The ‘Pelvic Crossed Syndromes’:
assist clinical sub-group classification & facilitate the assessment, diagnosis & management of patients with spino-pelvic pain disorders

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Relevance:
- Subjects with low back and pelvic pain disorders are a heterogeneous group and the identification of clinical subgroups is considered important in achieving improved diagnostic, intervention and research outcomes.
- Some current clinical classification approaches rely upon sub-grouping patients based on establishing consistent directional patterns of symptom aggravating and easing movements which subsequently inform patient management.

Proposal:
- Janda1 argued that simply observing postural alignment, pelvic position and muscle contours tells a lot about the subject’s motor function. He described the Pelvic Crossed Syndrome as an expression of altered spino-pelvic posturo-movement control. Disturbed patterns of axis-pelvic neuromuscular activity create altered loading stresses on the joints and soft tissues and the likely development and perpetuation of various spine-pelvic pain and related disorders in time.
- Clinical practice also delineates another different, yet common picture of spino-pelvic dysfunction – implicating two primary pictures of posturo-movement impairment which underlie most axis-pelvic pain syndromes. Utilising the available evidence and extrapolating Janda’s original model, these have been further developed and re-termed the Posterior Pelvis Crossed Syndrome – his original concept (PPXS) and the Anterior Pelvis Crossed Syndromes (APXS).5 6 9

In essence, the principal clinical posturo-movement features which distinguish each Pelvic Crossed Syndrome can be broadly summarised as follows:

Distinguishing Features

**PPXS**
- Habitual pelvic posture away from ‘neutral’
- Habitual postures influence movement patterns
- Axial flexor/extension muscle activity balance
- Antero-lateral abdominal wall (ALAW) activity
- Extensor system activity
- Forward bending & sitting kinematic patterns
- Extension / reach pattern
- More likely dominant axial regional dysfunction
- Most likely dominant pain syndromes

**APXS**
- Posterior shift from line of gravity with anterior tilt
- Anterior pelvic shift/hip flexion
- Coactivation F/Es
- Axial extension dominance
- Whole abdominal wall +
- T/L + L/S regions spine
- Hip flexion/posterior shift pelvis, Rely heavily on superficial axial extensor muscle ‘holding’
- Dominant spinal extensor strategies + pelvic hip
- Thoracolumbar spine + L/S spine & pelvis
- Back pain + pelvic girdle pain, also including referral patterns to anterior hip & knee

Implications:
- Appreciating the Pelvic Crossed Syndromes:
  - Assists the clinical assessment.
  - Facilitates a ‘dysfunctional diagnosis’ based upon the patient’s actual neuro-myotendinous interactions – the likely mechanism driving the pain disorder.
  - Indicates the direction of appropriate manual interventions.
  - Allows improved sub-group allocation for back pain research and interpreting outcomes.
  - Aids our understanding of the development and perpetuation of the patient’s present pain disorder and provides prognostic clues.
  - Provides insights towards more appropriate and effective exercise protocols for both prevention and rehabilitation.

The clinical veracity of the Pelvic Crossed Syndromes is partly supported by a study by Van Wingenbergen et al.10 11 which found that the standing postures and forward bending patterns differed between subjects with chronic pelvic girdle and chronic low back pain.

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