



**HSE**

Health & Safety  
Executive



# S. E. Region H&S Representatives Conference

The British Racing School  
Snailwell Road  
Newmarket CB8 7NU



**HSC**

Health & Safety  
Commission



**HSE**

Health & Safety  
Executive

# Leo Beirne.

**Science & Technology Group**

**CHSD B4**

**HSL Buxton.**

**Band 2 Manager:**

**Principal Specialist**

**Inspector:**

**East Grinstead.**



**HSC**

Health & Safety  
Commission



**HSE**

Health & Safety  
Executive

# Control of Vibration at Work Regulations 2005:

## [CoVAWRs].



**HSC**

Health & Safety  
Commission



**HSE**

Health & Safety  
Executive

# Part I

## *Whole Body-Vibration: [W-BV].*



**HSC**

Health & Safety  
Commission



Health & Safety  
Executive

# 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.



Health & Safety  
Commission



**HSE**  
Health & Safety  
Executive

# HSE guidance on WBV?

- Employee pocket card
- Employer leaflet
- Generic guidance;
  - commentary to regulations and technical chapters
- Sector specific guidance;
  - relevant magnitude and exposure data and established good practice



**HSC**  
Health & Safety  
Commission





**HSE**

Health & Safety  
Executive




**HSC**

Health & Safety  
Commission

# Part II:

## *Hand-arm Vibration [H-AV].*



# The need for control (1)?

- 1999 Medical Research Council data estimates some:
  - 800,000 have symptoms of Vibration (induced) White Finger
  - 300,000 to have advanced symptoms

# The need for control (2)?

## Examples:

- a skilled 29 year worker with a young family totally incapacitated with stage 3(+)  
V(i)WF in both hands; also,
- a 23 year old skilled single person, in a specialised trade, with stage 3 V(i)WF in both hands, after 5 years exposure.



**HSE**

Health & Safety  
Executive



**HSC**

Health & Safety  
Commission



**HSE**

Health & Safety  
Executive



**HSC**

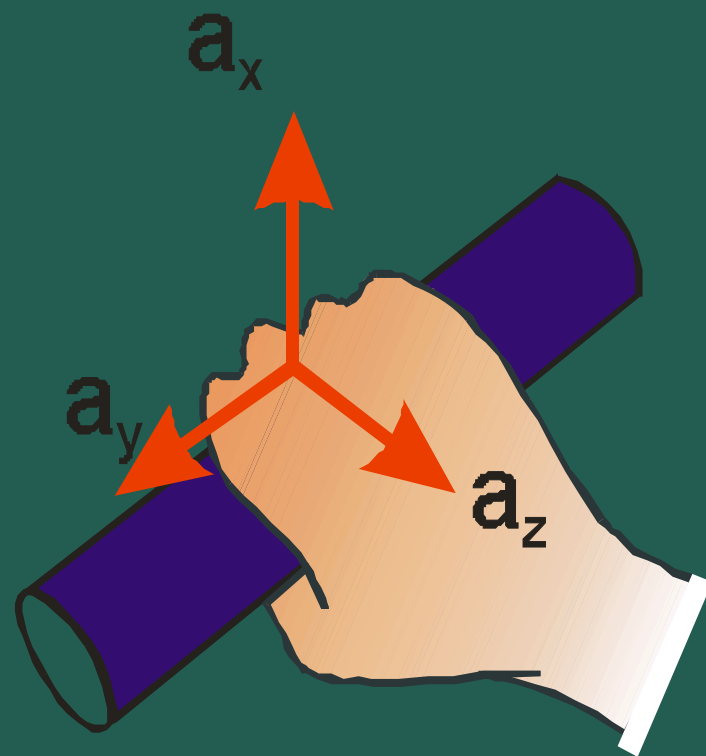
Health & Safety  
Commission

# The need for control (3)?



# CoVAWRs - vibration measurement.

- Acceleration measured using single axis transducers;
- Three possible axes of measurement.



