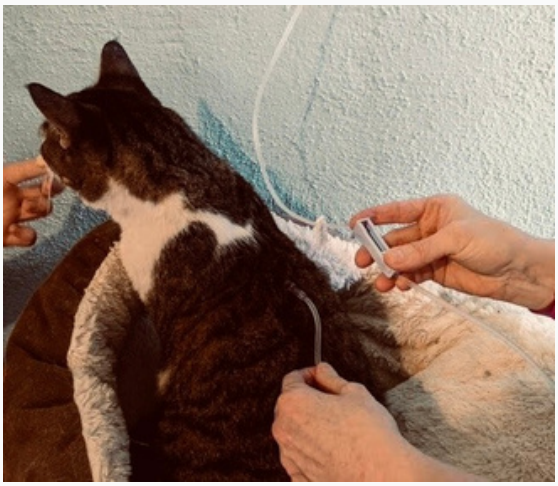
MILO'S SANCTUARY

SUBCUTANEOUS FLUIDS: THE ESSENTIALS



Subcutaneous (Sub-Q) fluid administration involves delivering fluids beneath the skin, where they are gradually absorbed into the bloodstream. This method is commonly used to help maintain hydration in cats.

Sub-Q fluids are often recommended for conditions such as kidney disease, dehydration due to vomiting or diarrhea, and recovery from illness. While this guide outlines the general process, it is not a substitute for professional veterinary care. Always consult a veterinarian before administering fluids, as this treatment may not be appropriate for all cats and could be harmful in certain cases.

Part 1: Understanding Fluids, Supplies, and Equipment

The fluids typically used for subcutaneous administration are Lactated Ringer's Solution, which contains essential electrolytes such as sodium and potassium. These fluids are available in sterile 500 mL or 1000 mL IV bags. When obtaining Lactated Ringer's, it is important to also purchase the necessary supplies—specifically an infusion line and needles—which are sold separately.

Infusion (Drip) Line

Also known as the "drip line," the infusion line connects the fluid bag to the needle. While it is technically an IV line, it is not used for intravenous injection in this context. Infusion lines vary in length, generally ranging from 72 to 110 inches.

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To maintain sterility, keep the line out of reach of pets to prevent damage from chewing. Infusion lines may be reused a limited number of times if handled carefully. When switching bags, it is extremely important to make sure that the "spiked" end (Where the line is inserted into the small port at the base of the fluid bag) does not contact any surfaces to avoid contamination, as maintaining sterility is essential to prevent infection.

Needles

An 18-gauge needle is commonly used for adult cats, while smaller sizes (20–21 gauge) are appropriate for kittens. Higher gauge numbers indicate smaller needle sizes. An 18-gauge needle provides a faster flow rate, which allows for quicker and more efficient administration of fluids, while a 20-gauge needle may offer greater comfort.
Needles must remain sterile until use and should only be removed from packaging immediately before attachment. Needles are strictly single-use items and should never be reused under any circumstances! If a needle becomes dislodged or compromised during administration, replace it with a new one to ensure both safety and sterility. This is for the cat's comfort and, even more importantly, to prevent the introduction of any bacteria into the process.

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Setting Up the Fluid Bag and Infusion (Drip) Line

Before beginning, consult your veterinarian for demonstration and guidance to ensure proper technique and comfort with the process. Please read through all of the steps below before setting up your supplies. You can ask your vet to show you how to set up your sub-q fluids bag to be sure that you feel comfortable and confident with this process. Here is a helpful list of steps from the VCA Hospitals website, which can be found here: https://vcahospitals.com/know-your-pet/subcutaneous-fluid-administration-in-cats

Follow these steps to prepare the fluid bag and infusion line:

