

**REVIEW PAPER**

**Ergonomic Interventions as a Treatment and Preventative Tool for Work-Related Musculoskeletal Disorders**

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**Abstract**

**Background:** Musculoskeletal disorders are one of the most common chronic disorders and can develop from repetitive micro-traumas, which occurs often from one's occupation. Work-related musculoskeletal disorders (WMSD) cost the United States billions of dollars annually. Many traditional therapeutic interventions, like manual therapy, electrical stimulation and hot and cold packs, are being utilized to treat WMSD however there is minimal evidence supporting the use of these interventions to treat WMSD. Therefore, ergonomic interventions (EI) has been proposed as a conservative, non-invasive, and cost-effective intervention to treat WMSD as it functions to correct the cause of repetitive micro-traumas due to one's occupation by adjusting posture, workstations design, and product selection.

**Aim:** The aim of this paper is to (a) briefly overview the theories of WMSD and EI (b) analyze the efficacy of traditional therapeutic interventions (c) establish the practical applications of EI (d) analyze the efficacy of EI, (e) discuss the contraindications of EI and (f) draw conclusions and discuss the future directions of EI in preventing WMSD.

**Results and Discussion:** It was found that traditional therapeutic interventions provides only short-term pain relief for musculoskeletal disorders, prompting the need for a different approach. EI was found to have promising results in treating WMSD, however there is limited evidence in the form of randomized controlled trials (RCTs) to truly determine the efficacy of EI in addressing WMSD. Further research is needed to determine the efficacy of EI and the long term effects of this intervention in treating WMSD.

**Keywords:** work-related musculoskeletal disorders, ergonomic intervention, micro-traumas