

# Presentation by Mike Morgan, Employment Nursing Adviser, Midlands Region, HSE.

Mike introduced his subject by explaining Hand Arm Vibration Syndrome (HAVS) that the term Hand Arm Vibration Syndrome was more comprehensive than the old term of Vibration White Finger. The term covered the following components:-

- Vascular Disease (Vibration White Finger - VWF).
- Neurological Disease
- Musculo-skeletal disease.
- Carpal Tunnel Syndrome (vibration related)

The complaint was originally known as the non-occupational Reynaud's Disease which seemed to affect women more frequently. It became more significant in the 1940's and 1950's with the increased use of Electrical and Mechanical power tools at work. The problem was **first** noticed among Italian miners in 1911 and it is interesting that the significant UK court case last year also involved miners.

It is noticeable that smokers are more vulnerable to HAVS because they both attack the peripheral circulation. The comparable effect of smoking can be detected quite noticeably by heat seeking cameras which show the changes of hand temperature. HAVS is the after-effect of using vibrating tools and is reportable under RIDDOR.

Mike then showed photographs of HAVS sufferers and said that the degree of the problem depended on the method used to grip the tool concerned. It is a very debilitating disease which impinges greatly on the person's quality of life in the following ways:-

- Painful blanching attacks (VWF).
- Tingling and numbness in fingers.
- Need to avoid cold and wet activities at work.
- Loss of Manual Dexterity.
- Loss of grip strength.
- Carpal Tunnel Syndrome - wrist pain, disrupts sleep.
- Reduced ability to do fine manual work (even fastening buttons)
- Change of Job.
- Restriction of leisure activities.

In the period 1995-96 there were 3016 new cases assessed by the DSS as having VWF - making it their most commonly reported disease and representing around 5% of Employer's Liability claims. HAVS is also one of the most commonly reported diseases under RIDDOR.

In 1995 the analysis of cases dealt with by DSS was:-

- Coal Mining 43%
- Shipbuilding and Ship Repair 28%
- Construction 10%

Employers had a duty of care under the following statutes:-

- The Management of Health and Safety at Work Regulations 1992.
- The Provision and Use of Work Equipment Regulations 1998.
- The Workplace (Health, Safety and Welfare) Regulations 1992.
- The Personal Protective Equipment at Work Regulations 1992.
- The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995.
- The Safety Representatives and Safety Committees Regulations 1977

Whereas Machine Manufacturers and/or Suppliers had duties under the Supply of Machinery (Safety) Regulations 1992 (as amended in 1994). He added that one of the most serious causes of VWF was badly fitted abrasive wheels/cutting discs and that "Anti-vibration" gloves were NOT a cure-all, especially if they were too tight!

He emphasised that it was important for employers to adopt a strategy to deal with this problem, along these lines:-

- **Stage 1** Find out if you have a problem.
- **Stage 2** Decide what action to take.
- **Stage 3** Take Action
- **Stage 4** Check what you have done.

### **Do You have a problem?**

- Is powered equipment that is hand-held/-guided/-fed being used on most days?
  - Are individuals using one or more types for 2 hours+ per day?
  - Are hammer action tools used for about ½ hour per day?
  - Do any employees get numb or tingling fingers during or after using the equipment?
  - Have any employees past and/or present) got HAVS eg. vibration white finger?
  - Is any of the equipment included in HSE's checklist or in RIDDOR lists.
- Also ask the supplier(s):-

- Do the vibration emission levels of the regularly used equipment pose a risk to health?
- If so, is there a daily maximum time such equipment is recommended to be used by one person?
- Are there particular ways equipment should be used to avoid vibration risk?

If the answers to these questions are "Yes", then you may have a vibration problem that needs to be tackled. In doing that, it is important to identify which equipment has the highest risk by getting vibration data from :-

- Equipment documentation or from the manufacturer, or
- your trade association.

Alternatively:

- Train someone to take measurements/calculate exposure; or
- Get a consultant to do it for you.

### **Decide what action to take.**

- Use an alternative production/work process?
- Use equipment which vibrates less?
- Reduce the exposure time?
- Improve equipment servicing, repair and maintenance?
- Improve ergonomics by reduce gripping/feeding forces?
- Improve information and training?
- Introduce health surveillance?
- Increase warmth in the workplace?

### **Taking Action.**

- Tell your managers, supervisors, safety representatives and employees what you plan to do at the start, consult with them during the improvement exercise and tell them how you want them to help with the implementation at all stages.
- Introduce the changes.

### **Checking what you have done (regularly!)**

- Obtain regular reports from managers, supervisors and safety representatives.
- Find out if your new systems and ways of working are still being followed.
- Is proper equipment maintenance continuing?
- What does health surveillance data or vibration data indicate?
- Do you need to make further changes to processes/tools?

