Introduction

- Facet Joint dysfunction by altered joint alignment, motion or physiological function
- Non-radicular discomfort
- Mechanical and Reflexive
- **Mechanical:** outside force acting on a segment; brief trauma/extended period of overuse
- **Reflexive:** Sustained visceral nociceptive irritation triggers muscle guarding - altered joint mechanics
- Can be caused by psychological and emotional factors
- Hypomobility can cause increased local nociceptive activity & decreased mechanoreceptive input
- Hypomobility - inflammation, muscular hypertonicity (Hilton's law) and imbalance

Hilton's law states that the nerve supplying the muscle extending directly across and acting at a given joint not only supplies the muscle, but also innervates tthe skin overlying the muscle

Demographics (LBP)

- Up to 80% of the population will experience LBP
- Single most common cause of disability in workers <40 yo
- Between 45-60 yo
- Equal in males and females
- Higher in whites

Risk factors (LBP)

- Hx of LBP
- Age
- Physical Activity
- Obesity
- Smoking
- Alcohol
- Narcotic use
- Heavy manual labour
- Repetitive bending
- Twisting and lifting
- Static postures
- Short sleep duration
- Exposure to whole body vibration
- **Psychosocial/psychological factors:** Stress, anxiety, depression, dissatisfaction with job, low educational status
- Vitamin D deficiency
- Negative attitude/fear avoidance behaviours

Presentation

- Subacute unilateral LBP
- Can radiate into butt/thigh - NO SYMPTOMS DISTAL TO THE KNEE
- Aggravated by static loading of the spine (prolonged sitting/standing), long lever activities (vacuuming/working with arms extended away from body), overhead working (end range spinal loading), prolonged flexion
- Relieved by light activity - walking/constantly changing position, lying down
- ROM discomfort upon extension, diminished lateral flexion
- Hamstring hypertonicity
- Diminished lumbar lordosis
- +Ve Mcgills, +ve Kemps, +ve Yeomans
- Gluteal + abdominal muscle weakness
- Hypertonicity of thoracolumbar erectors, rectus femoris,ilipsoas, TFL
- Assess for foot hyperpronation
- Neurological testing unremarkable (Check for Cauda equina in LBP)

Imaging

- Only if red flags are present
- Hx of cancer
- Unexplained recent weight loss
- Bone disease
- Systemic Disease
- Inflammatory Arthropathy
- Steroid use
- Immune suppression
- Fever
- Nocturnal pain
- Prior Ix surgery
- Suspected congenital defect/instability
- Severe, prolonged pain unaffected by position
- MRI only for patients with radicular complaints (epidural steroid injections), major trauma, severe neurologica compromise, suspicions of vertebral infection

DDx

- Can co-exist with other mechanical conditions of the spine
- Disc lesions
- Degeneration
- Stenosis

DDx:

- Myofascial pain

DDx (cont)

- Spondylolysis
- Spondylolisthesis
- Sprain/strain
- Disc lesion
- F#
- Compression f#
- DDD/DJD
- Stenosis
- Neoplasm
- Infection
- SIJ dysfunction
- Hip pathology/OA
- AAA
- Referred pain - GU, GI
- Inflammatory Arthropathy

Management

- 60% recover in 6 weeks
- 75% recover within 3 months
- 2/3rd will experience a recurrence within one year
- SMT (Chemotactic cytokine production levels improve following SMT) - 12 visits over 6 weeks) of spine, pelvic
- If instability - spinal stabilisation over SMT
- Heat/Ice
- Myofascial release of Lx erectors, QL, hip flexors, hip rotators, gluteals, piriformis, hamstrings, iliolumbar ligament
- Flexability exercises - knee to chest stretch, hamstring stretch, psoas stretch, ext/flex biased exercises
- Stability exercises - side bridge, bird dog, dead bug, hip abductor strengthening
- Postural correction
- Breathing exercises
- Lifestyle modification - lfting mechanics, work activities, sleep positions, shoe wear
- Limitation on prolonged sitting/standing
- Encourage yoga/taichi
- Dietary counselling
- Unresponsive - consider viscerosomatic referral

Criteria for success of SMT

- Pain <16 days
- No symptoms distal to the knee
- Low fear avoidance (FABQ score <19)
- Hip internal rotator >35 degrees
- Hypomobility of a least one lx segement
- First two factors more sigificant

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