The ACADEMY for Radiology & Biomedical Imaging Research

Advancing Innovation in Imaging Science

The Role of Imaging in the Healthcare Delivery Ecosystem

Medical imaging plays a unique role in the healthcare delivery process, both as an instrumental part of the medical delivery and management ecosystem and as a catalyst for innovation and technological advancement in service of patient care. Imaging performs a central, critical, and irreplaceable role in early disease detection, diagnosis, treatment planning and monitoring. Precise and personalized care and treatment plans are often developed based on decisions made through imaging analysis and review. Additionally, the proven positive relationship between imaging investment and patents highlights the promise of imaging as both an opportunity to improve patient care and outcomes and a way to support the American economy and bioengineering and research infrastructure.

Investments in Imaging Research

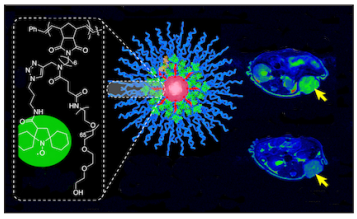
Imaging research saves lives and improves care by giving patients, physicians, and researchers the tools necessary for the early detection, accurate diagnosis, and effective treatment of disease. Imaging's strong multidisciplinary make-up, technology-forward approach, and data intensive outputs make it similar to genomics, therapeutic development, and molecular science in its ability to rapidly advance treatment efforts. Robust support for imaging has the potential to impact healthcare broadly along the disease spectrum.

Recent Successes in Imaging

Some examples of recent advancements in imaging which have directly impacted patient care and treatment include:

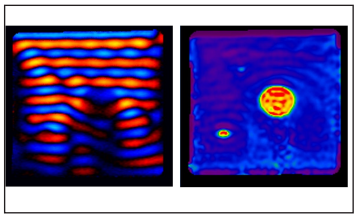
NIH-Funded Researcher Develops Metal-Free MRI Contrast Agent

A metal-free dye contrast agent has been developed for use in magnetic resonance imaging (MRI) tests. Metal-based dyes can cause allergic reactions. And, this dye produces better image quality. The Massachusetts Institute of Technology (MIT) and University of Nebraska developed this product. https://www.nibib.nih.gov/news-events/newsroom/nih-funded-researchers-develop-metal-free-mri-contrast-agent



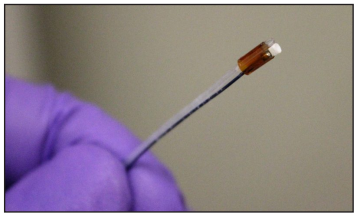
Elastography Non-Invasively Identifies Tumor Qualities

This study demonstrates how a magnetic resonance imaging (MRI) technique called elastography, captures snapshots of body tissue. It replaces other tests that can be painful and invasive. John Huston III, MD, of the Mayo Clinic published the study. https://www.nibib.nih.gov/news-events/newsroom/imaging-technique-measures-tumor-stiffness-aid-surgical-planning



Ultrasound 'Drill' Targets Deep Vein Blood Clots

A new surgical tool has been developed that uses low-frequency ultrasound to break down blood clots that causes dangerously deep blood clots and swelling. The tool is more accurate and reduces the need for blood thinning drugs. Created by North Carolina State and the University of North Carolin at Chapel Hill. https://news.ncsu.edu/2017/06/ultrasound-drill-2017/



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