Lumbar Internal Disc Derangement (AKA Discogenic Pain, Intervertebral Disc Disorder) initiated by disruption of annular fibers and internal displacement of the nucleus pulposus. This diagnosis can be difficult to make. This is thought to be the most common cause of simple, mechanical low back pain (Maus 2012). This pathology is most common in the 4th and 5th decade of life (Dammers 2002). Most investigators agree that disc degeneration starts at lower lumbar levels and progresses superiorly with increasing age (Anderson 1998).

History

Back pain
- Deep centralized, achy poorly localized. Midline/bilateral.
- Typically increases with sitting, flexion, coughing, sneezing, or activities that increase intradiscal pressure.
- With or without referred buttock/extremity symptoms.
- May be relieved by standing or supine positions.
- May also have an acute onset with sharp stabbing pain.

Physical Exam Findings

Physical examination of lumbar discogenic pain focuses on mechanical and neurologic examination to identify the pain generator (i.e., mechanical, neurologic, discogenic or other source).

Observation/Posture
- Normal or flexion antalgia or lateral pelvic shift
- Pain centralization of symptoms during the physical examination (e.g., repetitive extensions) is a key clinical predictor of discogenic pain

Palpation
- Midline and paraspinal tenderness
- Painful joint play deep poorly localized
- Paraspinal muscle tenderness may be absent

AROM
- Painful and reduced, direction variable

General Orthopedic Tests
- Valsalva/DeJerine's triad may increase pain
- Orthopedic tests that traction nerves or/and compress the disc may be painful (e.g., double active SLR, Slump)

Disc derangement posterior
- Pain decreases/centralizes with sustained/repetitive extension
- Worse with flexion (pattern of flexion load sensitivity)
- Tenderness midline

Disc derangement anterior (uncommon)
- Pain decreases or centralizes with sustained/repetitive flexion
- Worse with extension (pattern of extension load sensitivity)

Ancillary Tests

- Imaging is not indicated in the absence of red flags.
- Radiographs are not useful.
- MRI
  - Is the best noninvasive imaging test
  - Consider when conservative cares fail or CES is considered.
  - + MRI findings of annular tear(s), high intensity zone (HIZ) is strongly suggestive. The DX is ruled out with an unremarkable MRI.
- Discography is a very painful invasive procedure and is the only tool confirming disc as the pain generator. Efficacy is controversial, procedure may accelerate disc pathology. Study is reserved for recalcitrant patients w/ failed response to appropriate care.
- Laboratory studies are not useful.

Treatment Options

Should initially be treated conservatively. The emphasis of care is to decrease pain and improve function; improve range of motion and increase tolerance to sensitive movements or activities.

Activity Modification
- Stay active
- Flexion load sparing strategies (hip hinge, lumbar support while sitting, etc.) (short term)

Manual Therapy
- Spinal manipulation based on directional preference
- Flexion/distraction
- Intersegmental traction

Common Treatment Duration
- 4-6 weeks

Other options (rare)
- Cognitive-behavior therapy
- Acupuncture/dry needling
- Pharmaceuticals: NSAID
- Epidural injections
- Surgery

Potential ICD 10 Codes

- **M54.59** = Other Low Back Pain
- **M51.86** = Intervertebral Disorders, Lumbar
- **M54.50** = Low Back Pain
- **M51.A0** = Intervertebral annulus fibrosus defect, lumbar region

DDX List for this Condition

If pain is **axial**, consider:
- segmental disfunction
- facet arthropathy
- soft tissue injury
- spondylolysis
- spondylolisthesis.

If pain **radiates**, consider:
- spinal stenosis
- neurogenic claudication
- neoplastic disease
- synovial cyst
- infection (rare)
- neurinomas (Schwannomas)
- hematoma.

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