Gloucestershire Safety and Quality Improvement Academy 2024

Standardisation of Emergency MRI Provision for the **Purposes of Suspected Cauda Equina Syndrome** West of England Imaging Network

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Background

Cauda Equina Syndrome (CES) is a rare and serious spinal emergency which can lead to lower limb paralysis and loss of bowel, bladder and sexual function if not assessed and treated urgently. The condition affects 1-3 people per 100,000 population in England and there are around 8,000 suspected cases every year.

This is a topic that has generated much discussion nationally following the GIRFT Speciality report for Spinal Services in 2019, the HSIB review in 2021 and publication of GIRFT National CES guidelines in 2023 which set the gold standard of providing 24 hour access to MRI for emergency patients with potential CES.

The provision and accessibility to MRI across a 24-hour timeframe is dependent on local service specification and speciality.

If a patient requires transfer to a specialist centre the turnaround time for a blue light ambulance service can often lead to the recommended four-hour window for imaging being exceeded, impacting on the timely diagnosis and decision to treat surgically.

Aims

- To increase the provision of 24/7 Emergency MRI imaging for suspected CES from 20% to 70% by June 2025

Project Participants

4 x MRI Radiographers & 2 x Consultant Radiologists who had a working knowledge of the process on a daily basis.

2 x MSK Physiotherapists, 2 x Spinal Surgeons, 1 x GP and two Quality Improvement Facilitators (including myself), to assist in embedding QI methodology within the process.

Participant Distribution

Gloucestershire Hospitals NHS Foundation Trust North Bristol NHS Trust, Southmead Hospital Somerset NHS Foundation Trust, Yeovil & Taunton University Hospitals NHS Foundation Trust in Bristol

Great Western Hospital, Swindon The Royal United Hospital Bath Salisbury NHS Foundation Trust Weston Super Mare Hospital

Objectives

- To provide evidence of the current state of provision of MRI for emergency CES.
- Identify obstacles to improvement and look at opportunities for workflow redesign.



NHS

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- Increase access to MRI safety Education for all referrers to 50% by June 2025
- Develop and implement a consistent quality improvement framework across the Network

Driver Diagram



Fishbone diagram NHS West of England Imaging Network Clinical Governance & Effectiveness Primary Care & Interface Variation in clinical protocol & scanning Training & Education Services sequence Variation in inpatient referral prioritisation Variation in patient triage oor awareness of MRI safety awareness for all staff effectiveness Problem Inconsistent referral processes Variation in access to & provision of Limited image evaluation competency Variation in triage knowledge and ? CES not routinely included as clinical Emergency MRI for suspected CES experience question Limited image interpretation competency Inconsistent coding of confirmed CES Variation in referral to secondary within reports care Omission performance measurements To increase the provision of emergency 24/7 MRI imaging for suspected CES from 20% to 70% by June 2025 Variation in MRI hours of operation in Variation in clinical prioritisation at Variation in 24/7 image acquisition availability relation to ED hours point of presentation Variation in 24/7 image reporting availability Inconsistent maximum call-in time for radiographers Inconsistent radiographer on-call rates Strategic Secondary Care Operational Delivery Workforce Planning Leading innovation, connecting expertise

Outcome Measure

- Provision of 24/7 Emergency MRI imaging for suspected CES across the network.
- Access to MRI safety Education for all referrers

Process Measures

- Number of Hospital Trusts who agree to match MRI and ED opening times.
- Number of Hospital Trusts who agree to provision of MRI safety training.

Balancing Measures

Radiographer on-call hours and call in times.

PDSA Cycles

PDSA Cycle 1



- Questionnaire to assess the provision of 24/7 Emergency MRI imaging for suspected CES.
- Questionnaire to assess the provision of MRI safety for all referrers

PDSA Cycle 2



- Development / recommendation of learning platform to improve awareness of MRI safety for all referrers.
- Development / recommendation of extended MRI opening times.



Results

- Work is continuing on the workstreams that resulted from the CES project. (Therefore data is still being collected).
- It was found that there was a huge discrepancy between waiting times across the WOEIN area, directly related to MRI opening hours and referral times.
- A Quality Improvement Network has been established across the region and Radiographers are now being utilised on other quality projects within Radiology departments.
- An overall feeling amongst participants of greater confidence and empowerment, along with a greater understanding of Quality Improvement techniques.
- Extended opening hours at Great Western Hospital MRI for CES patients during the week.
- MRI Safety Education has been added to the eLearning platforms at Gloucester Hospitals NHSFT and Somerset NHSFT.
- The seven Trusts which make up the WoEIN network each use a different IT systems. As a direct result of the project, they have now jointly procured a new software that facilitates image and information sharing across the entire Network.

Next steps

- Extended opening hours still need to be agreed, particularly at Weston General Hospital where patients have to be transferred to the Bristol Royal Infirmary during the OOH period. ۲
- A standardised MRI Safety Education module is being developed for the Network.

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