

## health & genetics

### Perineal Hernia

Chances are that you won't have heard of a perineal hernia unless one of your dogs has had this condition. Perineal hernias are uncommon, but they do occur in Deerhounds. In fact, I know of two dogs that developed perineal hernias in the last few months. In this instance, I am using the word dog on purpose, because perineal hernias occur much more often in males than females.

The word "hernia" means the protrusion of a tissue or organ through an abnormal opening in the muscular wall of the cavity that contains it. Hernias most often develop through the wall of the largest body cavity, the abdomen.

What can cause an abnormal opening in the abdomen and make a hernia possible? Sometimes a hernia is due to an injury that causes a tear or perforation of the abdominal wall, especially if the injury is accompanied by an increase in abdominal pressure. The classic situations in which these two events occur together are when a dog is hit by a car or kicked by a horse.

Hernias also can develop in young dogs when a natural opening in the abdominal wall doesn't close as it should. For example, the opening in the middle of the belly where the umbilical blood vessels pass through the body wall and into the abdomen usually seals up shortly after birth. If it doesn't, then it is possible for abdominal tissues - a tag of fat or loop of intestine - to protrude through the opening and make a hernia. This is called an "umbilical hernia," and it shows up as a bulge under the skin where the belly button should be.

Males have another pair of natural openings in the abdominal wall on either side of the groin, through which the testicles descend into the scrotum. These openings don't disappear as a male matures; instead, they shrink down so they are just large enough to allow the spermatic cord to pass through. The spermatic cord contains the tube that carries sperm from the testes into the abdomen and also the blood and lymphatic vessels that supply the testes. With age and strain, the inguinal ring can stretch or tear to become big enough to allow a hernia to occur. This is called an "inguinal hernia."

Inguinal hernias are much more common in human beings than dogs, because the combination of upright posture and gravity puts constant pressure on the lower abdomen. Male dogs generally are spared from the inguinal hernias that can afflict their male owners. However, male dogs - especially older intact male dogs - are susceptible to "perineal hernias," which are the subject of this month's column.

#### What is a perineal hernia?

The area at the back end of a dog, surrounding the anus, is called the perineum. This is where a perineal hernia occurs. It will appear as a bulge on one, or sometimes on both, sides of the anus.

We don't often think of it, but the abdominal cavity extends into the pelvic canal, so that the muscles and connective tissue that surround the rectum and close the pelvic canal are a part of the abdominal wall. If these muscles stretch or tear, then a hernia can develop.

The first consequence of weakness in the pelvic canal muscles is that the rectum bulges sideways, creating a pocket. This pocket becomes packed with feces. If the rectal pocket stays within the pelvic canal, it is invisible. If it grows large enough, then it will be visible as a bulge beside the anus.

Less often, other tissues and organs located near the back end of the abdomen can protrude into a perineal hernia, such as fat, a loop of small intestine, the prostate gland, or the urinary bladder.

#### Why are males most often affected?

No one is sure about this. It is intact males that are at risk; perineal hernias are rare in neutered males, just as they are in bitches.

In intact males, the prostate gland gradually enlarges with age. For a long time, it was assumed that the enlarged gland, lying at the entrance to the pelvic canal, made it more difficult for older males to pass feces, and that the strain that resulted led to a gradual stretching or tearing of the muscles of the perineal area. The trouble with this explanation is that enlarged prostate glands are universal among older intact male dogs, but perineal hernias are uncommon.

Recently, researchers discovered that some enlarged prostate glands produce a hormone called relaxin. This is the hormone that causes the pelvic ligaments to relax and stretch in bitches as they prepare to give birth, to make it easier for the pups to pass through the pelvic canal. There seems to be a correlation between the production of relaxin by the prostate gland and the risk of perineal hernia.

The fact that older dogs are more often affected also may have something to do with an age-related degeneration of the motor nerves that supply the muscles in the perineal region. As the nerves degenerate, the muscles atrophy, making them more likely to stretch or tear.

