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Review

# Pure Ankle Dislocation: A systematic review of the literature and estimation of incidence

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ABSTRACT

*Background:* Ankle dislocation without fracture is rare. We used electronic hospital records to determine the incidence of pure ankle dislocation and performed a systematic review of the literature to investigate the occurrence, treatment and outcome of this injury to better inform treating clinicians.
*Methods:* A review of electronic medical records at a tertiary referral centre was conducted to estimate in incidence of pure ankle dislocation. Systematic review of the literature was undertaken according to PRISMA guidelines for the reporting of individual patient data. This identified 64 English language articles that included 18 case series, 45 case reports and 1 biomechanical cadaveric study. Data was extracted by standard form independently by 2 of the authors and descriptive statistics were used to describe results.
*Results:* The estimated incidence of pure ankle dislocation is 0.065% (13/20,000) of presentations with an ankle injury or 0.46% (23/5000) of presentations with an ankle dislocation.
Systematic review of English literature identified 154 cases and demonstrated that sporting accidents (31%) and motor vehicle accidents (30%) are the most common cause. 73% (112/154) of the cases occurred in males and 50% (77/154) were open. In 46% (71/154) of patients the direction of dislocation was posteromedial. 46% of patients had nonoperative treatment; ligamentous repair was described in 26% (37 patients). The mean period of immobilisation was just over 6 weeks (range 2–16 weeks). In most patients, good functional outcomes were described. The most common long-term complaint was decreased ankle range of motion (18%) (27/154). Ankle instability was rare (2.6%) (4/154) and not influenced by acute ligament repair (P = 0.98).
*Conclusion:* Pure ankle dislocation is a rare injury. The literature reports that most injuries occur in sports and motor vehicle accidents. The majority of injuries treated with early reduction followed by a short period of immobilisation and functional rehabilitation have good clinical outcomes.


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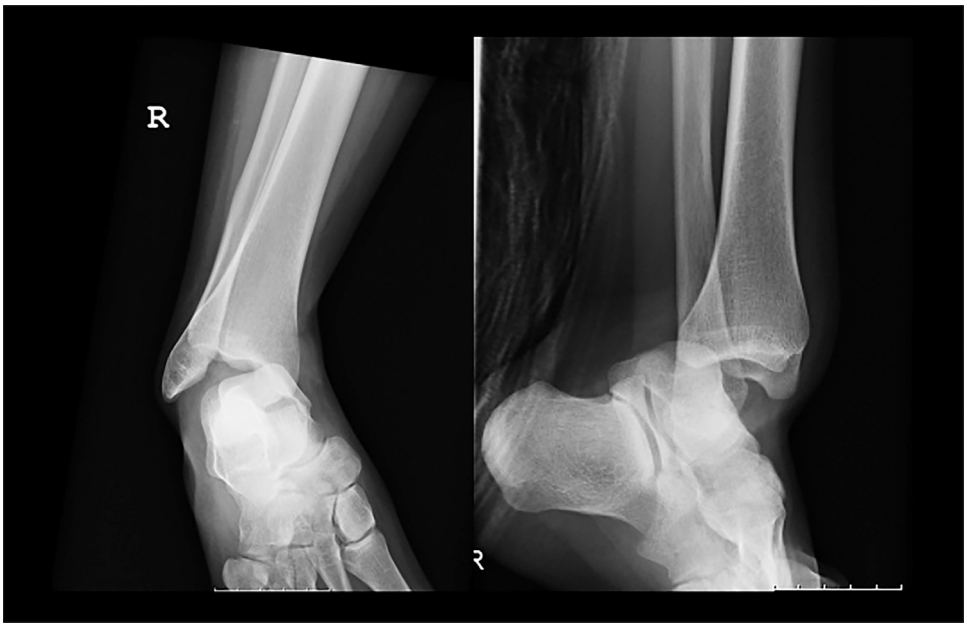


**Fig. 1.** Pre-reduction x-ray of a posteromedial pure ankle dislocation.

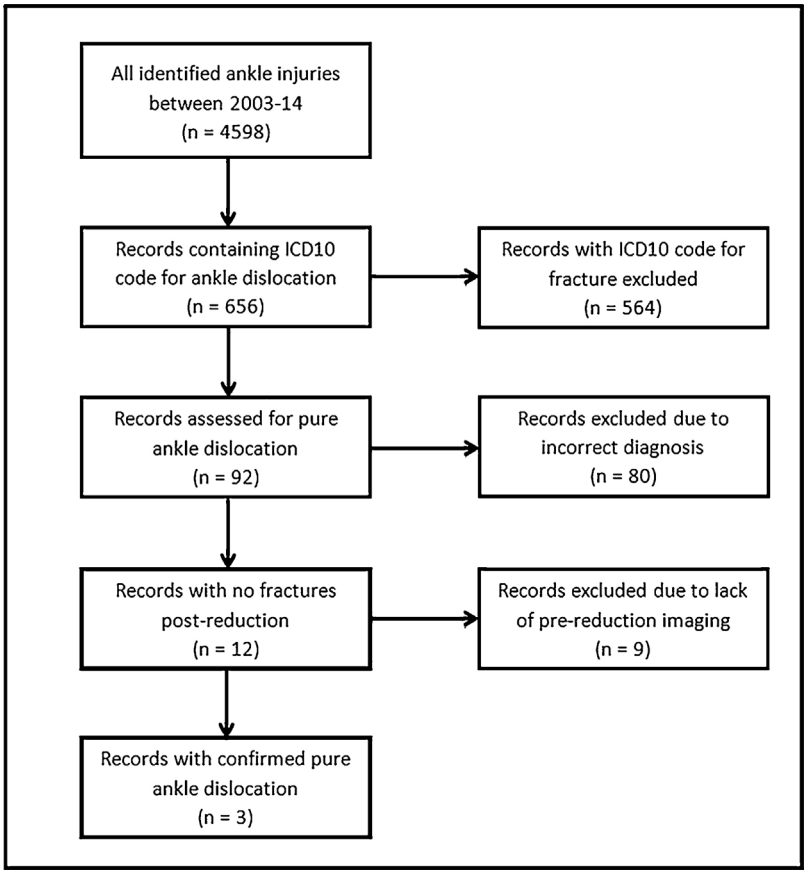


**Fig. 2.** Flowchart with search strategy used in calculating occurrence rate of pure ankle dislocation from a single hospital network.

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