



Enhancing students' palpatory skills through language

Dr Sandra Grace

www.scu.edu.au

Introduction

- Most examination procedures used by manual therapists are palpatory – high degree of subjectivity
- Soft tissue paraspinal palpatory diagnostic tests are the least reliable
- Regional range of motion tests are more reliable than segmental range of motion tests
- Intra-examiner reliability is better than inter-examiner reliability

Palpation

- 'Greatest asset an osteopathic physician can have.' (Fryette, 1954)
- 'A particularly important means of uncovering information.' (DiGiovanna et al, 2005)
- 'Perceptive palpation is the key to diagnosis.' (Chaitow, 1997)

Social learning theory

- Learning results from verbal interactions with others and verbal support from the learning context
- What learners bring to a situation has an important influence on what is experienced and how it is experienced (Boud & Walker, 1991)



Social learning theory

- Knowledge that needs to be constructed for vocational practice does not exist without a social and cultural context or without a relationship to past events, other individuals or societal structures (Vygotsky, 1987)
- In particular, knowledge is embedded in the activities of a particular workplace (community of practice)

Zone of proximal development

Vygotsky's theory

- This concept holds that an individual's development can be maximised through the close guidance of a more expert other. This expert other provides scaffolding which enhances the prospect of learning through a process of guided discovery and joint problem solving

Communities of practice

Lave and Wenger, 1991

- Situated learning: learning through practice and participation
- Concept of organisational learning
- Newcomers learn through observation and performing simple tasks
- Socialisation process (legitimate peripheral participation)

Language and metaphor

- Knowledge and understanding is developed through continuing negotiation of meaning through dialogue
- Using language involves actively making meaning of the world: language is a constructive tool (Rorty, 1979)
- Metaphor as a major means of constructing reality (Loftus, 2011)
- Creativity required to construct new metaphors

Language of palpation

- 'There is a great need for someone to define these various tissue conditions by palpation and define them well enough by words for the student to know what he is looking for.' (Fryette, 1954)
- 'Numerous strange and unfamiliar sights are to be seen, but without some knowledge of the language with which to ask questions, or a guide to interpret those observations in the life and history of the country, they have little meaning to us.' (Frymann, 1963)

Language of palpation

- 'We will understand better what we feel if we attempt to describe it. In describing what is experienced through palpation we try to classify the characteristics of tissue states, thus not only clarifying our own observations but broadening our collective experience by affording a better means of communication between us and discussing osteopathic theory and method.' (Van Allen, 1964)

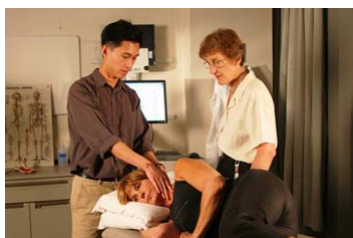
Teaching palpation

- Typically students observe experts, attempt to mimic demonstrated movements and receive verbal feedback. Students repeat the technique without supervision. (Degenhardt, 2009)
- Palpation is an individual experience. Palpation perceptions can be misinterpreted (Zegarra-Parodi et al, 2008)



Southern Cross
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Teaching palpation



Engaged clinical experiences

- Professional discourse about skills, techniques, research and special cases
- Professional discussions or conversations that relate to clinical practice
- Authentic experience (Rich, 2009)

Teaching palpation: A pilot study

Aim: to analyse the language used in teaching palpation (in the literature and in the classroom) and to suggest teaching strategies to enhance student learning of palpatory skills

Methodology

Literature review: language used to describe palpatory findings in the literature (journal articles and osteopathic books)

Pilot study: observation of osteopathy students learning palpation in the classroom
How does dialogue promote learning and the development of understanding

Results: Literature review

- Evidence of emerging standardised palpatory language?
e.g. boggy/soggy, ropy, fibrotic, ease, bind, compliance, resistance, hypertonic
- Standardised palpatory language may not adequately capture the full range of nuances in palpatory findings

Results: Literature review

Author	Language used to describe palpation
Chaitow, 1997	ROM, joint play, muscle weakness/ tightness, amount of induration, oedema or fibrosis in soft tissues, differences in quality of perceived energy variations in the body, tissue memory, emotional residue; Skin tone elasticity (adherence, tightness); Viscera: position, motions, sense of inherent rhythms. Comparative descriptors: superficial/deep, compressible/rigid, warm/cold. moist or damp/dry, painful/pain-free, local or circumscribed/diffuse or widespread, relaxed/tense, hypertonic /hypotonic, normal/abnormal
Chaitow, 2006	Motion barrier, relative tension or bind, relaxation or ease. Loose/tight, ease, relaxed; bind, the restrictive barrier, hypertonicity , symmetry, sensitivity (tenderness), tissue texture changes (e.g. fibrous, swollen, hot, cold), drag, dryness, sandpaper, a slightly harsh or rough texture
DiGiovanna et al., 2005	Skin: oily, abnormally atrophic, rough/smooth; soggy or boggy , turgor (elastic rebound of the skin) Subcutaneous tissues: spongy, doughy, pitting, spongy veins, firm radial and carotid arteries. abnormal tensions in fascia Deeper tissues: hypertonic /hypotonic, atonic, flaccid, contracture, fibrous, spasm, bogginess (like a wet sponge), ropiness (cord-like), stringiness (finer version of ropiness)

