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UK's first rocket MRI simulator lands at Evelina London to help children

A rocket-shaped MRI simulator is being used at Evelina London Children's Hospital in a UK first to help children overcome their fears about having a real scan.

An MRI (magnetic resonance imaging) scan produces detailed images of inside the body. These are then used to help diagnose conditions, plan treatments and assess how effective previous treatment has been.

Although a painless procedure, patients are required to lie absolutely still in a confined space for a period of time, which can range from between 20 minutes to 90 minutes.

Last year around 3,000 children had an MRI scan at Evelina London, with around 2,500 of these young patients requiring a general anaesthetic.



Some children require an anaesthetic for a number of reasons including their age, if they experience anxiety about lying in the machine, or if a clinical condition prevents them from keeping still or understanding why they need to keep still during the scan.

Thanks to the new equipment, known as the Playful MRI Simulator, and with the help of play specialists preparing children beforehand, there has been a notable reduction in the amount of young patients needing a general anaesthetic.

This means patients can go home straight away, avoiding the small risks associated with an anaesthetic, which in turn will generate savings for the Trust.

Evelina London is the first UK hospital – and 16th in the world – to install the innovative simulator, which is a smaller version of an MRI scanner. It can mimic the loud sounds of a real scan and has the same size ‘tunnel’ – which the child lies inside – as a real MRI machine.

Miriam Kearley, imaging play specialist at Evelina London, said: “Having an MRI scan can be a scary experience for anyone, but especially for a child. By practising with the simulator ahead of a scan, many of our young patients are able to overcome any nerves or anxiety, meaning they are less likely to need an anaesthetic.”

Aimed at children up to 10 years old, the simulator has helped 19 young patients avoid having an anaesthetic within the first month of being used.

Lewis Lancashire, eight, from Erith in south-east London, was one of the first patients to benefit.

His grandmother Vicki Lancashire said: “Lewis was scared of the idea of needing an MRI, but after practicing with the simulator he was much calmer when going through the real scan.

“The team at Evelina London did a great job at guiding him through exactly what he could expect, and we are really pleased that he didn’t need an anaesthetic to undergo the scan.”

Children can watch a film while lying inside the machine and are recorded by the simulator. Motion sensors register any movement made during the practice session and the results are discussed with the child, their parents and the play specialist.

Tracy Moon, senior paediatric MRI radiographer at Evelina London, said: “The MRI simulator has been great for patients at Evelina London. It helps us explain to children what will happen during their real scan so they can feel in control and prepared.

“It is also a great way to help put to rest any fears parents might have. Encouraging children to have scans while awake avoids the small risks associated with a general anaesthetic, reduces anxiety and means the patient can go straight home afterwards.”

The Playful MRI Simulator, which was developed by D0med Medical Engineering Design in France, was purchased by the friends and family of Lord Stanley Fink, President of Evelina London, as a special donation to mark his 60th birthday.

