Which is the best imaging modality to diagnose a manica flexoria tear?

Bacon et al. (2024), in *Equine Veterinary Education*

Products
Diagnostic imaging modalities for manica flexoria (MF) tears.

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Clinical Background
Tears of the manica flexoria (MF) are associated with nonseptic tenosynovitis and lameness in horses, particularly in ponies and cobs. Various imaging modalities, including ultrasonography, contrast tenography, computed tomographic (CT) tenography, and magnetic resonance imaging (MRI), have been used for diagnosis, with tenoscopy serving as the gold standard.

Aim of Study
To determine the best noninvasive imaging modality for diagnosing MF tears with high sensitivity and specificity, aiding in accurate diagnosis and surgical planning

Cohort Study
A systematic review of 18 studies comparing imaging techniques for detecting MF pathology, focusing on sensitivity, specificity, and pre-surgical prediction rates. Data were sourced from PubMed, SCOPUS, and RCVS Knowledge Hub.

Results

- **Ultrasonography** has low sensitivity (68%) but high specificity (92%). Novel techniques improve sensitivity (92%) and specificity (94%).
- **Radiographic Contrast Tenography** is fast, with sensitivity up to 96% and specificity up to 80%. Useful for thick-skinned horses.
- **CT Tenography** has **exceptional accuracy (85%–100% sensitivity, 96% specificity)**, providing **superior diagnostic detail** and surpassing tenoscopy in severe cases.
- **MRI** High-field (3T) MRI has **85% sensitivity, 95% specificity**, but limited use. Low-field MRI (0.27T) has **lower sensitivity (61%) but high specificity (100%)**.
- **Tenoscopy** remains the **gold standard**, offering direct visualization and treatment.

Summary

- **CT contrast tenography surpasses tenoscopy in severe cases**, offering **detailed surgical planning** with **high sensitivity and specificity**.
- **Ultrasonography is the most practical tool**, with novel techniques improving detection accuracy.
- **MRI provides high-resolution imaging**, but **low sensitivity and high cost limit use**.
- **Tenoscopy remains essential**, though **CT tenography is a valuable adjunct** in complex cases.

Link to paper

Source: Bacon, R.L., & Jones, R. (2024). DOI: 10.1111/eve.14049, in *Equine Veterinary Education*.