

**UPDATED ROLE OF ULTRASONOGRAPHY AND MAGNETIC
RESONANCE IMAGING IN EVALUATION OF VARIOUS
CAUSES OF ANKLE PAIN**

Thesis

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LIST OF ABBREVIATION

3D	3 dimensional
3DFT	Three-dimensional Fourier transform
AITFL	Anterior inferior tibio-fibular ligament
AP	Antero-posterior
AT	Achilles tendon
ATFL	Anterior talofibular ligament
AVN	Avascular necrosis
CF(L)	Calcaneofibular (ligament)
CT	Computed tomography
DESS	Dual echo steady state
DL	Deltoid ligament
DVT	Deep venous thrombosis
EDL	Extensor digitorum longus
EHL	Extensor hallucis longus
FDL	Flexor digitorum longus
FHL	Flexor hallucis longus
FOV	Field of view
FR	Flexor retinaculum
FS	Fat suppression
FSE	Fast spin echo
GCTT	Giant cell tumors of the tendon sheath
GRE	Gradient echo

IER	Inferior extensor retinaculum
IPR	Inferior peroneal retinaculum
MHz	Mega Hertz
MR(I)	Magnetic resonance (imaging)
MSK	Musculoskeletal
MSKUS	Musculoskeletal ultrasound
No.	Number
OCL	Osteochondral lesion
ORIF	Open reduction and internal fixation
PAI	Posterior ankle impingement
PB	Peroneus brevis
PD	Proton density
PITFL	Posterior inferior tibio-fibular ligament
PL	Peroneus longus
PT	Peroneus tertius
PTFL	Posterior talofibular ligament
PTTL	Posterior tibiotalar ligament
PVNS	Pigmented villonodular synovitis
RA	Rheumatoid arthritis
SER	Superior extensor retinaculum
SPR	Superior peroneal retinaculum
STIR	Short T1 inversion recovery
T	Tesla
TA	Tibialis anterior

TE	Time of echo
TP	Tibialis posterior
TR	Time of repetition
TTS	Tarsal tunnel syndrome
US	Ultrasonography
WI(s)	Weighted image(s)

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INTRODUCTION

The ankle is the most frequently injured joint of all major weight bearing joints in the body (**Greenspan, 2000**). Ankle injuries account for 25% of athletic injury (**Berquist et al., 2001**).

Ankle pain is a common complaint in orthopedic practice. The etiology of ankle pain includes various pathologies such as tendon and ligament injuries, joint disorders, osseous lesions and soft tissue pathologies (**Fessell ; Van Holsbeeck, 1999**).

The ankle, or the talocrural region (**Moore et al.,2010**), is the region where the foot and the leg meet. The ankle includes three joints:

The ankle joint proper or talocrural joint, the subtalar joint, and the Inferior tibiofibular joint (**Milner ; Fajardo ,2007**).

The ankle joint is bound by the strong deltoid ligament and three lateral ligaments: the anterior talofibular ligament, the posterior talofibular ligament, and the calcaneofibular ligament (**Moore et al .,2010**).

The deltoid ligament supports the medial side of the joint, and is attached at the medial malleolus of the tibia and connect in four places to the sustentaculum tali of the calcaneus, calcaneonavicular ligament, the navicular tuberosity, and to the medial surface of the talus (**Moore et al.,2010**).

The anterior and posterior talofibular ligaments support the lateral side of the joint from the lateral malleolus of the fibula to the dorsal and ventral ends of the talus. The *calcaneofibular ligament* is attached at the lateral malleolus and to the lateral surface of the calcaneus (**Moore et al .,2010**).