Results: Literature review

Author	Language used to describe palpation
Fryette, 1954	Soggy , oedematous, atonic/ tonic
Greenman, 1989	Skin: thick, warm; Subcutaneous fascia: thick, loose, texture abnormalities associated with somatic dysfunction, moist Deep fascia: smooth, firm, continuous; Muscle: hypertonic ; Ligaments: thick, firm Bone: hard, "is there any life in it?"; Motion sense: restricted, excessive, sticky, jerky, too loose; end point hard, soft, spongy, jerky; asymmetry, alterations in tissue texture; Temperature, compression and shear movement within the tissue, smoothness or thickness of tissue, tissue tone, range of motion
Greenman, 2003	Loss of motion, restrictive barrier; elastic barrier. Layer palpation – joint range symmetry, end feel, tight, ease and bind. Congestion and oedema – diffuse, boggy sensation like a sponge filled with water. Chronic fibrosis - hard, unyielding, rapidly ascending end feel compared to boggy oedematous sensation. Spasm, hypertonus , contracture – jerky and tightening type of end feel due to oedema or fibrosis. Hypermobility ROM - loose, greater extent of the range than anticipated, rapidly escalating hard end feel when approaching the elastic and anatomic barrier. Long or short restrictive barriers

Results: Literature review

Author	Language used to describe palpation
Johnston & Friedman, 1994	Motor symmetry, resistance, muscle tone, compliance (e.g. to hyperextension, sensed immediately on initiation of motion by the examiner), range of motion, end feel, muscle tension. Skin: dryness/moisture, temperature, contour changes (e.g. discrete hills and valleys in paravertebral tissues); silk-like, leathery thickness Subcutaneous tissues: pain, tenderness, resistance to pressure, sparse fluidity, boggy fluidity. Muscles: resilient and pliant elasticity, taut and fibrous resistance to pressure and mobility, compliance, ROM. Deep tissue tension. Bony palpation: immediate compliance/resistance, structural mobility/rigidity
Kuchera and Kuchera, 1992	Bogginess , resiliency, ropiness, resistance, crepitus, increased tone, hot, cool, dry, moist, tone, resiliency, springy bounce of a normal joint, boggy , spongy, oedematous, fibrotic, thickened or stringy, contracture, scar, muscle tone rosy, spastic, firm; flaccid, mushy. Restricted motion: drag or ease of fascial motion. Restrictive barrier (e.g. like a brick wall). Tenderness. Acute: tissue congestion, moist skin; Chronic: dry skin, mushy or flaccid muscle tone, firm, rosy, stringy, thickened, resistant, contracture
Upledger, 1983	Radial pulse (e.g. peak, rise and fall of pressure gradient, broadness of the pressure peak, pressure descent rapid, gradual, smooth, stepped). Arterial pulses. Subtle flexion and extension of the neck. Head broadening and narrowing slowly and rhythmically about 6-12 cycles per minute.

Results: Language in the classroom

- Students used individualistic metaphors to describe palpatory findings
- Teachers used a wide variety of metaphors
- Students learned from others' descriptions (teachers and students)
- Socialisation from first to final year students
 - 1st year students: 'I can't feel anything', 'I don't know what I'm feeling'
 - 4th and 5th year students: sophisticated descriptions of palpatory findings

Language in the classroom

Teachers' comments: A sample

- 'What does a living body feel like? Warm, pulsatile.'
- 'Feel for pulsative vibratory movements in tissues'
- 'This has a ropy hard feeling, like hitting wood instead of hitting jelly'
- 'Feel fluid movement in tissue'
- 'Imagine moving from water into jelly'
- 'It's like wheels not greased, starting to jag'

Language in the classroom

Students in their first year: A sample

- 'I'm not sure if I'm feeling the head move or my arms and hands move'
- '[the head] felt like a bowling ball, like a block of cement'
- 'It feels like jelly'
- 'It feels like honey'
- 'It feels like a balloon full of fluid'

Language in the classroom

Students in fourth and fifth years: A sample

- 'I can feel light areas and dark areas. I feel lots of heat under my hand. There's something hollow between the scapulae.'
- 'I'm drawn to the mid thoracic area. I can feel motion, breath, warmth. I can feel expansion.'

Language in the classroom

- ‘The lower limb is creating a lot of noise. Old TV static. That’s what I am feeling.’
- ‘A sense of air. I’ve just gone through all those layers we just spoke of. Just a bubble. Where the heel of my hand is, it feels like it’s full of water, whereas at the top of my hand it feels full of gas, buoyant. My fingers are able to sink whereas the heel of my hand is unable to sink. It’s like a balloon with water in the bottom.’

Language in the classroom

- ‘As soon as he said that then I could visualise exactly what he was doing. So yeah, [the concept of bubbles, air and water] will probably be something I will use now.’

Implications and suggestions for further research

- Standardised language will be individually interpreted
- Students and teachers use a range of palpatory terms to describe the same palpatory phenomena
- Students may develop their palpation skills best when they use their own metaphors to interpret what they feel or what standardised language means to them

Implications and suggestions for further research

- Students learn from feedback provided by experts and from descriptions provided by their peers
- There is a need for instructional strategies that develop students' palpatory skills by encouraging verbal interactions among students and teachers about their personal experiences of palpation

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