

Your Dog



The newsletter for caring dog owners

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Silent victims of family abuse

Nine states have given judges the authority to extend domestic protection orders to pets. They're a frequent target in family violence.

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'The family that plays together stays together'

You'll both reap the benefits of shared games and activities like Hide It, Musical Sits, Find the Human and — yes! — canine bowling.

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Saving lives in operating rooms and ICUs

Cummings School has one of the few veterinary teaching hospitals offering a new blood test to determine the risk of bleeding and clotting.

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Prevention plays vital role in care of the ears

Keep them healthy by checking each week for debris and excess wax, and carefully cleaning them, but leave deep cleaning to the veterinarian.

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The common cause of skin problems: allergies

Pollens, mold and house dust are triggers 90 percent of the time, a dermatologist says, with offending foods comprising the remainder.

BEHIND THE SCENES: 10

How to avoid begging, obesity and toxic treats

You don't have to eliminate table scraps. Simply give them in moderation. Small amounts of vegetables, lean meats, even a little gravy are fine.

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Can rawhide or bully sticks cause GI problems?

Occasionally, pieces can become stuck in the esophagus and become life-threatening. Surgeries to remove them are costly and technically difficult.

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GISTOCK PHOTO/DONALD GARGANO

Dachshunds are especially prone to intervertebral disc disease.

MEDICINE

by Tucker J. Coombe

This disease strikes without a warning

Sudden rupture of the back or neck discs can lead to paralysis in minutes

■ Intervertebral disc disease, a sudden and often forceful rupturing of the discs in a dog's neck or back, can strike a range of small-breed dogs — chief among them dachshunds — with no warning whatsoever. In a matter of days, hours or even minutes, it can leave your dog wobbly, severely

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weakened or even paralyzed. The most important thing to know about this disease is that it's usually a true medical emergency: Getting your dog to the veterinarian as quickly as possible offers the best hope for recovery.

To understand the dynamics of this disease, you'll need to visualize the canine back and neck. A dog's spinal column — running from the base of his head to his tail — is made up of spiny, interlocking vertebrae, each with a short tunnel through its center. When these vertebrae line up, the short tunnels combine to form a much longer tunnel — the spinal canal — which surrounds and protects the delicate spinal cord. The spinal cord transmits nerve signals from the brain to the body.

Directly underneath the spinal canal, nestled between each of the vertebrae, are intervertebral discs. These serve as cushions between the vertebrae, absorbing shock and enabling the back to flex and move comfortably. Each disc has a gel-like interior enclosed in a tough, fibrous exterior. Often, in its composition, a disc is likened to a jelly donut. In certain small breeds, these discs are prone to degenerating early in life. The interior of the disc, normally about 80 percent water, starts to calcify, causing it to lose its squishy,

shock-absorbing quality. The slightest amount of pressure can rupture the disc. When this happens, its contents explode upward into the spinal canal, compressing the spinal cord and cutting off its vital blood supply.

Susceptible to injury

"There's a reason nature surrounded the spinal cord with bone — to protect it," says John Berg, DMV, a surgical specialist at Cummings School of Veterinary Medicine at Tufts University. "The spinal cord is very susceptible to being traumatized and has a low tolerance for acute injury. The nervous system can deal with a slowly compressive injury amazingly well. But sudden trauma, like a disc rupture, can damage the spinal cord very quickly."

Intervertebral discs in a dog can rupture almost anywhere along the spinal canal, but rupture is most likely in the neck, called the cervical region, or the thoracolumbar junction, which is the point along the back where the ribs end. Think of it as the mid-back. Cervical disc ruptures usually create milder symptoms, quite different from those of a mid-back disc rupture. In the neck region, the spinal canal is relatively spacious. In the mid-back region, the cord fits

snugly into the canal with little room to spare. This means that when flecks of disc material explode into the spinal canal, the spinal cord is likely to be compressed and damaged.

