

Magnetic Resonance Imaging, Computed Tomographic and Radiographic Findings in the Metacarpophalangeal Joints of 31 Warmblood Showjumpers in Full Work and Competing Regularly

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Products

Computed Tomography (CT), Magnetic Resonance Imaging (MRI), and Radiography for fetlock diagnostics.

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Clinical Background

Fetlock pain and abnormalities are common in showjumpers, often requiring precise imaging. CT and MRI enhance the understanding of adaptive and pathological changes in equine athletes, enabling targeted management.

Aim of Study

To document comparative CT, MRI, and radiographic findings in non-lame showjumpers, identifying exercise-related adaptations and subclinical abnormalities.

Cohort Study

31 Warmblood showjumpers in full training and competition were examined. Clinical assessments and imaging of 62 fetlocks were conducted using low-field MRI, fan-beam CT, and radiography.

Results

- Densification in the sagittal ridge and metacarpal condyles was observed in 85.5% of limbs, reflecting adaptive remodeling from exercise.
- **Subchondral bone resorption** was identified via CT in the metacarpal condyle, sagittal groove, and proximal phalanx, indicating potential early disease stages.
- CT detected resorptive lesions not visible on radiographs, highlighting superior sensitivity for cortical and subchondral changes.
- MRI findings correlated with CT but missed certain proximal phalanx lesions, showcasing CT's broader diagnostic reach.

Summary

- CT offers unmatched precision for identifying subchondral changes and tracking **exercise-driven adaptations** in fetlocks.
- Adaptive densification and subtle lesions, previously associated with lameness, can exist in non-lame showjumpers, aiding in nuanced diagnostics.
- MRI and CT together provide comprehensive insights into fetlock pathology, supporting early intervention and management strategies.
- The study underscores CT's role in advancing equine sports medicine by enabling detailed assessments of subclinical abnormalities.