

# Spinal cord injuries in Sweden

## Studies on clinical follow-ups

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**Abstract**

A spinal cord injury is a serious medical condition, often caused by a physical trauma. An injury to the spinal cord affects the neurotransmission between the brain and spinal cord segments below the level of injury. The SCI causes a loss of motor function, sensory function and autonomic regulation of the body, temporary or permanent. Significantly improved acute care, primary comprehensive rehabilitation and life-long structured follow-up has led to persons with spinal cord injury (SCI) living longer than ever before. However, increased long-time survival has allowed secondary conditions to emerge, like diabetes mellitus and where cardiovascular disease (CVD) now is the most common cause of death among SCI patients. Other possible CVD-related comorbidities in this patient group have been reported to be pain and mood disturbances. There is still lack of, and need for more knowledge in the field of CVD-related screening and prevention after SCI. The overall aim of this thesis was to contribute to a scientific ground regarding the need for CVD-related screening and prevention after SCI. In Paper I and Paper II, patients with wheelchair-dependent post-traumatic SCI (paraplegia) were assessed. The results in paper I showed that 80% of the examined patients had at least one cardiovascular disease risk marker irrespective of body mass index (BMI). Dyslipidemia was common for both men and women at all BMI categories. The study also showed a high prevalence of hypertension, especially in men. Paper II showed a low frequency of self-reported physical activity, where only one out of 5 persons reported undertaking physical activity  $\geq 30$  min/day. The physically active had lower diastolic blood pressure but no significant difference in blood lipids. In paper III and IV, patients with SCI (tetraplegia and paraplegia) participated in the studies. Eighty-one percent of the patients had dyslipidemia, where also a majority of the patients with normal abdominal clinical measures had dyslipidemia. Self-reported physical activity  $\geq 30$ min/day was reported by one third of the patients. No differences were found between physically active and not physically active patients when it came to blood glucose, serum lipid values and clinical measures (paper III). Pain was common in the patient group, however, most often on a mild to moderate level. Anxiety and depression was less common than reported in other studies (paper IV).

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Tetraplegia, paraplegia, cardiovascular disease, prevention, anthropometry, physical activity

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