The most obvious symptom for a dog who's ruptured a disc in the neck region is pain. His neck muscles may be tense and quivering. His head may be pointed downward, and he'll resist moving it in any direction. He's likely to cry out in pain if anyone touches his neck.

An unsteady walk

Symptoms are likely to be more severe for a dog who's sustained a disc rupture in his back. A spinal cord has several layers and the deeper the injury to the cord, the more neurological functions the dog loses. When a dog's spinal cord sustains a relatively mild injury, he'll no longer be able to sense his hind limbs and begin walking unsteadily. Further injury will cause his hind legs to weaken until he can no longer walk or stand. If the cord sustains an even deeper injury, the dog will lose the ability to feel pain in his hind quarters. "Deep pain perception is one of the last spinal cord functions to go," says Dr. Berg.

If your dog suffers a ruptured disc in the mid-back region, his prognosis will depend on how severe his symptoms are and how quickly they're treated. For a dog exhibiting some degree of pain and only a small amount of wobbliness, your veterinarian may prescribe cage rest, pain medication and an anti-inflammatory or steroid medication to help reduce swelling. It's important to be strict about the dog's confinement — medications may mask his pain. If he feels no pain and returns to normal physical activities too soon, the disc could rupture further.

"When we see a dog with a ruptured disc," says Dr. Berg, "the real



If a dog's hind legs remain paralyzed after surgery for invertebral disease, a cart like this one from www.HandicappedPets.com can provide mobility.

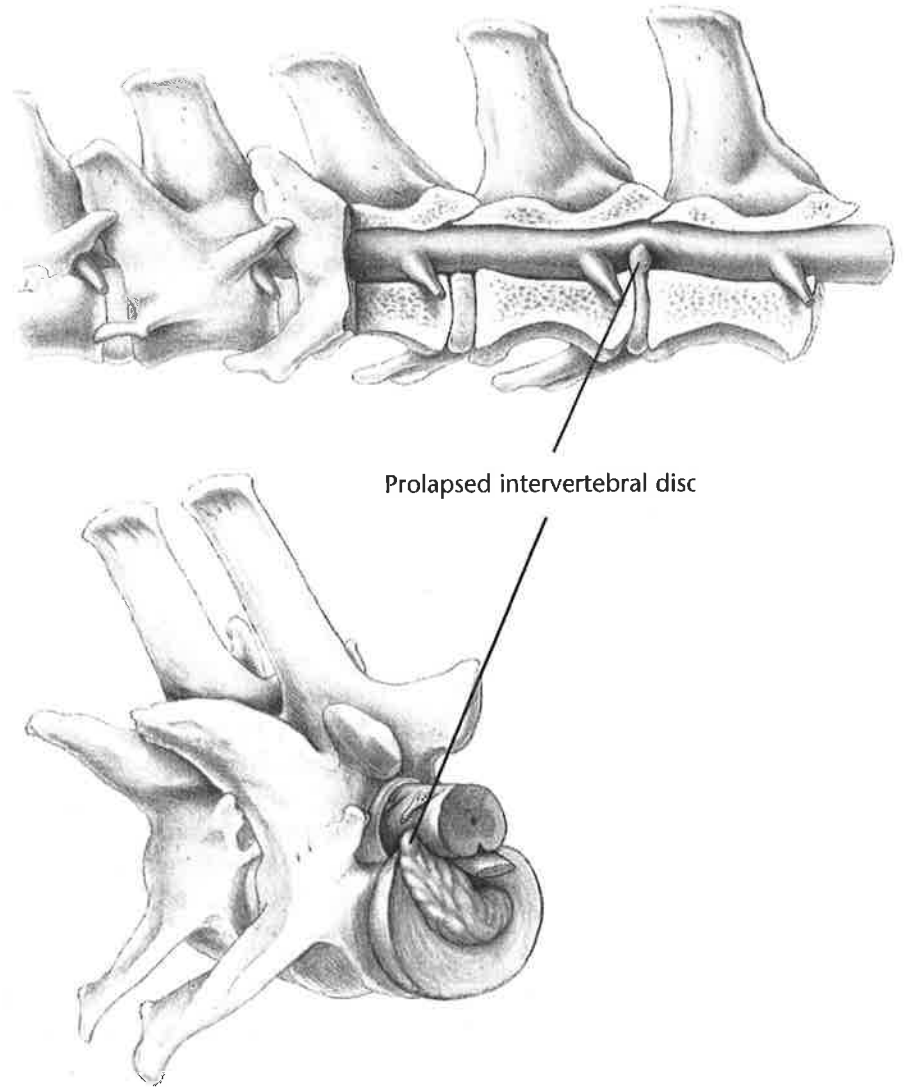
decision-making is about whether that dog needs surgery or not. Everybody draws the line a little differently, but I think most people agree that animals that are suddenly unable to walk are emergency surgery candidates. That's why we do these back surgeries in the middle of the night or on weekends or whenever we need to. It's a true surgical emergency.

