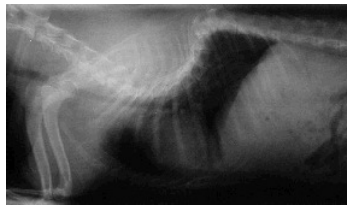


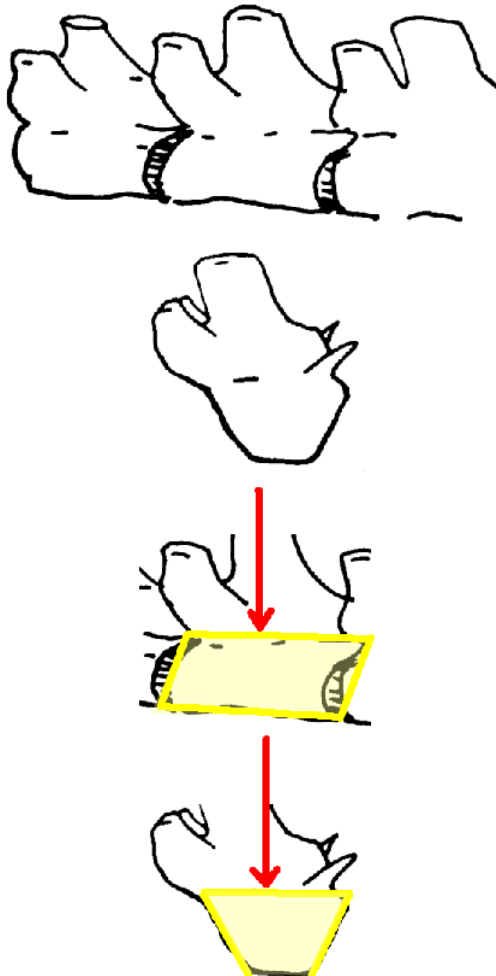
Hemivertebrae

The Pet Health Care Library

(Also called Butterfly Vertebrae)



Most of us know that our vertebrae are our backbones: the small block-like bones, joined by spongy discs, supporting our skeletons and protecting our spinal cords. A hemivertebra is a congenitally deformed vertebra. It occurs when two or more vertebral bodies (the block-like portion of the vertebrae) fuse or develop asymmetrically; creating a wedging effect in what should be a fairly rectangular block.



The normal vertebrae have cylindrical vertebral bodies that connect like beads on a necklace. The vertebral body of the hemivertebra has not developed symmetrically leading to a wedge shape. Fitting the hemivertebrae into the spine causes the spine to bend or twist.

Hemivertebrae of the tail are not a problem as there is no spinal cord tissue that far down and the result is an interesting-looking tail with a possible risk of a skin fold infection. Mostly it is of cosmetic interest. By selecting for hemivertebrae in the tail, we may also be selecting for hemivertebrae in more important areas of the spine. When the hemivertebrae occur higher up in the middle of the back, problems occur with the spinal cord. The wedging effect of the hemivertebrae's body does not connect normally to the adjacent vertebral bodies and the spine becomes twisted. The spinal cord can actually become compressed.

The most common area for problematic hemivertebrae is around the 8th (out of 13) thoracic vertebrae (the upper back). Most of the time hemivertebrae are incidental findings on a radiograph and are not associated with clinical signs, but should there be abnormal pressure on the spinal cord the following signs can be seen:

- Weakness of the rear limbs
- Fecal incontinence
- Urinary incontinence

In most cases, signs plateau at age 9 months when the vertebrae stop growing. It is important to understand that usually hemivertebrae are of no significance and are just an interesting finding on a radiograph. If they are in a dog with neurologic deficits, they are still likely to be incidental findings only and further testing is likely to be needed before assuming the hemivertebra is the cause. This kind of testing commonly involves special imaging (myelography, MRI, or CT imaging) to see if the spinal cord is actually compressed by the hemivertebrae.

Rest and possibly corticosteroid injections during flare-ups may be adequate to treat a mild case; more severe cases require surgery. Each case is individual and an experienced spinal surgeon is needed to perform stabilization.

The English Bulldog, French Bulldog, Pug and Boston Terriers are famous for having what is called a "screw tail." The screw tail results from hemivertebrae in the vertebrae of the tail and is characteristic, even desirable, in these breeds.

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