

Lumbar Spine

Assessment & Management: A practical approach



Prevalence:

- 85% of population on earth will have at least 1 episode of Severe LBP in their life
- 25% of all workcover claims
- In people over 65 with chronic pain, 70% nominated LBP as cause of their pain
- Costs the healthcare system \$20 Billion annually

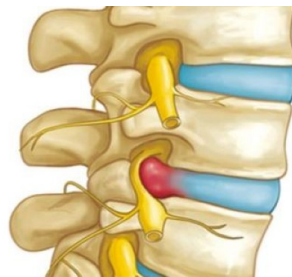
Normal anatomy and movement

- 5 vertebrates
- Larger Vertebral bodies
- Disc anatomy
- Intervertebral foramina at level of intervertebral foramina (!...nerve root compression more likely)

Movement:

- Flexion/Extension: present in most segments
- Rotation: present in all segments
- Lateral flexion: relatively small at each segment in Lx spine
- L1 and L5 meets relatively stiffer/stable segments

Bigger picture: Mobility at the expense of Stability



Common dysfunctions/conditions:

- Disc injuries (grades...!)
- Nerve root impingement
- Facet stiffness
- Scoliosis
- Listhesis/Stenosis
- Serious pathology (cauda equina, tumour, MS, Ankylosing Spondylitis, etc)

Common related conditions:

- SIJD
- Pelvic instability
- Tight Hamstrings/injuries
- Hip flexor tightness/injuries

Management principles of Active or passive mobilisation

→ **Patient Education is the key to acute management and long term recovery**

→ Ceph to caudal

→ Decompression to compression (usually extension > rotation > flexion)

→ Superficial to deeper

→ **Commence with Extension** (self, pt o/p, PT o/p, PT mobi or manipulation)

→ **Progress if Rotation** (self, pt o/p, PT o/p, PT mobi or manipulation)

→ **Flexion and Lateral flexion** usually added after the acute stage (preferably 'self techniques' ..!)

Precautions: osteoporosis, serious pathology (cauda equina, tumour, AS..etc!)

Passive mobilisation techniques:

★ PA/unilateral PA (Prone, Standing, Sitting)

★ **Rotational/flexion (Supine-GATE)**

★ **Rotational/PA (Mobilisation/Manip)**

Active Mobilisation through exercises:

Consider: Decompressions or Stretching or Strengthening or Segmental Control or Stability

- **McKenzie series (1, 2, 3, 4)** <https://youtu.be/Ly5WISUIC6w>
- Lumbar rotation <https://youtu.be/ptWVGK0vyVzg>
- Hip knee flexion <https://youtu.be/0Sone1MQwWl>
- Pelvic rocking <https://youtu.be/2raigtSXheE>
- Bridging <https://youtu.be/eu5sxBywiMo>
- Cat-camel <https://youtu.be/tWiphtxTIRY>
- ES stretch https://youtu.be/h7H5_VcNasA
- Standing Extension stretch series https://youtu.be/_G8sd6uLuoU
- Plank <https://youtu.be/hOQv1bVtgcU>
- Downward dog <https://youtu.be/U42SxwWuZHE>
- Triangle pose https://youtu.be/41_n0ofdSKw

Consideration for strengthening for Long term results..!

- **Stretching/decompressing >>> Strengthening (Demo..!)**
- Incorporate nearby segments
- Full body movement
- Functional movement/exercises

Thank You...any Questions...?

- Lumbar Spine. Park A: The Mckenzie Institute: Centre for Postgraduate Study in Mechanical Diagnosis and Therapy (2020)
- Polestar Pilates 2014, Polestar Pilates: Professional Education, Comprehensive Levels 1-3, Comprehensive Levels 4-6, Teaching to heal through movement.
- Low Back Pain Prevalence and Related Workplace Psychosocial Risk Factors: A Study Using Data From the 2010 National Health Interview Survey
- <https://www.therapia.com.au/conditions-we-treat/lower-back-pain/>