**HSE**

Health & Safety  
Executive



**HSC**

Health & Safety  
Commission



**HSE**

Health & Safety  
Executive

# What do Duty-holders need to do, to estimate vibration exposure?

- Need vibration **emission** from the tool(s)
- Also **time** of exposure
- Combine to obtain daily exposure **A(8)** in  $\text{m/s}^2$

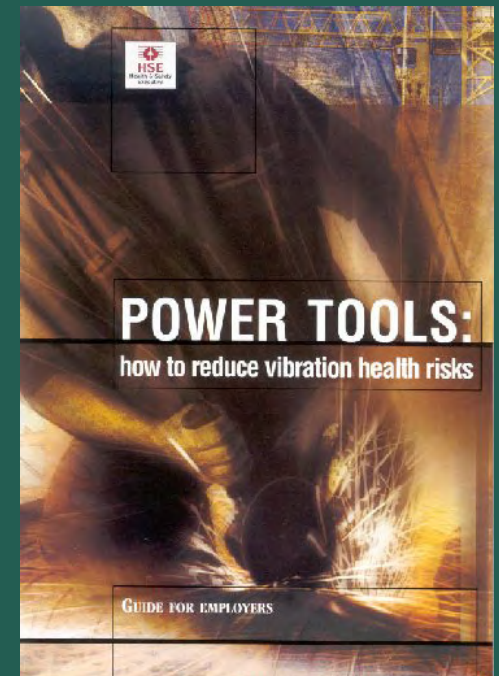


**HSC**

Health & Safety  
Commission

# Getting more realistic vibration data?

- Employers should check manufacturers' data represents the use of the tool
- If not they can;
  - Ask their supplier
  - HSE guidance
  - Trade associations, consultancies, government
  - Measurements (*ISO 5349 parts 1 and 2*)



**HSE**

Health & Safety  
Executive



**HSC**

Health & Safety  
Commission



# Exposure Calculator.

[www.hse.gov.uk/vibration](http://www.hse.gov.uk/vibration)



## HAND-ARM VIBRATION EXPOSURE CALCULATOR

	Vibration magnitude m/s <sup>2</sup> r.m.s.	Time to reach EAV 2.5 m/s <sup>2</sup> A (8)		Time to reach ELV 5 m/s <sup>2</sup> A (8)		Exposure duration		Partial exposure m/s <sup>2</sup> A (8)	Partial exposure points
		hours	minutes	hours	minutes	hours	minutes		
Tool or process 1									
Tool or process 2									
Tool or process 3									
Tool or process 4									
Tool or process 5									
Tool or process 6									

Instructions for use:

- Enter vibration magnitudes and exposure durations in the white areas.
- To calculate, press the Enter key, or move the cursor to a different cell.
- The results are displayed in the yellow areas.

Daily exposure m/s <sup>2</sup> A (8)	Total exposure points





# Duties of employers (whatever the exposure level).

- Assess vibration risks to health and safety **[Regulation 5]**
- Eliminate vibration *risk* at source, or reduce to lowest reasonably practicable level **[Regulation 6(1)]**
- Provide information and training for employees on vibration risks and control measures where assessment shows risk **[Regulation 8(1)]**



# If the exposure action value is '*likely*' to be exceeded:

- Reduce *exposure* to lowest level reasonably practicable [Regulation 6(2)]
- Introduce a health surveillance programme [Regulation 7(1)]





