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Reproducibility assessment of the Lauge-Hansen classification for ankle fractures

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ABSTRACT

Objective: This study evaluated the reproducibility of the Lauge-Hansen classification among orthopedic residents and more experienced orthopedists.

Methods: The inclusion criteria were ankle fractures with adequate radiographs taken in anteroposterior (AP), true AP and P (profile) views, which were individually analyzed by physicians. The analysis was performed based on the Lauge-Hansen classification. The raters were 5 orthopedic professionals from our department: 3 residents and 2 board-certified orthopedists (one with less than 10 years of experience, and the other with more 10 years of experience in the field). The professionals first analyzed and classified 30 ankle fracture radiographs; then, after 1 week, they were asked to perform a new evaluation. The radiographs were shown without names or other identifying information. The classifications were subsequently examined based on the analysis of the supporting material that had been previously provided for each individual. A consensus decision regarding the classification was made among all professionals at the end of the study.

Results: The professionals were asked to analyze radiographs from 30 patients with ankle fracture, among whom supination-external rotation was the most common diagnosis. The results were outlined in tables and plotted in graphs; in a second evaluation performed after 1 week, there were 66% hits and 34% errors, whereas the percentage of hits in the first evaluation was 61.33%.

Conclusion: The routine use of management classifications by physicians facilitates the understanding of these classifications by other professionals in the field while increasing interobserver agreement.

Keywords: Ankle trauma; Ankle fractures; Classification.

