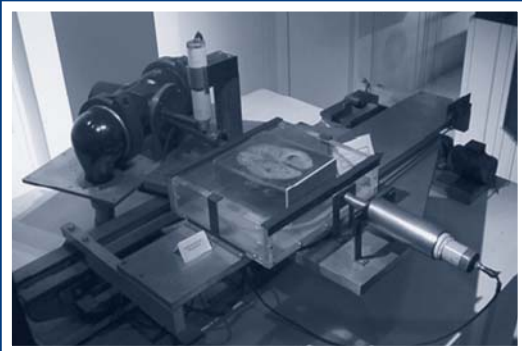


CT SCANNING



Hounsfield's test rig

In 1973, Godfrey Hounsfield received the 1973 Nobel Prize in Physiology or Medicine for his development of CT scanning. This was an almost single-handed effort which opened a new era of neurological imaging. Hounsfield realised that, in imaging brain, there were 3 limitations of X-ray. First it was 2-dimensional; second, conventional X-rays cannot distinguish between soft tissues as the contrast is too poor; third, with conventional X-ray, it is not possible to quantitate the densities of individual substances. In response to these limitations, Hounsfield decided to develop a computer to reconstruct a picture from sets of X-ray measurements taken through the body at a multitude of different angles. At the time the computing capacity needed was daunting, but Hounsfield persisted. In 1968, he produced the first picture of an in vitro brain to differentiate grey and white matter. EMI, Hounsfield's employers, then built, under Hounsfield's guidance, a clinical machine and in 1971, Hounsfield scanned his first patient – a frontal brain tumour was visualised, which was promptly resected. The potential was obvious, and EMI then built five more 'EMI-scanners' as they were then known, which were sent to other hospitals in London, Manchester and Glasgow. On 8–11 September 1975, the reports of CT scanning in large series of patients with epilepsy were presented at the 21st International Congress on Electroencephalography and Epilepsy held in Marseilles. At the meeting, organised by Gastaut, 1,702 patients from seven research groups were reported. CT abnormalities were found in about two-thirds of cases. Gastaut published his own findings in detail in *Epilepsia* in 1976 among 500 consecutive patients seen in his clinic, in whom CT had been performed over the previous 6 months, all of whom also had EEG and seizures classified by the new International League Against Epilepsy (ILAE) classification of seizures. Radiology in epilepsy was then not to look back, for a few years later, in part based on Hounsfield's own later research, MRI was about to explode onto the neurological scene.

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The fully proven CT system

First in CT system engineering

EMI Medical has achieved a world record in the development of the first and only CT scanner to be designed, built and tested in the UK. The EMI-Scanner CT system is a completely new concept in CT scanner design, offering the highest quality of image and the most reliable performance of any CT scanner in the world. The EMI-Scanner has set the standard for CT scanner performance and reliability. It is the only CT scanner to be designed, built and tested in the UK. The EMI-Scanner CT system is a completely new concept in CT scanner design, offering the highest quality of image and the most reliable performance of any CT scanner in the world. The EMI-Scanner has set the standard for CT scanner performance and reliability. It is the only CT scanner to be designed, built and tested in the UK.

An early EMI scanner advert