Hip

MRI Protocols of the ESSR Arthritis Subcommittee

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
**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)

Cor T1

Ax T1

Cor PD FS (or STIR or T2 FS)
**MRI protocol**

<table>
<thead>
<tr>
<th>Recommended Sequences</th>
<th>FOV (mm)</th>
<th>Slice thickness (mm)</th>
<th>TR (ms)</th>
<th>TE (ms)</th>
<th>Matrix</th>
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</thead>
<tbody>
<tr>
<td>Pelvis Cor STIR</td>
<td>300</td>
<td>5/3D</td>
<td>1800</td>
<td>25</td>
<td>320X240</td>
</tr>
<tr>
<td>Hip Cor STIR</td>
<td>300</td>
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</tr>
<tr>
<td>Hip Cor T1</td>
<td>300</td>
<td>5/3D</td>
<td>400</td>
<td>15</td>
<td>320X240</td>
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<tr>
<td>Hip Ax PD FS</td>
<td>300</td>
<td>5/3D</td>
<td>2000</td>
<td>15</td>
<td>320X240/384x268</td>
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</tbody>
</table>

*if optimal assessment of synovitis/osteitis is needed*
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