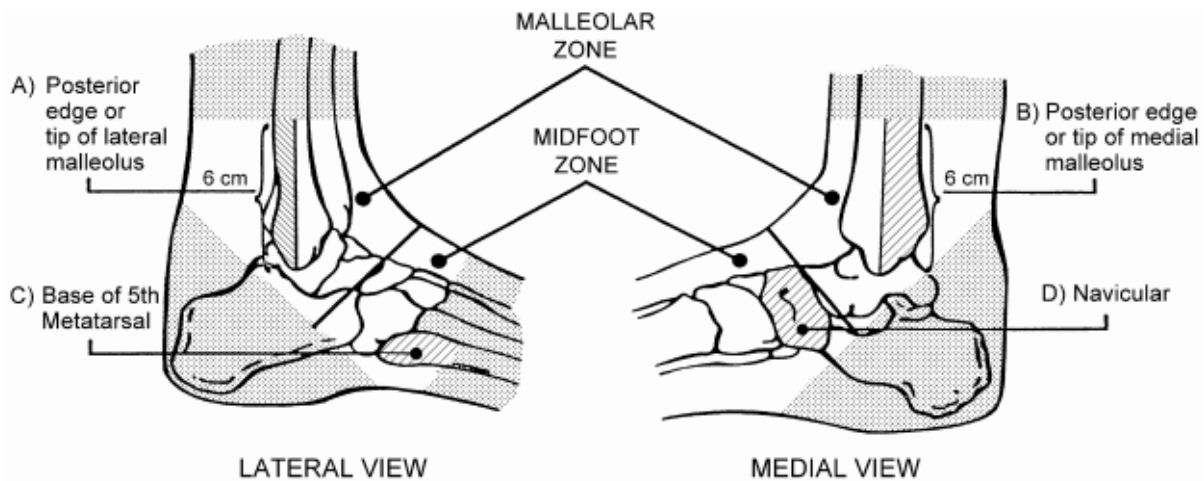


Ottawa Ankle Rules

Purpose: The Ottawa Ankle Rules were developed in order to determine the need for radiographs after acute ankle injury secondary to the risk of fracture. Implementation of these rules can reduce the rate of unnecessary X-rays.



ANKLE	FOOT
<p>a) An ankle X-ray series is only required if: There is any pain in malleolar zone and any of these findings:</p> <ul style="list-style-type: none"> i) bone tenderness at A OR ii) bone tenderness at B OR iii) inability to bear weight both immediately and in ED (4 steps) 	<p>b) A foot X-ray series is only required if: There is any pain in midfoot zone and any of these findings:</p> <ul style="list-style-type: none"> i) bone tenderness at C OR ii) bone tenderness at D OR iii) inability to bear weight both immediately and in ED (4 steps)

Specificity: 0.40 (Ankle), 0.38 (Midfoot), 0.26 (Ankle and midfoot combined)

Sensitivity: 0.98 (Ankle), 0.99 (Midfoot), 0.96 (Ankle and midfoot combined)**

Positive likelihood ratio: 1.67

Negative likelihood ratio: 0.0 – 0.1

*Additional prospective validation studies have demonstrated sensitivity values as high as 100% with population sizes as large as 9,000+

**Validation studies for the Ottawa rules focus on population ages 18 and older. Pediatric populations have shown higher false negative rates and thus reliance on the Ottawa rules for the pediatric population may not be appropriate



Ottawa Ankle Rules

Research:

1. Bachmann LM, Kolb E, Koller MT, et al. Accuracy of Ottawa ankle rules to exclude fractures of the ankle and mid-foot: systematic review. *British Medical Journal*. 2003; 326(7386): 1-7.
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3. Leisey, J. Prospective validation of the Ottawa Ankle Rules in deployed military population. *Military Medicine*. 2004, 196(10):804-6.
4. Stiell IG, Greenberg GH, McKnight RD, Nair RC, McDowell I, Worthington JR. A study to develop clinical decision rules for the use of radiography in acute ankle injuries. *Ann Emerg Med*. 1992, 21(4):384-390.
5. Stiell IG, Greenberg GH, McKnight RD *et al*. Decision rules for the use of radiography in acute ankle injuries: Refinement and prospective validation. *JAMA* 1993; 269: 1127-32.
6. Stiell IG, McKnight RD, Greenberg GH, McDowell I, Nair RC, Wells GA, Johns C, Worthington JR. Implementation of the Ottawa ankle rules. *JAMA*. 1994; 271(11): 827-832.
7. Stiell I, Wells G, Laupacis A, Brison R, Verbeek R, Vandemheen K, Naylor CD. Multicentre trial to introduce the Ottawa ankle rules for use of radiography in acute ankle injuries. Multicentre Ankle Rule Study Group. *BMJ*. 1995; 311(7005): 594-597.

