

Bone Scintigraphy for the Diagnosis of Stress fractures in Athletes

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DESCRIPTION

A bone scan is a specialist radiology treatment used to analyze the different skeleton bones. This implies that throughout the process, a trace quantity of a radioactive chemical is utilised to aid in the evaluation of the bones. A bone scan can also be used to track the course of some illnesses' therapy. The radioactive material, known as a radionuclide or tracer, will accumulate inside bone tissue at sites of aberrant physical and chemical alteration. A form of radiation known as gamma radiation is emitted by the radionuclide. A scanner detects the gamma radiation and converts the data into an image of the bones.

The areas where the radionuclide accumulates are referred to as "hot spots" and they may indicate the presence of conditions such as arthritis, malignant (cancerous) bone tumours, metastatic bone cancer (cancer that has spread from another site, such as the lungs), bone infections, bone trauma not visible on standard X-rays, and other bone conditions.

A bone scan is a nuclear imaging test that aids in the diagnosis and monitoring of many forms of bone disease. A bone scan is performed on patients who have unexplained skeletal discomfort, a bone infection, or a bone damage that is not visible on a routine X-ray.

A bone scan can also be useful in finding cancer that has spread (metastasized) to the bone from the initial site of the tumour, such as the breast or prostate. The test is extremely sensitive to changes in bone metabolism. A bone scan's capacity to scan the complete skeleton makes it extremely useful in identifying a wide range of bone problems.

- Fractures
- Arthritis
- Bone Pager's disease

- Bone cancer
- Cancer that spread to the bone from another location
- Joint infection, joint replacement, or bone infection (osteomyelitis)
- Impaired blood flow to bones or bone tissue death (avascular necrosis)

Although radioactive tracers are used to generate the pictures, the radiation dosage is far lower than that of a CT scan. Because of concerns regarding radiation exposure to the foetus, bone scans are often not conducted on pregnant or nursing mothers.

Tiny quantities of radioactive materials (tracers) are injected into a vein and taken up in varied amounts at different areas in the body during nuclear imaging. Tracer is the most concentrated in areas of the body where cells and tissues are actively mending themselves. These regions are highlighted in nuclear imaging, indicating the presence of anomalies associated with illness or damage.

The method for a bone scan comprises both an injection and the actual scan. Tracers will be inserted into arm vein. The period between the injection and the scan varies according to the purpose. Some photographs may be taken shortly following the injection. The major photos, on the other hand, are taken two to four hours later to allow the tracer to circulate and be absorbed by bones. The scanning process might take up to an hour. The treatment is completely painless.

A bone scan has no known negative effects, and no follow-up treatment is required. Two days following the scan, the radioactivity from the tracers is completely eliminated.

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