CT measures of osseous cervicothoracic intervertebral foramina are repeatable and associated with CT measures of adjacent articular processes in horses

Rovel et al. (2023), in *Veterinary Radiology & Ultrasound*

Products
Computed Tomography (CT) for assessing cervicothoracic intervertebral foramina (IF) in horses.

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Clinical Background
Narrowing of cervicothoracic intervertebral foramina (IF) may contribute to forelimb lameness and neck pain in horses. CT imaging provides a precise, repeatable method for assessing IF size and its relationship with adjacent structures.

Aim of Study
To develop a CT-based protocol for measuring IF size, assess its repeatability, examine associations with articular processes (AP), and evaluate the prevalence of IF narrowing in affected horses.

Cohort Study
CT scans of 20 Warmblood horses (C5–T2) with forelimb lameness and/or neck pain were analyzed. 160 intervertebral foramina were assessed for size, narrowing, and associations with AP size and ventral extent.

Results

- **IF size was highly repeatable** across measurements.
- **Larger AP size correlated with smaller IF size**, particularly between **C7–T2**.
- **AP ventral extent had a minor impact on IF size**.
- **38.1% of IF showed narrowing**, mostly in the **cranial (26.3%) and middle (68.8%) thirds**.
- **T1-T2 foramina remained unaffected**, possibly due to anatomical differences.

Summary

- **CT provides a repeatable method** for measuring **cervicothoracic IF size** in horses.
- **Larger APs are linked to reduced IF size**, potentially influencing **nerve compression and clinical signs**.
- **A high prevalence of IF narrowing** suggests it may contribute to **forelimb lameness and neck pain**.
- Findings highlight the **importance of CT in diagnosing and managing cervical spine conditions** in equine patients.

Link to paper

Source: Rovel, T., Duchateau, L., Saunders, J., et al. (2023). DOI: 10.1111/vru.13158, in *Veterinary Radiology & Ultrasound*.