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Literature Review

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## [Neuromuscular Training in Football: A Literature Review](#)

Introduction: Neuromuscular training (NT) involves a series of functionally focused exercises that address aspects such as postural stability, sensory perception, and muscle strengthening. These exercises are incorporated as an integral part of a currently used training protocol.

Objective: To review the main effects of NT on injury prevention in soccer players and its impact on related physical performance. Methods: Review of the literature describing different studies on NT in soccer. The following databases were used to search and retrieve the scientific articles: PubMed, Scopus, and Ebsco. Combinations of the following keywords were used to perform the search (“neuromuscular training” OR “proprioceptive training” OR “sensorimotor training”) AND (“soccer” OR “football” OR “soccer players” OR “football players”).

Results: A positive trend is observed in NT for the prevention of knee and ankle injuries, in addition to improving muscle strength and motor skills such as agility and coordination.

Conclusion: This review managed to identify that NT is effective in reducing the risk of injury in soccer players; however, the literature has mainly addressed lower extremity injuries. Therefore, it may be necessary for future investigations to focus on the upper extremity and trunk. Likewise, it was determined that NT has a potential impact on improving physical performance, with the variables of strength, power, speed, agility, and balance being the most studied.

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Research Article

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## [Cardiovascular Response to Head Down Crooked Kneeling Position Among Type 2 Diabetic Patient](#)

Background: Factors like emotions, lifestyle choices, and physical activities, including posture changes, have a significant impact on cardiovascular indicators like blood pressure and heart rate. The study aims to examine the cardiovascular reactions in individuals with type 2 diabetes while performing the head-down crooked kneeling (HDCK) or Sujood position, resembling poses found in hatha yoga. This position emphasizes relaxation, body awareness, and meditation. Those with type 2 diabetes who engage in yoga have reported enhancements in their management of blood sugar levels and insulin resistance.

Methodology: A cross-sectional study was conducted in different hospitals. The sample size was 312 which was calculated by using the Rao soft calculator. The participants were selected by non-probability convenience sampling technique. Inclusion Criteria were male and Female diagnosed with Type 2 DM, Subjects with a history of smoking, Cognitive Impairment, Sepsis, Cardiac pathology, Respiratory disorders, and Malignancy were excluded. Blood pressure and heart rate were monitored initially, during the Crooked Down Kneeling position, and after the Crooked Down Kneeling Position. A Digital Sphygmomanometer was used to measure blood pressure and a pulse rate-demographic Assessment form was used to collect data. Ethical consideration is maintained. Informed consent was taken from participants.

Results: The result shows a significant effect of head down crooked kneeling position on cardiovascular response in type 2 diabetic patients ( $p < .001$ ). Systolic, diastolic blood pressure, and heart rate before, during, and after HDCK were significantly increased ( $p < .001$ ) as compared to the baseline value, and after 5 min returning to the upright position it reverted to the initial value.

Conclusion: This study revealed a significant increase in systolic and diastolic blood pressures and an increase in pulse rate during HDCK. Also, our findings showed no significant gender difference in the effect of HDCK on all the other cardiovascular parameters except systolic bp.

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Research Article

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## [Comparison of Patient Satisfaction and Quality of Life Among Post-elbow Fracture Stiffness Patients Undergoing Proprioceptive Neuromuscular Facilitation Stretching vs. Passive Stretching](#)

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Background: Post-fracture prolonged immobilization or post-operative elbow stiffness is relatively common and markedly interferes with normal upper extremity function.

This study aims to evaluate and compare the levels of patient satisfaction and quality of life in individuals with post-elbow fracture stiffness who undergo Proprioceptive Neuromuscular Facilitation (PNF) stretching versus those who receive passive stretching.

