Guidelines for MR Imaging of Sports Injuries

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Sports Sub-committee

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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 15° 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

<table>
<thead>
<tr>
<th></th>
<th>FOV (max)</th>
<th>Slice (max)</th>
<th>TE</th>
<th>Matrix (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>entire pelvis</em> Cor STIR</td>
<td>38-40 cm</td>
<td>6 mm</td>
<td>40-60</td>
<td>256x256</td>
</tr>
<tr>
<td>Cor T1</td>
<td>16 cm</td>
<td>3.5 mm</td>
<td>Min</td>
<td>256x256</td>
</tr>
<tr>
<td>Cor Int/T2 FS</td>
<td>16 cm</td>
<td>3.5 mm</td>
<td>40-100</td>
<td>256x256</td>
</tr>
<tr>
<td>Sag Int FS</td>
<td>16 cm</td>
<td>3.5 mm</td>
<td>40-60</td>
<td>256x256</td>
</tr>
<tr>
<td>Oblique Ax Int FS</td>
<td>16 cm</td>
<td>3.5 mm</td>
<td>40-60</td>
<td>256x256</td>
</tr>
</tbody>
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