Appendix 1: MRI protocol

Purpose: Optimal imaging of cartilage repair tissue of femoral condyles including the trochlea.

MR Imaging (general protocol for 1.5T):

For all scans: Field of view (FOV) 14cm; slice thickness 3-3.5mm; matrix 512 x 256(or 384); Receiver bandwidth: 80-120Hx/pixel

Coronal IW FSE no fatsat; TR ≥3000ms; TE = 30-40ms

Coronal PDW FSE with fatsat; TR ≥3000ms; TE = 10-20ms

Sagittal IW FSE no fatsat; TR ≥3000ms; TE = 30-40ms

Sagittal PDW FSE with fatsat; TR ≥3000ms; TE = 10-20ms

Axial IW FSE no fatsat; TR ≥3000ms; TE = 30-40ms

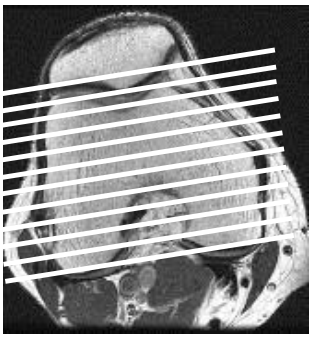
Axial T2W FSE with fatsat; TR ≥3000ms; TE = ≥70ms

Sagittal T1W no fatsat; TR = 600-800; TE = 10-20ms

Oblique PDW FSE with fatsat; TR ≥3000ms; TE = 10-20ms oriented orthogonal to scaffold.

Slice orientations:

Coronal- parallel to a line drawn between the posterior femoral condyles on an axial image:

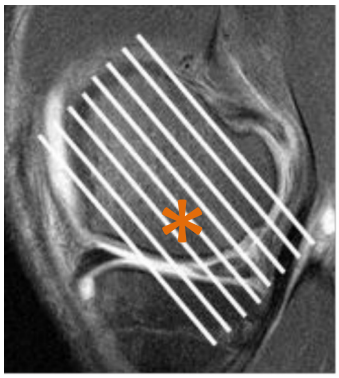


Sagittal- orthogonal to the line connecting the posterior condyles:

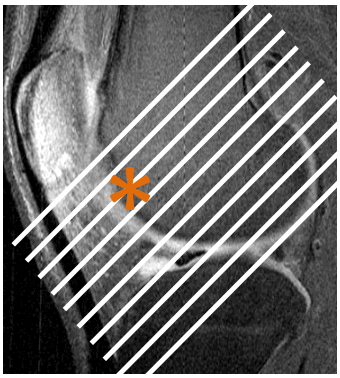
Oblique to scaffold- orthogonal to the articular surface at the repair site. Note, if there are 2 or more scaffolds, more angled images may be required (2 examples shown below): Only enough slices to cover the repair area are needed.

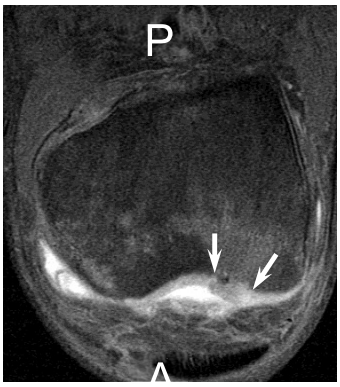
Repair Site*

posterior femoral condyle



Repair Site*





anterior femoral condyle