Chronic Lower Back Pain: A Maladaptive Perceptions Model

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Benedict M Wand - Invited speaker.

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High quality evidence suggests that current approaches to the management of CLBP show only limited effectiveness; one explanation of this finding is that current models of management are misdirected or incomplete. This talk proposes a model of CLBP underpinned by data on the psychological contributors to the LBP experience and recent evidence of neuroplastic changes in the brains of people with CLBP (see below). The model suggests that maladaptive cognitive perception about the nature of the back problem and future consequences drive behaviours that might bring about maladaptive neuroplastic changes. These central nervous system changes may enhance sensitivity, influence normal attentional processing and potentially create a state of maladaptive self perception of the back, in terms of how the back feels to the individual, the control they feel they have over their back and the meaning of sensory information from the back. Maladaptive cognitive perception and maladaptive self perception are potentially mutually reinforcing and contribute to the maintenance of the CLBP experience. Identification of these issues in the clinical setting and the implications of this model to the rehabilitation of people with CLBP will also be discussed.
EPISODE OF LOW BACK PAIN

Maladaptive Perception Of The Problem
- Uncontrollable
- Irreversible
- Unlikely to resolve
- Fragile
- Vulnerable
- Indicative of a serious structural problem

HIGH PERCEIVED NEED FOR PROTECTION

Increased threat value attached to noxious information

Adoption of movement strategies that limit spinal movement, increase rigidity, and decrease flexibility and variability of motor responses

Excessive attention / hypervigilance to noxious information
- Decreased focus on other sensory inputs

CHANGES IN CORTICAL AND SUBCORTICAL AREAS THAT SUBSERVE NOCICEPTION, ATTENTION AND SENSORIMOTOR CONTROL OF THE BACK

Enhanced Nociceptive Efficiency
- Diversified threat perception
- Hyperalgesia
- Allodynia
- Spontaneous pain

Disturbed Perception Of The Back
- Loss of sensorimotor precision
- Difficulty delineating the outline and size of the back
- Loss of sensory acuity
- Loss of proprioceptive acuity
- Loss of control
- Disownership, neglect
- Foreignness and peculiarity
- Lack of visual information to correct this
  - Altered motor control
  - Altered homeostatic control
  - Enhanced perceived vulnerability

Failure Of Attentional Processes
- Distraction ineffective
- Difficulty with dual task performance
- Problems with working memory
- Cognitive dysfunction

FURTHER REINFORCEMENT OF MALADAPTIVE PERCEPTION OF THE PROBLEM

Likely To Be Enhanced By
- High pain intensity
- Negative affect
- Somatisation
- Pathoanatomical Dx