

A Study to Develop Clinical Decision Rules for the Use of Radiography in Acute Ankle Injuries

Stiell et. al (1992)

canadiem MVP INFOGRAPHIC SERIES

Background



Cost of ankle x-rays exceeded that of low volume but high technology procedures like cardiac catheterization



Unnecessary x-rays led to long wait times and unnecessary radiation exposure to patients



No widely accepted guidelines for the use of radiography in ankle injuries was available at the time of the study

The goal: to develop decision rules that were 100% sensitive for clinically significant ankle and foot fractures on radiography

Study Design



Conducted at Ottawa Civic and Ottawa General Hospital



Prospective study over a 5 month period



Inclusion



All patients with acute blunt injuries of the ankle



Exclusion



Pregnant



<18 years of age



Isolated injuries of the skin or injury >10 days



Returning for assessment of same injury



Referred from elsewhere with radiographs



Outcome Definitions



No fracture or insignificant fracture: avulsions of 3mm or less across



Significant fracture: All other fractures

Results



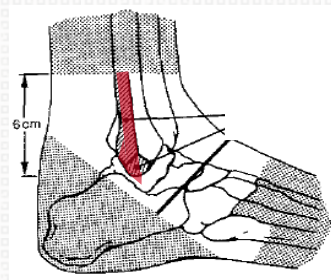
Ankle x-ray if:



AGE 55 or greater



UNABLE TO BEAR WEIGHT: both immediately and in ED - 4 steps

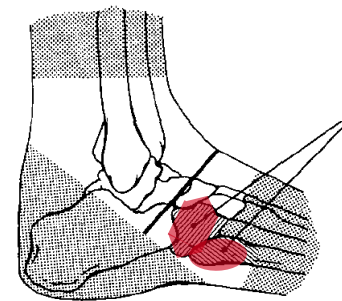


BONE TENDERNESS: At posterior edge or tip of either malleolus

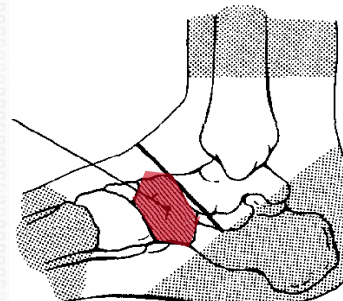
Pain near the MALLEOLI AND one of:



Foot x-ray if:



BONE TENDERNESS: at navicular, cuboid or the base of the fifth metatarsal



Pain in the MIDFOOT AND:

Bottom Line

This was the first study to offer 100% sensitive clinical decision rules for the use of radiography in acute ankle injuries

Studies since 1992 have led to a modification in these clinical decision rules

REFERENCES:

Stiell I, Greenberg G, McKnight R, Nair R, McDowell I, Worthington J. A study to develop clinical decision rules for the use of radiography in acute ankle injuries. *Ann Emerg Med.* 1992;21(4):384-390. <https://www.ncbi.nlm.nih.gov/pubmed/1554175>.

This infographic was created by Anuja Bhalerao and edited by Alvin Chin.

