



INTEGRAL
UTILITIES

Occupational Health
Program / Policy

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EXECUTIVE SUMMARY

Objectives

To identify the minimum standards for occupational health provision within the construction sector and how these may form the basis of a national database which aims to facilitate occupational health provision for workers who move between employers.

Main Findings

The construction sector is a complex environment as both the workplace and the workforce are non-static. Nonetheless, there are common requirements of Health and Safety legislation and objectives for occupational disease reduction. The core elements of occupational health provision were identified and recommendations were made for health monitoring / surveillance of the main occupational conditions affecting the construction sector. The nature of the information to be collated means that the provisions of the Data Protection Act 1998, with regard to sensitive personal data will need to be accommodated. There are also ethical issues, which have been highlighted in this report and will require further discussion with the relevant stakeholders.

Recommendations

- Minimum standards for occupational health providers should be adopted.
- Construction employers should have policies which relate not only to safety but also occupational health strategy and provision
- Appropriate procedures should be adopted for the pre-placement confirmation of employee fitness
- Minimum standards are advised for health monitoring / surveillance for Hand Arm Vibration Syndrome, Noise Induced Hearing Loss, dermatitis, Respiratory disease (sensitisers, Silicosis and Chronic Obstructive Pulmonary Disease), Musculoskeletal problems and Stress.
- Minimum standards for Safety Critical Work are advised
- Consideration should be given to the legal and ethical issues identified in establishing a national database for the construction sector.

1 OCCUPATIONAL HEALTH

HSE estimates that 2,000,000 people within the UK currently suffer from an illness caused by, or made worse by the working environment. Ill-health can have a significant impact on the productivity of a business – sickness absence costs the UK economy an estimated £12 billion per annum. In 2005/2006 the construction industry had the second highest rate of self reported illness attributed to work at 3,800 cases per 100,000 employed persons (Health and Safety statistics 2005/06 HSE Books 2006). Construction workers have a high overall mortality rate, independent of social class, with bricklayers and labourers being recorded as having the second highest mortality rate (Snashall, 2005).

Occupational health considers the effect that work may have on health and the effect that health can have on work. It aims to prevent ill health rather than cure it and focuses on:

- The protection and promotion of the health of workers by preventing and controlling occupational diseases and accidents and by eliminating occupational factors and conditions hazardous to health and safety at work.
- The development and promotion of healthy and safe work, work environments and work organisations.
- The enablement of workers to conduct socially and economically productive lives and to contribute positively to sustainable development.

(based on WHO, 1994)

2 MINIMUM COMPETENCES FOR OCCUPATIONAL HEALTH PROVIDERS

The Management of Health and Safety at Work Regulations 1999 (MHSW) state that, “employers who appoint doctors, nurses or other health professionals to advise them of the effects of work on employee health, or to carry out certain procedures, for example, health surveillance, should first check that the providers can offer evidence of sufficient level of expertise or training in occupational health”. This is reinforced by the Health Surveillance at Work Guidance (HSG 61, HSE Books) which states that it is the duty of the employer to provide health surveillance for those employees considered at risk and that it is essential that the people who carry out health surveillance are competent to do so. The competence required will depend on the tasks performed and specific standards can be found within guidance associated with regulations.

When appointing either an occupational doctor or an occupational health nurse, their registration/personal identification number (PIN) should be obtained, and confirmed with the appropriate governing body. For doctors, the General Medical Council (GMC) website (www.gmc.org.uk) will provide information relating to the individuals registration and fitness to practice and the Faculty of Occupational Medicine (FOM), (www.facocmed.ac.uk) will be able to confirm their occupational health qualification. For nurses, the Nursing and Midwifery Council (NMC) website, (www.nmc-uk.org), will allow you to confirm the individuals registration and qualification details.

2.1 OCCUPATIONAL HEALTH DOCTORS

Occupational health doctors are required by law to possess skills and expertise including an understanding of the health hazards that can arise at work, the ability to assess risks relating to the health of individuals and groups, knowledge of the law relating to workplace issues and an awareness and understanding of the way business operates.

