

CLINICAL SCENARIO

A 15-year-old female presented complaining of a painful 2nd toe on her left foot.

BACKGROUND INFORMATION

Initial questioning revealed that the patient remembered dropping a heavy piece of furniture on her forefoot approximately 22 months earlier. Although painful at the time of the injury the pain subsided briefly, however three weeks later it had reached a stage where she consulted her family doctor who referred her for x-ray examination (see Figure 1). The radiology report suggested there was no bony damage, however due to the pain, a Technetium-99m methylene diphosphonate (99mTc-MDP) bone scan (scintigraphy) was suggested (Figure 2). The bone scan revealed there was an increased uptake of the radionuclide in the 2nd metatarsal head and suggested this could be due to a stress fracture. The patient was advised she had sustained a stress fracture and told to decrease her activities until healing occurred.

Upon viewing the initial x-rays (Figure 1) it would appear there are some areas of interest. Firstly, the joint space of the second metatarsophalangeal joint (MPJ) is increased relative to the other MPJs. This would indicate that there is inflammation in the joint (ie. inflammation 'pushes' the joint apart, thereby increasing the joint space). Secondly, when assessing the density of the metatarsal head, it would appear that the second metatarsal head is slightly denser (ie. more white or sclerotic) than the third metatarsal head - this may indicate active avascular necrosis.

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