

The Approach to the Down Dog

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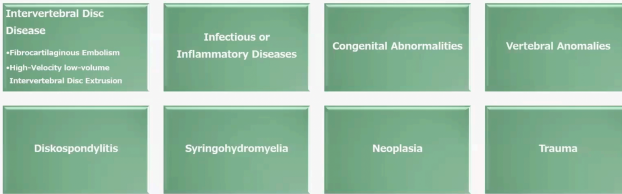
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The Straw (Thoracolumbar)



With intervertebral disc disease in the back, we also want to consider the possibility of a non-compressive disc rupture, especially if the patient is asymmetric, it is of a large breed, and the history tends to be this acute onset of non-progressive, non-painful myelopathy. A lot of the time, those patients will have non-compressive disc ruptures in the sense of an FCE, which truly is where a piece of that disc material gets injected into one of the vessels and causes a stroke to the spine.

There's still some debate as to how that actually happens, but we know that it does happen from histopathologic studies. And then here's the other term for acute non-compressive nucleus pulposus extrusion, which is the high-velocity, low-volume intervertebral disc extrusion. We also sometimes consider this a traumatic disc rupture because the damage to the spinal cord is from the trauma of the disc rupture, not from a compressive issue. However, most of the time in the back, we are dealing with a compressive disc rupture in these patients.

Still want to consider infectious inflammatory diseases, syrinxes, cysts, neoplasia is always present, and trauma. Most of the time, a trauma in the cervical spinal cord, if we're dealing with a fracture, we're dealing with something more along the lines of a luxation than we are truly a fracture, like an AA luxation.

However, in the back, we typically will see both if there's a trauma in these patients. It's rare to have one without the other. But sometimes, we do see just luxations without that fracture aspect of the vertebrae.

Congenital abnormalities and vertebral anomalies are definitely more common in the thoracolumbar spinal cord than they are anywhere else, especially in predisposed breeds, such as Pugs and French Bulldogs, and English Bulldogs. Diskospondylitis is the interesting one here because while it is technically myelopathy, it is more along the lines of being an infection of the actual intervertebral disc in the associated end plates of the given vertebrae.

Most of the time, for a patient to have a major issue from this, other than just discomfort, there has to be some degree of spinal cord involvement, such as meningitis, an empyema, or a disc rupture. And we'll touch base on that in a few slides down the road.

What A Pain In The Butt (Lumbosacral)



Intervertebral
Disc Disease

Diskospondylitis

Neoplasia

Instability and
Stenosis

Infectious or
Inflammatory
Disease

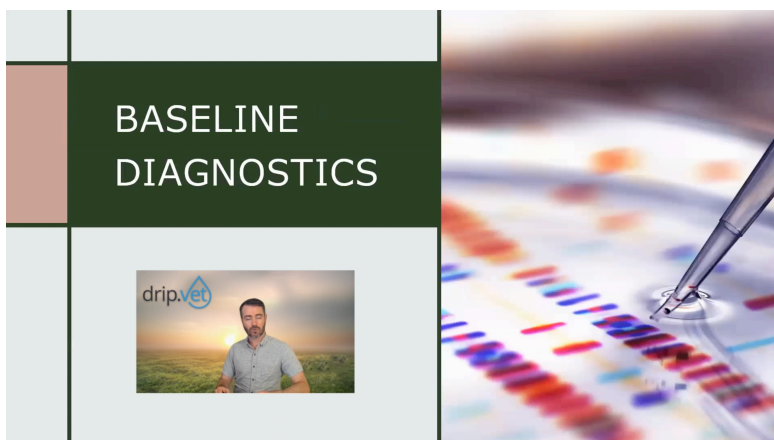
And then what we want to talk about is lumbosacral disease. This really kind of is a pain in the butt for a lot of patients, especially because we can see a number of things here that can just slowly progress over time, such as intervertebral disc disease. As we know, German shepherds are pretty predisposed to having all those lumbosacral diseases. It's a very common area for seeing diskospondylitis. I rarely see neoplasia in this area, but if I do, it tends to be more in those nerve roots or from a peripheral nerve sheath tumor.