"We know that, for these dogs, time is of the essence. The longer they go between the disc rupturing and having surgery, the worse the prognosis because the spinal cord has to endure a long period of time with impaired blood supply. If 36 or 48 hours have elapsed since the time of the rupture, it's more likely that the damage will be permanent."

Seeing a specialist

If your veterinarian examines your dog and decides surgery is needed, he may send you to a surgical specialist at a veterinary school or a medical referral center. Here, your dog will need to be anesthetized for a specialized X-ray — a CT, MRI or myelogram, which uses dye to outline the spinal cord. The tests identify the ruptured disc and precisely show the material's location in relation to the spinal cord. With this information, the surgeon will know how best to approach the spinal cord. The dog will then be taken directly into surgery.

The purpose of surgery is to relieve compression on the spinal cord and remove the material forced out of the disc. For neck surgery, surgeons use a surgical drill to create a slot in the bone below the spinal canal, then carefully reach around the spinal cord to pick out the disc material. In the mid-back region, where the spinal cord can't be approached from below, they remove a section of bone from the right or left side above the spinal canal. Using a collection of tiny, sharp metal instru-



Canine Intervertebral Disc Disease

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ments — tweezers, picks and probes, much like instruments used to clean teeth — and with the help of a suction, they gently tease out the flecks of disc material — each not much larger than one or two BB's — without touching or moving the spinal cord.

The surgery, for either neck or back, usually takes about one-and-a-half hours. The cost is \$3,000 to \$5,000, including imaging, hospitalization, anesthesia, surgery, medications and post-operative care.

Nursing care

When your dog returns home afterward, be prepared to take on considerable nursing care. "These dogs are typically going to be in the hospital

Quick veterinary care offers the best hope for recovery.

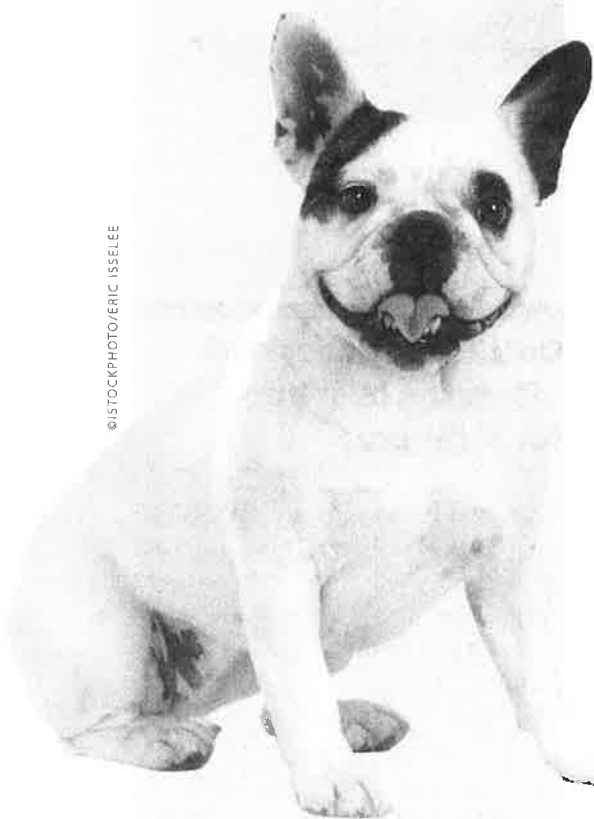
from two to six days following surgery," says Dr. Berg. "The ones that were paralyzed going into surgery very often won't be walking when they return home. There is a slow healing time for the spinal cord. Recovery time — if recovery is defined as how long it takes until the dog is walking — is anywhere from two weeks to two months. It's a bit unpredictable from dog to dog."