There are currently three levels of qualification in occupational medicine for doctors,

- the Diploma in Occupational Medicine (D.Occ.Med.)
- the Associateship of the Faculty of Occupational Medicine (AFOM)
- Membership of the Faculty (MFOM).

In addition, the Fellowship of the Faculty (FFOM) is awarded to those occupational physicians with MFOM who have made a distinguished contribution to the specialty and who demonstrate a greater depth of experience and expertise in occupational medicine.

Doctors without these qualifications who rely solely on experience gained in the workplace may not meet the requirements for competence that are demanded by many aspects of health and safety legislation. Therefore, it is recommended that the Diploma in Occupational Medicine be used as the minimum standard for the construction industry. However, individuals should work within the limits of their competence and be cognisant of the need to access specialist occupational physician advice as needed. The level of occupational health expertise will need to be commensurate with the level of health risk identified for the project e.g. for a complex construction project it would be usual for the occupational health provision to be led by a consultant occupational health physician.

The Faculty of Occupational Medicine (www.facocmed.ac.uk) can confirm the qualifications and specialist status of a member.

Revalidation is the mechanism whereby doctors will demonstrate, at regular intervals, that they remain up to date and fit to practice. In the near future, doctors who wish to practice medicine in the

UK will need to hold a licence to practice. To retain this licence, doctors will need to revalidate, normally every five years.

2.2 OCCUPATIONAL HEALTH NURSES

Nurses carrying out occupational health surveillance should hold current registration with the Nursing and Midwifery Council (NMC), as a minimum. They may also hold an occupational health qualification at Certificate, Diploma or Degree level. If they do not have an occupational health qualification then they should be working under the supervision of an appropriately qualified clinician (Doctor or Nurse). Nurses will need to renew their registration every three years with the NMC. For a nurse led occupational health service, the lead nurse should also be registered as a Specialist Community Public Health nurse (Occupational Health) with the NMC and have access to specialist occupational physician advice as needed.

2.3 OCCUPATIONAL HEALTH TECHNICIANS

The occupational health technician is a developing role. With the expert supervision of OH qualified nurses and doctors and the correct training, they may be able to carry out aspects of health surveillance required within an OH programme, which in turn frees-up the OH clinicians for other, more appropriate tasks. Currently there are no minimum standards available to follow although there are academic organisations currently looking to develop a training programme for technicians. Therefore, the scope of practice should be dictated by the industry.

SUMMARY RECOMMENDATIONS (1)

MINIMUM COMPETENCE STANDARDS FOR OCCUPATIONAL HEALTH PROFESSIONALS

In addition to the fulfilment of the necessary legal requirements of employment of clinical staff, it is recommended that the construction industry apply the following minimum levels of competence:

- (a) Doctors: should hold the D.Occ.Med qualification as a minimum
- (b) Nurses: should be registered as a specialist nurse practitioner in public health (Occupational Health)
- (c) Occupational Health Technicians: should be trained in the specific elements of the service they deliver, and must be clinically supervised.

Some aspects of health surveillance also require additional competences to be demonstrated e.g.

- HAVS: a Faculty of Occupational Medicine approved training course in HAVS or equivalent level of competency
- Noise induced hearing loss: a British Society for Audiology approved course for industrial audiometricians or equivalent level of competency.
- Respiratory: Association for Respiratory Technology and Physiology (ARTP) diploma or equivalent level of competency.

In addition, occupational health providers must hold appropriate business and professional indemnity insurance, and should not undertake work without having seen or had access to the employer's relevant Health and Safety policies to determine how Health and Safety is managed.

Occupational health providers should have a good working knowledge of what a business does and how it does it.

They should also have appropriate quality monitoring and clinical audit programme in place, and should demonstrate that they follow the FOM guidance on ethics for Occupational Health Physicians.

3 OCCUPATIONAL HEALTH SERVICE PROVISION

3.1 HEALTH AND SAFETY POLICY

A Health and Safety Policy statement is required if a company has five or more employees (under section 2(3) of the HSW Act; 1974), The policy statement does not need to be necessarily long or elaborate; but it does need to show who does what; and when and how they do it. The policy should be discussed with employees or their representative for health and safety.

