Workers' Comp

Specialty Solutions Spotlight: The Significance of Tesla in MRI

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What does tesla signify in the context of an MRI scan?

Magnetic resonance imaging (MRI) is effective for visualizing injuries involving musculoskeletal, vascular, gastrointestinal, spinal, cranial, and soft tissues, among others. MRIs are often used to diagnose aneurysms, disorders of the eye and inner ear, spinal cord disorders, anterior cruciate ligament (ACL) and meniscal tears, blood vessel issues, joint or tendon injuries and brain injuries from trauma.

MRI works by running an electric current through coiled wires, generating a brief magnetic field within the body. A transmitter/receiver within the apparatus transmits and receives radio waves. These signals are subsequently employed by a computer to produce digital images of the examined body area. The duration of the examination typically ranges from 30 to 50 minutes, contingent on the specific exam and equipment utilized.

In diagnostic imaging, medical professionals often refer to magnetic resonance (MR) scanners as 1.5T or 3.0T, denoting their magnetic field strength. In terms of MR, “T” represents tesla, a unit of measurement for magnetic flux density. This unit of measurement on the International System of Units (SI), was named after scientist Nikola Tesla.

The quality of an MRI machine relies heavily on its magnet strength. Greater magnetic strength leads to improved image quality, primarily through the enhancement of signal to noise ratio (SNR). Consequently, a higher SNR translates to more precise and accurate images.

For most examinations, a 1.5T MRI scanner serves as the standard imaging tool. However, in specific situations, such as when greater magnet strength is required, a 3.0T scanner becomes necessary. These two options each have their advantages: a 1.5T scanner can enhance image quality during lengthier sequences, while a 3.0T scanner excels in providing superior clarity and detail. Furthermore, a 3.0T scanner can accommodate more

patients in the same time frame as a 1.5T scanner processes one. For even more substantial magnetic strength, higher tesla scanners are available, reaching up to 7.0T.

At Apricus, we ensure that diagnostic imaging providers have up to date equipment that can produce quality scans. Apricus specialty care coordinators work with claims professionals to schedule imaging services with reputable in-network imaging facilities that meet strict requirements for licensure, certifications, insurance, and use a minimum of 1.5T magnetic resonance screening.

This information is meant to serve as a general overview, and any specific questions should be fully reviewed with a health care professional or specialty service provider.

To make a referral for this service and others, call us today at 877.203.9899 or send an email to referrals@apricusinc.com.

Resources:

https://my.clevelandclinic.org/health/diagnostics/4876-magnetic-resonance-imaging-mri

https://www.gehealthcare.com/insights/article/what-does-tesla-mean-for-an-mri-and-its-magnet

https://directmedparts.com/what-does-tesla-mean-for-mri/

https://www.amberusa.com/blog/what-is-tesla-in-an-mri-scanner



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