

The History of MRI

- 1882** – Physicist Nikola Tesla discovers the rotating magnetic field.
- 1937** – Isidor Rabi, a physics professor at Columbia University, develops a method for measuring the movements of atomic nuclei, which he named nuclear magnetic resonance.
- 1971** – American doctor and scientist Raymond Damadian discovers that images created using MRI technology could be used to make a medical diagnosis.
- 1972** – Paul Lauterbur determines that a gradient magnetic field would allow observers to take two-dimensional images of an object, which could then be stacked to create a three-dimensional view.
- 1977** – Raymond Damadian builds the first whole-body MRI scanner for medical use and produces the first image of the human body.
- 1977** – English physicist Peter Mansfield discovers how to complete scans in 15-20 minutes rather than hours.
- 1983** – The world's first commercial MRI machine – a Siemens MAGNETOM – goes into operation at the Mallinckrodt Institute in St. Louis, Missouri.
- 1990** – Seiji Ogawa discovers the technique that underlies Functional MRI (fMRI).
- 2003** – Lauterbur and Mansfield are awarded the Nobel Prize for their development of MRI.
- 2017** – The world's first 7 Tesla (7T) MRI, developed by Siemens, is cleared for clinical imaging by the Food and Drug Administration.
- 2020** – Siemens Healthineers introduces the world to High-V MRI with a .55T wide-bore system known as the MAGNETOM Free.Max.
- 2025** – ECR 2025 emphasizes environment sustainability and highlights how advanced MR systems aim to reduce energy usage, extend system lifespans, and deploy strategies to minimize repeat scanning.



Raymond Damadian, Larry Minkoff and Michael Goldsmith with the first MRI scanner, "Indomitable" (Credit: FONAR)

About MRI Exams

Magnetic resonance imaging (MRI) uses a powerful magnetic field, radio waves and a computer to produce detailed pictures of the body's internal structures that are clearer, more detailed and more likely in some instances to identify and accurately characterize disease than other imaging methods. It is used to evaluate the body for a variety of conditions, including tumors and diseases of the liver, heart and bowel. MRI is noninvasive and does not use ionizing radiation.

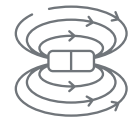
Fast Facts:



Originally, the MRI was called nuclear magnetic resonance (NMR). The term was changed to MRI because of the presumed negative connotation of the word "nuclear."



Approximately one-third of all MRI scans performed are for the spine.



The strength of the magnetic field is rated using a unit of measurement known as a Tesla. Modern MRI equipment ranges from 0.55T to 7T.

Sources:

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