Approximately 16 to 35% of LPB is thought to involve the SIJ complex.

Three broad categories of SIJ pain are
- pregnancy-related SIJ
- specific pathology - fracture, etc
- SIJ pain of other origin - This article is addressing - nonspecific SIJ related pain

Two ways SIJ can contribute
- local source of nociception - provocation tests
- dysfunctional biomechanical junction driving symptoms locally or remotely

Dysfunctional biomechanics of the SIJ ????

Have been questioned for more than 10 years

Purpose of this paper is to
- explore this topic
- consider unhelpful consequences of diagnosis of movement dysfunction
- offer recommendations for practice based on current evidence

SIJ Pain provocation tests - Reference 11 describes tests (Laslett)
- mechanical stress directly to the pelvic girdle
  - sacral thrust
  - gapping and compression
- mechanical stress indirectly through hip
  - thigh thrust or P4 - shearing
  - Gaenslen test - torsion

These tests (esp P4) have good diagnostic validity to discriminate SIJ related pain.
  - high sensitivity (94%) - correctly identify those with the disease
  - high specificity (78%) - correctly identify those without the disease

Positive test is indicative of increased SIJ tissue sensitivity, but does not tell why the joint hurts

SIJ components - reference 21 has more (Vleeming)
- joint capsule
- ligaments
- subcondral bone
- rich supply of neural fibers

Is SIJ sensitivity a result of movement dysfunction?
SIJ movement dysfunction
- structural weakness
- asymmetry
- instability
- stiffness
- positional faults (torsion, upslip, etc)

The SIJ is an inherently stable structure with movement limited to a few degrees of rotation about a transverse axis
- shape of joint and reciprocal congruency
- complex network of ligaments
- gravitational load

Movement tests - reference 33 Wurff
- table on page 1514 shows radiostereometric analysis (ref 36 - open access) - highly accurate measure of 3D micro-movement in joints
- Most studies show less than 2 degrees of rotation (max 3.6 degrees) and less than 2 mm translation
- Can we detect such small changes through palpation or could the changes we detect be a result of other factors? soft tissue motion or pain associated muscle activation
- low reliability of tests for movement dysfunction
- Slight to fair inter-examiner agreement for ASIS and PSIS - boney landmarks cannot be identified accurately

Tests for detection of SIJ movement or position are unusable in clinical practice and unsupported by evidence - do not use these tests

Positive pain provocation tests = increased SIJ tissue sensitivity - YES
Increased SIJ tissue sensitivity is because of SIJ movement dysfunction - NOT ENOUGH DATA. Probably related to tissue loading but pain is much more complex

Radiofrequency denervation - abolishes nociception by ablating nerves
- reduces SIJ pain but not abolished
- addition of radiofrequency denervation to exercise rehab did not significantly change 3 month outcome of pain intensity
- supports the idea that peripheral nociception is not the sole cause of SIJ pain
- other factors include - supraspinal processing and beliefs about stability of the area

Pain is a response to perceived threat and information that increases threat perception is likely to be unhelpful and possibly perpetuating pain.
- fear of movement
- fear of fragility
- fear of the unreversibility of structural weakness, abnormality, instability

Clinical decisions should not be based solely on constructs that lack validity and plausibility. Clinicians must consider the potentially harmful effects of assessment and management based only on the movement dysfunction paradigm.
Why is this a problem

• "If clinical decisions are based on a construct that lacks plausibility and clinical tests lacking validity, the entire management paradigm must be questioned."
• Pathoanatomical beliefs of SIJ pain page 1515
• Patients can arrive with these beliefs and medical professionals can reinforce or even establish these beliefs
  o 89% were told by their health professional about the physically defective spine condition
• We have evidence that patient's beliefs and understanding of the nature and cause of their pain contribute to the pain experience (in both positive and negative ways)
• Fear avoidance cycle

What should we be doing - page 1515 to 1516

o Mind one's words and avoid fragility messages - avoid reinforcing negative beliefs of instability and fragility of the pelvic girdle
o Help patient's make sense of their pain - reconceptualize their pain and address beliefs
o Pelvis is a strong and stable structure
o Many factors can influence the tissue sensitivity including - fear, vigilance, guarding
o Do not contradict treatment rational (joint mob to increase movement and core exercises to increase stability)
  o Manual therapy can help through activation of descending inhibition nerves and changes in muscle activity
  o Describe the pain is multidimensional as opposed to joint damage or dysfunction
  o Sensitive tissue responds well to physical load and movement

Other reading
  • Lee D. The pelvic girdle: a look at how time, experience and evidence change paradigms.
