flow freely. Fill the fluid line with fluid from the bag. Be sure that all air bubbles run out of the tubing.
  - a. Once the fluid line is full, close the lock on the fluid line by rolling the roller downward.
  - b. Replace the protective cap on the lower end of the fluid set.
9. Open the protective wrapping around the needle so that the open end (not the sharp end) is exposed. Do not contaminate the open end by allowing it to touch ANYTHING.
10. Remove the protective cap from the lower end of the fluid set, and place the open end of the needle on it. Press it on firmly. You may discard the protective cap.



## How do you insert the needle into the dog?

Insert the needle just under the skin in one of several locations that have unusually loose skin. These include:

1. At the level of the shoulder blades, just to the right and to the left of midline.
2. At the level of the back legs, just to the right and to the left of midline along the "hips."

## How do you administer the fluids?

Choose a comfortable location where you will give your dog the fluids. This may be on a table, countertop, or on your lap.

"Be sure both of you are in a position that will be comfortable for about 10-15 minutes."

1. Hang the fluid bag about 3 feet (1 meter) above the level of your dog's head. You may create a bag hanger using a coat hanger, over the door clothes hanger, etc.
2. Bring your dog to your chosen location. Be sure both of you are in a position that will be comfortable for about 10-15 minutes. The end of the fluid set should easily reach your dog without much tension.
3. Pick up a loose roll of skin in one of the above locations.
4. Lay the point of the needle at the base of the roll of skin with the needle horizontal and pointing toward the dog's head, assuming that the dog is in an upright or standing position.
5. Advance the needle slightly forward while pulling the roll of skin backward. This motion should be firm and steady, not shaky and timid, and will place the point of the needle just under the skin.
6. Release the roll of skin. The point of the needle should remain under the skin.
7. Grasp the fluid set lock in one hand. Begin the flow of fluids by rolling the roller upward.

**NOTE:** Some dogs are more cooperative if they are placed in a box not much larger than the dog. Alternatively, some dogs respond better to being wrapped lightly in a towel; in some cases, just covering the head will relax the dog. . Experiment with different locations and techniques until you find the most comfortable technique for you and your dog. Most dogs will become quickly used to fluid administration. Your dog may seem nervous the first few times, but most become comfortable by the fourth or fifth administration.

## How much fluid should I give my dog?

The instructions at the end of this handout tell how much to give for your dog's condition and health status.

"As a rule, the average small dog should receive 100-200 ml of fluids at one time."

As a rule, the average small dog should receive 100-200 ml of fluids at one time. If you are using two spots, you can give half of that amount in each location.

When you have given the prescribed amount of fluids, complete the following steps:

1. Stop the flow of fluids by pushing the roller in the fluid set lock downward firmly. If you do not close it well and the bag is left hanging, fluid will drip out. Some bags will have an additional slide closure on the fluid line. You can close this additional device after you have removed the needle from your pet's skin.
2. Remove the needle from the skin and replace its protective cap. Be very careful when you replace the needle into the cap. This is when the majority of injuries and "needle sticks" occur. Remove the used needle from the drip set.
3. PLACE A NEW, STERILE NEEDLE ON THE DRIP SET AS SOON AS YOU ARE THROUGH. This prevents bacteria that were picked up on the old needle from migrating up into the fluid bag. If you wish, you may return used needles to our hospital for proper disposal.
4. Store the equipment in a safe place until the next fluid administration. The fluids should be kept in a relatively cool location out of direct sunlight. Be sure to keep this and all medications out of the reach of children and pets.

### **What other tips do I need to know?**

It is usually 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.

- Most dogs tolerate fluid administration quite well. However, if the fluids are unusually cold or hot, they may be uncomfortable. Ideally, the fluids should be stored at about body temperature. 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 pocket of fluid that will be absorbed over the next few hours. If absorption is slow, gravity may cause the fluids to migrate downward along the side of the body. Fluids may even move under the skin of the front or rear legs in rare instances. Do not be alarmed. If this happens, the fluids will still be absorbed and your dog will not be in any pain or discomfort.
- You will not cause any problems 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 or damage will occur. The body will eventually absorb the air without any difficulty.

### **What should I do if the fluids stop running during administration?**

This often happens when the end of the needle moves against the skin or the underlying tissue. In this event, the needle opening is "blocked" or covered and fluid cannot flow freely. Do not remove the needle; rather, gently reposition it until the fluids begin to flow again. Experiment by slightly moving the needle's position (back and forth, up and down, side to side) until the fluids flow freely again. Twisting the needle (rotating clock- or counter-clockwise) will change the position of the bevel. In most cases only a minor adjustment is all that is needed. **You may have to reposition the needle several times during fluid administration.**

## What should I do if the fluid runs slowly out of the bag?

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 fluid tubing, and open the crushed area of the tube by pinching it open with your fingers.

## What if the fluids become cloudy?

"If any cloudiness or discoloration develops in the fluids, **do not use the bag.**"

If any cloudiness or discoloration develops in the fluids, **do not use the bag.** This discoloration or cloudiness 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 FOR YOUR DOG

1. Give \_\_\_\_ ml of fluids at each treatment.
2. Treat your dog every \_\_\_\_ days or \_\_\_\_ times per week.
3. Return in \_\_\_\_ days / weeks for recheck exam.

Special instructions for this appointment:

\_\_\_\_ Do not feed for \_\_\_\_ hours before this visit.

\_\_\_\_ Bring in a urine sample.

\_\_\_\_ Other: \_\_\_\_\_

*This client information sheet is based on material written by: Ernest Ward, DVM*