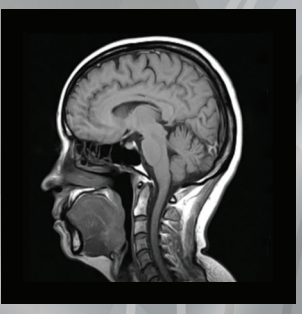
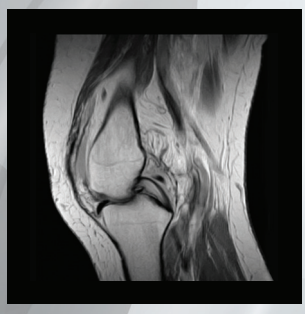
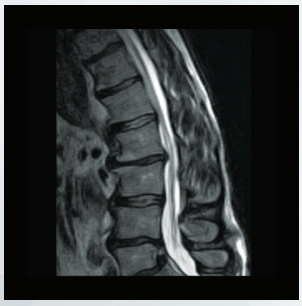
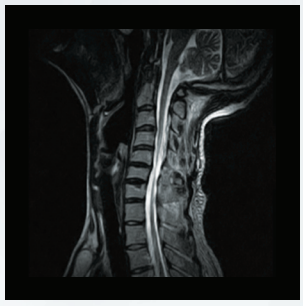
Upright Open MRI Centres


Weight-bearing and positional imaging for patients in non-claustrophobic scanners

UPRIGHT MRI centres

Upright Open MRI Centres

The Upright Open MRI scanners at the ***Upright Open MRI Centres*** in Leeds and London are unique in England.

Using the latest technology and designed specifically to scan patients in weight-bearing positions, the scanners also bring enormous benefits to claustrophobic and anxious patients thanks to their open design.

Upright Open MRI Centres enable more patients than ever before to benefit from the vital diagnostic imaging that an Upright Open MRI scan brings. Over 1500 Consultants already refer to Upright Open MRI Centres including the Royal National Orthopaedic Hospital (RNOH).

Upright Open MRI scans

The revolutionary design of the Upright Open MRI scanner allows MR imaging of most parts of the body.

It is particularly applicable to the spine, the major joints and the pelvic floor which can be examined under physiological conditions, upright in the weight-bearing position.

Patients can be imaged;

- in a sitting position
- in flexion, extension, rotation and lateral bending
- in their position of pain
- lying down
- standing

The choice between MRI scanners; conventional, open or upright open MRI?

Conventional tunnel[i] and open[ii] MRI scanners only scan in the supine, non- weight-bearing position and as a result may not detect pathology that becomes visible only when the patient is scanned in an upright position.

Upright Open MRI scanners have clear advantages over supine imaging and may be used as first line MRI for the spine or as an adjunct if supine MRI is non-diagnostic.

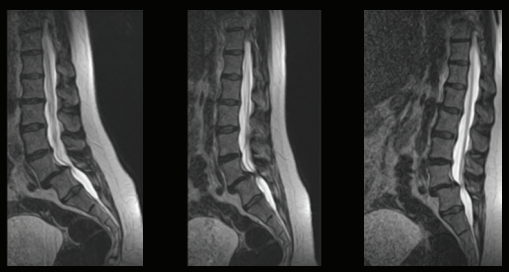
Upright Open MRI scanners can be used in a variety of clinical situations (cervical, lumbar spine and other applications) where conventional or open MRI is unsuitable;

- as a problem-solving modality in those who have had a negative or unhelpful conventional scan
- in patients with a 'failed-back' following previous surgery
- in those whose symptoms are posture-specific
- other joints of the body that are symptomatic in specific weight-bearing positions
- assessment of pelvic floor and bladder prolapse