**HSE**

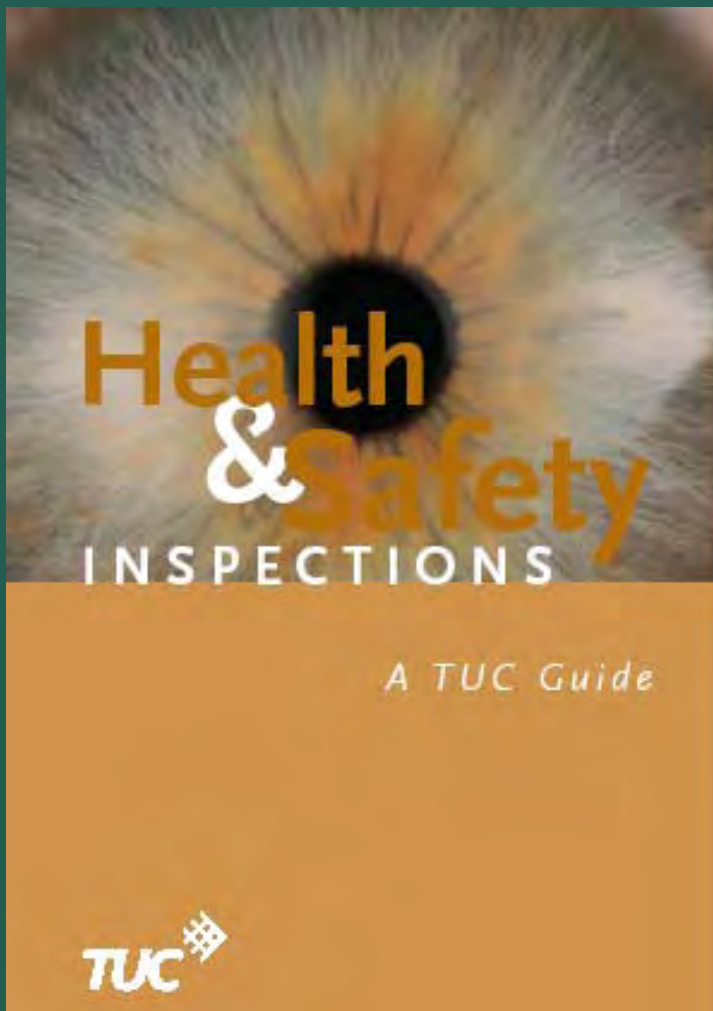
Health & Safety  
Executive



**HSC**

Health & Safety  
Commission

# Information.



**Health  
& Safety**  
INSPECTIONS

*A TUC Guide*



# HSE Guidance.



Health & Safety  
Executive

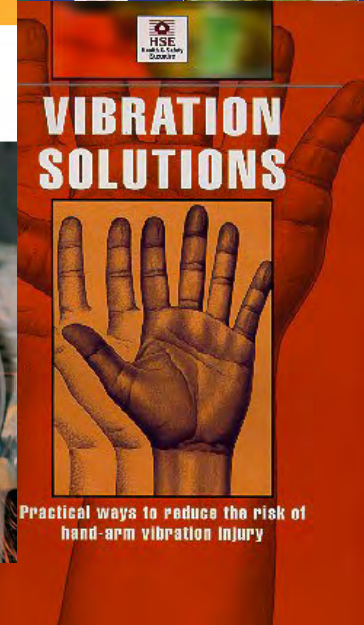
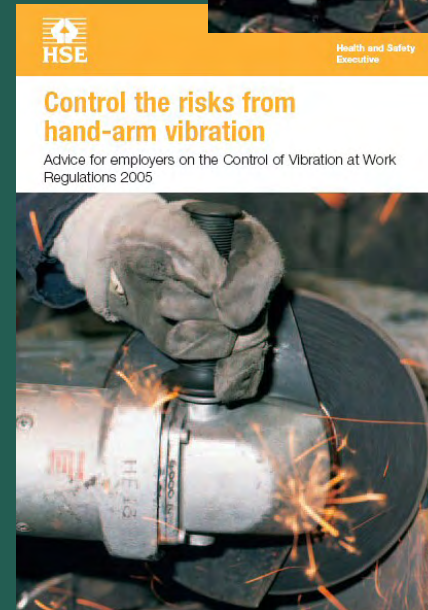
- New employees' pocket card **INDG296(rev1)**
- New employers' leaflet **INDG175(rev2)**
- New priced guidance **L140**

*Hand-arm vibration:  
Control of Vibration at  
Work Regulations  
2005. Guidance on  
Regulations*



Health & Safety  
Commission

Plus existing video and  
case studies book





**HSE**

Health & Safety  
Executive



**HSC**

Health & Safety  
Commission

# Part III.

*‘Control of Noise at  
Work Regulations  
2005’:*

*[CoNAWRs].*



**HSE**

Health & Safety  
Executive

# Nature of the problem?

Research suggests that 1.1 million people are exposed to potentially hazardous noise at work;

and,

Estimates also suggest that, some 179,000 people between the ages of 35 and 64, have severe difficulties in hearing attributable to noise exposure at work.



**HSC**

Health & Safety  
Commission



# Noise Exposure.

- Hearing loss/impairment changes the quality of life for the duration;
- Noise and exposure can be controlled;
- Noise induced hearing loss is avoidable!

# Main Provisions.

- Assessment of exposure where workers are likely to be exposed at or above the Lower Action Value (extension of R3 MHSWRs 1999);
- Elimination of of risk at source or reduction to a minimum;
- Health surveillance where assessment (related to noise exposure) indicates a risk to health.



**HSE**

Health & Safety  
Executive



**HSC**

Health & Safety  
Commission



**HSE**

Health & Safety  
Executive

# Main Provisions.

- A transitional period of 2 years for the music and entertainment sector;
- CNAWRs 2005 apply to aircraft in flight over British Soil!



