Derby and Derbyshire
Integrated Care Board

CLINICAL POLICY ADVISORY GROUP (CPAG)

Non-Standard MRI Scans Policy

Statement

Derby and Derbyshire ICB (DDICB), in line with its principles for procedures of limited clinical value has deemed that Non-Standard MRI Scans should not routinely be commissioned.

All MRI scans should only be undertaken when the result will make a difference to the clinical management of the patient. Referral for a Non-Standard (Open or Upright) MRI scan should only be considered if a Standard MRI scan is deemed clinically appropriate.

Open and Upright MRI scanners may provide a lower quality image than standard MRI scanners as the strength of the magnet is lower. Although this may provide sufficient clinical information for scans of e.g., large joints, it is unlikely that the quality will be sufficient for detailed scans e.g., examinations of the white matter.

The referring clinician should be aware of the limitations (e.g., resolution of the resulting image impacting on the quality of the scan result) for each type of scanner being considered and discuss with the Imaging Department before referring for a Non-Standard MRI scan.

This policy applies to ADULTS only.

These commissioning intentions will be reviewed periodically. This is to ensure affordability against other services commissioned by the ICB.

1. Background

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. 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.

There are different types of scanners available to patients listed in Appendix 3:

- Standard MRI Scanner
- Wide Bore MRI Scanner
- Open MRI Scanner
- Upright Open MRI Scanner

The main reasons for alternative scanners being requested are claustrophobia and obesity, with a small number for clinical reasons.

The NHS estimates that around 10% of the UK population is affected by claustrophobia which is the irrational fear of confined spaces. Standard MRI scanners have a small, enclosed tube which can trigger anxiety and panic attacks.

The NHS estimates that 25% of UK adults are obese, this may mean patients who are obese cannot fit comfortably in conventional MRI scanners. It is not possible to define a BMI at which the patient will be unable to access the newer standard scanner. This is due to the variability of distribution of adipose tissue.

The older Standard-MRI scanners are gradually being replaced by newer Wide Bore MRI Scanners.

2. Recommendation

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The referring clinician should be aware of the limitations (e.g., resolution of the resulting image impacting on the quality of the scan result) for each type of scanner being considered and discuss with the Imaging Department before referring for a Non-Standard MRI scan.

This policy applies to ADULTS only.

INCLUSION CRITERIA

Condition	Criteria
Claustrophobia	• Local pathways should be followed for these patients. (Appendix 4) • Liaison between Burton, Chesterfield and Derby Hospitals is encouraged to ensure that the benefits of local pathways are maximised for Derbyshire patients
Obesity	• Local pathways should be followed for these patients. (Appendix 5) • This includes making use of the modern/wider bore MRI Scanners available at RDH
Other Clinical Reasons	• There may be patients who do not meet the above criteria but, for a clinical reason, cannot access standard MRI scanners. (Appendix 6) • These patients should be referred for consideration under the Individual Funding Request process.

EXCLUSION CRITERIA

Exclusion Criteria	Comment
Treatment/procedures undertaken as part of an externally funded trial or as a part of locally agreed contracts/or pathways of care.	**EXCLUDED FROM POLICY - NOT FUNDED**
Upright scans used to examine a joint in the weight bearing (upright) position.	These are not routinely commissioned, for several reasons, including limited data being available on the diagnostic utility of standing/ upright/ positional MRI. Submission of an IFR will be required where it is deemed clinically necessary by the referring consultant (either radiologist or clinical specialist) due to the radiologist/ specialist having sight of the specific imaging requirements needed, and the anticipated change in management from a positive scan result.

3. Rationale for Recommendation

NHS England data (2018/19) shows that approx. 3.5 million MRI Scans were undertaken and this is on average increasing by 5.6% p.a. The policy aims to target the use of this newer technology to those patients who will get the most benefit.

Increasing rates of obesity in the general population, and the increasing availability of different types of scanner, coupled with an increase in general MRI demand, has led to an increase in requests for non-conventional MRI scans. It is therefore the aim of the policy to target use of non-conventional MRI scans to those patients who will derive the most benefit.

