



**Veterinary Emergency
+ Referral Center**
of Hawaii

**Ettinger: Textbook of
Veterinary Internal Medicine, 7th Edition
"Steroid" Therapy
Edward C. Feldman**

What are "steroids?"

In Latin, "kidney" is renal and "next to" is "ad." A small organ next to each kidney is called the adrenal. The adrenals have various functions, including the production of "steroids," which enter the bloodstream and are distributed to cells everywhere in the body. Steroids perform a number of vital jobs. In other words, without steroids, a person, dog, or cat would die.

In addition to being produced naturally, steroids are manufactured and sold as medicine for a variety of conditions. The most popular steroids used by veterinarians are called *glucocorticoids*.

The drugs in this category include the following:

- Prednisone
- Prednisolone
- Methylprednisolone
- Triamcinolone
- Dexamethasone
- Many others

When given by injection, pill, or as a topical cream, steroids have specific effects, dictating the diseases for which they are commonly used.

How are steroids used?

Steroids can have potent anti-inflammatory effects and are often used for dogs and cats with severe allergic conditions, in which the allergic condition causes so much irritation, animals begin to bite at their skin and can hurt themselves.

Some allergic conditions successfully treated with steroids include the following:

- Flea allergy dermatitis
- Asthma-like diseases
- Food allergies
- Bee stings
- Many others

Steroids' anti-inflammatory properties make them useful for **chronic arthritis**, especially in older dogs with problems such as hip dysplasia. "Disk disease" of the spine can result in severe pain or paralysis. A "bulging" or "slipped" disk causes trauma to the spinal cord or nerves that, in turn,

causes inflammation, swelling, and damage to those structures. Steroids can reduce the harmful inflammation and swelling while giving the body a chance to heal.

Steroids can also suppress the immune system. The immune system fights infection. However, in some conditions the immune system is overzealous. In these conditions, the immune system may begin to fight and destroy normal cells. These are often called *autoimmune diseases* and can include the following:

- Anemia
- Destruction of cells that allow blood to clot (thrombocytopenia)
- Joint diseases
- Kidney diseases

In these conditions, steroids are given to stop the immune system and, by accomplishing this, stop the destruction of normal cells needed for a healthy existence. Steroids can also be effective in fighting some, but not all, cancers.

Steroids are not "strong" medicines. They are drugs with which veterinarians have become quite familiar. For these reasons, steroids are extremely popular, being used for relatively minor problems and sometimes for serious life-threatening diseases. For most conditions, veterinarians begin dogs or cats on relatively high doses to achieve certain desired effects. Once these effects have been accomplished (usually in days to weeks), the most common treatment protocols involve slowly decreasing the amount of steroid given each day.

The reasons for decreasing or "tapering" the steroid dose are at least twofold:

1. First, by decreasing the dose while completing frequent rechecks, your veterinarian can determine whether the condition being treated has remained under control. Sometimes the steroid dose can be decreased slowly and then stopped. However, in other conditions or situations one dose controls the condition but a lower dose fails to keep the problem in check. If this occurs, your veterinarian can simply raise the dose again to see whether the disease again responds. With some dogs and cats, this trial-and-error approach to increasing and decreasing dosages of steroids goes on for months. This is common and, although frustrating, is often to be expected.
2. The second advantage to tapering steroid doses is that it allows the body to adapt to their withdrawal. Some dogs and cats can become "addicted" to steroids, and if the drug is stopped too quickly, the dog or cat can become ill.

So, slow tapering over time is the correct method for discontinuing this form of treatment, even if your veterinarian no longer considers the steroids necessary.

What are the possible side effects?

In addition to the many beneficial attributes of steroids, some potential problems are associated with their use. In dogs especially, steroids cause some annoying side effects. Some of these are extremely common and will definitely be worrisome to you but do not cause permanent harm to the dog.

These potential side effects include the following:

- Dramatic increases in thirst, hunger, and urine volume. Some previously housebroken dogs produce so much urine that they cannot wait to be taken outside and urinate in the home.
- Panting
- Muscle weakness
- Lethargy
- Hair loss in the trunk area (usually not from the head or legs)
- Pot-bellied appearance

All these side effects are completely reversible and diminish when the steroid dose is decreased or stopped. Some side effects are more worrisome. Because of the suppression of the immune system, steroid-treated dogs and cats are prone to infection. These infections can become severe and life threatening. This complication is not common but it can arise. An even less common problem is ulcers of the stomach and/or intestine, especially if your pet is given steroids in the treatment of any form of paralysis.

Finally, steroids do not always work. They may fail over time or they may never work in the first place. If they fail to do the job for which they were given, your veterinarian is likely to recommend different and often more potent medication. These new medications are often given with steroids so that the drugs can work together for more effect than either can have alone.