

Spot Light Country Japan-Functional anatomy of foot and ankle ligaments

Chair: Yasuhito Tanaka

Speakers: Youichi Yasui, Takaaki Hirano, Atsushi Teramoto, Akira Taniguchi

Akira Taniguchi

Title: The anatomical characteristics of the spring ligament fibrocartilage complex

Introduction: The purpose of this study was to report the existence of the third ligament in spring ligament fibrocartilage complex (SLFCC), investigate its anatomical features.

Methods: We used 28 cadaver feet for this study. Following the disarticulation of the ankle, the talus was removed attending not to damage the spring ligament. After the removal of fat and fibrocartilage surface of spring ligament, the third ligament was appeared from under layer of the SLFCC running from notch to the tuberosity of the navicular. We measured the length, width and thickness of the inferior calcaneonavicular (ICN) ligament and the third ligament with calipers.

Results: The average length of the ICN ligament was 4.6mm, the width was 4mm and the thickness was 3.2mm. The average minimum length of the third ligament was 11.1mm, the maximum length was 17.7mm, the width at the origin was 5.3mm, the maximum width was 7.1mm and the thickness was 3.4mm.

The ICN ligament was strained at adduction of forefoot and the third ligament was strained at abduction.

Conclusions: We discovered the third ligament in SLFCC that runs from notch between anterior and medial articular surfaces of os calcis and attaches to the tuberosity of the navicular.