

**Supplementary File 1. Taxonomy involved in operational definition of spinal pain and pathologies.**

Group	Type	Examples of Included Symptoms and Conditions
<b>I. Spinal pain of unknown origin:</b> Spinal disorder with history and exam findings not leading to a clinical diagnosis. Diagnostic imaging, laboratory, or neurodiagnostic findings are non-contributory.	Spinal pain of unknown origin	Idiopathic neck pain, thoracic back pain, low back pain, pelvic/coccygeal pain
	Psychogenic spinal pain	Pain disorders primarily of psychological origin
<b>II. Spinal syndromes:</b> Spinal disorder with history and exam findings leading to a likely clinical diagnosis. Diagnostic imaging, laboratory, or neurodiagnostic findings typically do not confirm such disorders. Syndrome usually improves with treatment targeted at primary pain generator.	Spinal syndromes	Spinal neurogenic pain, Spinal joint pain syndromes, Spinal myofascial pain, Spinal soft tissue injury/sprains/strains, Torticollis
<b>III. Spinal pathology:</b> Spinal disorder with history and exam findings leading to a likely clinical diagnosis confirmed by diagnostic imaging, laboratory, or neurodiagnostic findings.	Arthritis	Osteoarthritis, ankylosing spondylitis, juvenile rheumatoid arthritis, psoriatic arthritis, reactive arthritis, rheumatoid arthritis, seronegative spondyloarthropathy
	Trauma	Dislocation, Subluxation, Fractures, Traumatic spinal cord injury, Myelopathy
	Non-traumatic spinal cord disorders	Myelopathy, Spinal dural arteriovenous fistulas, Spinal hematoma, Multiple sclerosis, Amyotrophic lateral sclerosis, Spinal muscular atrophy
	Infectious	Tuberculosis, Arachnoiditis, Epineural fibrosis, Other spinal infectious organisms
	Neoplastic	Bone tumors (benign, malignant, metastatic), Intradural and epidural tumors, Meningeal carcinomatosis, Multiple myeloma
	Metabolic	Osteopenia, Osteochondrosis (Scheurmann's disease), Osteitis fibrosa cystica, Ochronotic spondylosis, Paget's disease
	Congenital or developmental	Scoliosis, Spina bifida, Spondylolisthesis, Vertebral osteochondrosis, Interspinous pseudoarthrosis, Vertebral epiphysitis
	Spinal referred pain	Sickle cell anemia, Lymphoma, Abdominal abscess, Bacterial endocarditis, Carcinomatous

		lymphadenopathy, Lymphosarcoma, Hodgkin disease, Aortic aneurysm, Embolism of renal artery, Myocardial ischemia, Myocardial infarction, Visceral referred pain
--	--	--