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Effect of Core Strength Training on Unstable Surfaces with Surface Biofeedback on Low Back Pain - An Annotated Bibliographic Review

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Abstract

Low back pain is a very common disorder and is experienced by every individual at least once in their lifetime. It has become one of the leading causes of musculoskeletal pain and economic burden worldwide. People with low back pain often have reduced core muscle strength. This study was to review the literature available on the effect of core strength training on unstable surfaces with surface biofeedback on low back pain. This study will provide information regarding effectiveness of core strengthening with surface biofeedback while treating low back pain. Total of twelve articles were included & reviewed. Only full text articles from past eight years were included in this review. A literature search was performed using Google Scholar and PubMed with the term Core strength, low back pain, unstable surfaces, and surface biofeedback. Strength training for core musculature reduces pain, disability and in improving overall general fitness as contraction of core muscles increases intraabdominal pressure which provides stability and stiffness of the body. Performing exercises on unstable surfaces like swiss ball, bosu ball etc, results in increased co-contraction of the muscles, neuromuscular activation, and proprioceptive demands of the core muscles as it puts too much stress on the muscles. Core strengthening on an unstable surface activates the core muscles which increases electromyographic activity and in turn provides with decreased pain, increased strength, greater resistance to injury and improves physical fitness. Core strength training helps in reducing pain, disability and in improving overall general fitness. [Implication] Core strength training on unstable surfaces with surface biofeedback effectively reduces the pain and strengthens the core.

Keywords: Core strength, Unstable surface, Low back pain, surface biofeedback.