
Control of Risks from Whole-body Vibration HSE guidance and expectations

HSE's approach to WBV

- The approach to WBV is much more directed towards good practice controls, than the detailed requirements described for HAV
- However, there are a number of industry sectors where exposures can be high

Back pain in drivers

- Many possible causes of back pain in drivers
- There could be one (or a combination) of the following factors involved:
 - Poor design or adjustment of seating or controls
 - Poor driver posture
 - Long periods in seat
 - Manual handling of loads
 - Awkward access to or jumping from cab
 - WBV, especially shocks & jolts



Exposure action and limit values for whole-body vibration



- Exposure Action Value (EAV): **0.5 m/s² A(8)**
 - many vehicle/mobile machinery users will need to consider WBV, but actions will often be simple good practice
- Exposure Limit Value (ELV): **1.15 m/s² A(8)**
 - a challenge for *some* activities in *some* industries
- Transitional period for ELV to 2010 (2014 for agriculture & forestry) if not currently reasonably practicable to comply

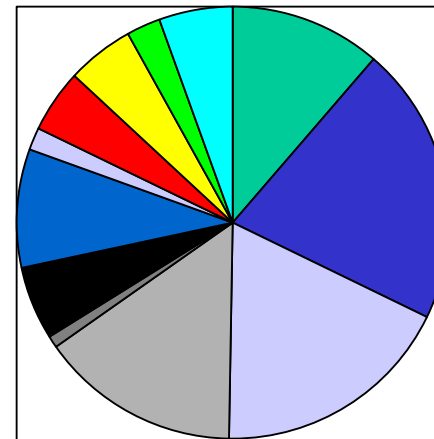
Who is exposed to WBV in the UK? (MRC study 1999)



- 9,000,000 exposed to WBV
 - Mostly road transport
 - Low risk, simple management measures

- >1,300,000 above the EAV
 - Many still at low risk
- >370,000 above $15 \text{ m/s}^{1.75}$ VDV
 - see pie chart

- <1% exposed above the ELV
 - >20,000
 - Some activities in agriculture, mining, quarrying, construction, etc.



HSE's experience of WBV

- Exposures exceeding the ELV are rare:
 - just some tasks in key industries
- Exposure near the ELV assumed greater risk to health
- Shocks and jolts appear important contributors to risk
- Ergonomic factors nearly always more important than WBV, but...
- WBV may aggravate existing pain and prompt complaints

Who is at risk from WBV?

- Very little need for concern about WBV in road vehicles
 - i.e. most of the workers exposed to WBV
- Some concern for industrial trucks
 - particularly if used on inappropriate surfaces
- Main concern in off-road machinery:
 - agriculture, construction, quarrying, mining, forestry, small fast boats, etc.

Example of severe vibration



Straightforward risk control actions

- Driver behaviour:
 - slower, different route, avoiding rough ground, driving time limit;
 - driver skill, training, suspension seat adjustment
- A more suitable vehicle:
 - machine more suited to the terrain and task;
 - suitable seat and ergonomics of cab
 - Maintenance: tyre pressures, suspensions, seats
- Safer site:
 - design
 - Maintenance of roadways/operating surfaces

Information on risks from WBV

(where WBV is an issue)

- Manufacturers' emission data: main purpose is to warn of risk and estimate workplace exposures
 - WBV differences between directly competing machines are usually small
 -
- HSE/Industry information sheets:
 - HSE and industry are collecting exposure data in high-exposure off-road industries;
 - publications expected from end of 2006

Understand causes of back pain

- WBV is not the only potential source of back pain
- Employers should investigate all risk factors to prioritise control action:
 - Is WBV or shock aggravating existing back injuries?
 - Assess risk from poor or static posture
 - Assess risk from manual handling of loads
 - Health monitoring



HSE's action on WBV

- Encourage employers' action on WBV in proportion with control of other causes of back pain
- Consolidate knowledge of WBV risks and their control during the transition period for the ELV
- Work with high exposure industries to agree industry-specific guidance on good practice
 - Agriculture, Forestry, Quarries, Construction, etc....
- Reassure low exposure industry sectors

HSE guidance on WBV

- Leaflet for employers
- Pocket card for employees
- Guidance on the Regulations and WBV (L141)
- Industry specific guidance for high exposure work
 - under development



Control back-pain risks from whole-body vibration

Advice for employers on the Control of Vibration at Work Regulations 2005



Drive away bad backs

Advice for mobile machine operators and drivers



Summary - management of WBV risks



- Consider all contributors to ill-health, not just vibration
- Consider risk from shocks and jolts
- Most industries should be able to adopt sector-specific guidance on good practice



www.hse.gov.uk/vibration