Guidelines for MR Imaging of Sports Injuries

European Society of Skeletal Radiology
Sports Sub-committee

2016

Contributors

- Ara Kassarjian, 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

Standard Hip

- Patient is placed with the hips with 15⁰ internal rotation, tape toes to maintain position

- Standard hip MRI should start with a coronal large FOV 30-40cm of the pelvis from the sacroiliac joints to the pubic symphysis (see routing pelvis protocol)

- This is be followed with lower FOV 18-20cm of the symptomatic hip

- Coronal plane: anterior to posterior acetabular columns

- Axial plane: anterior inferior iliac spine through lesser trochanter

- Sagittal plane: medial acetabular wall through greater trochanter

- Axial oblique plane, parallel to the femoral neck, superior acetabular rim to inferior acetabular rim
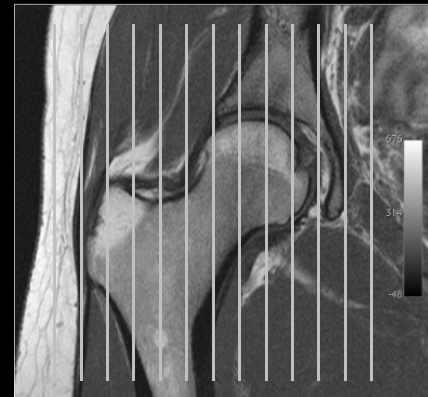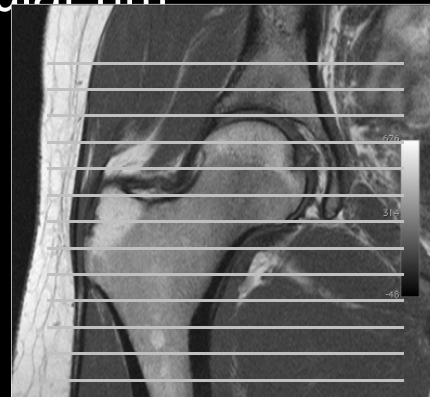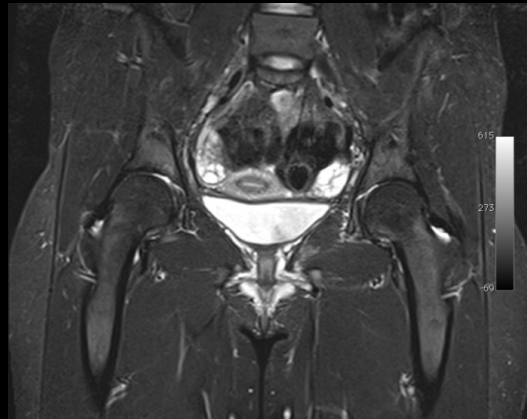
Standard Hip

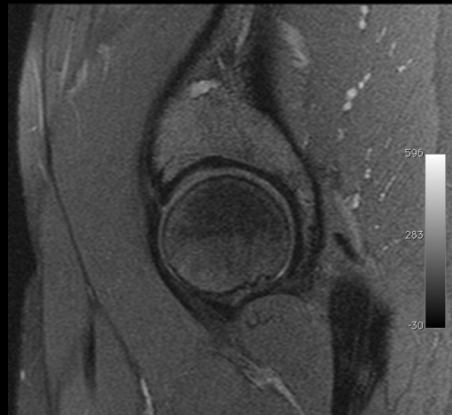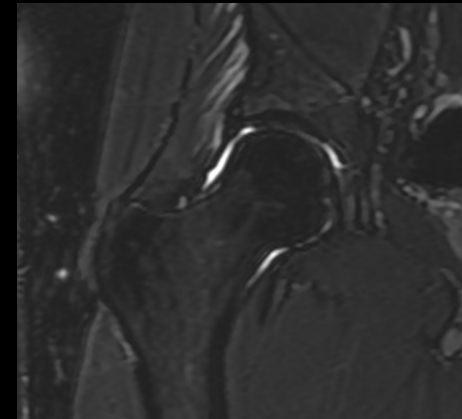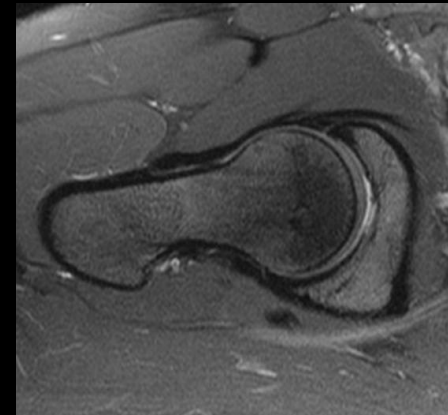|	FOV (max)	Slice (max)	TE	Matrix (min)
entire pelvis Cor STIR	38-40 cm	6 mm	40-60	256x256
Cor T1	16 cm	3.5 mm	Min	256x256
Cor Int/T2 FS	16 cm	3.5 mm	40-100	256x256
Sag Int FS	16 cm	3.5 mm	40-60	256x256
Oblique Ax Int FS	16 cm	3.5 mm	40-60	256x256

Standard Hip

Coronal STIR

Cor T1

Cor Int/T2 FS

Sag Int FS

Ax Obl Int FS