

Correct positioning of the foot and ankle



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Correct Positioning for a Three View Examination of the Ankle and of the Foot

The correct positioning for a three view examination of the ankle and of the foot is “ essential to the surgeon for the diagnosis and treatment of multiple lower extremity conditions including fractures, neoplasms, arthritides, deformities, and infections” (Jones & Younger, 2013). Due to the essential nature of these positions for diagnosis, it is imperative to accurately and correctly identify those extremity positions. The standard projections of the foot and ankle include the “ anteroposterior, lateral, internal oblique, and external oblique views” (Jones & Younger, 2013). These four positions are all that are needed for accurate and complete x-ray views of the foot and the ankle; depending on the location of the pain or injury depends on which of the three positions are used; this paper will discuss all four of the different positions that are used, as well as an example of a foot injury, an example of an ankle injury, and which of the three positions are used to best diagnose and treat the specific injury.

The anteroposterior, or AP, view provides imaging of the forefoot, midfoot, tarsometatarsal and transverse tarsal articulations. To be able to obtain this particular view, the foot is placed pad down on the x-ray film, with the knee bent at a 90 degree angle, while the patient sits on the table. The beam is “ centered on the third metatarsal and angled 15 degrees cephalad from the vertical” (Jones & Younger, 2006). This natural position mimics that a person would be in if they were sitting on the ground with their knees bent, and their weight placed on their elbows and buttocks.

The lateral view is obtained by a person lying on their side, with the junction of the talus and fibula placed directly on the x-ray film, or plate. The beam is directly “ perpendicular to a point above the base of the fifth metatarsal”

(Jones & Younger, 2006).

The internal oblique, or medial oblique, image compliments the lateral and AP views of the foot and ankle and is used routinely as the third view in the series. This position involves the turning of the foot and ankle outward, as though the patient were looking sideways at their ankle. The foot should be kept at a 30 degree angle ideally, with the distal phalanx of the big toe supporting the weight of the foot, and the last three phalanges of the foot not resting on the plate at all. It provides a clearer picture of the forefoot.

The external oblique image is used to provide a clearer picture of the hind foot and is used as a main part of the three view foot and ankle series. The weight of the foot is resting on the distal phalanx and phalange of the little toe on the x-ray plate itself, with the big toe kept in the air. It is the equivalent to sitting down and looking at the arch of one's foot. The foot should be placed at a 30 degree angle, ideally. (Jones & Younger, 2006)

The three views that will be used will be determined by the location of the injury or pain itself. With a sprained ankle, the three views that are typically used are the AP, lateral and external oblique images. This allows for a complete view of the articulations of the ankle itself, and any subsequent damage that could have been caused to the ligaments as a result of the sprain itself. With pain originating from the arch of the foot itself, the AP, lateral and internal oblique images would be used, providing not only a complete view of the arch itself, but also providing the necessary data for analysis of the area from which the pain is originating.

The location of the pain or injury is tied to the positioning used to provide a complete three view examination of the ankle or of the foot, and by knowing the four different types of positioning used, the correct three for any type of

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injury can be deduced conclusively, providing the most accurate and effective diagnostic data for treatment of the issue. The correct positioning of the ankle and the foot is crucial to diagnosis of injuries to the ankle, foot, or surrounding tissues; without the correct positioning, the possibility of an injury or issue being overlooked increases, resulting in further pain and potential complications further down the road.

Work Cited and Referenced

Jones, C., & Younger, A. (2006). *Surgery of the foot and ankle*. (8th ed.). Maryland Heights, Missouri: Mosby. Retrieved from [http://www.footandankleonline.com/storedfiles/Sample_Chapter03_Imaging of the Foot and Ankle. pdf? CFID= 459142&CFTOKEN= 91878986](http://www.footandankleonline.com/storedfiles/Sample_Chapter03_Imaging_of_the_Foot_and_Ankle.pdf?CFID=459142&CFTOKEN=91878986)