The health and safety policy statement does not need to record the full details of all procedures. The policy statement can refer to other documentation such as risk assessments, training programmes, emergency instructions, etc. However, the policy statement should record the arrangements and procedures for how these matters are managed.

In addition to the statutory requirement to have a Health and Safety policy, we recommend that a policy related to occupational health risks is appropriate for any organisation. Whilst this could be incorporated within the workplace general Health and Safety policy, for ease of understanding, we advise that it would be more effective as a “stand alone” policy. Although there is not a right or wrong way to write an occupational health policy, we would suggest that a specialist occupational health professional should be involved, with senior management within in the organisation, in developing the workplace occupational health policy.

SUMMARY RECOMMENDATIONS (2) MINIMUM REQUIREMENTS OF AN OCCUPATIONAL HEALTH POLICY

An occupational health policy should:

- (a) Define the reason for the policy (including a policy statement outlining the organisations intention to demonstrate itself as a good employer with regard to the health and welfare of the workforce)
- (b) Include the definition of and the roles and responsibilities of occupational health within the company, including
 - Health surveillance
 - Sickness absence management advice
 - Management advice on health and work
 - Training and Education on health issues
 - Re-deployment issues
- (c) Include procedures for making an appointment with occupational health
- (d) Include the role/responsibilities of the manager and employee
- (e) Include a policy review date

3.2 OCCUPATIONAL HEALTH REFERRAL

The purpose of a referral to occupational health is to provide support and work related advice to staff and their managers but this is *not* a substitute for an employee's normal primary care provision. The responsibility for investigations, diagnosis and treatment for general health and well-being remains with the employee's GP/ Hospital Specialist.

Before an occupational health referral, it is important to discuss and agree all aspects of the referral, including the sickness absence record with the employee. If an employee refuses to attend the referral, then this should be discussed with either HR or the occupational health provider. An employee is entitled to attend an occupational health appointment within paid working time.

In order for management to receive the best advice from occupational health service providers, it is essential that referral information includes sufficient detail to enable an appropriate assessment to be made. This might include reasons for the referral, specific questions to be answered and an up to date attendance record for the employee. It is also recommended that details of the employee's current job and relevant risk assessment is provided to allow the clinician to understand what is required of an employee in their work and whether any ill-health conditions have been caused or made worse by their work.

3.3 PRE-PLACEMENT ASSESSMENTS

The aim of a pre-placement assessment is to ensure that people are placed in suitable work and that any reasonable adjustments on the grounds of disability are able to be made. For certain specific activities there are legal duties to carry out pre-placement assessments of an individual's fitness for work (for example, under the, Asbestos at work regulations, 2006; Control of Lead at Work Regulations (CLAW) 2002 and The Work in Compressed Air Regulations 1996). However, we would also recommend that pre-placement assessments are undertaken for 'safety critical workers' (section 5).

Baseline health surveillance assessments are also recommended (subject to a suitable risk assessment) for individuals exposed to a number of hazards including hand-transmitted vibration (L140), noise (L108), and silica (G404).

The use of medical selection to narrow the choice of job applicants is wasteful of clinical resources. More importantly, it may lead to discrimination on the grounds of disability, which may be difficult for an employer to defend legally. Therefore pre-placement health screening is preferred after conditional offer (subject to occupational health assessment) and acceptance of the job.

3.3.1 Pre-placement health questionnaires

Assessments are often conducted using self-administered questionnaires, either to the human resources department, or to occupational health staff. However, there are a number of ethical and legal issues, which arise over the handling of such questionnaires, which need to be considered.

Applicants should not be expected to reveal clinical details to non-clinical staff (who are not bound by medical confidentiality), they are *not* qualified to interpret medical data and should not do so. Only when questionnaires are returned directly to qualified medical or nursing staff can there be any assurance that clinical details will be handled in medical confidence. As information on the health of an individual is 'sensitive personal data', its processing, which includes obtaining it, is subject to strict controls under the Data Protection Act (1998).

Health questionnaires should be reviewed by a "competent person" (a qualified occupational health professional) to allow appropriate decisions on management on fitness for work issues and

compliance with the Disability Discrimination Act 1995. All the employer needs to know is whether the applicant is fit for the intended work and any suggested adjustments that may be required.

