

Hip

MRI Protocols of the ESSR Arthritis Subcommittee



Recommendations of the ESSR Arthritis Subcommittee for the Use of Magnetic Resonance Imaging in Musculoskeletal Rheumatic Diseases. Semin Musculoskelet Radiol 2015;19:396–411

Acronyms

Ax= axial

CE= contrast enhanced

Cor= coronal

FOV= field of view

FS= fat suppressed

PD= proton density

Sag= sagittal

STIR= short tau inversion recovery

TE= echo time (ms)

TIRM= turbo inversion recovery magnitude

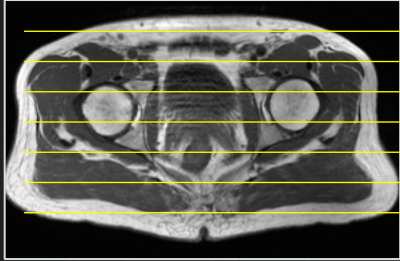
TR= repetition time (ms)

MRI scan

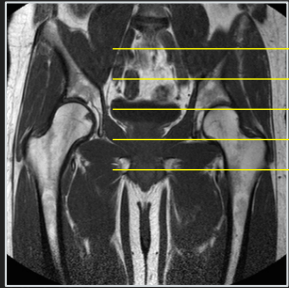
- Patient in supine position with the feet first
- Hips in 15° internal rotation
- Coils: large flexible
- Immobilisation: Tape toes to maintain position



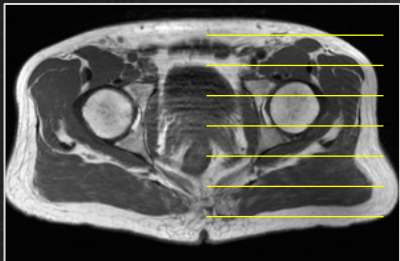
Localizer



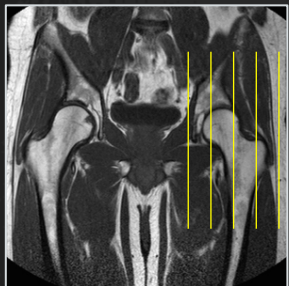
Pelvis coronal plane: large FOV (i.e., 30-40 cm) from the sacroiliac joints to the pubic symphysis



