

Foot

MRI Protocols of the ESSR Arthritis Subcommittee



Recommendations of the ESSR Arthritis Subcommittee for the Use of Magnetic Resonance Imaging in Musculoskeletal Rheumatic Diseases. *Semin Musculoskelet Radiol* 2015;19:396–411

Acronyms

Ax= axial

Cor= coronal

FOV= field of view

FS= fat suppressed

PD= proton density

Sag= sagittal

STIR= short tau inversion recovery

TE= echo time (ms)

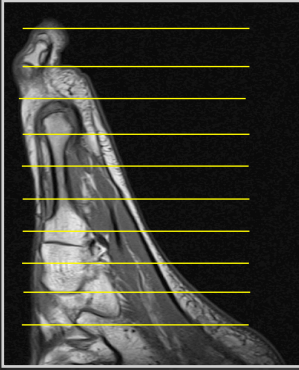
TIRM= turbo inversion recovery magnitude

TR= repetition time (ms)

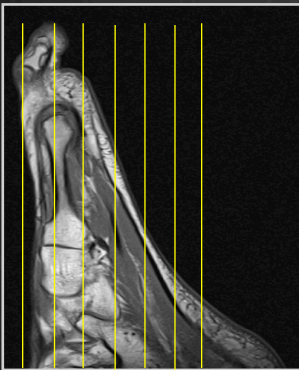
MRI scan

- Patient in supine position with feet first
- Foot in slight (10 degree) plantar flexion
- Surface coil
- Adequate immobilisation (padding)

Localizer



Axial plane: perpendicular to the metatarsal and phalanges bones. Cover the foot from the tip of the toe to the tarsal bones



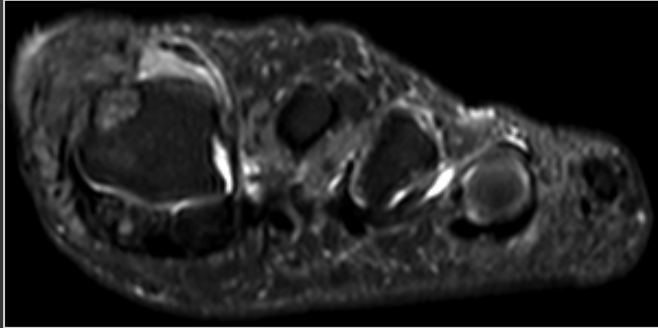
Coronal plane: parallel to the metatarsal and phalanges bones. Cover the foot from the dorsal to the plantar surface



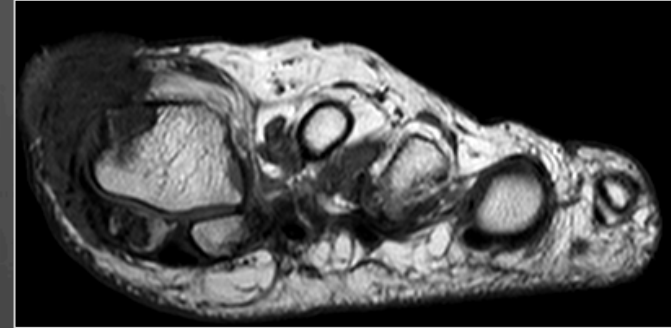
Sagittal plane: parallel to the metatarsal and phalanges bones. Cover the foot from side to side

Recommended sequences

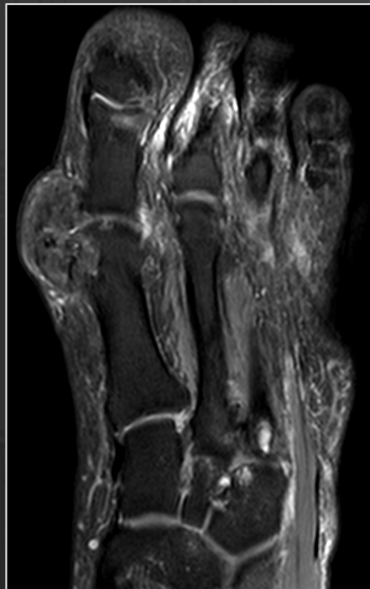
Ax PD FS
(or STIR/TIRM
or T2 FS)



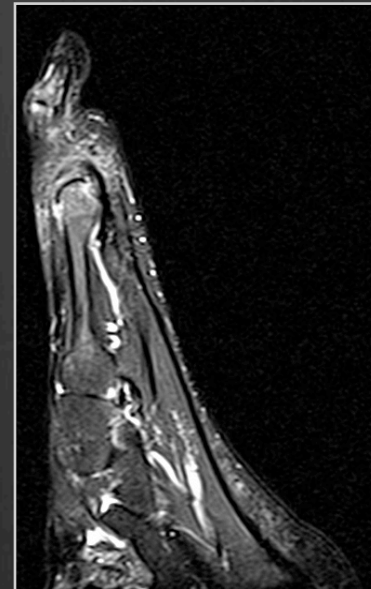
Ax T1



Cor PD FS
(or STIR or
TIRM or T2
FS)



Sag PD FS



MRI protocols

Recommended Sequences	FOV (cm)	Slice thickness (mm)	TR (ms)	TE (ms)	Matrix
Sag PD FS	8-10	3	3500	40	288x384
Ax STIR or T2 FS or PD FS	8-10	3	1800	25	192x256
Ax T1	8-10	3	400	15	288x380
Cor T2 FS or STIR or PD FS	8-10	3	3000	110	256x220

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