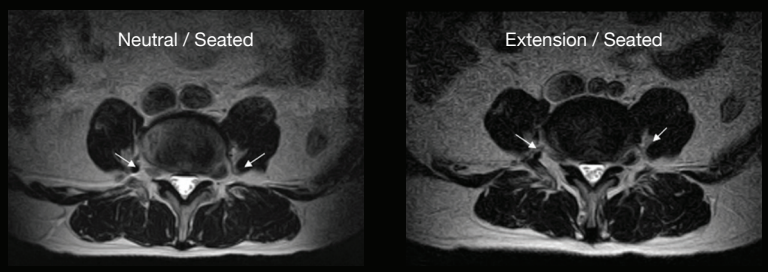
Comfortable MRI diagnostics

Patients who might be considered for Upright Open MRI scans include;

- **patients who are claustrophobic or anxious** and unable to tolerate the confines of a conventional scanner
- **patients who are larger** and who find it difficult to fit into the constricted space of a conventional scanner
- **patients who are unable to lie supine** whatever the reason
- **patients who need to be observed** during their scan



Spondylolisthesis



Lumbar Spine - positional abnormalities

Upright Open MRI scanning and patient management

In a paper presented to the European Society of Skeletal Radiology (ESSR) in July 2005, Smith and Siddiqui[iii] reported twenty-five patients referred for MRI of the lumbar spine for sciatica following at least one prior, "normal" MRI examination within six months of referral.

- 14 men and 12 women aged between 38 and 67 years of age were **scanned using an upright MRI scanner**. Each patient was scanned supine, standing erect and in the seated position. In the seated position, images were made with the back in neutral, flexed and extended. Sagittal T2 and Axial T2 weighted sections were made through the lower five intervertebral discs in each position.
  - In 12 cases, no significant abnormality was seen in any of the five postures
  - **In 13 cases, abnormalities were demonstrated in one or more of the seated postures that were not evident in the conventional supine examination**
  - In three cases lateral disc herniation was only seen in the seated position
  - In six cases the presence of a hypermobile disc at one or more levels was demonstrated
  - In two cases a previously unsuspected grade 1 spondylolisthesis was shown and in two cases significant spinal canal stenosis was seen in the seated extended position
  - In 50% (13/25) of these cases that had previously been investigated for sciatica, a surgically remediable lesion was found

Technology and compliance

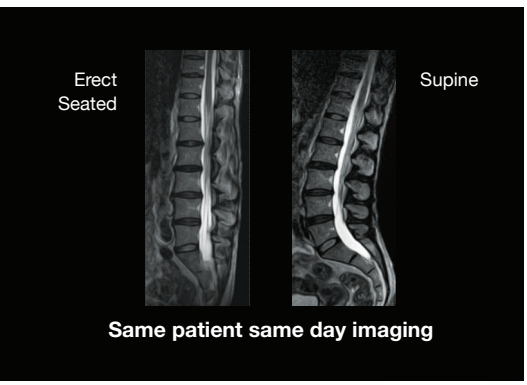
The Upright Open MRI scanners have been developed to allow imaging under the influence of gravity. A gap exists between two vertical electromagnets where a tilting table is sited that allows seated, standing and supine imaging. A mid-strength 0.6T horizontal field is generated between magnets. Image quality is excellent and all studies are reported by dedicated musculo-skeletal and neuro-radiologists. The results of the MRI scan are typically provided to the healthcare professional within 48 hours.

The Upright Open MRI scanners provide a patient friendly experience. During the scan patients can see the radiographer at all times, are able to watch TV or a DVD and can simply walk out once the scan is complete.