- Remove the fluid bag and infusion set from their packaging. (You should be able to simply tear open the clear packaging containing the infusion bag – it is crucial NOT to use anything like scissors that may puncture the infusion bag itself.)
- Close the line lock in the middle of the fluid tubing by moving the roller clamp so that it squeezes the tubing. The lock on a new fluid set is usually set in the open position.
- The top end of the infusion line has a large, pointed end with a protective cap. Remove the cap, taking care to keep it sterile. Do not allow it to touch anything.
- Remove the protective cover from the fluid bag's outlet port on the bottom of the bag. (This may be a small cap, or a plastic tab that breaks off.)
- Insert the spike firmly into the port to create a secure connection. (You can twist the spike as you push it in if you are having trouble getting it to break through the membrane covering the port.)
- Gently squeeze and release the bulb at the top of the drip set until the bulb chamber is about half full with fluid.
- Remove the cap from the lower end of the tubing, keeping it sterile and set aside (don't throw it away). Do not allow the end of the tubing to touch anything.
- Open the roller clamp briefly to allow fluid to fill the line. Ensure all air bubbles are removed.
- Close the roller clamp once the line is fully primed to prevent leakage. This is an important step! If you forget to close the roller clamp, the fluids will leak out.
- Replace the protective cap on the end of the tubing.
- Partially open the needle packaging, exposing only the hub (not the needle tip), and maintain sterility.
- Remove the cap from the tubing and securely attach the needle. Discard the tubing cap. (The needle cap should always remain on until you are ready to insert the needle into your cat's skin.)
- Maintaining sterility throughout this process is essential to reduce the risk of contamination and ensure safe fluid administration.

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Positioning the Fluid Bag:

Hang the fluid bag using a coat hanger or similar hook to make it portable and easy to set up. When ready to administer fluids, hang the bag from a door, hook, or shower rod.

Be sure that the hook or hanger that you use is sturdy enough to hold the weight of the fluid bag without breaking.

Key Point: Ensure the bag is positioned above your cat, ideally about 3 feet higher than the injection site.

Why height matters:

The elevated position creates gravity-driven flow (a "drop"), allowing fluids to move steadily through the drip line and into your cat efficiently. Setting up the fluids correctly helps the process go more smoothly and comfortably for both you and your cat.

NOTE: When the fluid bag is not in use, make sure to keep it. and the drip line up and out of reach of other cats. The drip line can be a tempting target for swatting and/ or biting, and any punctures to the line mean leakage and contamination of the fluids.

NEXT PAGE: How to administer fluids to your cat

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Part 2: Administering the Sub-Q Fluids

Administering subcutaneous (sub-q) fluids to your cat can feel intimidating at first. It's natural to worry about causing discomfort, especially when using a needle. You may make small mistakes in the beginning—like inserting the needle too far—but these typically cause only brief discomfort. Stay focused on the long-term goal: supporting your cat's health and becoming more confident with practice.

Cats respond differently—some remain calm, while others may resist. Your own emotional state matters too. If you're anxious, your cat may pick up on it, so try to stay calm and patient with both yourself and your pet. Choose a quiet, low-activity space like a bathroom or small bedroom. Make sure your cat is sitting upright in a relaxed "loaf" position before you begin.

If your cat is squirming/ trying to get away, here are some tips:

- Have your cat seated in their favorite bed while administering fluids.
- Give your cat a favorite soft treat (e.g. Churus or a tablespoon of wet food). While they are eating their treat you can insert the needle.
- Ensure that there are no environmental stressors, such as loud sounds, other animals, or children. A calm, stress-free environment is key
- Play soft music and use a soothing voice to reassure your cat.
- After inserting the needle, pet and reassure your cat.
- You can hold the needle in place after inserting it and scruff your cat if needed to ensure that they do not move around and dislodge the needle.

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Inserting the needle

- **Gently lift** a roll of loose skin between your cat's shoulder blades, creating a "tent". (See first photo above.)
- **You do not need to sterilize the skin**—alcohol pads are ineffective on fur and may upset your cat.
- Position the needle **horizontally** at the base of the lifted skin, pointing toward the head. (See second photo.) Do not insert the needle vertically! Doing so risks damage to the spine.
- **Insert** the needle with a firm, smooth motion while slightly pulling the skin toward it.
- **Release** the skin, leaving the needle in place beneath the surface, then gently remove the needle.

Part 3: After Administering Fluids

Immediately after giving subcutaneous fluids, it is normal to feel a large, soft, squishy lump under your cat's skin at the injection site. This is simply the fluid sitting beneath the skin before it is absorbed. Cats absorb fluids at different rates depending on their health. In some cases, the lump may disappear quickly, while in others it may take several hours. You may also notice the fluid shifting or "traveling" under the skin, sometimes moving down a leg or along the side of the body. If this happens, don't be alarmed—this is completely normal. Although it may look unusual, it does not cause discomfort or harm to your cat.

Afterward, reward your cat with lots of praise, affection, and/or treats. Positive reinforcement helps them associate the experience with something good, which can help them become more accepting of the fluids in the long-term. Even if your cat is fussy or downright unpleasant during their fluid administration (and who can blame them, really?), it is always important to let them know afterwards that we love them. Your care makes a meaningful difference in your cat's well-being— and they're worth it!