SUMMARY RECOMMENDATIONS (3)

RECOMMENDATIONS FOR PRE-PLACEMENT ASSESSMENT

Assessment should only be made after a job offer has been made

The OH provider should be provided with a job description for the post applied for, with identified hazards and any relevant risk assessments

The OH provider must deal with enquiries into medical issues

HR or managers must not review pre-placement medical questionnaires

3.4 STATUTORY HEALTH SURVEILLANCE

3.4.1 What are the legal requirements?

Employers have a legal duty to reduce (so far as reasonably practicable), the risks to the health and safety of employees and others who may be affected by work activity. The starting point is to assess the risks and if the risk assessment is carried out properly it will show where there is a significant *residual* risk to health even after reasonably practicable control measures have been applied. Employees need to understand their role and responsibilities within a health surveillance program and we would also suggest that employee representatives are included in these discussions.

Health surveillance should then be considered wherever there is a significant residual health risk to employees. Employee's attendance for health surveillance is mandatory where a risk assessment has established that a genuine need for health surveillance exists. However, an employee does not have to undertake any tests or answer medical questions, but in this case the occupational health provider would inform the employer of this fact and could not make a fitness for work statement.

Section 2 of the Health and Safety at Work Act 1974 (HSW) states that employers have a general duty of care to ensure (so far as is reasonably practicable) the health, safety and welfare of all their employees. Health Surveillance is about having procedures in place to detect work-related ill health at an early stage and acting on the results (HSE 2005). As such, health surveillance is not an end in itself but shows whether control measures to reduce and avoid workplace health hazards are working.

3.4.2 What is Health Surveillance?

Health surveillance is the process of monitoring the health of employees exposed to specific health risks during the course of their work. Where appropriate, employers need to provide health surveillance to demonstrate they are meeting their duty of care for their employees. The purpose of health surveillance should be clearly explained to employees.

Health surveillance might involve examination by a doctor or trained nurse. In some cases trained people (the 'responsible person') could, for example, check employees' skin for dermatitis, or ask questions about breathing difficulties where work involves substances known to cause asthma.

It is important that the purpose of health surveillance should be covered in the Occupational Health Policy arrangements, making reference to the people considered to be at risk, and the form of health surveillance to be done. It should also clearly identify how results will be fed back to employees and managers and describe how grouped non-identifiable results will be handled. Finally, it is essential that the policy describes the actions in the event of an employee being diagnosed with the relevant work related illness.

3.4.3 Self checks

Workers can be trained to look for and self report any signs of work related ill health. Whilst these are an important part of any health surveillance programme, self checks alone are not sufficient to comply with regulations for health surveillance but may form part of a programme in which health records are kept and where employees are:

- (1) trained about what signs of disease or illness to look for and when and how to do so;
- (2) told when and how to report any signs and symptoms to a 'responsible person' or occupational health professional;
- (3) subject to periodic checks by someone else such as a 'responsible person'.

3.4.4 Individuals involved in Health Surveillance

(a) *Qualified Person*

- Occupational Health Doctor
- Occupational Health Nurse

The role of the 'qualified person' is to establish the presence or absence of the occupational condition for which health surveillance is being conducted when the results of questionnaires or tests indicate some abnormality. This may necessitate further investigation or specialist referral.

(b) *Responsible Person*

A 'responsible person' is an employee who has had specific training in the recognition of potential ill health, which might require the advice of a 'qualified person'. They could use techniques such as a questionnaire to record symptoms and signs of work related ill-health. If an individual displays any evidence of ill-health, then they should be referred to a qualified person. The responsible person must not attempt to make a diagnosis and must keep any records confidential.

3.4.5 Biological exposure monitoring and biological effect monitoring

This can be used as a part of health surveillance to measure and assess the take-up of, or the effects of, exposure to substances by testing blood, urine or breath samples e.g. blood lead or physiological measurements such as lung function (breathing) tests.

