

# Criteria for case definitions for upper limb and lower back disorders caused by mechanical vibration

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## KEY WORDS

Upper limb; lower back; occupational disease; vibration exposure; work-related diseases

## SUMMARY

**Background and Objectives:** *This paper provides an overview on the evaluation and assessment of vibration exposure at the workplace, the long-term health effects caused by occupational exposure to hand-transmitted vibration and whole-body vibration, and the criteria for case definitions for vibration-induced upper limb and lower back disorders. Excessive exposure to hand-transmitted vibration from powered processes or tools is associated with an increased occurrence of symptoms and signs of disorders in the vascular, neurological and musculoskeletal systems of the upper limbs. The complex of these disorders is called hand-arm vibration syndrome. Long-term occupational exposure to intense whole-body vibration is associated with an increased risk for disorders of the lumbar spine and the connected nervous system.* **Discussion and Conclusions:** *The medical tools for the management of cases with suspected vibration-induced disorders include the case history, a complete physical examination, and special diagnostic investigations. The criteria for case definitions for upper limb disorders caused by hand-transmitted vibration (vascular, neurological, and musculoskeletal) and for lower back disorders caused by whole-body vibration are discussed on the basis of the guidelines suggested by the Italian Society of Occupational Medicine and Industrial Hygiene.*