



Always consult with a veterinarian that you feel comfortable with before diagnosing or treating any disease on your own. This information is for reference only.

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## Dermoid Sinus

### Issue Description

*The sinus is caused in the embryonic stage of development. In normal development, the neural tube from which the spine develops separates from the skin. In the case of a dermoid sinus, this separation has not fully taken place. The result is that in some cases, the dermoid sinus remains connected to the animal's spinal cord; in other cases, the sinus terminates in a "blind sac" that is less dangerous to remove.*

### Other Names

*African Cyst, DS, Dermoid Cyst, Dermoid Inclusion Cyst, Epidermal Inclusion Cyst, Hair Cyst, Trichiasia Spiralis*

### Causes

The dermoid sinus gene is believed by some to be recessive, meaning that the animal must receive one defective gene from each parent in order to develop the condition. Where one parent carries the gene and the other does not, the offspring remain carriers and can continue to pass the defective gene on to their offspring in turn. Others believe that the dermoid sinus condition is more appropriately characterized as polygenic, involving multiple genes. In any case, because of the genetic nature of this potentially dangerous condition, most breeders and veterinarians advise against breeding animals that have a dermoid sinus, or have a parent that is known to carry the gene.

### Breeds Known To Be Affected

- Rhodesian Ridgeback
- Thai Ridgeback - in which it is hereditary
- Kerry Blue Terriers
- Shih Tzus
- Boxers

### Symptoms

It can appear as single or multiple lumps on the dorsal midline. The D.S. is generally found on the midline of the neck, back, and tail along the spinal column. Although rarely found in the ridge there have been several cases noted. Dermoid sinuses have also been noted on ridgeless puppies.

### Diagnosis

To find the D.S. you must palpate along the midline of the spine, starting at the top of the head close to the occiput (bump) bone. To do this you may pick the pup up and hold it in the cup of your hand or palpate as the pup is sleeping. Take the other hand and envision yourself picking up a baby kitten by the scruff of the neck with your thumb and forefinger. Exert enough pressure to feel, but not enough to bruise. Use your whole hand as one unit, pulling first up toward the nose and then down toward the tail. The skin will stretch quite a bit in both directions. Do not roll the skin through your fingers. The fingers remain exactly where you placed them on the skin. The D.S., being attached on the top to the skin and at the base to the spinal cartilage, will slip through your fingers. A large D.S. will feel like a wet noodle and a finer D.S., like a small string. Reposition your fingers on the neck just below the starting spot and repeat this process. Continue to work your way down the neck and back to the tail.

At the tail it is very difficult to raise enough skin to palpate effectively. It is best to use your thumb in this area. With fingers underneath the pup supporting it, place the flat of your thumb over the spinal column at the pelvic area. Push skin first to one side and then back to the other side. Again, remember that the D.S. is attached and will slip under your thumb. This will feel like a squiggly noodle on a larger, longer D.S., or just an area that simply will not move at all

on a shorter D.S. If you do not feel anything by sliding the skin from side to side, try sliding the skin toward the nose and then back to the tail, taking care to slide the skin, not your thumb.

As you palpate the area over the shoulders, you may feel connective tissue that holds the skin to the shoulder area. The tissue is heavier in this area than in the other areas of the spinal column. It will feel flat and you will not be able to trace it from the area close to the muscle all the way to the skin, whereas the D.S. is easily traced from the muscle to the top of the skin and feels round.

The D.S. can be visually detected by looking for a group of hairs that protrude straight up out of the hair coat of the pup. When you see this, the pup should be palpated for a D.S. The hair can also be shaved at this site and upon examination, a small dimple will be revealed. By moving the skin back and forth, the dimple will become more apparent as the anchor of the D.S. will pull the skin down more.

## **Treatment**

The D.S. can be surgically removed. It is advised that a vet be contacted that is familiar with this condition and has performed this operation before. Dermoid sinuses are not alike in their makeup and it is impossible to tell which ones are easily removed or which ones go to the spine. They can wrap around or enter the area of the spinal cord, which makes them almost, if not impossible, to remove. In cases such as this some success has been achieved by folding the D.S. over and tying it off, but some have had regrowth. Since there is no way to detect which type of D.S. that the pup has, instructions to the vet should include that if the D.S. is not completely removable, the pup be put to sleep. D.S. pups should not be promised to a new home until after the surgery.

The healing process can be as traumatic as the operation itself. In the simple cases that remove easily, there will be little or no serum build-up in the surgical area. In the more complicated surgeries, where the tissue damage has been more severe, the serum will start building up as soon as the surgical site heals over on the top of the skin. Usually this will be on the fourth or fifth day. This requires aspiration with a large gauge needle and syringe, sometimes three or four times daily, to remove the serum build-up. This can last for three to 10 days after surgery.

Pups that have had surgery must be removed from the litter to prevent damage to the surgical site. As puppies play, they grab and shake areas of skin on the other pups. If they were to grab and shake over or near the surgical site, damage would occur and the serum buildup would become a bigger problem.

Dermoid sinuses have been detected on other parts of the body, but are not as commonly seen as on the midline of the spine. A few have been noted on the head, attaching to the skull or the base of the ear. Another area of note is on the neck under the ear or on the front of the neck. Sometimes these can be dermoid sinuses and sometimes they are skin tabs.

## **Post Surgery**

Limit your dog's activity. While your dog is recovering from surgery, activity should be limited. Keep him indoors except for bathroom breaks. While your dog is outside, leash him to avoid excess activity.

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