

**MEDICAL PROBLEMS ASSOCIATED WITH SPINAL CORD LESIONS  
– IMPACT ON FUNCTIONING**

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av

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This thesis is based on the following papers:

- I Valtonen K, Goksör L-Å, Jonsson O, Mellström D, Alaranta HT, Viikari-Juntura ER. Osteoporosis in Adults With Meningomyelocele: An Unrecognized Problem at Rehabilitation Clinics. *Arch Phys Med Rehabil* 2006;87:376-82.
- II Valtonen K, Karlsson A-K, Alaranta H, Viikari-Juntura E. Work participation among persons with traumatic spinal cord injury and meningomyelocele. *J Rehabil Med* 2006;38:192-200.
- III Valtonen K, Karlsson A-K, Siösteen A, Dahlöf L-G, Viikari-Juntura E. Satisfaction with sexual life among persons with traumatic spinal cord injury and meningomyelocele. *Disability and Rehabilitation (In press)*
- IV Sandsjö L, Valtonen K, Olsson Grundell L, Karlsson A-K, Viikari-Juntura E. Assessment of working conditions and implementation of changes among employees with spinal cord lesion. A case series. *Submitted for publication*

# **MEDICAL PROBLEMS ASSOCIATED WITH SPINAL CORD LESIONS – IMPACT ON FUNCTIONING**

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## **Abstract**

**Aims:** The overall aim of this thesis was to study the effects of medical problems associated with spinal cord lesions on functioning – with special interest in work participation and sexual functioning. A special aim was to explore bone mineral density and associated factors in persons with meningomyelocele.

**Methods:** The target population comprised persons with traumatic spinal cord injury or meningomyelocele living in the county of Western Götaland in Sweden. The subject characteristics, prevalence of medical problems and other disorders, as well as primary outcomes, were assessed with a structured questionnaire. In the osteoporosis study a physician and a physical therapist examined all subjects and assessed ambulatory status and the neurological level of the lesion. Bone mineral density in the lumbar spine, hip and forearm was measured with dual-energy x-ray absorptiometry. In the workplace intervention study each participant was visited by an ergonomist at the workplace where the working conditions were documented by means of video recordings, questionnaires and the ergonomist's evaluation of the workplace.

**Results:** Work participation rate in Swedish spinal cord lesion population is about two thirds of that in the healthy population (50% against 75%). Among the men with traumatic spinal cord injury, neuropathic pain and the presence of other somatic or mental disorders were associated with work participation, whereas most of these associations were not observed in the women with traumatic spinal cord injury or in the persons with meningomyelocele. The results of the workplace intervention study showed that the working conditions of persons with spinal cord lesion can be improved by ergonomic measures. Satisfaction with sexual life was rather low in all subgroups except in the women with meningomyelocele. Medical problems associated with spinal cord lesion, such as incontinence and neuropathic pain, affected satisfaction with sexual life in persons with traumatic spinal cord injury. In persons with meningomyelocele, none of the studied medical problems was associated with satisfaction with sexual life. The results also indicated that osteopenia and osteoporosis are more common among young adults with meningomyelocele than in the normative population. The effect of medical risk factors of osteoporosis on bone mineral density was modified by ambulatory status in this patient group.

**Conclusions:** Medical problems affect functioning in persons with spinal cord lesion. There are, however, some gender differences, as well as differences between persons with congenital and acquired spinal cord lesion. Osteoporosis is a medical problem, which must be considered when treating and rehabilitating persons with meningomyelocele.

**Key-words:** spinal cord injuries, meningomyelocele, rehabilitation, osteoporosis, bone density, employment, sexuality