DefINe Bulletin: Issue 3: MRI Scans

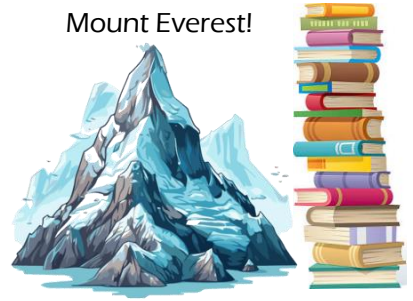
The Siemens Terra 7T MRI Scanner at the Wolfson Brain Imaging Centre, Cambridge
Image source: https://www.wbic.cam.ac.uk/

You will have a total of 3 MRI scans as part of the DefINe trial, which can detect and measure brain iron accumulation in neuroferritinopathy. We are comparing the MRI scans from the start and end of the trial to test if Deferiprone is effective. NHS MRI scans detect this iron in large structures deep in the brain, but we know that the iron accumulation also affects many other areas. The DefINe trial uses a recently developed, more powerful scanner with a stronger magnet that can detect iron throughout the brain. This is the reason we ask everyone to travel to Cambridge rather than using an NHS scanner closer to home.

During the scan, the magnetic field is rapidly switched to measure iron in different brain regions. This causes all the noise you hear during a scan. Brain iron is microscopic so does not move or heat during the scan, but we need to be very careful not to take metallic items near the scanner. MRI does not use ionising radiation and is safe, including in pregnancy and children.

Each scan produces large amounts of data. We analyse these data on the University of Cambridge supercomputer. This converts the scan data to pictures (like a digital camera) and produces the brain iron concentrations that are the most important study measurement. This analysis is carried out in batches once everyone's participation in the trial is concluded. We will be able to share the results once the trial has finished.

Printed as text on paper, the scan data would fill a stack of books taller than Mount Everest!



Recruitment Update:

20th November 2025

Thank you for your participation in the DefINe trial. Please do not hesitate to contact the research team if you have any questions about any aspect of the trial. (add-tr.mitoteam@nhs.net)

Baseline

Visits completed:

19

Month 6

Visits completed:

11

Month 12

Visits completed:

4