#### How do I tell if my dog has a perineal hernia?

Because of its location, a perineal hernia can go unnoticed for quite a long time in Deerhounds, even when it causes a visible bulge in the skin. This is partly because the perineum is concealed by the tail, partly because the area is naturally concave in our breed, and partly because of the longer fur that covers the perineal area.

The first sign of a perineal hernia that most owners notice is straining to defecate, often without producing any stool. Owners typically notice this before they notice any swelling near the anus. Constipation often accompanies a perineal hernia as stool becomes impacted in the bulging rectum.

Another sign of a perineal hernia can be straining to urinate, and this is more serious. It usually means that the prostate gland or urinary bladder has protruded into the hernia, making it difficult for the dog to pass urine.

The most serious consequence of a perineal hernia is when a loop of intestine protrudes into the hernia and becomes twisted or "strangulated" so that its blood supply is reduced or cut off entirely. In this situation, a dog will suddenly become very sick, as the affected loop of intestine begins to die and release bacteria and toxins into the bloodstream. If this happens, even emergency surgery may not save the dog's life.

#### How is a perineal hernia diagnosed?

If an older intact male dog is straining and has a bulge on either side of the anus, then a perineal hernia has to be at the top of the list of possible reasons. Other possibilities are profound constipation, an infected anal sac, or a tumor in the rectal area.

A suspected perineal hernia is confirmed by finding the hernia via a rectal examination or by seeing it on an X-ray taken after the dog is given a barium enema.

#### How is a perineal hernia treated?

Initial treatment involves relieving any constipation with irrigation, enemas, laxatives, or manually removing impacted feces from the rectum. If the dog is having trouble urinating, it may be necessary to empty the urinary bladder by passing a catheter up the urethra and into the bladder or through the body wall with a needle and syringe. The only way to repair a perineal hernia is with surgery to return any protruding organs to their proper places and close the opening in the muscles of the pelvic canal. This is not as easy as it might seem. For one thing, not all older male dogs are good candidates for anesthesia and surgery, as they may have cardiomyopathy or other pre-existing illnesses. For another, the muscles in the affected area are relatively thin and delicate, so that it can be difficult to sew them together and get the area to heal properly, even if there is enough muscle tissue to do this. One approach is to fix in place a piece of nylon mesh, such as is used to repair inguinal hernias in humans. Even this can be challenging, because there is not much strong tough tissue in the area to which one can attach the mesh.

Although perineal hernias often occur on only one side, the muscles of the other side frequently are weak, too. For this reason, the veterinary surgeon will carefully check the muscles on the opposite side from a hernia and may consider putting a mesh on both sides.

At the same time that the hernia is repaired, the dog usually is neutered. This greatly reduces the likelihood that the hernia will reoccur.

#### Real-life examples

As I mentioned at the beginning of this column, I have recently heard from two Deerhounds whose dogs developed perineal hernias. Their stories are illustrative.

One owner noticed her dog straining for several days. A series of visits to two different veterinarians led to diagnoses of constipation and colitis, but none of the prescribed treatments brought lasting relief. When we spoke by phone, I suggested that the dog be checked for a perineal hernia. The owner took the dog to a veterinary teaching hospital, where a hernia was discovered and successfully repaired,

despite the fact that the dog had a pre-existing heart condition (ventricular fibrillation, possibly secondary to cardiomyopathy). The dog was neutered at the same time and has made a marvelous recovery.

The second story begins in much the same way, with an older male dog that developed constipation and straining right after the Thanksgiving weekend. The owner had noticed some swelling in the perineum since July, but had not pursued it because of other more pressing emergencies in life (most of us have been there!). Soon after the straining began, the dog's perineal area became inflamed and he stopped passing any stool.

At the veterinary clinic, the dog was sedated, the impacted rectum was cleaned out, and a course of antibiotics was begun to treat the infection in the perineal tissues. Afterwards, as the dog was recovering from sedation and being helped up on to his feet, one of his hips dislocated. Eventually, surgery was required to repair the dislocated hip, and the dog is recovering.

When the antibiotics had gotten the infection under control, a rectal exam was possible, and it confirmed that the dog had a perineal hernia. Obviously any attempt to repair the hernia must wait until the dog recovers from hip surgery.

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