3.4.6 Reporting and Feedback Standards

Managers should be provided with confirmation of an employee's attendance at the appointment. As a general rule, feedback should be factual but not reveal clinical details. It should be limited to outcome statements related to an individual's functional ability and fitness for specific work, with any advised restrictions. Clinical details should only be disclosed when a real benefit of doing so has been identified and this should always be with the individual's informed consent.

Grouped results (e.g. average, range, and numbers of abnormal results which may be attributable to work), may form the basis of reports to an employer to allow the identification of health risks to employees and the need for subsequent corrective action. Grouped anonymised results provide important information against which to assess the effectiveness of control measures. It is important to ensure that the 'group' is big enough to protect anonymity, This information can be particularly useful for comparisons over time i.e. year to year.

3.4.7 Health promotion activities

Health promotion activities at work that are organised to complement national initiatives and programs such as weight, blood pressure and cholesterol checks are not required by Health and Safety legislation. Such general health initiatives are welcomed since they contribute to "Health, Work and Wellbeing", but they must not be mistaken for occupational health surveillance related to specific workplace exposures. Different considerations apply to the handling of health information and results that arise from such checks and the provider should have carefully considered this aspect.

3.4.8 Record Keeping

(a) Health Records

Whenever health surveillance is required a health record should be set up for each employee. In some circumstances, this may be the only requirement. These records are different from medical records as they do not contain confidential medical information and can therefore be kept securely with other confidential personnel records.

HSE suggest that a Health Record includes:

(1) Surname, forenames, sex, date of birth, permanent address, postcode, NI number, date of commencement of present employment and a historical record of jobs involving exposure to substances or processes requiring health surveillance in this employment.

In situations where further health surveillance procedures are required it should also include:

(2) conclusions of all health surveillance procedures and the date on which and by who they were carried out. Conclusions should be expressed in terms of the employee's fitness for work and will include the conclusions of the occupational health professional or responsible person, but NOT "confidential clinical data."

As a general rule, individual health records should be kept for employees for as long as they are under health surveillance. Some regulations - COSHH (2002) and those for lead, asbestos, ionising radiations and compressed air - state that records should be retained for much longer (up to 50 years) as ill health effects might not emerge until a long time after exposure.

(b) Medical Records

In situations where health surveillance procedures are required, medical records (occupational health records/case notes) may be created. These are entirely separate from the health record as they contain clinical information about the individual. These will be held by or on behalf of the occupational health provider (e.g. by a central data warehouse with appropriate safeguards), and will need to be stored for forty years after the last entry, if made under the provisions of the Control of Substances Hazardous to Health Regulations (2002). The minimum period of retention is ten years after the employee has left their current employment. Employees have access to their own medical record on written request under the Data Protection Act (1998), but details would only be released to third parties on receipt of the informed written consent of the employee or a court order. It is recommended

that the Faculty of Occupational Medicine's guidance on ethics for occupational doctors is followed regarding the provisions for transfer and storage of records and the confidentiality of health data.

3.4.9 RIDDOR Reporting

Certain cases of disease are reportable to HSE or local authorities and are listed in section 3 of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR). The duty comes into effect when an employer receives a written statement from a registered medical practitioner e.g. the employee's general practitioner (GP) or Occupational Doctor, stating that an employee suffers from one of the listed diseases and where the employee is currently doing a job involving a specified activity, which is also listed in the schedule. Such statements can be used as a trigger to review the management of the health risks within the workplace.

4 MINIMUM HEALTH SURVEILLANCE STANDARDS FOR THE CONSTRUCTION INDUSTRY

The hazards discussed below (with suggested *minimum* health surveillance requirements [or health monitoring in the case of musculoskeletal problems]) relate to the five leading categories of ill health for the construction industry identified from the annual incidence rates for work related ill health seen by The Health and Occupation Reporting network (THOR) 2003-05 ill health statistics (<http://www.hse.gov.uk/statistics/industry/construction.htm>). Although, when compared to other industries, the construction sector has relatively low levels of reported stress, it is still a topic of concern for the industry and so we have additionally included a section on work-related stress. This list is not exclusive and other health surveillance should be provided according to the findings of a properly conducted risk assessment. Section 8 provides a matrix that may be used to identify the likely health surveillance for construction tasks based on the standard occupational classification codes. Health monitoring for musculoskeletal disorders has been omitted from the table, as it is not formal health surveillance. A section on managing workplace stress has been included, even though the construction industry is not a sector known to be at high risk of work-related stress.

