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Musculoskeletal Pain and Related Risks in Skydivers: A Population-Based Survey



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Tools

Abstract

Nilsson J, Fridén C, Burén V, Westman A, Lindholm P, Äng BO. Musculoskeletal pain and related risks in skydivers: a population-based survey. Aviat Space Environ Med 2013; 84:1034–40. Introduction: Sport parachuting from aircraft (skydiving) is a major aerial activity in which parachutists are subject to decelerating forces during parachute opening shock (POS), possibly as much as 3–5 G. While traumatic incidents related to POS have been reported, epidemiological data on musculoskeletal pain among skydivers is absent in the literature. The aim was therefore to examine the prevalence of self-rated musculoskeletal pain related to POS in a skydiver population and elicit related risk factors. **Methods:** There were 658 Swedish sport skydivers who completed a structured web-based questionnaire (70% response rate; email invitation) validated for use in skydivers. The questionnaire concerned individual and skydiving-related risk indicators, and musculoskeletal pain experiences. Multiple regression analysis was used to estimate the relationship between risk indicators and musculoskeletal pain related to POS. **Results:** The 12-mo prevalence of musculoskeletal pain related to POS was highest for the neck region, 25% (95% CI = 21.4–28.2). Other upper-body regions were as follows: shoulder 16%, thoracic spine 10%, and lower back 18%. A high number of parachute jumps in the last 12 mo, i.e., 30–90 jumps (RR = 1.7, 95% CI = 1.1–2.7), > 90 jumps (RR = 2.1, 95% CI = 1.3–3.4), and a high main parachute wing-loading, i.e., > 1.4 lb/ft² (RR = 1.7, 95% CI = 1.1–2.6) were independent risk factors. **Conclusions:** Neck pain related to POS was common among skydivers. A high number of parachute jumps the last 12 mo and high wing-loading emerged as risk factors, suggesting that highly active skydivers using small canopies may be at risk. Studies on biomechanics under POS are suggested.

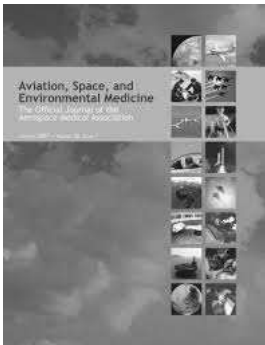
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