# Imaging Instructions

| Area to be Imaged | Index hip (the hip that has had arthroscopic<br>FAI surgery as part of the UK FASHIoN study) |
|-------------------|--|
| Timing            | MRI Scan should be done at least 6 weeks post operatively                                    |
| Patient Position  | Supine, both hips internally rotated   |
| Sequences         | Proton dense fat suppression sequence acquired in axial plane                                |
|                   | Slice thickness = between 4-5 mm   |
|                   | Gap thickness = 10%  |
|                   | No phase wrap  |
|                   | T1 sequence acquired in coronal oblique<br>(along the line of the femoral neck) plane        |
|                   | Slice thickness = between 4-5 mm   |
|                   | Gap thickness = 10%  |
|                   | No phase wrap  |
|                   | Proton dense fat suppression 3-D volume acquisition acquired in axial plane                  |
|                   | Slice thickness = maximum 1.5-2 mm   |
|                   | No gap   |
|                   | No phase wrap  |
| Field of view     | Height = just above the top of acetabulum to<br>just below the lesser trochanter             |
|                   | Width = 20cm centred on the centre of femoral head   |
| Matrix            | 256 x 256 pixels   |

## Examples of MRI

Localiser with top and bottom Axial image with the of axial range marked. Centred medially to the femoral head. Range is the same for axial and volume scan.

alignment of the coronal marked

Coronal Oblique Image



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## Method for Establishing Adequacy of Surgery Performed in FASHION Trial Aim

## to provide a semi-objective method to determine the quality of surgical bone reshaping in FASHIoN study participants. By;

- Confirming what surgery, the surgeon, intended to perform.
- Determining whether the surgical plan was executed to an adequate ۲ standard.

## Data Collection:

### **Operation note:**

Establish whether the surgeon undertook cam and or pincer resection.

#### **Intraoperative Images:**

Evaluate the pre treatment pathology and adequacy of the correction.

### Post op MRI:

The adequacy of reshaping surgery will be judged according to whether the surgeon stipulated if a cam or pincer resection was performed. The following categories will be used to judge the reshaping;

- 1. Satisfactory reshaping
- 2. Borderline adequate reshaping
- 3. Inadequate reshaping
- 4. No appreciable change to morphology

Only surgery in categories 1 and 2 will be deemed adequate.

Cases where reshaping was not undertaken (e.g. hip found to be arthritic or different pathology identified) will be judged on a case by cases basis taking on board the surgeons notes and other evidence (e.g. intra operative photos).

The lowest score in the following domains will determine the category of surgery.

### Cam Resection:

### **Head sphericity**

| Head sphericity       | Grade |
|-----------------------|-------|
| Spherical Head        | 1     |
| Mostly spherical      | 2     |
| Large aspehicity      | 3     |
| No appreciable change | 4     |

### Head Neck Transition:

| Head neck transition               | Grade |
|------------------------------------|-------|
| Smooth transition                  | 1     |
| Areas of abrupt transition         | 2     |
| Irregular transition/ sharp spikes | 3     |
| No appreciable change              | 4     |

#### Pincer Resection

| Rim morphology                  | Grade |
|---------------------------------|-------|
| Smooth rim, no focal prominence | 1     |
| Small focal prominence          | 2     |
| Large rim prominence            | 3     |
| No appreciable change           | 4     |

## Additional Data Collected (not be used to judge adequacy of surgery)

Cartilage; single worst area; grades 1-4

Cartilage treatment; chondroplasty, microfracture, glue repair, debridement of defect

Labrum; normal, degenerate, ossified, tear (partial detachment, complete detachment, degenerative or radial tear),

Labrum treatment; nil, debridement, shrinkage, resection, anchor repair

Osteophytes; present in cotyloid fossa, rim or head neck junction