4.1 HAND-ARM VIBRATION SYNDROME

Hand Arm Vibration (HAV) is vibration transmitted from work processes into workers hands and arms. It can be caused by operating hand-held power tools (such as road breakers), hand-guided equipment (such as compactors), or by holding materials being processed by machines (such as pedestal grinders).

Regular and frequent exposure to HAV can lead to a combination of neurological, vascular and musculoskeletal symptoms, (collectively referred to as hand arm vibration syndrome [HAVS]) and this is most likely when contact with a vibrating tool or work process is a regular part of a person's job. Occasional exposure is unlikely to cause ill health.

Identifying the signs and symptoms at an early stage is crucial to preventing serious long-term health effects.

The Control of Vibration at Work Regulations (COVWR, 2005) has established the necessity for health surveillance at exposure action value (EAV) over an average eight hour working day, (A8) of 2.5 m/s⁻² using triaxial measurements or where deemed necessary by risk assessment. The introduction of the lower EAV together with a reduction in the exposure limit value (ELV) of 5.0 m/s² means that many more workers will require health surveillance.

Where risk assessment has demonstrated a need for health surveillance, individuals have presented with symptoms or already have HAVS, then the tiered approach to HAVS (L140, HSE) should be followed. The tiered approach to health surveillance for HAVS includes the following elements:

- Tier 1** Administration of a pre-placement Questionnaire
- Tier 2** Administration of a Routine Questionnaire (Annually)
- Tier 3** Nurse led clinical assessment
- Tier 4** Diagnosis by a Doctor
- Tier 5** Standardised tests (optional)

The current guidance has also suggested that, in addition to the minimum qualifications discussed in section 2) health professionals (both doctors and nurses) conducting health surveillance should have certification from a Faculty of Occupational Medicine approved training course in HAVS or equivalent level of competency.

Further advice, which describes the role of the 'responsible person', qualified person and doctor can be found in HSE guidance book *Health Surveillance at Work* (HSG 61).

KEY HEALTH SURVEILLANCE REQUIREMENTS IN THE CONSTRUCTION INDUSTRY (1)

Recommendations for Hand Arm Vibration Syndrome (HAVS)

A suitable pre-employment questionnaire for hand arm vibration syndrome should be completed by the job applicant and returned directly to an occupational health provider for assessment (HSE Tier1). A decision on “fitness for work with exposure to hand transmitted vibration” should be recorded with any advised restrictions

Within the health surveillance programme, a suitable questionnaire for HAVS should be completed by the employee and returned to the designated responsible person to file in the employee’s health record (HSE Tier 2). Where any questionnaires indicate possible symptoms, a copy should be forwarded to the occupational health provider with a referral for assessment (HSE Tier 3).

All individuals who are reporting symptoms should be seen by a qualified person for assessment of their condition (HSE Tier 3 and 4)

It is recommended that every third year (whether symptoms have been reported or not) that the employee should be assessed by a qualified person (nurse or doctor) (HSE Tier 3). Any positive findings should lead to referral to an appropriately qualified doctor so that a diagnosis of HAVS can be confirmed or excluded (HSE Tier 4). Provision should be made for referral for standardised tests if considered appropriate on the advice of the doctor (HSE Tier 5).

When an initial diagnosis of HAVS has been made (at any stage) the employer should be advised of this fact with the employee’s consent and this must then be reported as a case of disease for the purposes of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 1995.

4.2 NOISE-INDUCED HEARING-LOSS

Health surveillance is a requirement under The Control of Noise at Work Regulations (2005) for those workers regularly exposed to noise over the upper exposure action value of 85 dB(A).

Other workers should have health surveillance provided where their exposure is either

- (1) between the lower exposure action value of 80dB(A) and the upper action value of 85dB(A), and the individual may be particularly sensitive to noise;
- (2) or only occasionally exposed above the upper exposure action value, and the individual may be particularly sensitive to noise.

