



Guidelines for MR Imaging of Sports Injuries

European Society of Skeletal Radiology
Sports Sub-committee

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Contributors

- Ara Kassarian, Spain
- Lars Benjamin Fritz, Germany
- P. Diana Afonso, Portugal
- Andrea Alcalá-Galiano, Spain
- María José Ereño, Spain
- Andrew Grainger, UK
- Eva Llopis, Spain
- Eugene McNally, UK
- Claudia Schüller-Weidekamm, Austria
- Reto Sutter, Switzerland

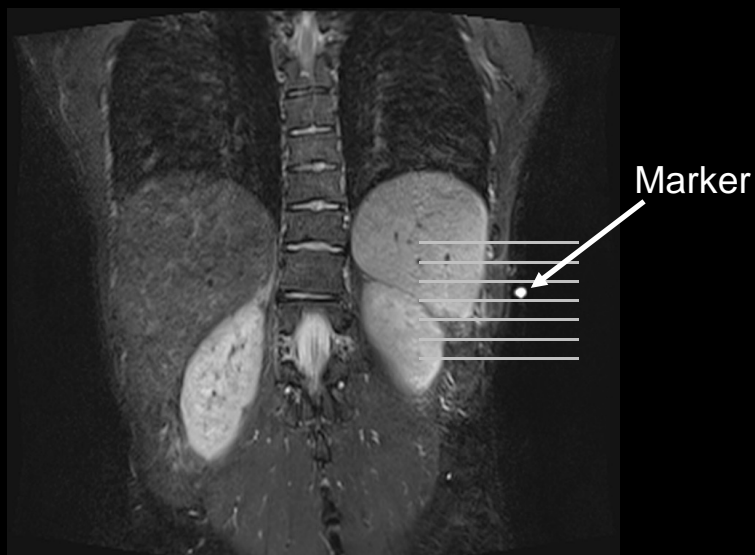
Abbreviations and clarifications



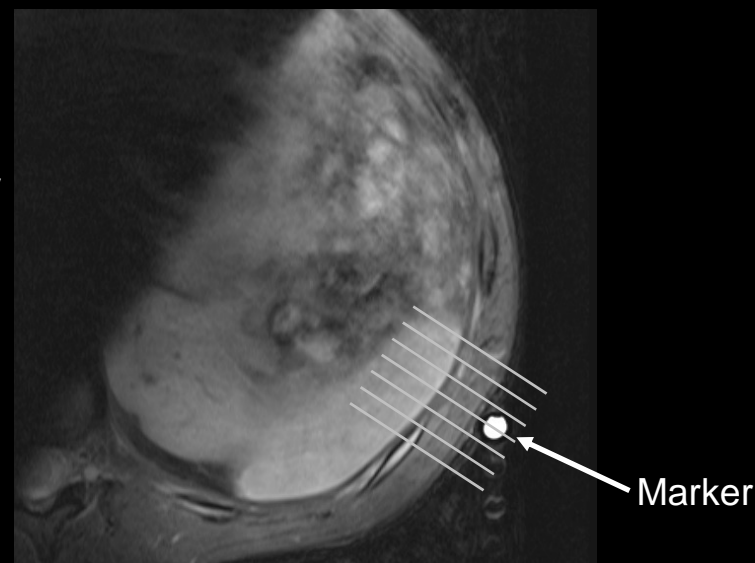
- Ax = axial
- Cor = coronal
- Sag = sagittal
- FOV = field of view
- PD = proton density
- TE = time to echo in milliseconds
- FS = fat suppressed
- Int = intermediate
- Int FS: this is a fat suppressed sequence with a long TR and a TE between that of a traditional PD (e.g. TE= 10-20) and a traditional T2 (e.g. TE=80-100). The advantage of this sequence is that the TE is short enough to maintain sufficient signal for visualisation of the anatomy (like a PD) yet long enough to be more fluid sensitive (like a T2)
- For STIR sequence, TI (inversion time) should be 140-150 at 1.5T

Side strain

- Patient positioned to target site of symptoms (mark site with capsule)
- Turn patient onto symptomatic side, change phase/frequency encoding and/or use movement suppressing sequences to reduce movement
- Start with large FOV STIR coronals abdomen - include volume from lumbar sacral junction to marker (allows ribs to be counted)
- Or small FOV axial initially, then obliques cover marker & any pathology



