Workers' Comp

Specialty Solutions Spotlight: Diagnostic Imaging Services in Workers' Compensation

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Author profile image

Tanisha Hargrove

Manager, Operations

What are the most frequently used imaging techniques in workers' compensation for evaluating work-related injuries?

Diagnostic imaging is vital in workers' compensation, offering key insights into injury causation, severity, informing treatments and speeding up recovery times. Each modality is unique in terms of the images it captures, the equipment it uses and the conditions it helps radiologists diagnose. The following is a list of some of the most used diagnostic imaging services in workers' compensation:

X-ray

X-rays capture images of internal structures, primarily focusing on bones. These images are created with a small dose of ionizing radiation, resulting in two-dimensional pictures. X-ray beams pass through the body and are absorbed in differing amounts depending on the density of material they pass through. In certain X-ray procedures, a contrast medium like iodine or barium may be introduced to enhance image detail.

X-ray tests are quick and painless, often used to diagnose bone fractures, infections, arthritis, osteoporosis and lung conditions.

Ultrasound

Ultrasound uses high-frequency sound waves to present three-dimensional images of internal body structures and organs on a computer screen, revealing details that static X-rays cannot, like blood flow and organ movement. Most ultrasound examinations are done using a device outside the body, though some involve inserting a small device inside the body. During the examination, gel is applied to the skin over the area being

examined to help prevent air pockets, which can block the sound waves.

Ultrasound is beneficial for imaging abdominal, pelvic, musculoskeletal and vascular areas and is often used to diagnose joint inflammation, blood flow problems, hernia-related issues and is used to guide biopsies.

Magnetic Resonance Imaging (MRI)

MRIs utilize a combination of magnetic fields and radio waves to construct detailed cross-sectional images of organs and tissues within the body. Many MRI machines are large, tube-shaped magnets. Additionally, these machines can also generate three-dimensional images that can be viewed from various angles. This imaging technique is especially effective for visualizing injuries involving musculoskeletal, vascular, gastrointestinal, spinal, cranial and soft tissue damage, among others.

MRI is a noninvasive way 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.

However, adjusters should be aware that MRI can’t be used in every patient. MRI machines have strong magnets that can be dangerous if there’s metal inside the body. Even if metal objects don’t pose a safety hazard, they may distort the MRI images. Injured employees with metal implants, pacemakers, artificial limbs or other devices should avoid MRIs and consider computed tomography (CT) scans or X-rays instead.

Computed Tomography (CT)

CT scans offer more comprehensive insights than basic X-ray images by providing detailed information from various angles around the body. These scans capture intricate visuals of bones, blood vessels, internal organs and soft tissues within the body. Using rotating X-ray tubes, the process creates cross-sectional images, which are later reconstructed into different planes. When viewed on a computer, these images can even be transformed into three-dimensional representations.

A CT scan can be used to visualize nearly all parts of the body and is often used to diagnose injuries from trauma, bone fractures and infections. Also used to guide procedures (surgery, biopsy, radiation therapy).

Positron Emission Tomography (PET) Scan

PET scans utilize radioactive tracers and a scanning machine to display the functionality of tissues and organs. This technique can uncover abnormal metabolic activity linked to disease before its visible on other imaging tests like CT or MRI scans. The tracer, often injected into a vein in the hand or arm, gathers in areas with elevated metabolic activity, indicating the location of the disease.

A PET scan is an effective way to diagnose traumatic brain injuries.

Electrodiagnostics

Electrodiagnostics is a complex diagnostic method that aids in assessing muscle injury, muscle disease and nerve damage, most commonly carpal tunnel and neuropathy. This involves measuring the electrical activity of muscles and nerves to identify pain, weakness or numbness in the back, neck or limbs. This technique commonly employs two tests:

- **Electromyography (EMG)**
  An EMG captures muscle electrical activity and presents it visually or in a signal. This information is collected through a set of electrodes, placed on the skin surface or inserted into the muscle. An EMG test can assess back or neck issues and may be prescribed for injured employees experiencing numbness, tingling, pain, weakness or cramps.
- **Nerve conduction studies (NCS)**
  NCS are often done along with EMG to determine whether a nerve is functioning normally. An NCS is conducted by stimulating the nerve, most likely through electrode patches placed on the skin along the nerve pathway. During this test, small electrical shocks are applied to record how the nerve works. By stimulating the nerve at various places, health care professionals can determine the specific site of nerve issues. NCS are often used to diagnose potential nerve damage as well as during treatment to monitor nerve recovery after injuries.

Advanced techniques like MRI, CT and electrodiagnostics aid radiologists and other health care professionals in providing precise treatments and empowering employers with informed choices for the welfare of injured employees. Apricus serves as a key partner offering expedited access to a wide range of diagnostic imaging solutions nationwide. Our solutions play a pivotal role in aiding claims professionals, nurses and case managers in successfully reintegrating injured employees back into the workforce.

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://www.mywtmf.com/services/physical-medicine-rehabilitation/electrodiagnostics/

https://orthoinfo.aaos.org/en/treatment/electrodiagnostic-testing/

https://www.mayoclinic.org/tests-procedures/mri/about/pac-20384768

https://www.mayoclinic.org/tests-procedures/ct-scan/about/pac-20393675

https://www.mayoclinic.org/tests-procedures/x-ray/about/pac-20395303

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