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## EDITORIAL NOTE

## Editorial Note on: Impaired immune response to voluntary arm crank ergometer exercise in patients with spinal cord injury

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Editorial Note on: *Spinal Cord* (2010) **48**, 734–739; doi:10.1038/sc.2010.13; published online 23 March 2010

Medical professionals who deal with spinal cord injuries recognize that their clients are always at risk for infectious complications. Thus, it is entirely appropriate to state that medical management of spinal cord injury is always accompanied by medical management of infections, regardless of whether the client is in the emergency room or living in the community.

A published report recently found that the immune function of patients with spinal cord injuries is reduced compared with able-bodied individuals.<sup>1</sup> However, there has been little discussion of rehabilitation programs and sport activities in this patient population from the view of the immune system.

The research group of this paper have chosen natural killer cell activity and interleukin-6 in blood samples as the indicators of immune function.<sup>2</sup> The former indicator is a type of lymphocyte and the latter is a 'cytokine' produced by skeletal muscles. Both of these indicators reflect the degree of physical stress. Many medical professionals consider

immune responses in physically handicapped patients only at the time an infectious disease appears. This paper offers some new concepts in this field. In particular, the study design contains several valuable approaches. First, study participants included both able-bodied persons and tetraplegic patients. Second, exercise was conducted using a hand-ergometer. The first approach should provide some understanding of the 'influence of the autonomic nervous system on immune function'. The second approach should allow the standardization and quantification of physical stress on the physically handicapped, thereby providing improved insight into future studies in this area.

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