Hip axial plane: anterior iliac spine through lesser trochanter

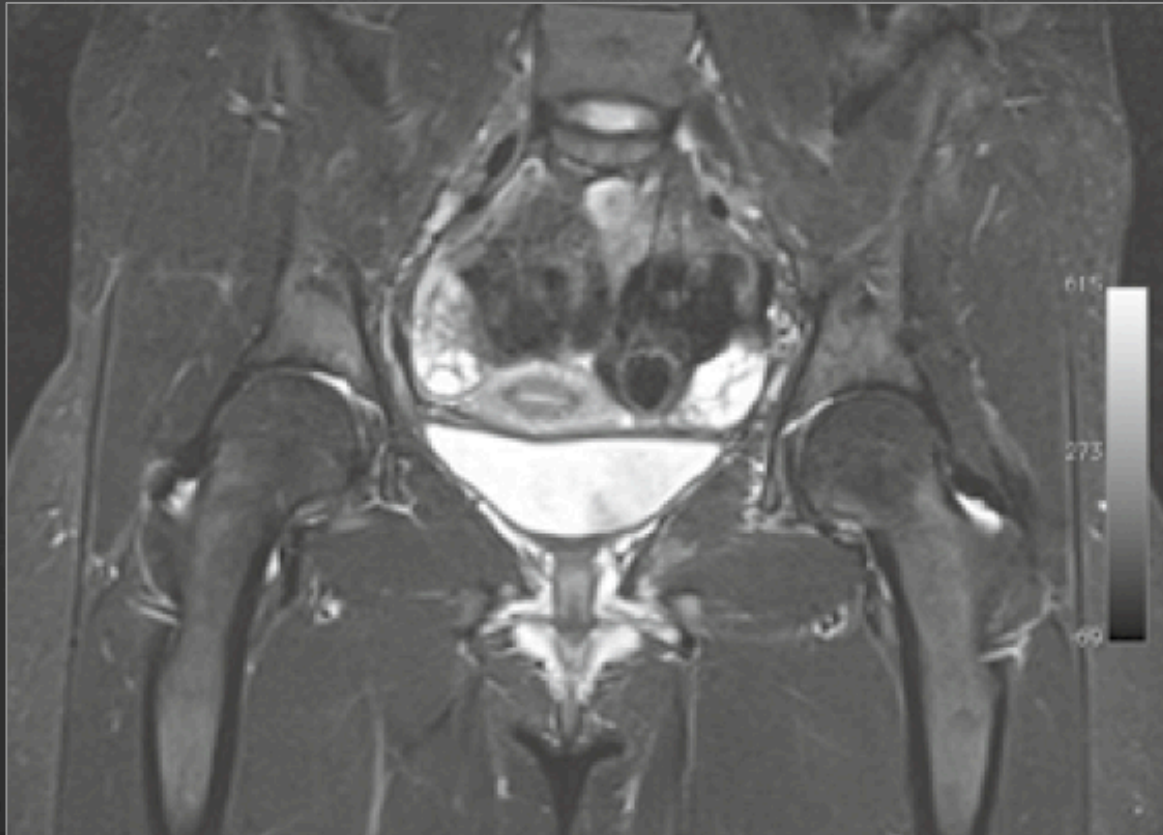


Hip coronal plane: skin to skin traversing anteriorly to posteriorly the acetabular columns to include the entire bony pelvis and tendon insertions



Hip sagittal plane: medial acetabular wall through greater trochanter

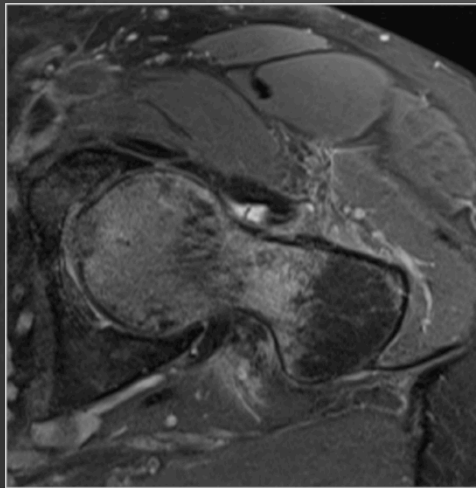
Recommended sequences: pelvis



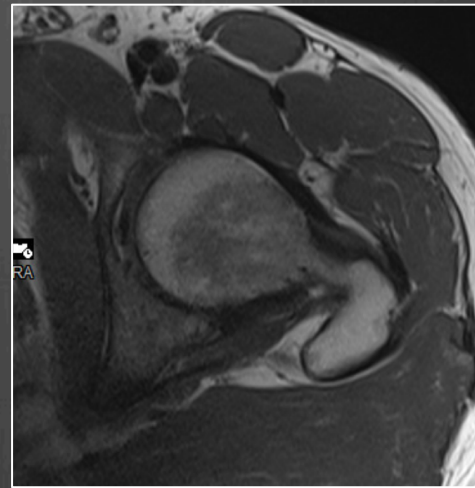
Coronal STIR
(or T2 FS)

Recommended sequences: Hip

Ax PD FS
(or STIR or
T2 FS)



Ax T1



Cor T1



Cor PD FS
(or STIR or
T2 FS)



MRI protocol

Recommended Sequences	FOV (mm)	Slice thickness (mm)	TR (ms)	TE (ms)	Matrix
Pelvis Cor STIR	300	5/3D	1800	25	320X240
Hip Cor STIR	300	5/3D	1800	25	320X240
Hip Cor T1	300	5/3D	400	15	320X240
Hip Ax PD FS	300	5/3D	2000	15	320X240/384x268
Hip Ax T1	300	5/3D	400	15	320X240/384x268
Hip CE T1 FS*	300	5/3D	400	15	320X240/384x268

*if optimal assessment of synovitis/osteitis is needed

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