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
Side strain

- Patient positioned to target site of symptoms (mark site with capsule)
- Turn patient onto symptomatic side, change phase/frequency encoding and/or use movement suppressing sequences to reduce movement
- Start with large FOV STIR coronals abdomen - include volume from lumbar sacral junction to marker (allows ribs to be counted)
- Or small FOV axial initially, then obliques cover marker & any pathology
## Side strain

<table>
<thead>
<tr>
<th></th>
<th>FOV</th>
<th>Slice (max)</th>
<th>TE</th>
<th>Matrix (min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Large FOV STIR Abdomen</td>
<td>35-40 cm</td>
<td>4.5 mm</td>
<td>scanner dependent</td>
<td>256x256</td>
</tr>
<tr>
<td>Axial T1</td>
<td>30, ASAP</td>
<td>4.5 mm</td>
<td>Min</td>
<td>256x256</td>
</tr>
<tr>
<td>Axial T2 FS</td>
<td>30, ASAP</td>
<td>4.5 mm</td>
<td>Min</td>
<td>256x256</td>
</tr>
<tr>
<td>T1 - 90° to any pathology seen</td>
<td>30, ASAP</td>
<td>4.5 mm</td>
<td>Min</td>
<td>256x256</td>
</tr>
<tr>
<td>T2 FS - 90° to any pathology seen</td>
<td>30, ASAP</td>
<td>4.5 mm</td>
<td>Min</td>
<td>256x256</td>
</tr>
</tbody>
</table>

ASAP = as small as possible
Side strain

- Coronal STIR
- Axial T1
- Axial T2 FS
- Cor Obl T1
- Cor Obl T2 FS
- Axial T2 FS with plane of Cor Obl