

Osteoarthritis of the thoracolumbar synovial intervertebral articulations: Clinical and radiographic features in 77 horses with poor performance and back pain

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Fig o1: Lateral radiographic view of the caudal thoracic facet joints (T14–18) of an 8-year-old Thoroughbred National Hunt gelding. Cranial is to the left. There is proximal extension of the facet joints between T16–T17 along the dorsal spinous processes (arrows).



Fig o3: Lateral radiographic view of the thoracolumbar facet joints (T17–L2) of a 10-year-old Hunter gelding. Cranial is to the left. There is proximal extension of the facet joints between T18–L1 along the dorsal spinous processes (black arrow). There is also a radiolucent area in the subcortical bone (white arrow).

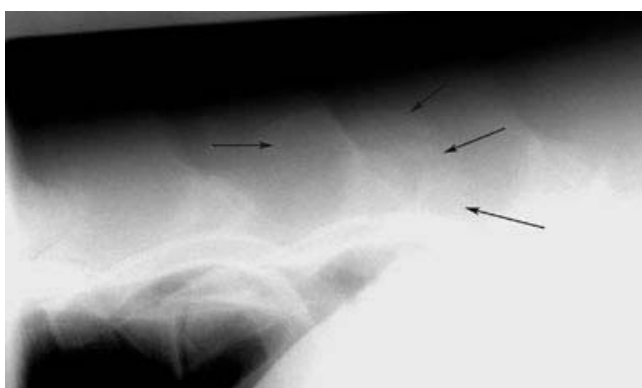


Fig o2: Lateral radiographic view of the thoracolumbar facet joints (T17–L3) of a 3-year-old Thoroughbred flat racing colt. Cranial is to the left. There is extensive periarticular new bone around the synovial intervertebral articulations between T18 and L1 (arrows).

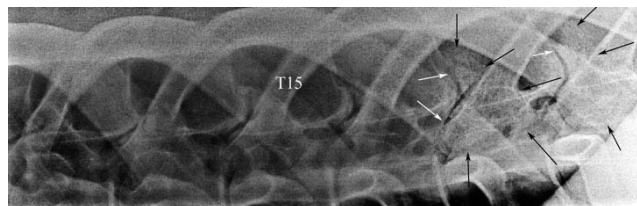


Fig o4: Horizontal 20° ventral oblique view of the right caudal thoracic facet joints (T12–T18) of a 13-year-old Irish Sport Horse general purpose gelding. Cranial is to the left. There is substantial periarticular new bone around the synovial intervertebral articulations between T15 and T16, and between T16 and T17 (black arrows), associated with dorsal and ventral narrowing of the joint spaces (white arrows).

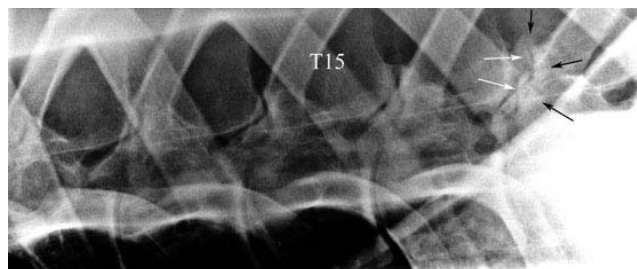


Fig o5: Horizontal 20° ventral oblique view of the left caudal thoracic facet joints (T13–T17) of an 8-year-old Irish Sport Horse general purpose mare. Cranial is to the left. There is mild periarticular new bone around the synovial intervertebral articulation between T16 and T17 (black arrows). The joint space width is irregular (white arrows).

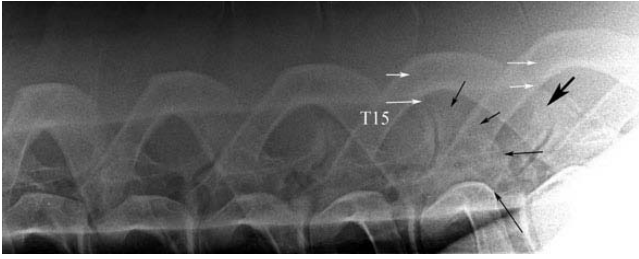


Fig o6: Horizontal 20° ventral oblique view of the left caudal thoracic facet joints (T12–T17) of a 16-year-old Welsh cross dressage gelding. Cranial is to the left. There is proximal extension of the facet joints between T15 and T16, and between T16 and T17 (white arrows). There is substantial periarticular new bone around the synovial intervertebral articulation between T15 and 16, especially caudo-ventrally (thin black arrows). The joint space between the caudal articular process of T16 and the cranial articular process of T17 is closed dorsally (thick black arrow).

