

Proprioception and balance training in osteoarthritis of the knee joint

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Osteoarthritis is a “wear and tear” arthritis, which mainly affects the joint, cartilage and the bone. Osteoarthritis which is also known as osteoarthrosis or chronic degenerative joint disease (DJD) is a progressive disorder of the joint caused by gradual loss of cartilage and resulting in the development of bony spur and cysts at the margins of the joints. Osteoarthritis is the second most common rheumatological problem and is most frequent joint diseases with prevalence of 22% to 39% in India. In population the knee joint is the most commonly affected joint. Balance is a complex function involving numerous neuromuscular processes. Control of balance is dependent upon sensory input from the vestibular, visual and sensorimotor systems. Central processing of this information results in a co-ordinate neuromuscular response that ensures the centre of mass remains within the base of support in situation when balance is disturbed. In patient with knee osteoarthritis, there is a prominent loss in proprioception and kinesthesia sensation compared with control subjects of the same age and gender. Also unilateral osteoarthritis patients had worse proprioception compared with normal knee. Proprioception allows human to differentiate position and motion of the body, limbs and joints. At the knee proprioception is mediated by feedback from specialized receptors in intra-articular and extra-articular musculoskeletal tissues. Alternatively, the proprioception impairment might contribute to osteoarthritis through an effect on articular cartilage load contribution or through denervation associated tissue pathology. The finding of the present study suggest that using a pure proprioceptive/balance exercise program makes it possible to improve functional capacity, postural control and decreased perceived knee pain patients with bilateral knee OA. Tubular elastic bandages on patients with bilateral knee providing proprioceptive training along with conventional occupational therapy. Proprioception and balance is improved by proprioceptive and balance training and use of tubular bandages. It improved specific quality of life, reduced pain, swelling, stiffness and improvement in the physical functional ability associated with performing daily living activities like ascending and descending stairs, ambulation and rising from the chair.

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