Methodology: This (six months) analytical comparative cross-sectional study was conducted at various healthcare institutions. The sample consisted of 377 patients using non-probability convenient sampling. Inclusion criteria included specific types of elbow fractures, a minimum immobilization period of three weeks, and limited range of motion (ROM). Exclusion criteria covered various medical and psychological conditions. Standardized questionnaires Short Form 36 Health Survey Questionnaire (SF-36) and Patient Satisfaction Questionnaire (PSQ-18) were used for measuring Quality of life and patient satisfaction. Data analysis was done using SPSS version 22.

Results: Short Form 36 Health Survey Questionnaire scores were significantly higher in the PNF Stretching group (mean  $82.34 \pm 6.63$ ) compared to the Passive Stretching group (mean  $63.98 \pm 14.42$ ), with a p - value of 0.000. Similarly, Patient satisfaction questionnaire scores were significantly higher in the PNF Stretching group (mean  $77.61 \pm 4.43$ ) compared to the Passive Stretching group (mean  $70.93 \pm 8.49$ ), with a p - value of 0.000. These findings indicate that there is a statistically significant difference observed between the two groups.

Conclusion: There is a statistically significant difference observed between both groups as the patients undergoing PNF stretching have higher satisfaction and better quality of life, in comparison to the passive stretching group.

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## Research Article

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[Physiotherapy Can Help Recover Functional Status in Community-dwelling Seniors Assessed in Emergency Departments for Minor Injuries](#)

Background: Around 75% of seniors seeking treatment for injuries in Emergency Departments (ED) are discharged home with minor injuries that put them at risk of functional decline in the following months.

Objectives: To 1) describe seniors' characteristics using or not physiotherapy services following ED visits for minor injuries and 2) examine their functional status according to physiotherapy use.

Methods: Secondary data analyses of the Canadian Emergency Team Initiative cohort study. Participants were 65 years and older, discharged home after consulting EDs for minor injuries and assessed three times: ED, 3- and 6-months. Physiotherapy use was recorded as yes/no. Functional status was measured using the Older American Resources Scale (OARS). Multivariate linear regressions were used to examine change in OARS scores over time, accounting for confounders.

Results: Among the 2169 participants, 565 (26%) received physiotherapy, and 1604 (74%) did not. Physiotherapy users were more likely females (71% vs. 64%), more educated, and less cognitively impaired. The overall change in OARS at 6 months was  $-0.31/28$  points (95% CI:  $-0.55; -0.28$ ) with no difference across groups after adjustment. Subgroup analyses among frail seniors showed that physiotherapy users maintained their function while non-users lost clinically significant function ( $-0.02$  vs.  $-1.26/28$  points,  $p = 0.03$ ). Among the severely injured (Injury Severity Scale  $\geq 5$ ), physiotherapy users' results were higher by almost  $1/28$  points ( $p = 0.03$ ) compared to non-users.

Conclusion: These results suggest that among seniors discharged home after consulting the ED for minor injuries, the frail and severely injured may benefit from being systematically referred to physiotherapy services.

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## Research Article

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[Prevalence of Musculoskeletal Disorders among Garment Workers: A Cross-Sectional Study in Bangladesh](#)

Background: The prevalence of musculoskeletal disorders is particularly high among garment workers, which poses a serious occupational health hazard. This issue is not taken seriously as an important issue in low-income countries like Bangladesh.

Aim: Determine the prevalence of musculoskeletal conditions (MSDs) among garment workers in nine body regions and explore the relationship between MSDs and the general characteristics of the participants.

Materials and methods: A cross-sectional study including 383 garment workers was done. A structured questionnaire (Standardized Nordic Musculoskeletal) was used.

Results: The most common form of pain in the last year was lower back pain. Nine anatomical locations were studied, and workers most commonly experienced problems with their lower back (45.4%), upper back (36.6%), and knees (33.2%). Workers reported having more trouble in the knee (31.9%), upper back (35.0%), and lower back (43.9%) regions over the past seven days. In the past year and the last seven days, shoulder injuries were the least common.

Conclusion: MSDs are widespread among garment industry employees. The back condition is the most commonly affected. The development of MSD is directly correlated with age and work experience.

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