

MRI (MAGNETIC RESONANCE IMAGING)

- MRI utilizes the potential energy stored in the body's hydrogen atoms. The atoms are manipulated by very strong magnetic fields and radiofrequency pulses to produce enough localizing and tissue-specific energy to allow highly sophisticated computer programs to generate two- and threedimensional images.
- MRI scanners are not as widely available as CT scanners. They are expensive to acquire and require careful site construction to operate properly. In general, they also have a relatively high ongoing operating cost.
- However, they utilize no ionizing radiation and produce much higher contrast between different types of soft tissues than is possible with CT.
- MRI is widely used in neurologic imaging and is particularly sensitive in imaging soft tissues such as the muscles, tendons, and ligaments.
- There are safety issues associated with the extremely strong magnetic fields of an MRI scanner, both for objects within the body and for ferromagnetic projectiles in the MRI scanner environment. There are also known side effects from the radiofrequency waves that such scanners produce and possible adverse effects due to some MRI contrast agents.