4. Useful Resources

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

- NHS Website: Claustrophobia https://www.nhs.uk/mental-health/conditions/claustrophobia/

5. References

- Greater Manchester Statement on Wide bore, Open and Open Upright MRI Scanning https://gmeurnhs.co.uk/Docs/GMPolicies/GMMRIScanningPolicy.pdf
- NHS Wakefield CCG Commissioning Policy https://www.wakefieldccg.nhs.uk/fileadmin/site_setup/contentUploads/Corporate_documents/Policies/NHS_Wakefield_CCG_Commissioning_Policy_v3.7_FINAL.pdf
- van Beek, E., Kuhl, C., Anzai, Y., Desmond, P., Ehman, R. L., Gong, Q., Gold, G., Gulani, V., Hall-Craggs, M., Leiner, T., Lim, C., Pipe, J. G., Reeder, S., Reinhold, C., Smits, M., Sodickson, D. K., Tempany, C., Vargas, H. A., & Wang, M. (2019). Value of MRI in medicine: More than just another test?. *Journal of magnetic resonance imaging : JMRI*, *49*(7), e14–e25. https://doi.org/10.1002/jmri.26211
- NHS England. Diagnostics: Recovery and Renewal. https://www.england.nhs.uk/wp-content/uploads/2020/10/BM2025Pu-item-5-diagnostics-recovery-and-renewal.pdf
- Claustrophobia During Magnetic Resonance Imaging: Cohort Study in Over 55,000 Patients, Marc Dewey, MD, Tania Schink, PhD, and Charles F. Dewey, MD, PhD, Journal of Magnetic Resonance Imaging 26:1322–1327 (2007)

6. Appendices

Appendix 1 - Consultation

All relevant providers/stakeholders will be consulted via a named link consultant/specialist. Views expressed should be representative of the provider/stakeholder organisation. CPAG will consider all views to inform a consensus decision, noting that sometimes individual views and opinions will differ.

Consultee	**Date**
Director of Public Health	November 2021
Clinical Policy Advisory Group (CPAG)	December 2021
Clinical and Lay Commissioning Committee (CLCC)	January 2022
Superintendent Radiographer (UHDBFT)	June 2024
Consultant Radiologist (UHDBFT)	June 2024
Consultant Radiologist (CRHFT)	June 2024
Radiographer (CRHFT)	June 2024
Clinical Policy Advisory Group (CPAG)	July 2024

Appendix 2 - Document Update

Document Update	**Date Updated**
Version 3.0 • Policy has been re-worded and reformatted to reflect the DDCCG clinical policies format. This includes the addition of background information, useful resources, references and consultation	November 2021
Version 3.1 • CPAG agreed to extend the review date of this policy by 12 months, in agreement with clinical stakeholders, due to reduced capacity within the Clinical Policies team	July 2024
Version 3.2 • In line with risk profile, CPAG agreed further extension to review date	September 2024

Appendix 3 - Type of MRI Scanners

Standard MRI Scanner

A standard MRI scanner is a large tube that contains powerful magnets. The patient lies inside the tube during the scan which can take 15 to 90 minutes depending on the size of the area being scanned and how many images being taken. Older standard MRI Scanners have a diameter of 23.5 inches (60cm), with a weight tolerance of 159kg/350lb.

Wide Bore MRI Scanner

A Wide Bore MRI scanner is similar to a standard MRI Scanner but is wider at 27.5 inches (70cm) and with a weight tolerance of upto 250kg/550lbs. The wider opening is beneficial for larger or more claustrophobic patients. The bore depth is only 3 feet, where traditional short MRI scanners are 4 feet.

Open MRI Scanner

An Open MRI scanner is open on three to four sides depending on the type of machine. The Open MRI allows for patients who are too large for the closed-bore MRI or who are claustrophobic to be easily scanned.

