Assessment of the west monofilament nerve tester (WEST) for staging of the sensorineural component of hand-arm vibration syndrome

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ABSTRACT

Hand arm vibration syndrome (HAVS) is a potentially disabling condition. Following implementation of the Control of Vibration at Work Regulations 2005 health surveillance of employees exposed to hand-transmitted vibration (HTV) is now mandatory. HAVS can be staged, and accurate staging is of importance to employer and employee alike. The Health and Safety Executive advise that employees at or likely to progress to stage 3 should be restricted completely from further occupational exposure to HTV. This presents the question: who is likely to progress? Stage 2 HAVS covers a broad range of the clinical spectrum of HAVS and, in answering the question, it is helpful to distinguish between early and late cases in stage 2. This distinction can only be made reliably with use of standardised testing which is costly and to which access is limited.

Monofilament testing is relatively cheap and easy to perform. The aim of this study is to determine whether sensory testing with monofilaments can be used to identify reliably those subjects who are unlikely to have sensorineural HAVS at late stage 2 and above. If so the limited capacity to carry out standardised testing could be used to investigate a smaller group who might need complete restriction from exposure to HTV.

The study showed that WEST monofilaments may be used to identify some individuals in a population undergoing health surveillance, who are unlikely to have stages of HAVS high enough that they would need restriction from HTV. However, confidence intervals for sensitivity and specificity were wide, and positive and negative predictive values are dependent on the prevalence of the target disorder, so care must be taken in inferences made from this study about other groups being screened for HAVS.