Elbow

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)
Patient positioning
(depends on the habitus and range of motion)

- supine position with flex coil
- prone (*Superman* position) with knee or flex coil
Localizer

*Coronal plane:* cover the entire joint from the anterior to the posterior skin surface

*Sagittal plane:* cover the entire joint from the medial to the lateral side

*Axial plane:* from two slices above the olecranon fossa to two slices below the radial tuberosity
Recommended Sequences

Cor T1

Cor PD FS
(or STIR/TIRM or T2 FS)
Recommended Sequences

Sag PD FS

Ax PD FS (or STIR/TIRM or T2 FS)
Optional Sequences

Sag T1 FS CE
## MRI protocol

<table>
<thead>
<tr>
<th>Recommended Sequences¹</th>
<th>FOV (mm)</th>
<th>Slice thickness (mm)</th>
<th>TR (ms)</th>
<th>TE (ms)</th>
<th>Matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cor T1</td>
<td>160x160</td>
<td>2.5</td>
<td>765</td>
<td>11</td>
<td>320x304</td>
</tr>
<tr>
<td>Ax PD FS</td>
<td>150x150</td>
<td>3</td>
<td>2200</td>
<td>57</td>
<td>384x384</td>
</tr>
<tr>
<td>Sag PD FS</td>
<td>160x160</td>
<td>2.5</td>
<td>4340</td>
<td>72</td>
<td>384x384</td>
</tr>
<tr>
<td>Cor PD FS</td>
<td>160x160</td>
<td>2.5</td>
<td>2000</td>
<td>61</td>
<td>384x384</td>
</tr>
<tr>
<td>CE T1 FS*</td>
<td>160x160</td>
<td>2.5</td>
<td>400</td>
<td>15</td>
<td>384x384</td>
</tr>
</tbody>
</table>

¹Modified parameters should be applied with T2 FS and STIR/TIRM

*if optimal assessment of synovitis/osteitis is needed
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