

Vibration test services of the Human Factors Research Unit

Diagnosis of the hand–arm vibration syndrome (HAVS)

Description

The Human Factors Research Unit offers diagnostic assessments of the vascular and neurological components of the hand-arm vibration syndrome (HAVS). The tests are conducted by staff experienced and trained in the use of the diagnostic equipment.

A full assessment includes a detailed interview to establish the occupational and medical history of the patient, followed by a series of tests. The tests provide a quantitative assessment of the neurological and vascular state of the hands. The results of the tests are compared to normal values for diagnosis. A detailed report combines the findings from the interview and tests.

Tests

The tests commence with a measure of grip strength and finger dexterity. Neurological tests involve the determination of vibrotactile perception (using the *HVLab* Vibrotactile Perception Meter) and thermotactile perception thresholds for hot and cold (using the *HVLab* Thermal Aesthesiometer).

Vascular tests involve the measurement of finger re-warming times after cold provocation (using the *HVLab* 8-Channel Temperature Monitor) and the measurement of finger systolic blood pressures (using the *HVLab* Multi-Channel Plethysmograph).

All tests are conducted using methods as recommended in the 'Standard diagnostic methods for assessing components of hand-arm vibration syndrome' guidelines (Lindsell and Griffin, 1998).

Reference

Lindsell, C.J., Griffin, M.J. (1998) Standardised diagnostic methods for assessing components of the hand-arm vibration syndrome. Health and Safety Executive Contract Research Report, 197/1998, ISBN 0-7176-1640-1.



Vibrotactile perception threshold measurement



Measurement of thermotactile thresholds at the finger



Finger systolic blood pressure measurement



The Human Factors Research Unit operates a Quality Management System which complies with the requirements of ISO 9001