**HSC**

Health & Safety  
Commission



**HSE**

Health & Safety  
Executive

# Exposure Action Levels – NAWRs 1989.

- **First Action Level - 85dB(A)**  
 $L_{EP,d}$ ;
- **Second Action Level – 90dB(A)**  
 $L_{EP,d}$ ; and,
- **Peak Action Level 140dB(C)**  
[200Pa].



**HSC**

Health & Safety  
Commission



**HSE**

Health & Safety  
Executive

# Exposure Action Values – CoNAWRs.

- Lower Action Value of 80dB(A) also a Peak Sound Pressure of 135dB(C);
- Upper Action Value of 85dB(A) also a Peak Sound Pressure of 137dB(C);
- Exposure Limit Value of 87dB(A) also a Peak Sound Pressure of 140dB(C);



**HSC**

Health & Safety  
Commission

# Duties at Action Values.



**HSE**

Health & Safety  
Executive

Provision.	NAWRs 1989	CNAWRs 2005.
Reduce risk	Lowest level 'Reasonably Practicable'	Eliminate at source or reduced to a minimum
Assess exposure	85dB(A) $L_{EP,d}$ 140dB(C)	80dB(A) $L_{EP,d}$ 135dB(C)
Measure exposure	85dB(A) $L_{EP,d}$ 140dB(C)	85dB(A) $L_{EP,d}$ 137dB(C)
Provision Of information	85dB(A) $L_{EP,d}$ 140dB(C)	80dB(A) $L_{EP,d}$ 135dB(C)
Health Surveillance	'Good practice' at 90dB(A) $L_{EP,d}$	Regularly exposed at 85dB(A) $L_{EP,d}$ 140dB(C)



**HSC**

Health & Safety  
Commission



**HSE**  
Health & Safety  
Executive

# Duties at Action Values.

Provision.	NAWRs 1989.	CNAWRs 2005.
Protection available	85dB(A) $L_{EP,d}$ 140dB(C)	80dB(A) $L_{EP,d}$ 135dB(C)
Protection worn	90dB(A) $L_{EP,d}$ 140dB(C)	85dB(A) $L_{EP,d}$ 140dB(C)
Control programme	90dB(A) $L_{EP,d}$ 140dB(C)	85dB(A) $L_{EP,d}$ 140dB(C)
Designating HP Zones	Where 'RP' at 90dB(A) $L_{EP,d}$ 140dB(C)	85dB(A) $L_{EP,d}$ 140dB(C)
Information to workers	85dB(A) $L_{EP,d}$ 140dB(C)	Refers back to Directive



**HSC**  
Health & Safety  
Commission



**HSE**

Health & Safety  
Executive

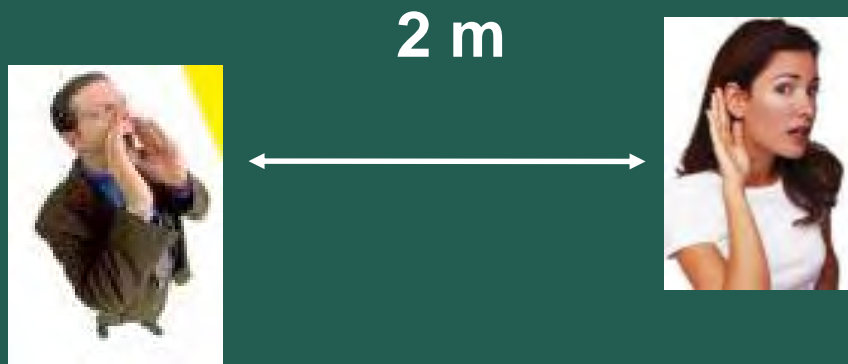


**HSC**

Health & Safety  
Commission

# How do I know if there is risk to hearing?

- Rule of thumb 80 dB(A)
  - If the level of the noise is approximately the same as your voice during normal speech.
- Rule of thumb 85 dB(A)



# Risk Assessment.

Suitable and sufficient shall consider:

- The level of exposure;
- Action and limit values;
- The effects of exposure whose health is at particular risk;
- As far as technically achievable, any interaction effects of noise exposure and ototoxic substances or vibration;
- Effects on audible warning signals;



Health & Safety  
Executive



Health & Safety  
Commission



**HSE**

Health & Safety  
Executive

# Risk Assessment.

**Cont.**

- Information from manufacturers;
- Lower emission equipment;
- Exposure when in rest facilities;
- Appropriate information following Health Surveillance;
- Availability of hearing protection with adequate attenuation.



