Traumatic disc extrusion
Traumatic disc extrusion (traumatic ‘slipped disc’)  

**What is a traumatic disc extrusion and what causes it?**

A traumatic disc extrusion (‘slipped disc’) occurs when a small fragment of material from the centre of a disc (the cushion between the bones of the spine) suddenly breaks free and travels at speed through the outer ring of the disc and collides with the delicate spinal cord (the bundle of nerves in the spine). This type of ‘slipped disc’ is also referred to as an ‘explosive disc extrusion’, in view of the speed at which the previously healthy disc ruptures. The most common causes of this type of injury are road traffic accidents and trauma sustained when dogs run into objects such as trees or patio doors. However, rupture of the discs in the spine can also occur when dogs are exercising vigorously.
What are the common signs of traumatic disc extrusion?

The clinical signs depend upon the area of the spinal cord that is damaged and the extent of the injury. Patients may appear to be wobbly on their legs (limbs), lose the ability to move one or more limbs or may not be able to stand at all. Neck injuries result in all four limbs being affected, in contrast to back injuries where only the back (hind) limbs are affected. One side of the body is often more affected than the other. Severely affected dogs may be paralysed, incontinent or lose the ability to feel pain in their limbs and tail. In general, traumatic disc extrusions are not painful, although when the disc suddenly ruptures some patients may yelp or cry out. After the initial onset, the neurological (nerve related) signs do not tend to get any worse.

How is a traumatic disc extrusion diagnosed?

Investigations are generally required in order to diagnose traumatic disc extrusions and rule out other causes of sudden spinal injury, such as a stroke (referred to as an ischaemic myelopathy), spinal fracture or degenerative slipped disc (see our information sheets on cervical disc disease and thoracolumbar disc disease).

Normal X-rays (radiographs) of the spine may show that the space where an affected disc lies looks narrower than normal, suggesting that some of the disc material has moved out of position, but more advanced investigations are necessary to see if a disc has actually ruptured and to assess whether or not it is pressing on the spinal cord. Of these advanced imaging techniques, an MRI scan provides the best method of investigating this condition. Instead of X-rays, MRI uses high powered magnets and a computer to generate images of the spine (this is the same technique and the same equipment which is used for body scanning in human patients). MRI provides information not only on the health and position of the discs in the spine but also on the nature of any injury to the spinal cord. This makes diagnosis more accurate and assists greatly in deciding the best course of treatment for the individual patient. Myelography is an alternative imaging technique which can be used for investigating spinal injuries. This involves injecting a dye (contrast agent) around the spinal cord and obtaining multiple X-rays to assess the flow of the dye, to see if it is interrupted at the site of the slipped disc. Injecting around the spinal cord is not without risk of causing further damage to already compromised nerve tissue, however. MRI is less invasive than myelography with less risk of side-effects, and for most patients MRI provides the best option for investigation. Both MRI and myelography require the dog to have a general anaesthetic.

How can a traumatic disc extrusion be treated?

Traumatic disc extrusions generally cause spinal cord concussion or bruising rather than resulting in ongoing pressure on the spinal cord (spinal cord compression). The damage done by concussion or bruising cannot be treated surgically, and as a result surgery is not usually of any value in treating cases of traumatic disc extrusion. Instead, the patient needs to be given time to allow the damaged nerve tissue to recover.

Supportive care and nursing after a traumatic disc extrusion are essential in order to aid recovery. Bedding needs to be well padded in order to prevent bed sores. Regular physiotherapy and, in some cases, swimming at a hydrotherapy unit can help function to be regained and assist in building strength. Some patients may require a catheter to be placed in the bladder temporarily to aid urination.

Occasionally, traumatic disc extrusions cause ongoing spinal cord compression in addition to concussion or bruising, and in these cases surgery may be of value in order to remove the pressure from the spinal cord. The decision regarding the potential value of surgery in any particular case is based on the findings at the time of investigation.
What is the outcome for patients with a traumatic disc extrusion?

The outcome in dogs with traumatic disc extrusions depends on many factors including the severity, nature and location of the spinal cord injury. The findings on the neurological examination and MRI scanning can help to predict the chances of recovery.

Dogs that are paralysed and also cannot feel pain in their limbs are, sadly, unlikely to recover. However, the majority of less severely affected dogs will gradually improve over a period of weeks to months, to a point where they can freely exercise and have a good quality of life. A degree of weakness in one or more limbs and, occasionally, incontinence may persist in some dogs. Recurrence of this type of disc extrusion is very uncommon.

Why should I bring my dog with suspected traumatic disc extrusion to Willows?

Our neurology/spinal surgery service is led by a team of recognised, accredited Specialists and we aim to provide the best possible care and treatment for your pet in our state-of-the-art hospital. Our neurology and spinal surgery teams work closely with the imaging Specialists who run Willows sophisticated imaging facilities, as well as with expert anaesthesia Specialists and 24-hour veterinary and nursing staff, all of whom help to optimise the potential for our patients to make a full and uneventful recovery.

If you have any queries or concerns, please do not hesitate to contact us.