

Ultrasound versus Magnetic Resonance Imaging in Diagnosis of Traumatic Knee Injuries

Essay

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By

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Abbreviations

3D	Three Dimension
ACL	Anterior Cruciate Ligament
AP	Anteroposterior
CM	Centimeter
CT	Computed Tomography
FOV	Field Of View
FS	Fat Suppressed
FSE	Fast Spin Echo
Gd-DTPA .	Gadolinium-diethylenetriamine pentaacetic acid
ITB	Iliotibial Band
LCL	Lateral Collateral Ligament
LS	Longitudinal Section
MCL	Medial Collateral Ligament
MHz	Mega Hertz
Mm	Millimeter
MPFL	Medial Patellofemoral Ligament
MRI	Magnetic Resonance Image

MSUS.....Musculoskeletal Ultrasound

PCLPosterior Cruciate Ligament

PD.....Proton Density

SESpin Echo

SISignal Intensity

STIR.....Short TI Inversion Recovery

TEEcho time

TRRepetition time

TSTransverse Section

US.....Ultrasound

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INTRODUCTION

The knee is particularly prone to injury in contact sports, running and any activity which involves rapid deceleration and twisting movements – skiers are especially vulnerable. Injuries of the knee are best imaged by MRI, which demonstrates the menisci, ligaments and tendons around the joint in precise detail. Acute injuries which may be shown include meniscal tears and ligament rupture; often, such injuries co-exist. Athletic activity may accelerate degeneration of the articular cartilage, and MRI can assess the presence and extent of this, as well as detecting complications such as meniscal degeneration and loose bodies within the joint which may warrant surgical intervention (*Unluet al., 2014*).

Magnetic Resonance Imaging (MRI) of the knee is very popular and is requested more frequently than ultrasound of knee. This is probably due to the fact that in MRI we get a global view of all structures of the knee joint, which is not the case with ultrasound (*Lalithaet al., 2010*).

Ultrasonography has advantages over other imaging modalities in terms of availability and comfort, safety, and diagnostic potential. Operating costs are low compared with magnetic resonance imaging (MRI). The portable equipment is accessible at locations distant from medical centers.