Sensorimotor incongruence in musculoskeletal pain; new insights into the role of visual feedback in pain perception.

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Summary
Musculoskeletal pain has major public health implications, but the theoretical framework remains elusive. It is hypothesised that sensorimotor incongruence (SMI) might be a cause of long lasting pain sensations in patients with unexplained chronic pain.1 SMI occurs when the predicted sensory feedback - based on the motor output - is not coherent to the actual sensory feedback from the body. It is possible to induce an artificial form of SMI by creating a sensorimotor conflict through distortion of visual feedback during the execution of movements.
Research data about artificial SMI causing pain has been equivocal and evidence regarding SMI in patients with musculoskeletal pain is lacking.2 On the other hand, there is evidence for an analgesic effect of visual feedback of our own body. It is shown that visual feedback of the back reduces acute pain intensity in patients with chronic back pain.3,4 Furthermore, in patients with non-specific low back pain, movement of the lower back is experienced as less painful and recovery time after moving is shorter while viewing one's own lower back.5 This supports the relevance of exploring the use of congruent visual feedback of the body as an additive in the treatment of people with chronic pain. Results may have important implications for the future management of people with musculoskeletal pain.

References