

Deborah Falla



Biography

Deborah Falla received her PhD from The University of Queensland, Australia in 2003. In 2005 she was awarded Fellowships from the International Association for the Study of Pain and the National Health and Medical Research Council of Australia to undertake postdoctoral research at the Center for Sensory-Motor Interaction, Aalborg University, Denmark. Her research focus involves the integration of physiological and clinical research to evaluate altered neuromotor control in people with neck pain. In this field, she received the Delsys Prize for Electromyography Innovation in 2004. Her research interests also include investigation of the physiological mechanisms that underpin the efficacy of therapeutic exercise for the treatment of musculoskeletal pain.

Abstract

The effect of pain on the cervical spine

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Given the complexity of the cervical spine, it is expected that alterations in afferent feedback from the muscles, for instance due to pain, induce major modifications of cervical motor control. Accordingly, altered muscle activity has been observed in individuals with neck pain during various tasks. The purpose of this presentation is to present evidence from experimental and clinical studies of pain-induced altered neck muscle control. The focus on both experimental and clinical pain manifestations shows that an experimental pain model may help understand the physiological mechanisms underlying alterations in neural control and muscle properties in people with neck pain disorders. The knowledge obtained from the interpretation of clinical findings with experimental pain models has relevance for the development of therapeutic interventions for the rehabilitation of patients with neck pain disorders.

Literature

- Keshner E.A. Motor control of the cervical spine. In Boyling J, Jull G (Eds) Grieve's Modern Manual Therapy: The Vertebral Column. 3rd Edn., Elsevier Churchill Livingstone, Edinburgh (2004)
- Falla D, Jull G, Hodges P. Feedforward activity of the cervical flexor muscles during voluntary arm movements is delayed in chronic neck pain. *Exp Brain Res*, 157: 43-48 (2004)
- Falla D, Farina D. Neuromuscular adaptation in experimental and clinical neck pain. *J Electromyogr Kinesiol*, 2006 Dec 28; Epub ahead of print