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### Books authored and co-edited by Springer:

- *Cranial Osteomyelitis*. **A Akhaddar**. 2016
- *Tuberculosis of the Central Nervous System*. MTurgut, **A Akhaddar**, ATTurgut, RKGarg. 2017
- *Atlas of Infections in Neurosurgery and Spinal Surgery*. **A Akhaddar**. 2017
- *Fungal Infections of the Central Nervous System*. MTurgut, Schalla, **A Akhaddar**. 2019
- *Subdural Hematoma*. MTurgut, **A Akhaddar**, WAHall, AT Turgut. 2021
- *Arachnoid Cysts*. MTurgut, **A Akhaddar**, ATTurgut, WAHall. 2023
- The present book: *Atlas of Sciatica*. **A Akhaddar**. 2024
- *Lesions of the Scalp and Cranial Vault*. MTurgut, **A Akhaddar**, ATTurgut, WAHall. *In Progress*

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## Abbreviations

?	Unknown
AD	Anno Domini in Latin (in the year of our Lord)
ADC	Apparent diffusion coefficient
AKA	Also known as
AKSP	Ankylosing spondylitis
ARLDH	Anterior retroperitoneal lumbar disc herniation
AVF	Arteriovenous fistulae
AVM	Arteriovenous malformation
BC	Before Christ
c.f.	confer in Latin (referring to)
CES	Cauda equina syndrome
CISS	Constructive interference steady state (sequence)
CML	Conus medullaris lesion
CNR	Conjoined nerve root
CPNE	Common peroneal nerve entrapment
CRP	C-reactive protein
CSF	Cerebrospinal fluid
CT	Computed tomography
CTA	Computed tomographic angiography
DAS	De Quincke's disease (or spinous engagement syndrome)
DCS	Double crush syndrome
DEXA	Dual-energy X-ray absorptiometry
DGS	Deep gluteal syndrome
DISH	Diffuse idiopathic skeletal hyperostosis (Forestier's disease)
DNA	Deoxyribonucleic acid
DS	Decompression sickness
DWI	Diffusion weighted image (sequence)
e.g.	Exempli gratia in Latin (for example)
EMG	Electromyogram
ENVT	Epidural non-vertebral tumor
EOG	Eosinophilic granuloma
ESR	Erythrocyte sedimentation rate
FAIR	Hip flexion, adduction, and internal rotation (test)
FDG-PET	Fluorodeoxyglucose-positron emission tomography
FELDH	Extraforaminal and foraminal lumbar disc herniation
Fig.	Figure
FLAIR	Fluid attenuated inversion recovery (sequence)
GABA	Gamma-aminobutyric acid
GArt	Gluteal artery
GILID	Giant lumbar intervertebral disc herniation
GIMIJ	Gluteal intramuscular injection
GSW	Gunshot wounds

HE	Hematoxylin and eosin stain
HIV	Humanimmunodeficiencyvirus
HOS	Heterotopic ossification
HSV	Herpes simplex virus
i.e.	Id est in Latin (that is)
IDEA	Intradiscalelectrothermalannuloplasty
IDET	Intradiscal endothermal therapy
IDLSTum	Intradural lumbosacral tumors
INGC	Intraneuralganglioniccyst
L	Lumbar vertebra
LCH	Langerhanscellhistiocytosis
LDH	Lumbar disc herniation
LEV	Lumbar epidural varices
LF	Ligamentumflavum
LFO	Ligamentum flavum ossification
LSES	Lumbosacralextraforaminalstenosis
LSFD	Lumbosacralspinefracturesanddislocations
LSS	Lumbar spinal stenosis
LSTum	Lumbosacral spinal tumorsLSTV Lumbosacraltransitionalvertebra
MALDH	Massive lumbar disc herniation
MigLDH	Migrated lumbar disc herniation
MODAL	Musculo-Osteo-Disco-Articular-Ligamentcomplex
MPNST	Malignant peripheral nerve sheath tumor
MPR	Multiplanarreconstructions
MR	Magnetic resonance
MRA	Magneticresonanceangiography
MRI	Magnetic resonance imaging
<i>n.a</i>	Not available
NAP	Nerveactionpotential
NCV	Nerveconductionvelocity
NDA	NoDataAvailable
NF-1	Neurofibromatosis type 1
NII	Nerveinjectioninjury
NSAID	Non-steroidalanti-inflammatorydrug
OPLL	Ossificationoftheposteriorlongitudinalligament
PCR	Polymerase chain reaction
PEMLIF	Posteriorepiduralmigrationoflumbarintervertebraldiscfragment
PLDD	Percutaneous laser disc decompression
PLL	Posterior longitudinal ligament
PLN	Percutaneouslumbarnucleoplasty
PLP	Phantom limb pain
PRAS	Posteriorringapophysisseparation
PSA	Persistent sciatic artery
PVNS	Pigmentedvillonodularsynovitis
RAR	Rheumatoid arthritis
R-LDH	Recurrentlumbardischerniation
ROM	Range-of-motion (exercise)
S	Sacral vertebra
SeqLDH	Sequestratedlumbardischerniation
SLR	Straight leg raising
SpCA	Spinalcavernousangioma
SPECT	Single photon emission computed tomography

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SPF	Spinal pathologic fractures
SPINO Sciatic Pain In Name Only	SSF
	Sacral stress fractures
STIR	Short tau inversion recovery (sequence)
TNF	Tumor necrosis factor
TSCS	Tethered spinal cord syndrome
VTER	Ventriculus terminalis
VZV	<i>Varicella Zoster Virus</i>
WHO	World Health Organization