



# Important Moments in the History of MRI

- 1882** – Physicist Nikola Tesla discovers the rotating magnetic field.
- 1937** – Isidor Rabi, a physics professor at Columbia University, developed a method for measuring the movements of atomic nuclei, which he named nuclear magnetic resonance.
- 1971** – American doctor and scientist Raymond Damadian discovered that images created using MRI technology could be used to make a medical diagnosis.
- 1972** – Paul Lauterbur determined 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** – Damadian built the first whole-body MRI scanner for medical use.
- 1977** – English physicist Peter Mansfield discovered how to complete scans in 15-20 minutes rather than hours.
- 1980** – MRI machines became commercially available.
- 1990** – Seiji Ogawa discovered the technique that underlies Functional MRI (fMRI).
- 2003** – Lauterbur and Mansfield were awarded the Nobel Prize for their development of MRI.
- 2017** – The world's first 7 Tesla (7T) MRI, developed by Siemens, was cleared for clinical imaging by the Food and Drug Administration.



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."



It is estimated there are 36,000 MRI machines in the world.



The strength of the magnetic field is rated using a unit of measurement known as a Tesla. Modern MRI equipment ranges from 1.5T to 7.0T.

### Sources:

American Registry of Magnetic Resonance Imaging Technologists  
<http://www.armrit.org/about.php>

The American Institute of Medical Sciences and Education  
<https://www.aimseducation.edu/blog/the-evolution-of-mri-imaging-equipment/>

University of Washington Department of Radiology  
<https://rad.washington.edu/blog/featured-history-magnetic-resonance-imaging/>

Electronic Component News (ECN)  
<https://www.ecnmag.com/blog/2015/11/medtech-memoirs-magnetic-resonance-imaging-mri>  
<https://www.enr.com/facts-about-mris/>

National Library of Medicine  
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6295297/>



Advanced Partner