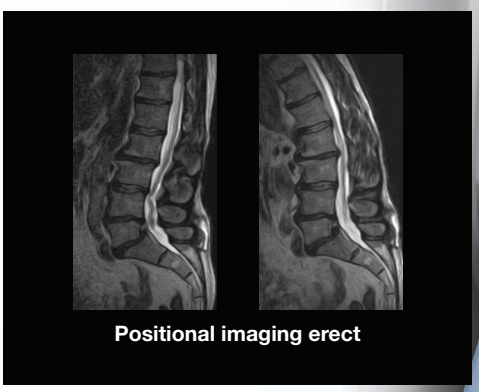
Further reading

- Alyas F, Connell D and Saifuddin A. Upright positional MRI of the lumbar spine. Clinical Radiology. 2008:63(9);1035-1048
- Badami J P, Baker B A and Scholz F J et al. Outpatient metnizamide myelography; prospective evaluation of safety and cost-effectiveness. Radiology. 1998:(207);391-398
- Beric V, Imaging the spine with upright MRI. RAD Magazine. 36:(422);21-22
- Jinkins J R, Dworkin J S, Damadian R V. Upright, weight-bearing, dynamic-kinetic MRI of the spine; initial results. European Radiology. 2005:15(9);1815-1825
- Lee S U, Hargens A R, Fredericson M et al. Lumbar spine disc heights and curvature; upright posture vs supine compression harness. Aviation, Space & Environmental Medicine. 2003:(74);512-516

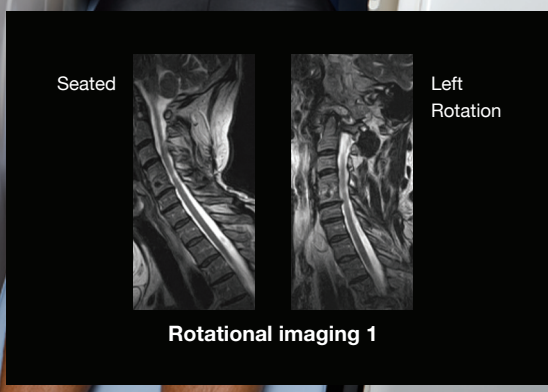
Dr. David Grant and Dr. Ben Timmis (Consultant Radiologists) are Joint Medical Directors of the Upright Open MRI Centres and hold substantive NHS appointments



Same patient same day imaging



Positional imaging erect



Rotational imaging 1

Patient referrals

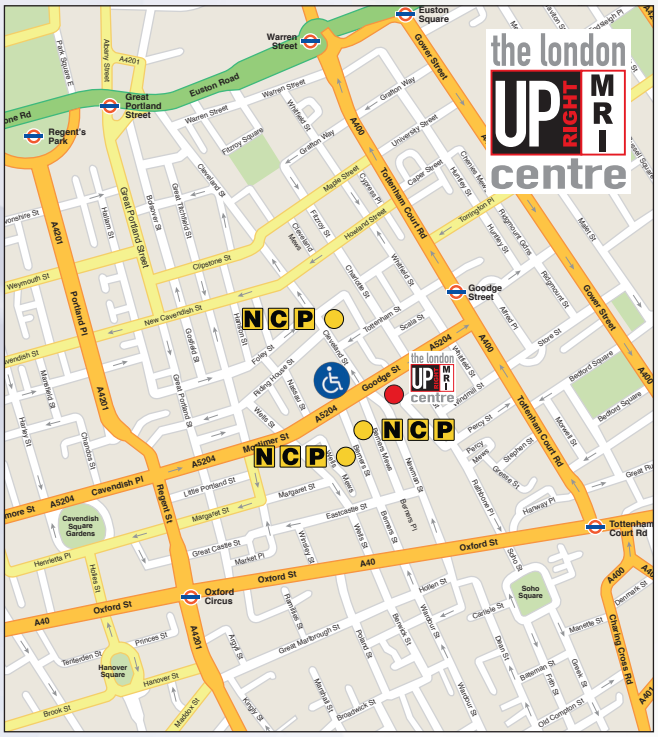
The Upright Open MRI Centres (London and Leeds) are approved by all the major private health insurance providers. NHS patients and self-funding patients are also welcomed. All patients require a referral from their healthcare professional.

