

CONTENTS

<p>Acronyms 7</p> <p>Basic MRI techniques and sequences in vascular imaging 9</p> <p style="padding-left: 20px;">Dark blood imaging 9</p> <p style="padding-left: 20px;">Bright blood imaging 10</p> <p style="padding-left: 20px;">Time-of-flight MRA (TOF) 10</p> <p style="padding-left: 20px;">Phase Contrast (PC) MRA 11</p> <p>Contrast enhanced MR angiography 12</p> <p style="padding-left: 20px;">Introduction 12</p> <p style="padding-left: 20px;">Theory 12</p> <p style="padding-left: 20px;">Pulse sequences of CE-MRA 13</p> <p style="padding-left: 20px;">K-space considerations 14</p> <p style="padding-left: 20px;">Time resolved CEMRA 15</p> <p style="padding-left: 20px;">4D-TRAK 16</p> <p style="padding-left: 20px;">TRICKS (Time Resolved Imaging of Contrast Kinectis) 17</p> <p style="padding-left: 20px;">TWIST 19</p> <p>Methodology 22</p> <p>Hand vascularization 25</p> <p style="padding-left: 20px;">Radial artery 25</p> <p style="padding-left: 20px;">Ulnar artery 25</p> <p style="padding-left: 20px;">Anterior interosseous artery 26</p> <p style="padding-left: 20px;">Dorsal carpal arches 26</p> <p style="padding-left: 20px;">Palmar carpal arches 27</p> <p style="padding-left: 20px;">Vascularization of the scaphoid 27</p> <p style="padding-left: 20px;">Vascularization of lunate 27</p> <p style="padding-left: 20px;">Vascularization of fingers 28</p> <p>Vascularization of the foot 36</p> <p style="padding-left: 20px;">Anterior tibial artery 36</p> <p style="padding-left: 20px;">Posterior tibial artery 36</p> <p style="padding-left: 20px;">Peroneal artery 37</p> <p style="padding-left: 20px;">Malleolar network 37</p> <p style="padding-left: 20px;">Vascularization of the talus and calcaneus 37</p> <p style="padding-left: 20px;">Vascularization of toes 38</p> <p>Dynamic imaging with perfusion 45</p> <p>Anatomy and pathology of the forefoot 52</p> <p style="padding-left: 20px;">Anatomy of the first metatarsophalangeal joint 52</p> <p style="padding-left: 20px;">Hallux valgus 52</p> <p style="padding-left: 20px;">Metatarsal pain 53</p>	<p style="padding-left: 20px;">Pathology of the sesamoids 54</p> <p>Fibrolipomatous hamartoma (lipomatosis of nerve) 66</p> <p>Aneurysms and pseudoaneurysm 70</p> <p>Angioleiomyoma 77</p> <p>Cystic angiomatosis of bone 81</p> <p>Reactive arthritis (Reiter's disease) 83</p> <p>Rheumatoid arthritis 88</p> <p>Rheumatoid nodule 90</p> <p>Adventitial bursitis 122</p> <p>Intermetatarsal bursitis 126</p> <p>Buerger's disease 131</p> <p>Basal cell and squamous cell carcinoma 135</p> <p>Carpal boss / Dos bossu and forefoot impingement syndromes 138</p> <p>Epidermoid cyst 145</p> <p>Mucoid cyst 147</p> <p>Simple bone cyst and aneurysmal bone cyst 150</p> <p>Soft tissue chondroma 154</p> <p>Foreign bodies 159</p> <p>Fibrous dysplasia 164</p> <p>Embolism–thrombosis (ischemic syndromes) 166</p> <p>Enchondroma 172</p> <p>Nodular fasciitis 181</p> <p>Plantar fasciitis 184</p> <p>Fibroma of the tendon sheaths 186</p> <p>Non-ossifying fibroma (fibrous cortical defect) 190</p> <p>Superficial fibromatoses 194</p> <p>Palmar fibromatosis (Dupuytren's disease) 194</p> <p>Plantar fibromatosis (Ledderhose disease) 195</p> <p>Stress fracture 203</p> <p>Ganglia 210</p> <p>Intraneural ganglion 226</p> <p>Intraosseous ganglion 231</p> <p>Glomangioma (Glomus tumor) 236</p>
---	--

6 MRI and MR Angiography Atlas

Gout	246	Amputation neuroma	369
Granuloma annulare	252	Morton's neuroma	374
Freiberg's disease	254	Osteochondroma	403
Traumatic tendon injuries	258	Osteoid osteoma	405
Hand	258	Osteomyelitis	409
Foot	259	Perineurioma	413
Benign vascular lesions	266	Diabetic foot	415
Intramuscular hemangiomas	266	Osteomyelitis	416
Venous hemangiomas	267	Neuropathic osteoarthropathy	416
Arteriovenous hemangiomas	267	Pilomatrixoma	437
Hemangiomatosis	267	Volar and plantar plates	440
Lymphoma	294	Volar plate	440
Lipoma	298	Plantar plate	440
Intraosseous lipoma	304	Psoriatic arthritis	443
Liposarcomas	307	Sarcoidosis	466
Calcium pyrophosphate deposition disease	310	Alveolar soft part sarcoma	472
Malformations of fingers and toes	316	Epithelioid sarcoma	472
Melorheostosis	320	Scleroderma and Raynaud's phenomenon	475
Metastatic disease	322	Hypothenar hammer syndrome	477
Myoepithelioma	325	Sinus tarsi syndrome	480
Myopericytoma	327	Tarsal tunnel syndrome	486
Myositis ossificans and fibro-osseous pseudotumor of the digits	332	Synovial chondromatosis	490
Myxoma	335	Synovial Sarcoma	496
Accessory muscles	338	Pigmented villonodular synovitis	499
Giant cell tumors of the tendon sheaths	344	Tendon vascularization: vincula and peritenon	503
Benign peripheral nerve sheath tumors . .	353	Achilles tendinopathy	508
Neurofibromatosis	363	Tenorrhaphy and complications	514
Neurofibrosarcomas (malignant Schwannoma)	364	Tenosynovitis	521
		Bone and soft tissue vitality (perfusion and MR angiography study) . .	530
		Index	539

ACRONYMS

3D	Three Dimensional
4D	Four Dimensional
ASSET	Array Spatial Sensitivity Encoding Technique
BOLD	Blood Oxygen Level Dependent
CEMRA	Contrast Enhanced Magnetic Resonance Angiography
PD	Proton Density
DWI	Diffusion Weighted Imaging
FFE	Fast Field Echo
FOV	Field Of View
FSE	Fast Spin Echo
FSPGR	Fast Spoiled Gradient Echo
GRE	Gradient Echo
MPR	Multiplanar Reconstruction
PC	Phase Contrast
PDW	Proton Density Weighted
SE	Spin Echo
SENSE	Sensitivity Encoding
SPAIR	Spectral Attenuated Inversion Recovery
SPIR	Spectral Inversion Recovery
STIR	Short Tau Inversion Recovery
TE	Echo Time
TOF	Time Of Flight
TR	Repetition Time
TRAK	Time Resolved Angiography With Keyhole
TRICKS	Time Resolved Imaging Of Contrast Kinetics
TWIST	Time Resolved Angiography with Interlived Stochastic Trajectories
VR	Volume Rendering