Sensitivity may be indicated by audiometry results from previous jobs, medical history, history of exposure to noise above 85dB(A); or in a very few cases, a family history of becoming deaf early on in life.

Suitable health surveillance means regular hearing tests (audiometry testing over a range of sound frequencies), the maintenance of suitable records, informing workers about the state of their hearing and also the proper fitting, cleaning and maintenance of any hearing protection used. Employees are required to co-operate with a health surveillance programme for noise by attending such hearing test appointments.

The individual(s) conducting the surveillance should be fully conversant with the technical and ethical aspects of audiometry and may be an occupational doctor, nurse with training in audiometry, an audiological scientist, or a trained audiometrician with access to a qualified occupational health medical professional for advice and onward referral, where necessary. They should have had appropriate training from a British Society for Audiology approved course for industrial audiometricians or equivalent level of competency.

The results of each audiometry test should be explained to the worker, including the condition of their hearing, the significance of hearing damage, the importance of compliance with the employer's noise-control and hearing protection programme and the need for any further referral. HSE has devised a categorisation scheme for the interpretation of audiometry test (HSE guidance L108). Essentially each worker is categorised as 'Category 1- acceptable hearing ability', 'Category 2- mild hearing impairment', 'Category 3-poor hearing' or 'Category 4-rapid hearing loss'. A worker within category 2 should be given a formal notification regarding the presence of hearing loss. Workers falling into categories 3 or 4, or workers with unilateral hearing loss, should be referred for further medical assessment according to the agreed procedure. The referral should be initially to the occupational doctor involved in the health surveillance programme or audiologist where available. For those employees who fall into category 4 the frequency of testing will need to be more frequent than three yearly and may need to be more frequent in other categories.

KEY HEALTH SURVEILLANCE REQUIREMENTS IN THE CONSTRUCTION INDUSTRY (2)

Recommendations for Noise Induced Hearing Loss (NIHL)

Pre-placement assessments should be made to establish a baseline of hearing (questionnaire and audiometry)

Annual audiometry and questionnaire should be undertaken for the first two years of employment. Audiometry and questionnaire should be undertaken at three yearly intervals thereafter.

Audiometry may be carried out more frequently when an abnormality in hearing is detected or where the risk of hearing damage is high.

Current audiograms need to be assessed against previous audiograms and assessed according to HSE categorisation (Guidance L108)

All employees should be advised of their individual audiometry results, the condition of their hearing, the significance of hearing damage, the importance of following the organisations noise-control and hearing protection programmes and what happens next.

Formal warning to workers in category 2 (mild hearing impairment) should be issued. It is recommended that an occupational doctor with experience of audiometry should review such tests.

Workers with test result in category 3 (poor hearing) and category 4 (rapid hearing loss) should be referred to an occupational doctor with experience in occupational audiology or audiologist where available.

4.3 SKIN DISORDERS

Occupational skin disease may be defined as a disease in which workplace exposure to a physical, chemical, or biological agent or a mechanical force has been the cause of or played a major role in the development of the disease. Work related dermatitis (sometimes called eczema) forms 80% of occupational skin diseases and is caused when someone comes into contact with a hazardous agent(s).

Irritant dermatitis is caused by a non-infective agent, physical or chemical, capable of causing cell damage if applied to the skin for sufficient time and in sufficient concentration (medical aspects of occupational skin disease guidance note MS24 [HSE]). The fine particles of cement, often mixed with sand or other aggregates to make mortar or concrete, can abrade the skin and cause irritation resulting in dermatitis. With treatment, irritant dermatitis will usually clear up. But if exposure continues over a longer period the condition will get worse and the individual is then more susceptible to allergic dermatitis. Allergic dermatitis (in susceptible individuals) is caused by initial contact with a skin sensitiser (such as epoxy resins and their hardening agents, acrylic resins, formaldehyde and hardwoods), which provokes a chain of immunological events leading to sensitisation. Further skin contact with that particular sensitiser can then cause allergic contact dermatitis.