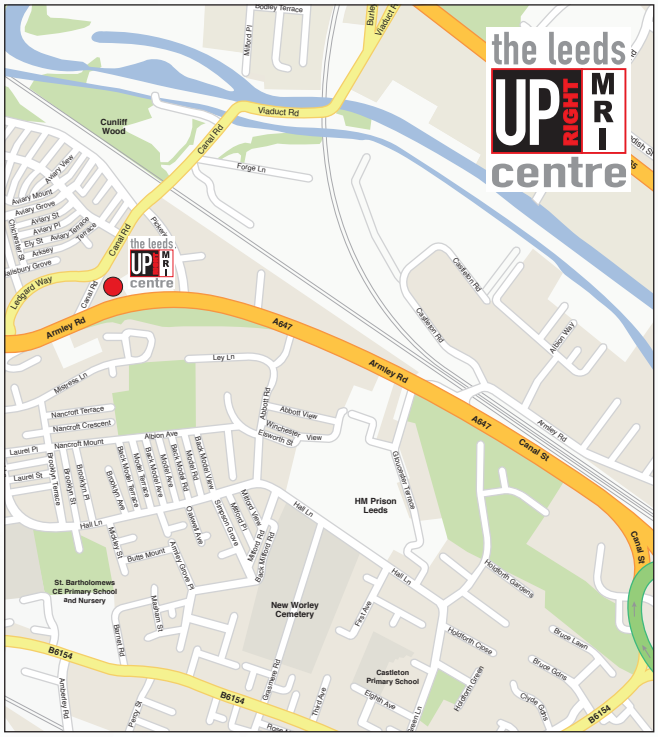
Referrals are welcomed from healthcare professionals including Consultants, Specialists, GPs, Radiology Specialist Managers, Osteopaths, Physiotherapists and Chiropractors.

Guidelines published by the Royal College of Radiology and the Royal College of General Practitioners provide a framework for appropriate referral for diagnostic services.

Each centre has a dedicated team of specialist reporting Consultant MSK radiologists and neuroradiologists. The importance of maintaining existing referral relationships is recognised and therefore Upright Open MRI Centres offer the facility of remote reporting for a radiologist of your choice.

Contact details





The London Upright MRI Centre

Julia House, 44 Newman Street, London, W1T 1QD
Telephone: +44 (0)20 7637 2888
Fax: +44 (0)20 7637 5888
email: info@uprightmri.co.uk

- **By car:** Metered parking is available on Newman Street (the street is one way northbound). NCP car parks are available at 45-47 Berners Street, London, W1T 3NE or London Sanderson Hotel, Wells Mews London, W1T 3NG or 34-42 Cleveland Street, London, W1T 4JY
- **By bus:** Buses that go through Tottenham Court Road or Oxford Street (Tottenham Court Road end) are suitable
- **By rail:** Euston is the nearest mainline station
- **By tube:** Goodge Street (5 minute walk), Oxford Circus or Tottenham Court Road (both a 10 minute walk)

The Leeds Upright MRI Centre

Tower Court, Armley Road, Leeds, LS12 2LY
Telephone: +44 (0)113 231 1902
Fax: +44 (0)872 023 3863
email: leedsinfo@uprightmri.co.uk

- **By car:** Parking is available including disabled spaces. 1.5 miles from Leeds city centre, 0.75 miles from Armley gyratory, 1.26 miles from Junction 2 of the M61, 0.25 miles from Armley town centre, 6.5 miles from Leeds Bradford airport, 8 miles from Bradford city centre
- **By bus:** Buses 5, 14, 62 and 62A from Leeds train station

www.uprightmri.co.uk

i. Conventional MRI scan is designed to scan the patient in the horizontal position in a tunnel environment
ii. Open MRI scan is less claustrophobic than conventional, typically lower in field strength (0.2T – 0.5T) and designed to scan the patient in the horizontal environment
iii. F.W. Smith, M.D. et al., University of Aberdeen, Scotland. "Positional Upright Imaging of the Lumbar Spine Modifies the Management of Low Back Pain & Sciatica." Paper presented at the ESSR (2005) Oxford, England. Published in Clinical MRI , Vol. 15, Issue 3 (2006)