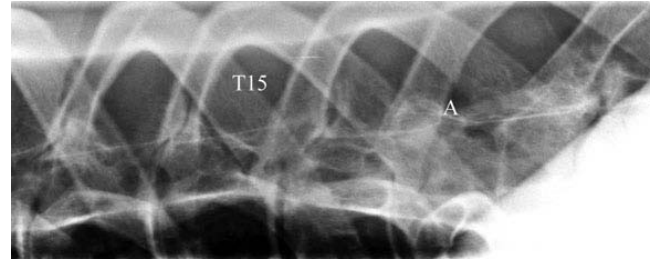


Fig o7: Horizontal 20° ventral oblique view of the left caudal thoracic facet joints (T13–T18) of an 8-year-old cross showjumping mare. Cranial is to the left. There is complete fusion of the facet joints (A), dorsal spinous processes and vertebral bodies between T16 and T17. The same pattern was observed on the right oblique view. The facet joints between T15 and 16 and T 17 and 18 are also abnormal. This may be the long-term result of a congenital abnormality of the spine.

TABLE 1: Categorisation of clinical features in 77 horses with poor performance, back pain and radiological evidence of osteoarthritis of thoracolumbar synovial intervertebral articulations

A: STATIC EXAMINATION

Back inspection/palpation/mobilisation

- 1 Poor conformation of the back
Lordosis, kyphosis, scoliosis, long or short back.
- 2 Atrophy of thoracolumbar muscles
Atrophy of *longissimus dorsi* muscles, prominence of lumbar dorsal spinous processes and/or tubera sacrale.
- 3 Abnormal thoracolumbar muscle function
Tension, swelling, pain and/or spasms of *longissimus dorsi* muscles; exaggerated contractions when the horse is moving.
- 4 Cold back
Sensitivity of the horse when groomed, tacked up, or mounted.
- 5 Abnormal thoracolumbar mobilisation
Poor thoracolumbar mobility, in sagittal and/or frontal plans; abnormal reaction of the horse when stimulated to mobilise the spine.

Hindlimbs inspection/palpation/mobilisation

- 6 Atrophy of the hindquarters muscles
Hindquarters muscle atrophy and/or asymmetry of *tubera sacrale*.
- 7 Abnormal mobilisation of the hindlimbs
Difficulties in picking-up hindlimbs, exaggerated lifting of the hindlimbs, reluctance to stand on one hindlimb, abnormal hindlimb posture.

B: DYNAMIC EXAMINATION

- 8 Poor quality movement of the hindlimbs
Stiff hindlimbs, poor impulsion or engagement of the hindlimbs.
- 9 Hindlimb lameness
Hindlimb lameness, positive hindlimb flexion test.
- 10 Short striding overall, not going forwards enough
- 11 Stiff back
- 12 Failure to work on the bit
Horse working above the bit, unsteady head carriage, not working in a round outline, tense/resistant, bracing its back.
- 13 On the forehand
Low head and neck carriage, on the forehand, unbalanced, difficulties in collecting, difficult downwards transitions.
- 14 Running, bolting
- 15 Incorrect bend
Horse bent to the outside on circles, crooked, or holding the tail to one side.
- 16 Difficulties in lateral work
Loss of rhythm, or irregular steps, or change in attitude or willingness in lateral work.
- 17 Abnormalities of the limb flight
Walking widely or closely behind, forging, plaiting, stumbling, toe-drag.
- 18 Neurological signs
Circumduction of the hindlimbs when turning, loss of coordination, ataxia, weakness when swayed by pulling the tail.
- 19 Poor quality canter
Poor canter, 4 time canter, bunny hopping, disunited canter, difficulties in maintaining canter, difficulties in flying changes.
- 20 Temperament change
- 21 Reluctance to work
Reluctance to be ridden, to go forwards, to work, to go backwards, to turn, to go downhill; stopping when jumping.
- 22 Bucking
Bucking or kicking out when ridden, or when tacked-up.
- 23 Rearing