The Tarsal Navicular Stress Fracture Revisited: The Unequivocal Case For Conservative, Non-Surgical Management

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Introduction/Purpose: The purpose of this paper is to both refute and condemn the current practice of open reduction and internal fixation in the treatment of both uncomplicated partial and complete tarsal navicular stress fractures. It will deal with issues that have violated the basic principals of clinical based evidence and resulted in unnecessary surgery, patient injury, and excessive costs.

Methods: Ten cases managed by the senior author as well as a meta-analysis 250 cases in 19 published reports in the peer reviewed literature will be reported vis-a-vis surgical vs. conservative management. Management of the dorsal transverse fragment will be discussed, The large cost disparity between operative and non-operative management will be emphasized. The vascular and biomechanical factors will be presented.

Results: The 10 cases of TNSF reported & treated by the senior author successfully healed by non-surgical, non-weight management. The meta-analysis of 250 reported cases treated conservatively had 96% successful outcomes. Conversely, those cases treated surgically with screw fixation had a 19% to 26% failure / major complication rates with repeat surgery and some with years of disability.

Conclusion: Surgical management of TNSFs has resulted in a 19% to 26% non-union +/- morbidity rate, a marked increase in costs and is contra-indicated in the management of all non-displaced lesions.

Non-weight bearing immobilization is indicated for both partial and complete sagittal fractures.

Treatment should be based on established evidence based data and not on economic or remuneration factors. Orthopedic surgeons should subscribe to the concept of self regulation in dealing with this situation.