In cats, I have found lymphoma in the spinal nerves, in the lumbosacral area a couple of times. And with lymphoma or lymphoma sarcoma being the number-one spinal cord disease in cats, if we see a cat with almost lumbosacral signs, especially if they're of advanced age, I'd be really worried about lymphoma or lymphoma sarcoma in these patients, even if they are FeLV negative. If they're positive, that gives a little bit more of an indication that that could be there. But it is something that we want to try to always make sure we have in the back of our minds, especially in some of our feline patients.

Infectious and inflammatory diseases are still there. And one of the interesting ones here is instability and stenosis. Most of the time, we don't see fractures or luxations of this area without other underlying pathology. But some patients like German shepherds can have an inherent instability or stenosis in these areas.

And the non-ambulatory status in these patients can either come from an acute decompensation or from the standpoint of stenosis. Sometimes what we see is it's actually stenosis from a lateralized disc rupture or from the body lying down more scar tissue in this area, which pinches off those nerves and causes a neuropathy. And so some of these patients don't want to get up or stand mainly because they almost have this pins-and-needles, sciatica-type feeling, this nerve-root-signature-type feeling in the area. And especially if they're a larger-breed dog, it can be tough to acutely transition to using three legs in some of these patients.

We've developed a little bit of our differential diagnostic list, what are the next steps?



Well, as always, we want to run some baseline diagnostics.

Hold The (Base)line Diagnostics



COMPLETE BLOOD
COUNT



CHEMISTRY PROFILE



BLOOD PRESSURE



RADIOGRAPHIC
STUDIES



These are the ones that I tend to do in my clinic whenever I'm presented with an acutely down dog that I can't find another reason for outside of a neurologic standpoint or-- let's just call what it is a three-year-old dachshund that jumped off the couch and went down and yelped. That's probably a disc rupture. Let's just be honest.

In these patients, I'm typically running a CBC and chemistry. I'm usually doing a blood pressure. And I'm commonly doing radiographic studies. I'm not always doing radiographic studies of the vertebrae themselves to look for pathology unless I have an indication that there could be pathology, such as advanced age, a patient had a traumatic event, got run over by another animal, or there are other underlying diseases that we need to check for.

I'm doing these radiographic studies more from two standpoints. One, is to make sure that there's nothing that would complicate anesthesia for these patients, which is another reason why we do the CBC and the chemistry profile. But let's also make sure that we're not missing underlying diseases like pulmonary pathology that may be an indicator of underlying neoplasia or infection that can either help guide our diagnostic profile or inhibit us from moving forward from either a quality-of-life standpoint or from a prognosis standpoint.

UH OH,
SOMETHING
LOOKS WEIRD



Say we run these tests. Uh-oh, something looks a little bit weird. What do we need to do from this standpoint?

Further Diagnostics



URINALYSIS



ECG



ABDOMINAL
ULTRASOUND



ENDOCRINE TESTING

Well, this is normally where I'll tap in some of the other specialists or I will look at doing some of these other tests, such as endocrine testing if I'm worried about the patient being Addisonian if it's a poodle. I might do an ECG if the patient is a Doberman or if I'm not feeling great femoral pulses or peripheral pulses, to make sure I'm not dealing with a patient that has pericardial effusion that is mimicking an acutely down dog.

We may consider abdominal ultrasound or, in some cases, try to find a clot in one of these vessels if we can. I have been able to find an aortic embolism on ultrasound before well, an internist did. They helped me out with it. And so that could be helpful there too. We do want to potentially consider your analysis for things like diabetic ketoacidosis. Or, now that we know that encephalopathy signs can present from untreated UTIs, I think there's some more information and some investigation there we need to undertake in order to figure out, can they cause other signs as well, such as myelopathies?

This is kind of the process I'll go through if I don't think it's marrow at this point or I haven't found any I found something pretty dramatic that might either change our prognosis or our anesthetic safety. Usually, at this point in time, I'm bringing in another specialist who's a lot smarter than me and saying, hey, where do we go? What are the next steps? What would you do if this was your patient?

		
	WHICH DIRECTION DO WE GO??	
	Medical Management	
	Surgical Intervention	

Let's assume everything was pretty normal. Which direction do we want to go? What are we talking about medical management-wise? What are we talking about surgically? These definitely have different prognoses. There are different costs associated with them, and those costs are pretty dramatic in terms of their difference.

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We want to consider the possibility that perhaps the patient just isn't a good surgical or anesthetic candidate, or the family has decided that they're not interested in surgery for whatever reason. And so it's important to not only know what the prognosis is but know, how do we get that best prognosis as well?