If external advice is needed, HSE can provide a list of suitable Occupational Health Advisers practising in this area, **with no recommendations.**

Regarding information and training required, employers have a legal duty to provide them and it is right that employees should know the risks and be shown how to protect themselves. It is important to win the employees' co-operation and can result in very beneficial productivity improvements. Arrangements to do this should be permanent to allow for changes, such as new employees joining or changing jobs, or for new tasks or equipment. They should cover:-

- Causes of risks.
- Likely damage to health.
- Effect on work and leisure abilities.
- Recognising and reporting symptoms.
- Hazardous tools and processes.
- Ways to eliminate or reduce vibrations reaching hands.
- Using the most suitable tools for the job.
- Importance of adequate equipment maintenance.
- Avoiding high grip/feeding forces.
- Importance of maintaining good blood circulation by:
  - Keeping hands and body warm.
  - Cutting out or reducing smoking.

Health Surveillance is a vital measure in ensuring better protection by :-

- Identifying susceptible employees.
- Warning of the onset or progression of HAVS.
- Giving information to employees.
- Providing feedback to employers.

Health surveillance is needed whenever hazardous exposure continues, or when there is HAVS in the workforce or if equipment is causing symptoms. Techniques involve:-

- Questionnaires
- Physical examination.
- Questioning about symptoms.
- Keeping Records.
- Interpreting results.

These techniques can be done by a suitably qualified medical practitioner, who may train people to assist, such as a nurse or first aider.

Mike concluded his presentation by saying that the benefits of taking action can be far reaching:

- Improved productivity (reduced sick absence/more efficient process)
- Effective business (retention of skilled workforce)
- Reduced training costs (reduced employee turnover)
- Reduced noise (less vibration usually means less noise)
- Better quality products (Less need for finishing work)

- Improved staff morale

The costs of taking action can be:

- Your time
- Your employees' time
- Tool and machinery costs
- Health surveillance (if needed)

He finished the presentation with a showing of the Video "Hard to Handle".

The questions were started by **Peter Evans of CGU Insurance** who asked what units of measurement were used to express vibration magnitude. Mike Morgan said that this was explained fully in the HSE booklet "Vibration Solutions" (**Secretary's Note: This is HS(G) 170, which refers to HS(G) 88, Hand Arm Vibration. See also BS 6842:1987, Guide to measurements and evaluation of human exposure to vibration transmitted to the hand**). Peter went on to ask if there was any guidance on what instruments to use and Mike replied that the HSE expert was Said Ahmed.

**David Hughes** asked to what use vibration magnitude limits were applicable. Mike replied "To normal use of properly maintained equipment."

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## *Members' Questions*

**David Elliott of Metal Treatments Birmingham** asked if any member had practical experience of using 'light curtain' guarding on machines. There was an immediate reply from **Terry Bailey of Delta Engineering Holdings** who said that he could provide some information.

(**Secretary's Note: Since the meeting, BHSA Council Member, Sue Edwards of Svedala Lindemann, has sent us an informative article called "Seeing the Light", by Andy Pye, in a Croner Equipment Safety Briefing. More Info from Andy Pye Email: [pyeline@compuserve.com](mailto:pyeline@compuserve.com)**)

With regard to the Working Time Regulations, Peter Evans asked if medicals were needed for night workers only. Mike said yes and that guidance was available on page 38 of the DTI booklet. (**Secretary's Note: Limited copies from BHSA or, free from DTI on 0845 6000 925. For additional advice on rest periods, in-work rest breaks, paid annual leave call ACAS public enquiry point on 0121 456 5856**). Mike added that employers are recommended to construct an health assessment questionnaire to determine who might be specially at risk during night

time working. Examples were persons suffering nocturnal epilepsy or insulin dependent diabetics. Peter Evans also asked if there was a duty on an employee to reveal health problems. Mike answered, in theory, yes - but human nature was to hide sensitive problems.

**Dennis Walley of South Staffordshire Water plc** asked if a person was considered unfit for night working after a health assessment, what action should be taken:

- Employ him/her at night in spite of the assessment, or
- Terminate their employment?

Mike explained that the prime duty of employers was to assess the risk to the individual and you do not have to employ them if the risk was unacceptable. He added, by way of clarification, that epileptic sufferers need care but are **perfectly safe** to employ in selected occupations.

Harry Jakeman asked the members if there was any demand for a special meeting devoted to the Working Time Regulations and there was a feeling that this would be helpful. **(Secretary's Note: It is hoped to arrange a lunchtime briefing, with lunch provided, on Monday 18<sup>th</sup> January 1999. Anyone interested should ring Andy Chappell on 07071 226212 or Email:bhsa@webfactory.co.uk for more details).**