

Veterinary Shoulder MRI Guide

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Suggested Protocol courtesy of Dr. Layla Shaikh:

- Sagittal PD FatSat
- Dorsal T1
- Dorsal T2
- Axial PD
- Axial T2
- Optional Contrast
- Axial T1
- Sagittal T1
- Dorsal T1

Tips, Tricks, and Notes

Use of Gadolinium

If there is a suspicion for neoplastic or infection processes, it may be helpful to include post contrast imaging

Magic Angle Artifact

In tissues with linearly oriented fibers, it is possible that they may sit obliquely in the bore of the scanner in relation to the main magnetic field. Near a certain 'magical' angle of about 54 degrees, tissue T2 time may be prolonged, and appear artefactually bright on PD weighted sequences. To ensure any hyperintensity is real, include at least one T2 weighted imaged with a long TE of 90-100. The artifact is not dependent on imaging plane, but rather the position of the patient in the bore, so choose a plane for the T2 that best visualizes the anatomy of interest.

Imaging Parameters

Due to small anatomy, it is important to maintain high resolution and high fidelity imaging. Where possible, minimize the number of sequences, and maximize the quality of each sequence.

- .5mmx.5mm in plane resolution; keep the matrix square!
- Use thin slices of 2 or 3mm
- Short ETL (7 for PD, 16 for T2)
- Use a higher bandwidth; shorter echo spacing will maintain good edge details
- Add NEX/Averages as needed to regain SNR; it's OK if the sequence is 7 minutes long; quality over quantity.

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