Shoulder

MRI Protocols of the ESSR Arthritis Subcommittee

Acronyms

Ax = axial
CE = contrast enhanced
Cor = coronal
FOV = field of view
FS = fat suppressed
PD = proton density
Sag = sagittal
TE = echo time (ms)
TR = repetition time (ms)
MRI scan

- Patient in supine position
- Shoulder coil
- The arm alongside and parallel to the body in neutral to slight external rotation
- Coronal oblique images parallel to the supraspinatus tendon
- Glenohumeral and acromioclavicular joints are included
Localizer

Axial plane: from the acromioclavicular joint to two slices below the inferior glenohumeral ligament

Sagittal plane: from the deltoid muscle to two slices medial to the glenoid

Coronal plane: from the anterior margin of the coracoid process to two slices posterior to the humeral head
Recommended sequences

Ax PD FS
Cor T1

Cor T2 FS
Sag T2
Recommended sequences

CE axial T1 FS

CE cor T1 FS
## MRI protocol

<table>
<thead>
<tr>
<th></th>
<th>FOV (mm)</th>
<th>Slice (mm)</th>
<th>TR (ms)</th>
<th>TE (ms)</th>
<th>Matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ax PD FS</td>
<td>180</td>
<td>3</td>
<td>2500-5000</td>
<td>10-30</td>
<td>300 x 250</td>
</tr>
<tr>
<td>Cor T1</td>
<td>180</td>
<td>3</td>
<td>450-650</td>
<td>10-20</td>
<td>300 x 250</td>
</tr>
<tr>
<td>Cor T2 FS</td>
<td>180</td>
<td>3</td>
<td>3000-5000</td>
<td>60-100</td>
<td>300 x 250</td>
</tr>
<tr>
<td>Sag T2</td>
<td>180</td>
<td>3</td>
<td>3000-5000</td>
<td>60-100</td>
<td>300 x 250</td>
</tr>
<tr>
<td>CE T1 FS*</td>
<td>180</td>
<td>3</td>
<td>450-650</td>
<td>10-20</td>
<td>300 x 250</td>
</tr>
<tr>
<td>Cor PD (optional)</td>
<td>180</td>
<td>3</td>
<td>3000</td>
<td>30</td>
<td>300 x 250</td>
</tr>
</tbody>
</table>

*if optimal assessment of synovitis/osteitis is needed
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