

Janda Concept Paper

Shirley Chung

A. T. Still University

Janda Concept Paper

Janda's assessment methodology first considers the biotensegrity of the whole-body as a coordinated, integrated, interdependent, functional unit. Then, analysis zooms in on localized structures and focal points (tender points and TrPs or trigger points). Following posture and gait analysis, Janda's three assessments are movement pattern (MP) evaluation, muscle length testing (MLT), and soft-tissue assessment (STA).

Key Concepts: Movement Pattern Evaluation

Contrary to "classic" manual muscle testing for strength, MP evaluation is multidimensional (examining strength, timing [of activation], activation, and sequencing especially in the movement initiation phase) and provides clues on function and dysfunction both proximally and distally—global compensation for local destabilization via altered movement patterns (Page, Frank, & Lardner, 2010). Janda identified six MPs that profiled general movement ability, quality, and control (hip extension, hip abduction, curl-up, cervical flexion, push-up, and shoulder abduction) giving insight on how prime movers, synergists, and stabilizers work together and highlighting possible compensations (Page et al., 2010).

Abnormal Findings and Dysfunction

A common MP exam finding is the over-activation, delayed, or absence of appropriate activation by the prime movers. When synergists/stabilizers take over or act in lieu of the prime movers as indicated by misfiring (activation) timing/sequencing, these clues indicate a poorer MP and dysfunction—the more distal the compensations, the poorer the movement pattern (Page et al., 2010). An example is hamstrings and erector spinae activating/firing first followed by a delayed/absent contraction of the gluteus maximus (typically weak) in hip extension; a poorer

prognosis is when the thoracolumbar extensors and/or shoulder muscles (distal) compensate for the gluteus maximus (Page et al., 2010).

Key Concepts: Muscle Length Testing

Janda identified groups of muscles having tendencies towards tightness/weakness. Systems of tight/weak muscles promote imbalances. Tight muscles reduce range of motion (ROM) and promote [unwanted] activation or reciprocal inhibition (Page et al., 2010). By checking the muscles' resistance to passive lengthening especially near the end-range, MLT helps the clinician identify tight muscles (particularly useful for clients with recurrent/chronic pain) and look further into commonly known length-tension imbalances (Page et al., 2010). MLT helps to confirm observations from the gait, postural, and MP evaluations (Page et al., 2010).

Abnormal Findings and Dysfunction

In Table 7.1, Page et al., (2010) presented the normal ranges for MLT. Common findings and examples included tight hip flexors and tight thoracolumbar extensors (lower cross syndrome); overactive hamstrings (tight/short); tight/hypertonic adductors; tight triceps surae; overactive/shortened quadratus lumborum; overactive paraspinals; hypertonic piriformis; tight upper trapezius, short pectorals, tight suboccipitals (upper cross syndrome); short latissimus dorsi; tight/hypertonic upper trapezius (weak middle/lower trapezius); tight levator scapulae; and tight sternocleidomastoid (Page et al., 2010). Janda noted the abnormalities of tightness-weakness (tight muscles testing weaker than usual usually indicating long-term tightness) and constitutional hypermobility (laxity of muscles, connective tissues, and ligaments presenting as excessive ROM or lower muscle tone upon palpation) (Page et al., 2010).

Key Concepts: Soft-Tissue Assessment

STA palpates for tender points and TrPs (localized dysfunction), symptoms of pathology. TrPs are nodes of hypertonicity tending to activate first, but functioning inefficiently (also associated with myofascial pain, MyP) (Page et al., 2010). TrPs and MyP occur in patterns or chains in the body and can affect/trigger each other as well as proximal and distal muscular areas (Page et al., 2010). TrP pain can present as weakness, paresthesias, decreased work tolerance, altered neuromuscular coordination, limited ROM, and stiffness (Page et al., 2010; Rainey, 2013). Tender points (commonly associated with fibromyalgia) are tender areas without apparent tissue abnormalities (Page et al., 2010). The body functions as one system in solidarity.

Abnormal Findings and Dysfunction

Abnormal findings for tender points would be tenderness/hyperalgesia; TrPs might feel like nodules within the band of muscle, and produce referred pain (Page et al., 2010; Rainey, 2013). Janda noted that scars should be examined as they can run deep into the fascia; scars may present some cutaneous restriction as well (Page et al., 2010). Rainey's (2013) case study of a female with low back and right hip pain involved treating TrPs in the right gluteus maximus and medius (common in hip stability dysfunction) and L3 and L5 multifidi with dry needling. Post-treatment, the client did not experience pain restrictions and the TrPs seemed to be inactivated.

Dysfunction and Injury Risk

Abnormal findings/dysfunction promote altered neuromuscular movement patterns, pain adaptations, and compensations that causes stress (e.g. joints and other structures, breathing) systemically as bodily components are forced into either unintended "roles" or forced to operate in suboptimal conditions (e.g. limited ROM, limited dorsiflexion leading to poor squat form). The body tends to adapt to what is "easiest", even if that movement pattern is poor. Such

recurring/chronic systemic stresses and maladaptations lead to increased injury risk like driving a car with one flat tire will cause undue wear on the car.

References

Page, P., Frank, C. C., & Lardner, R. (2010). *Assessment and treatment of muscle imbalance:*

The Janda approach. Champaign, IL: Human Kinetics.

Rainey, C. E. (2013). The use of trigger point dry needling and intramuscular electrical

stimulation for a subject with chronic low back pain: A case report. *International Journal*

Of Sports Physical Therapy, 8(2), 145-161.