Coronal STIR - axial positioning



Axial T2 FS - oblique positioning



Side strain

	FOV	Slice (max)	TE	Matrix (min)
Large FOV STIR Abdomen	35-40 cm	4.5 mm	scanner dependent	256x256
Axial T1	30, ASAP	4.5 mm	Min	256x256
Axial T2 FS	30, ASAP	4.5 mm	Min	256x256
T1 - 90° to any pathology seen	30, ASAP	4.5 mm	Min	256x256
T2 FS - 90° to any pathology seen	30, ASAP	4.5 mm	Min	256x256

ASAP = *as small as possible*

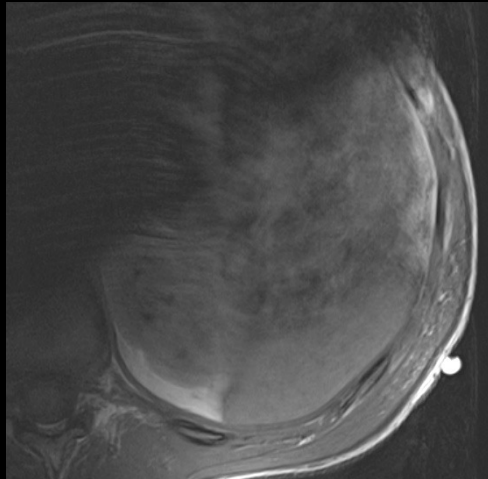
Side strain



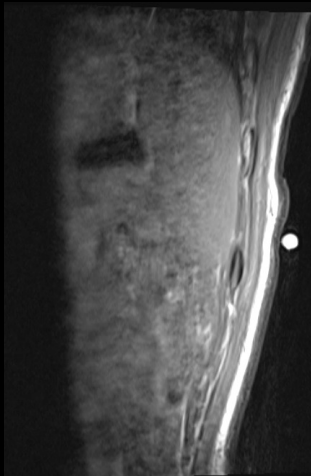
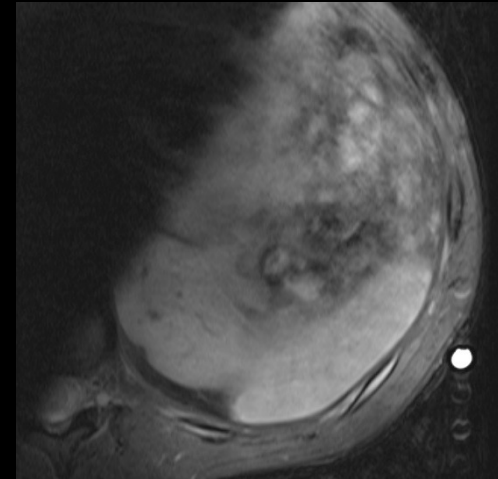
Coronal STIR



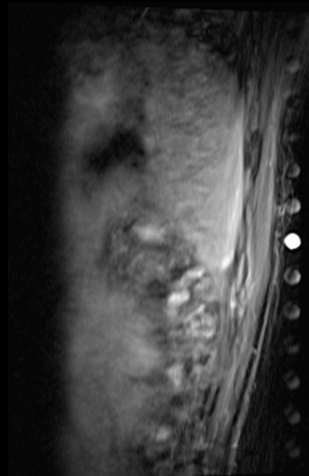
Axial T1



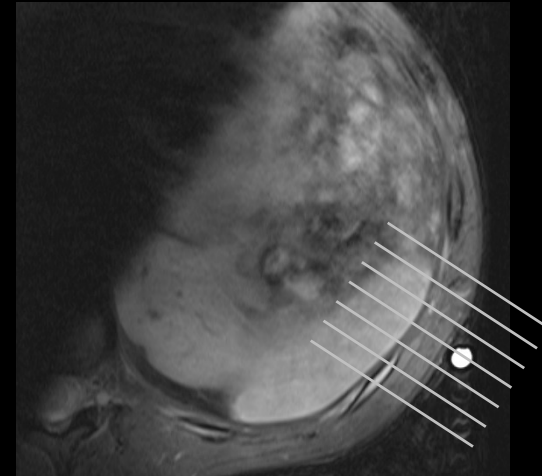
Axial T2 FS



Cor Obl T1



Cor Obl T2 FS



Axial T2 FS with plane of Cor Obl