

Assessing the Utility of Deltoid Ligament Repair in Ankle Fracture: A Systematic Review, Shazadeh Safavi K, Rezvani A, Janney CF, et al.. *Cureus*. Volume 7, Issue 6, Jul. 19, 2022

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Level of Evidence: 1

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Ankle fractures are among some of the most prevalent injuries treated by orthopedic surgeons with an incidence ranging from 71 to 187 per 100,000 person-years. Additionally, up to 40% of acute ankle fractures will have an injury to the deltoid ligament (DL) associated with it. There is still debate among the ideal approach to managing a DL injury from a surgical perspective. Manual and gravity stress tests along with MRI are reliable for evaluating SER type ankle fractures in addition to both arthroscopy and ultrasonography. The purpose of the review was to examine the operative indications for DL repair in the setting of acute ankle fractures and to assess whether repairing an injured DL improves clinical outcomes.

9 studies were found to have met all inclusion criteria and 7 of the 9 studies were found in favor of routine DL repair. While operative time was found to be increased in DL repair approaches, post-operative time spent in the hospital was found to be decreased overall. Repairing the DL was suggested to be a positive alternative to trans-syndesmotic screw fixation due to a lowered rate of malreduction and obviated the need for removal of an implant. There was also significant improvement found in clinical, functional, and radiographic outcomes. An additional benefit of DL repair includes limiting talar excursion and medial instability which ultimately benefits patients who may suffer from residual valgus instability following ORIF with an isolated lateral malleolus fracture. There is also evidence that the DL may indirectly stabilize the syndesmosis. Due to this biomechanical aspect, DL repair following ORIF and syndesmosis repair may be of benefit to patients with concomitant DL syndesmotic disruptions. Finally, DL repair may significantly reduce malreduction rates in Weber C type fractures. Limitations of one of the studies which did not support DL repair included if a repair of the syndesmosis was performed, it may have masked the sequelae of an unrepaired DL. The other study stated that DL repair was not indicated for Weber B injuries despite stating medial augmentation being an alternative to syndesmotic repair.

Strengths and limitations for the study included limited literature regarding operative indications for DL ruptures in acute ankle fractures resulting in a small sample size. The authors concluded that DL repair in the setting of ankle fractures remains somewhat unclear. In this specific setting however, DL repair may benefit patients with concomitant DL-syndesmotic disruption, Weber C fractures, and residual valgus instability following ORIF of isolated lateral malleolar fractures.



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