**HSC**

Health & Safety  
Commission

# Noise control at source.

## Specific control measures:

- Generic measures for 18 industry groups;
- 66 key publications - e.g., agriculture, construction, air transport, ceramics, etc.



Health & Safety  
Executive



Health & Safety  
Commission



**HSE**

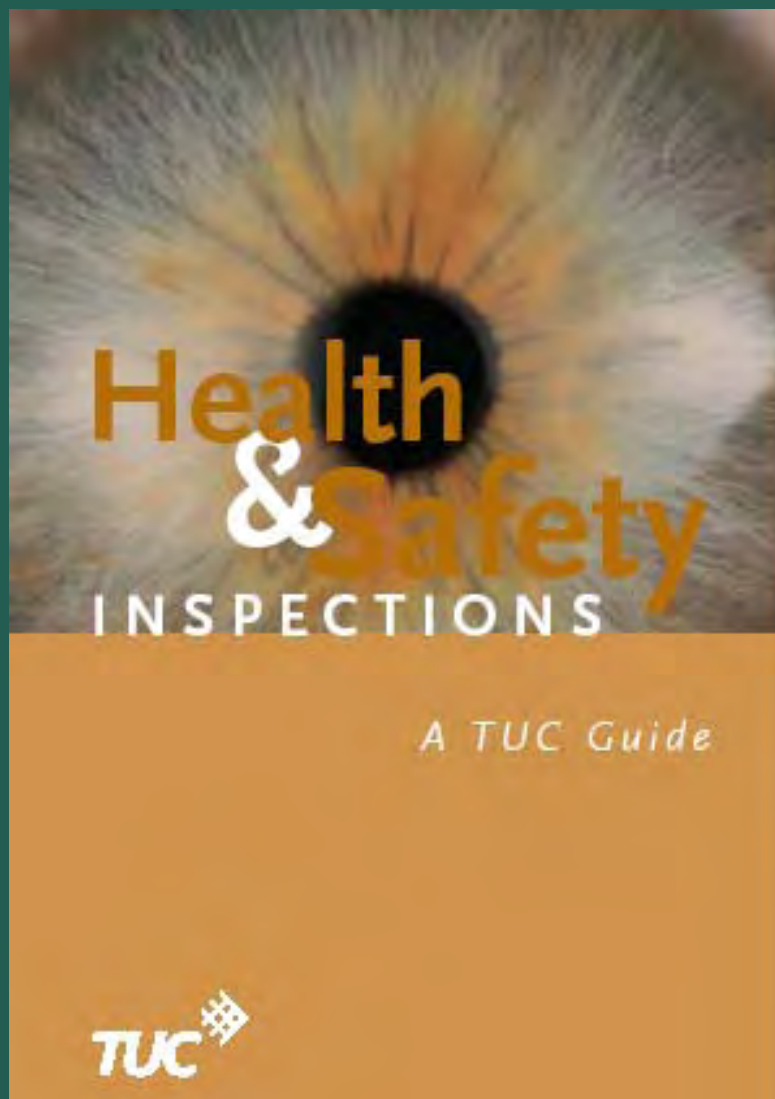
Health & Safety  
Executive



**HSC**

Health & Safety  
Commission

# Information.



**Health  
& Safety**  
INSPECTIONS

*A TUC Guide*





**HSE**

Health & Safety  
Executive

# Information from HSE.

## Contacts:

- Info-line

**01 787 881 165**

- Publications

**0845 345 0055**



**HSC**

Health & Safety  
Commission



**HSE**

Health & Safety  
Executive

# Information from HSE.

## Contacts:

- Homepage

[www.hse.gov.uk](http://www.hse.gov.uk)

Noise page

[www.hse.gov.uk/noise/](http://www.hse.gov.uk/noise/)

- Exposure calculator

[www.hse.gov.uk/noise/calculator](http://www.hse.gov.uk/noise/calculator)



**HSC**

Health & Safety  
Commission



**HSE**

Health & Safety  
Executive

***THE END!***

***Questions?***



**HSC**

Health & Safety  
Commission