ISAKOS

International Society of Arthroscopy, Knee Surgery and Orthopaedic Sports Medicine

9th Biennial ISAKOS Congress • May 12-16, 2013 • Toronto, Canada

Paper #44

Treatment of Chronic Syndesmotic Injury: A Systematic Review and Meta-Analysis

George M. Parlamas, ., USA
Charles P. Hannon, BS, USA
Christopher D. Murawski, BS, USA
Niall A. Smyth, MD, USA
Yan Ma, PhD, USA
Gino M.M.J. Kerkhoffs, MD, PhD, NETHERLANDS
C. Niek Van Dijk, MD, NETHERLANDS
Jon Karlsson, Prof., SWEDEN
John G. Kennedy, MD, FRCS, USA

Hospital for Special Surgery
New York, New York, USA

Summary:
Chronic injuries of the syndesmosis and subsequent instability present a difficult clinical problem to the orthopaedic surgeon. We present a systematic review and meta-analysis of the surgical treatment methods for chronic injury to the syndesmosis. The treatment methods have been divided into three categories: screw fixation, arthrodesis, and arthroscopic debridement.

Abstract:
PURPOSE:
Chronic injuries of the syndesmosis and subsequent instability present a difficult clinical problem to the orthopaedic surgeon, in part due to diagnostic difficulty and lack of evidence-based clinical guidelines available to date. The purpose of this study is to systematically review surgical treatment methods for chronic injury to the syndesmosis and meta-analyze these findings where possible.

METHODS:
A systematic review of the PubMed/MEDLINE and EMBASE databases was conducted in August 2012 utilizing the keywords (treatment OR intervention) AND (injury OR sprain OR rupture) AND (syndesmosis OR syndesmotic OR “high ankle” OR “anterior inferior tibiofibular ligament” OR AITFL OR “posterior inferior tibiofibular ligament” OR PITFL OR tibiofibular diastasis). Studies that reported the outcomes of the surgical treatment of chronic syndesmotic injury were included in our review. Chronic was defined as symptoms longer than 6 months. Meta-analysis based on random effects models was performed to pool the rates of success for different treatment methods.

RESULTS:
The search yielded 416 publications from PubMed/Medline and 473 publications from EMBASE. After abstract and full text review, 15 articles were included in this review. Treatment methods were placed into three broad surgical treatment categories: screw fixation, arthrodesis, and arthroscopic debridement. The most common treatment strategy employed was screw fixation. The pooled rates of success for screw fixation, arthrodesis, and arthroscopic debridement were 87.9%, 79.4%, and 78.7% respectively.

CONCLUSION:
The current evidence on the treatment of chronic syndesmosis injuries in the ankle is limited to prospective and retrospective case series. The pooled success rates for screw fixation, arthrodesis and arthroscopic debridement each exceeded 78%. Future high-level studies are required to discern the most appropriate treatment strategy(ies) for chronic syndesmotic injuries of the ankle.