At home, you'll need to keep your dog on a clean, dry, well-padded sur-

Small dogs are among the most vulnerable

Breeds susceptible to intervertebral disc disease include:

- Dachshunds
- Pekingese
- Pembroke Welsh corgis
- Basset hounds
- Beagles
- French bulldogs
- Cocker spaniels
- Miniature poodles
- Lhasa apsos
- Shih tzus



©ISTOCKPHOTO/ERIC JISSELEE

French bulldogs are prone to the disease.

face and turn him every several hours to prevent bed sores. Often a dog with a damaged spinal cord is unable to urinate on his own. “You will probably need to learn to express the urine manually, which is done by pressing on the dog’s bladder through the body wall,” says Dr. Berg. “This should be done two or three times a day until your dog can urinate on his own. If his bladder is allowed to become too full, it will be prone to developing a urinary tract infection or may become so stretched that it can no longer function after the spinal cord recovers.”

Physical therapy is another important part of post-operative care. “There’s evidence that physical therapy can actually increase the rate of recovery,” says Dr. Berg. “Certainly, it helps the joints regain their normal mobility and range of motion, and it helps prevent atrophy of the muscles. It is always something we recommend.” Swimming is an ideal form of exercise. It enables the dog to use his muscles without putting weight on his limbs, and the warm water increases blood circulation. Another option, if a pool is not available, is to turn your dog gently on his back and move his limbs in a bicycling motion.

Recurrences of disc ruptures do happen, Dr. Berg says, but they’re relatively rare. A dog who’s been treated surgically is at slightly less risk of a recurrent episode than a dog whose rupture was treated only with cage rest and medication.

Certainly, the most difficult aspect of this disease is that your dog, even after surgery, may never regain feeling and function in his hind legs. The longer the time that elapses between the disc rupture and the surgery — especially when damage to the cord is severe — the slimmer the chances of your dog ever walking again. In most instances, recovery is ei-

ther all-or-nothing, Dr. Berg says.

If a dog remains permanently paralyzed after surgery, the owner may choose to put him in a cart, enabling him to pull the back part of his body around on wheels. But be careful not to put your dog into a cart until you’re certain he’s not going to recover, Dr. Berg cautions. If he has indeed been healing, the cart may slow down recovery. The other option for a paralyzed dog, of course, is euthanasia.

The possible outcomes

“This is a disease where owners need to understand going into it, what the possible outcomes are and what the implications are if the outcome is negative,” Dr. Berg says. “Either you’ve got a severely handicapped dog you’re going to have to take care of for the rest of his life, or else you have to make a difficult euthanasia decision. For dogs who go into surgery without deep pain perception, owners need to understand what it will mean if the dog doesn’t get better.

“About 95 percent of dogs that retain their deep pain perception and get to surgery within 36 hours will walk again,” Dr. Berg says, “but when they’ve lost deep pain perception, with surgery, it’s more like a 50-50 chance they’ll walk again. One of the challenges of this disease that owners need to understand is that if a dog has lost deep pain perception, there’s no promise that the dog will recover after surgery.”

Finally, it may be helpful to know that while this disease is not preventable, about half of all cases occurs in dachshunds. “Anyone contemplating getting a dog should be aware that dachshunds are very prone to this,” Dr. Berg says. “The risk of disc disease is part and parcel of having a dachshund.” ■

Tucker J. Coombe is a writer in Cincinnati, Ohio.