MDT Clinical Definitions (July 2021)

Derangement Syndrome

Derangement Syndrome is a clinical presentation which demonstrates Directional Preference in response to loading strategies and is typically associated with movement loss. A common feature in the spine is Centralisation.

Directional Preference

Directional Preference describes the clinical phenomenon where a **specific direction** of repeated movement and / or sustained position results in a **clinically relevant improvement in symptoms**. This improvement is usually accompanied by an improvement in function or mechanics or both. Its presence and relevance is determined over 2-3 visits.

Centralisation

Describes the phenomenon by which distal pain originating from the spine is progressively abolished in a distal to proximal direction. This is in response to a specific repeated movement and / or sustained position and this change in location is maintained over time until all pain is abolished. As the pain centralises there is often a significant increase in the central back pain. If back pain only is present this moves from a widespread to a more central location and then is abolished.

Centralising **(used in the context of the examination)**

During the application of loading strategies distal pain is being abolished. The pain is in the ***process*** of becoming centralised, but this will only be confirmed once the distal pain remains abolished.

Centralised **(used in the context of the examination)**

As a result of the application of the appropriate loading strategies the patient reports that all distal pain has abolished and now the patient only has pain in a more proximal location. This should be clarified for location e.g., ‘pain is centralised to the buttock’.

Peripheralisation

Describes the phenomenon by which proximal symptoms originating from the spine are progressively produced in a proximal to distal direction. This is in response to a specific repeated movement and / or sustained position and this change in location of symptoms is maintained over time. This may also be associated with a worsening of neurological status.

Peripheralising

During the application of loading strategies distal symptoms are being produced. Symptoms are **in the *process*** of becoming peripheralised, but this will only be confirmed once the distal symptoms remain.

Peripheralised

As a result of the application of inappropriate loading strategies the patient reports that the distal symptoms that have been produced **remain.**

Dysfunction Syndrome

In the spine Dysfunction Syndrome is a clinical presentation where symptoms are produced consistently and only at a limited end-range of a movement.

In the extremities the above presentation is termed **'Articular Dysfunction'.**

The other presentation in the extremities is **'Contractile Dysfunction'.**
Contractile Dysfunction is a clinical presentation where symptoms are produced with sufficient loading of the musculotendinous unit.

Postural Syndrome

Postural Syndrome is a clinical presentation where symptoms are produced only from prolonged static loading.

Serious pathology (list is not exhaustive)		
Category	**Common Clinical findings (Red Flags)**	**Clinical Examples**
Cancer	History of cancer, unexplained weight loss, age>55, progressive, not relieved by rest	May be primary site or metastases
Cauda equina syndrome	Bladder / bowel disturbance, saddle sensory disturbance, sexual disturbance, unilateral/bilateral leg pain, sensory change and/or motor weakness lower limbs	
Cord compression	Gait disturbance, loss of dexterity, paraesthesia, hyperreflexia	
Spinal fracture	Severe trauma, history of osteoporosis, corticosteroid use, older age, females, previous spinal fracture, previous history of cancer, thoracic pain OR young, active with sport related back pain	Compression fracture, stress fracture of the pars
Spinal related infection	Fever, malaise, immunosuppression, intravenous drug use, recent surgery, recent pre-existing infection	Epidural abscess, discitis, transverse myelitis
Vascular	Vascular disease, smoking history, family history, age over 65, male>female History of trauma, dizziness, diplopia, dysarthria and multiple other non-mechanical symptoms	Abdominal aortic aneurism, cervical arterial dysfunction

Spinal OTHER subgroups:

Subgroup	Definition	Criteria (common)	Clinical examples
Chronic Pain Syndrome	Pain-generating mechanism influenced by psychosocial factors or neurophysiological changes	Persistent widespread pain, aggravation with all activity, disproportionate pain response to mechanical stimuli, inappropriate beliefs and attitudes about pain.	
Inflammatory Arthropathy	Inflammatory arthropathy	Constant pain, morning stiffness, excessive movements exacerbate symptoms	RA, sero-negative arthritis, ankylosing spondylitis
Mechanically Inconclusive	Unspecified musculoskeletal condition	Derangement, Dysfunction, Postural and subgroups of OTHER excluded. Symptoms affected by positions or movements BUT no recognisable pattern identified OR inconsistent symptomatic and mechanical responses on loading	
Mechanically Unresponsive Radicular Syndrome	Radicular presentation consistent with a currently unresponsive nerve root compromise	Symptoms presenting in a radicular pattern in the upper or lower extremity. Accompanied by varying degrees of neurological signs and symptoms. There is no Centralisation and symptoms do not remain better as a result of any repeated movements, positions or loading strategies	
Post-Surgery	Presentation relates to recent surgery	Recent surgery and still in post-operative protocol period	
SIJ/Pregnancy-Related Pelvic Girdle Pain (PGP)	Pain-generating mechanism emanating from the SIJ or symphysis pubis	Three or more positive SIJ pain provocation tests having excluded the lumbar spine and hip	If related to pregnancy: PGP
Spinal Stenosis	Symptomatic degenerative restriction of spinal canal or foramina	Lumbar Spine: older population, history of leg symptoms relieved with flexion activities and exacerbated with extension, longstanding loss of extension. Cervical Spine: arm symptoms consistently produced with closing foramen, abolished or decreased with opening	Lumbar stenosis, cervical lateral foraminal stenosis
Structurally Compromised	Soft tissue and/or bony changes compromising joint integrity	Mechanical symptoms (ROM restricted, clunking, locking, catching). May have sensation of instability Long history of symptoms or history of trauma. Irreversible with conservative care.	Painful structural scoliosis, painful osteoporosis, grade 3-4 spondylolisthesis, upper cervical structural instability – RA
Trauma/ Recovering Trauma	Recent trauma associated with onset of symptoms	Recent trauma associated with onset of constant symptoms / recent trauma associated with onset of symptoms, now improving and pain intermittent	Post whiplash

Serious pathology (list is not exhaustive)		
Category	**Clinical findings (Red Flags)**	**Clinical Examples**
Cancer	Age >55, **history of cancer**, unexplained weight loss, progressive, not relieved by rest	May be primary site or metastases
Fracture	History of significant trauma (If osteoporosis present; minor trauma) Loss of function. All movements make worse.	
Infection	Fever, malaise, constant pain, all movements worsen	

Extremity OTHER subgroups:

Subgroup	Definition	Criteria	Clinical Examples
Chronic Pain Syndrome	Pain-generating mechanism influenced by psychosocial factors or neurophysiological changes	Persistent widespread pain, aggravation with all activity, disproportionate pain response to mechanical stimuli, inappropriate beliefs and attitudes about pain.	Regional pain syndromes
Inflammatory Arthropathy	Inflammatory arthropathy	Constant pain, morning stiffness, excessive movements exacerbate symptoms	RA, sero-negative arthritis, some stages of OA
Mechanically Inconclusive	Unspecified musculoskeletal condition	Derangement, Dysfunction, Postural and subgroups of OTHER excluded Symptoms affected by positions or movements BUT no recognisable pattern identified OR inconsistent symptomatic and mechanical responses on loading	
Peripheral Nerve Entrapment	Peripheral nerve entrapment	No spinal symptoms. Local paraesthesia / anaesthesia. May have local muscle weakness.	Carpal tunnel syndrome, myalgia paraesthetica,
Post-surgery	Presentation relates to recent surgery	Recent surgery and still in post-operative protocol period	
Soft Tissue Disease Process	A fibroblastic or degenerative disease process affecting inert soft tissue with unknown or disputed aetiology	Each disease process has a unique clinical presentation, natural history and response to a variety of interventions.	Frozen shoulder, Dupuytren's, plantar fascia syndrome
Structurally Compromised	Soft tissue and/or bony changes compromising joint integrity	Mechanical symptoms (ROM restricted, clunking, locking, catching). May have sensation of instability. Long history of symptoms or history of trauma. Irreversible with conservative care.	Late-stage OA, dislocation, labral tear, cruciate ligament rupture, irreducible meniscal tear
Trauma / Recovering Trauma	Recent trauma associated with onset of symptoms	Recent trauma associated with onset of constant symptoms / recent trauma associated with onset of symptoms, now improving and pain intermittent	
Vascular	Symptoms induced by poor blood supply due to pressure increase in a closed anatomical space	Below knee symptoms, predominantly in younger athletes. Consistently induced by exercise or activity. May have pain and /or paraesthesia in field of local cutaneous nerve and local swelling.	Compartment syndrome