

GET TO KNOW MRE

A powerful imaging technology for liver disease assessment

MAGNETIC RESONANCE ELASTOGRAPHY

THE HISTORY



Magnetic resonance elastography was developed from research supported by the National Institutes of Health and conducted by physician scientists at the Mayo Clinic in Rochester, MN. The technological breakthroughs of the late 1990s led to clinical development in the early 2000s, and the technology was FDA approved in 2009.

MRE represents an entirely new way to image and diagnose disease in patients. Its noninvasive nature is a welcome substitute for traditional biopsy, which can be painful, costly and prone to sampling error.



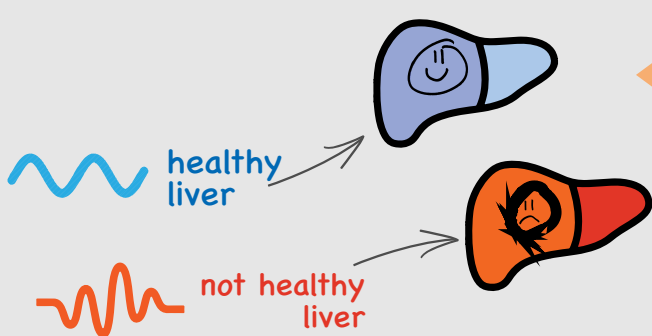
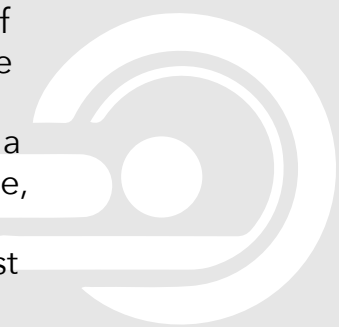
THE SCIENCE



From stethoscopes to percussion, physicians have used the power of sound to diagnose disease for centuries.

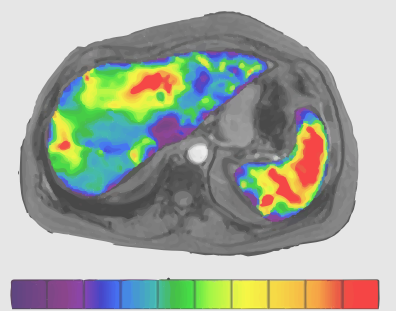


Leveraging the properties of sound, MRE incorporates the technological power of modern MRI systems. While a patient lays in an MRI machine, sound waves are passed through the region of interest (liver, brain, etc.).

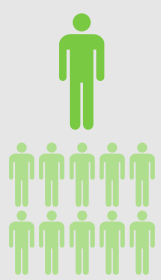


These sound waves travel through healthy and unhealthy tissue at different rates, which are analyzed by newly-designed MRI software.

In cases of suspected liver disease, the result is a quantitative map of the entire liver, with high levels of fibrosis in orange and red. This image is called an **elastogram**.

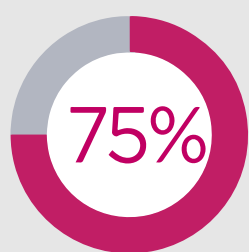


THE NEED

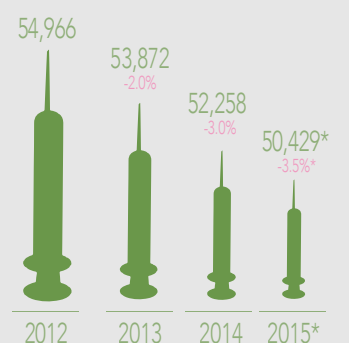


1 in 10 Americans has some form of liver disease. These can include liver cancer, Hepatitis C, non-alcoholic fatty liver disease, and cirrhosis.

75% of the Hepatitis C and Hepatitis B population do not even know they are infected.



MRE imaging is a totally noninvasive and highly accurate procedure that reduces pain and patient down-time associated with biopsies and invasive surgeries



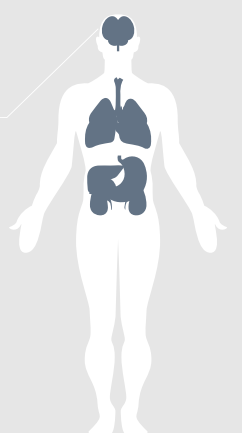
The number of liver biopsies continues to decline steadily as noninvasive options are more accurate and preferred by patients.

THE AVAILABILITY



Since 2006, the Mayo Clinic conducts about 2,000 MRE scans per year. MRE is also available at about 800 other locations in the U.S. alone, with 1600 locations worldwide.

New applications of MRE are also being developed, such as brain cancer, lung disease, prostate cancer and others.



CLINICAL DEMAND

The demand for MRE of the liver has never been stronger, with thousands of MRE scans performed across the U.S. every year.