Policy for the use of Upright / Open MRI Scanning
The CCG policy has been reviewed and developed by the Treatment Policies Clinical Development Group in line with the groups guiding principles which are:

1. CCG Commissioners require clear evidence of clinical effectiveness before NHS resources are invested in the treatment;
2. CCG Commissioner require clear evidence of cost effectiveness before NHS resources are invested in the treatment;
3. The cost of the treatment for this patient and others within any anticipated cohort is a relevant factor;
4. CCG Commissioners will consider the extent to which the individual or patient group will gain a benefit from the treatment;
5. CCG Commissioners will balance the needs of each individual against the benefit which could be gained by alternative investment possibilities to meet the needs of the community
6. CCG Commissioners will consider all relevant national standards and take into account all proper and authoritative guidance;
7. Where a treatment is approved CCG Commissioners will respect patient choice as to where a treatment is delivered; AND
8. All policy decision is considered within the wider constraints of the CCG’s legally responsibility to remain fiscally responsible.
Category: Restricted

Upright / Open MRI Scanners

Magnetic resonance imaging (MRI) is a type of scan that uses strong magnetic fields and radio waves to produce detailed images of the inside of the body. A standard MRI scanner is a large tube that contains powerful magnets. The patient lies inside the tube during the scan.

An MRI scan can be used to examine almost any part of the body, including the:

- brain and spinal cord
- bones and joints
- breasts
- heart and blood vessels
- internal organs, such as the liver, womb or prostate gland

The results of an MRI scan can be used to help diagnose conditions, plan treatments and assess how effective previous treatment has been.

Conventional MRI

Conventional MRI is established as the most sensitive imaging test of choice of the spine in routine clinical practice. MRI imaging of the spine is performed to:

- Assess the spinal anatomy;
- Visualize anatomical variations and diseased tissue in the spine;
- Assist in planning surgeries on the spine such as decompression of a pinched nerve or spinal fusion;
- Monitor changes in the spine after an operation, such as scarring or infection;
- Guide the injection of steroids to relieve spinal pain;
- Assess the disks, (i.e. bulging, degenerated or herniated intervertebral disk, a frequent cause of severe lower back pain and sciatica);
- Evaluate compressed (or pinched) and inflamed nerves;
- Explore possible causes in patients with back pain (compression fracture for example);
- Image spinal infection or tumours that arise in, or have metastasized to, the spine;
- Assess children with daytime wetting and an inability to fully empty the bladder.

The absence of axial loading and lumbar extension results in a maximization of spinal canal dimensions, which may in some cases, result in failure to demonstrate nerve root compression. Attempts have been made to image the lumbar spine in a more physiological state, either by imaging with flexion–extension, in the erect position or by using axial loading.

Axially Loaded MRI

A modification of conventional MRI, known as axially loaded MRI, has been developed. The axial loading refers to the application of a force on a subject’s body to simulate weight-bearing. For this technique, patients put on a special harness that compresses the spine while they lie in the MRI scanner but this procedure may not accurately reproduce the weight-bearing state. Positional MRI (Upright MRI)
Positional MRI has been developed to provide images of the spine under true weight-bearing conditions. This technique relies on a vertically open configuration MRI scanner in which the circular magnets have been turned on end. The patient sits or stands between the magnets during image collection and can adopt various positions such as flexion or extension of the neck or back, allowing imaging of the spine under conditions that occur in daily life.

Standing or sitting MRIs may be performed with patients in different positions (e.g. extension, flexion, neutral) for comparison of anatomy in various positions.

Current Upright MRI scanners generally use medium field magnets of 0.5T or 0.6T. By comparison, the most advanced standard MRI scanners have magnet strength of at least 1.0T and up to 3.0T allowing for the greatest resolution generally in a shorter amount of time. With 0.6T magnets, Upright MRI requires more time to obtain images with lower resolution.

Slower imaging times with uMRI (Upright MRI) may create difficulty for the following groups of patients:

- patients who are unable to remain still while in a standing or sitting position;
- discomfort patients who experience pain or discomfort whilst in an upright position
- patients who are unstable in such upright positions.

Longer exam times may also decrease the overall patient flow and volume of patients that can be accommodated.

The proposed advantages of uMRI are based on the ability to scan the spine (or joints) in different positions (including the position where clinical symptoms are more pronounced) and assess the effects of weight bearing, position and dynamic movement.
Eligibility Criteria

Referral for open MRI scanning of at least 0.5T as an alternative to conventional MRI in is commissioned only for:

- patients who suffer from claustrophobia where an oral prescription sedative has not been effective (flexibility in the route of sedative administration may be required in paediatric patients as oral prescription may not be appropriate)

OR

- patients who are obese and cannot fit comfortably in conventional MRI scanners as determined by a Consultant Radiologist/Radiology department policy

OR

- patients who cannot lie properly in conventional MRI scanners because of severe pain despite adequate analgesia provision

OR

- patients whom require load bearing MRI images to be undertaken

AND

- There is a clear diagnostic need consistent with supported clinical pathways

IN ADDITION, The CCG will only fund uMRI of the specific anatomy requested.

This means (for patients who DO NOT meet the above criteria) the CCG will only fund the treatment if an Individual Funding Request (IFR) application proves exceptional clinical need and that is supported by the CCG.
Guidance

NHS Choices. 2015. MRI Scan. 
https://www.nhs.uk/conditions/mri-scan/


ACR practice parameter for performing and interpreting magnetic resonance imaging (MRI), Amended 2014

ACR–ASNR–SCBT-MR Practice guideline for the performance of magnetic resonance imaging (MRI) of the adult spine, Revised 2012


Adult obesity, Health Survey for England (HSE) 2014

NHS Imaging and Radiodiagnostic activity 2013/14 (NHS England and National Statistics)