Upright Open MRI Scanner

Upright, standing or positional MRI (uMRI) is a type of vertically, open MRI Scanner, which have been developed to provide images of the spine under true weightbearing conditions. They are open at the front and top, with the magnetic poles placed on either side of the patient. 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

Appendix 4 - Claustrophobia (Open Scan)

Local pathways should be followed. Liaison between Burton, Chesterfield and Derby Hospitals is encouraged to ensure that the benefits of local pathways are maximised for Derbyshire patients (e.g., utilising Modern Wide Bore Scanners, available at UHDB). The majority of patients should be referred for a standard MRI in the normal way. However, if they are unable to undergo the scan, then the following interventions should be trialed:

Intervention	
Sedation (Standard scanning under minimal sedation should be tried in the first instance, unless clinically contraindicated)	There are different levels of sedation: 1. Minimal sedation (anxiolysis) 2. Moderate sedation 3. Deep sedation 4. General anaesthesia.
• For the majority of patients for whom MRI is challenging, minimal sedation (1) usually in the form of a self-administered anxiolytic is adequate. • For moderate sedation (2), there is provision for admission to medical daycase unit. • In this circumstance, sedation is administered and supervised by a sedation-trained doctor who accompanies the patient to MRI. • For higher levels of sedation (3, 4) we would typically suggest referral for an anaesthetist supervised MRI list.	
Environmental modifications	Examples include: • noise cancelling headphones • visual distraction • scanning feet first
General anaesthetic	Only when full back up is available to manage any complications from anaesthesia)
Wide Bore (Modern Standard) MRI scanner, plus all the interventions outlined above.	

If all of the above interventions have been trialled and despite local arrangements, a scan is not possible due to claustrophobia then funding for an open MRI scan will be considered through a Prior Approvals Process

Information to support the application
The application should outline: • Rationale for requesting the scan • Management decision that will be made following scan • Attempts to scan to date and outcome • Reasons why sedation/ GA are clinically inappropriate (if applicable) • Patient's preferred alternative provider (please check that these providers accept NHS patients with approved funding prior to submission of the request)

Process
• Secondary care to inform GP of failed initial appointment • Secondary care to establish patient's preferred location • Secondary care to submit prior approval to ICB • Once Prior approval application is approved, secondary care to check referral requirements of chosen provider (note the provider website will usually outline the referral process and/or include their own bespoke referral form

Appendix 5 - Obesity

Modern Standard MRI scanners now have an increased weight limit and wider bore than previous standard models. If these scanners are not available within the relevant acute trust, then referral should be made to another provider (e.g., UHDB).

Older standard scanners have a diameter of 23.5 inches (60cm), with a weight tolerance of 159kg/ /350lb.

Modern standard scanners have a diameter of 27.5 inches (approx. 69.85cm, giving a circumference of 86 inches/ 216cm). The weight limit is 250kg/ 39st 4lb/ 550lb.

Where patients contact the department to arrange a suitable appointment, the provider should confirm the patient will fit the standard/ modern standard MRI, to increase efficiency through avoiding wasted appointments.

GP Referrals

Direct access referrals from the GP should capture the following information:
• Rationale for requesting the scan • Shoulder width • Hip width • Patient girth (at widest point) • Patient weight

Where a patient has arrived at a provider where a Wide Bore MRI Scanner is not available, the imaging department should make an onward referral to a provider which does have such facilities. Modern Wide Bore MRI Scanners are available at UHDB. Despite this local provision, if a Modern Wide Bore-MRI scan is still not possible due to obesity, then funding for an Open/ Upright MRI scan will be considered via a Prior Approval application:

Information to support the application
The application should outline: • Rationale for requesting the scan • Management decision that will be made following scan • The patient's weight/ girth/ hip/ shoulder width as appropriate • Attempts to scan to date and the outcome **OR** If a scan was not attempted as it was evident the patient would not fit, confirmation of this is included from the imaging department and submitted with the prior approval application • Patient's preferred alternative provider (please check that these providers accept NHS patients with approved funding prior to submission of the request)

Process
• Secondary care to inform GP of failed initial appointment • Secondary care to establish patient's preferred location • Secondary care to submit prior approval application to ICB • Once ICB funding approval received, secondary care to check referral requirements of chosen provider (note the provider website will usually outline the referral process and/or include their own bespoke referral form) referral process and/or include their own bespoke referral form

Appendix 6 - Other Clinical Reasons

There may be patients who do not meet the above criteria but, for a clinical reason, cannot access standard MRI scanners. These patients should be referred for consideration under the Individual Funding Request process.