

## MR guided focused ultrasound thalamotomy (MRgfUS)

MR-guided focused ultrasound thalamotomy is a non-invasive surgical procedure that uses high-frequency ultrasound waves to destroy small areas of tissue in the thalamus of the brain. This procedure is a treatment option for people with essential tremor (ET) who have not responded to medications or have side effects from them.

It is currently not funded for Parkinson's Disease in the UK. Currently there are only a handful of units available to offer this service. The Walton Centre, Liverpool is the referral centre for the North of England.

During the procedure, the patient will be awake but sedated. They will be positioned in an MRI machine, which will help the surgeon locate the precise area of the thalamus to target with the ultrasound waves. The ultrasound waves are focused on a small area of the thalamus, creating a lesion that disrupts the abnormal signals causing the tremor. The patient's tremors are monitored throughout the procedure to ensure that the correct area is targeted.

The procedure typically takes several hours and the patient can usually go home the same day. Some people may experience temporary side effects such as headache, nausea, or mild numbness or tingling in the face or body. These side effects usually go away on their own within a few days.

MR-guided focused ultrasound thalamotomy has been shown to be effective in reducing tremors in people with essential tremor. The procedure has a low risk of complications compared to traditional surgery and does not require an incision or general anaesthesia.

However, the long-term effects of the procedure are still being studied.

As with any medical procedure, it is important to discuss the risks and benefits of MR-guided focused ultrasound thalamotomy with your specialist to determine if it is a suitable option for your individual needs.