
SYSTEMATIC REVIEW EFFECTIVENESS OF ULTRASONOGRAPHY IN DIAGNOSING CHRONIC LATERAL ANKLE INSTABILITY: A SYSTEMATIC REVIEW

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ABSTRACT

Background: Chronic ankle instability (CAI) is a condition that often develops after repeated ankle sprains, increasing the susceptibility of the ankle to move into excessive inversion when walking on unstable surfaces. Treatment for CAI costs approximately three billion health care dollars annually. Currently, common diagnostic tools used to identify ankle instability are arthroscopy, imaging, manual laxity testing, and self-reported questionnaires.

Purpose: The purpose of this systematic review was to investigate the effectiveness of ultrasonography in diagnosing CAI, in comparison with other diagnostic tools.

Methods: Search limits: articles published between the years 2000-2015, and articles that were peer reviewed and published in the English language. Databases searched: CINAHL, PubMed, Medline, Medline Plus, Science Direct, OVID, Cochrane, and EBSCO. Titles and abstracts of the 1,420 articles were screened for the inclusion criteria by two independent raters, with discrepancies solved by a third rater. The modified 14-point Quality Assessment of Diagnostic Accuracy Studies (QUADAS) scale was used to assess methodological quality of included articles.

Results: Six high quality articles were included in this systematic review, as indicated by high scores on the QUADAS scale, ranging from 10 to 13. Sensitivity of US ranged from: 84.6 % -100%, specificity of US ranged from: 90.9% - 100% and accuracy ranged from: 87% - 90.9%.

Discussion: The results of the included studies suggest that US is able to accurately differentiate between the grades of ankle sprains and between a lax ligament, torn ligament, thick ligament, absorbed ligament and a non-union avulsion fracture. These findings indicate that US is a reliable method for diagnosing CAI, and that US is able to classify the degree of instability.

Conclusion: Researchers found that US is effective, reliable, and accurate in the diagnosis of CAI.

Clinical Implications: US would allow for earlier diagnosis, which could increase the quality of care as well as decrease the number of outpatient visits. This could lead to improvement in treatment plans, goals and rehabilitation outcomes.

Level of Evidence: 1a

Keywords: chronic ankle instability, ultrasonography, magnetic resonance imaging

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