

## Phantom Phenomena in Subjects after Limb Amputation Who Regularly Practice High Intensity Sports

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**Abstract :** Introduction: Phantom phenomena are often reported by subjects who have undergone limb amputation. Mostly, patients feel the amputated part of the limb as if it was still attached to the body. Two types of phantom phenomena: painless (phantom sensation) and painful (phantom pain) were described. Triggers of phantom sensations and phantom pain, as well as fully effective treatment, have not been clearly described yet. Purpose: To assess the influence of psychosocial factors and some clinical conditions on the occurrence of phantom phenomena in amputee athletes. Subjects: 21 men (age: 31 years, SD = 7.5 years) after lower or upper extremity amputation, who regularly performed high-intensity sports (Amp Football Team Players) were included to the study. Method and equipment: In the research, the following method and tools were used: Questionnaire [Pirowska] adapted for athletes with disabilities, Numerical Rating Scale (NRS) - for phantom pain assessment, McGill Pain Assessment Questionnaire (short version), Beck's Depression Inventory (BDI), State Trait Anxiety Inventory (STAI): X-1 and X-2, shortened version of The World Health Organization Quality of Life (WHOQOLBREF). Results: In the study group, the lower leg amputations with traumatic etiology were predominant. Phantom sensations were present in all subjects. Half of the respondents claimed to experience phantom sensations at least once a day, paroxysmally. There was a prevalence of phantom sensations characterized as incomplete, immobile limb. Phantom pain was reported by over 85% of respondents. The nature of phantom pain was frequently described as stabbing, squeezing, shooting, pulsing, tiring. There was a significant correlation between phantom pain intensity and anxiety, quality of life, depressive tendencies, perception of phantom pain as the obstacle in daily functioning and intensity of the limb pain before amputation. Conclusions: The etiology of phantom phenomena is complex. Psychological factors seem to have a significant influence on the intensity of the phantom pain. Particular attention should be paid to patients who complain about persistent limb pain before the amputation. These are patients with an increased risk of the phantom pain of relatively high intensity.

**Keywords :** amputation, phantom pain, phantom sensations, adaptive sports

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