4.3.1 Recommendations for skin monitoring

For employees who may be exposed to any agent known to cause skin damage (medical aspects of occupational skin disease guidance note MS24 [HSE]) there should be arrangements to identify cases of occupational skin disorders. COSHH (2002) requires employers to provide employees with information about the precautions that should be taken including characteristic signs and symptoms of occupational skin disorders. Duties exist under COSHH (2002) and MHSW (1999) regulations, where a risk assessment has identified employees to be at risk to ensure employees are under suitable health surveillance.

KEY HEALTH SURVEILLANCE REQUIREMENTS IN THE CONSTRUCTION INDUSTRY (3)

Recommendations for Skin Monitoring

It is recommended that a 'responsible person' should be trained and appointed to carry out regular (at least monthly) skin checks and annually to use a brief skin questionnaire. Any employees identified with or reporting skin problems must then be referred for more detailed assessment with an Occupational Health practitioner (nurse or doctor).

It is recommended that when a diagnosis of Dermatitis is made by a doctor the employer should be advised of this fact with the employee's consent and this needs to be reported as a case of disease for the purposes of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR) 1995.

4.4 RESPIRATORY DISEASE

The respiratory diseases of construction workers may include pneumoconiosis arising from silica (silicosis) or asbestos exposure, asthma and other allergic reactions (e.g. due to isocyanate paint or resin exposure) and chronic obstructive pulmonary disease. Some hazards encountered in construction can cause lung cancer. Smoking can contribute to the respiratory damage and the risk of these diseases.

4.4.1 Occupational Asthma

Occupational Asthma (OA) is an important occupational health problem with serious implications for both affected individuals and their employers. For the affected individual, continued exposure to the causative agent usually leads to deteriorating asthma and the risk of severe (or, on rare occasions fatal) asthma attacks. Even if exposure ceases, the more severely affected individuals may still be left with persistent asthma and chronic disability. More detailed advice on health surveillance for occupational asthma can be found at <http://www.coshh-essentials.org.uk/assets/live/G402.pdf>

**KEY HEALTH SURVEILLANCE REQUIREMENTS IN THE CONSTRUCTION
INDUSTRY (4)**

**Recommendations for health Surveillance for employees exposed to
respiratory sensitisers**

An occupational health professional should support you with health surveillance for employees exposed to respiratory sensitisers.

A high level of health surveillance will be required when workers are exposed to substances and processes where occupational asthma is a known problem; where they are working with products labeled “R42 May cause sensitisation by inhalation” or products labeled R42/43 “May cause sensitisation inhalation and skin contact”; or where work conditions have caused a confirmed case of asthma.

This level of surveillance would involve:

Assessing workers’ respiratory health before they start a relevant job to provide a baseline (perhaps using a questionnaire and lung function assessment). A pre-existing history of asthma should not lead to exclusion from work with respiratory sensitisers. However a history of pre-existing asthma due to a substance that will be used in employment should lead to advice to the employee and employer meaning that exposure should be avoided;

Regular testing yearly, or as advised by the health professional. This could involve further questionnaires and lung function assessments;

The appointment and training of a “responsible person” to assist with identifying for review any workers who develop symptoms between regular assessments;

Keeping a health record.

In consultation with a health professional it may be possible to move from a high level of surveillance to a low level after a suitable period of assessment.

Lower level health surveillance is required where: there is only occasional or potential exposure to a respiratory sensitiser; or control of a situation where high level surveillance would otherwise be necessary (see above) is known to be adequate.

Low level surveillance may require no more than:

An annual questionnaire, done by a trained responsible person;

Keeping a health record.

It is recommended that any employees identified to have positive findings on a respiratory questionnaire or abnormalities on spirometry should be referred for a medical opinion.

4.4.2 Respirable crystalline silica (RCS) exposure

Occupational exposure to RCS in construction work occurs in concrete removal, demolition work, tunnel construction, concrete or granite cutting, drilling, sanding and grinding. Other people in the vicinity of such work may also be exposed. If workers are employed in occupations listed in 'Health surveillance for those exposed to respirable crystalline silica (RCS)' (G404, HSE 2006) you should consider health surveillance. If the risk is low, you may decide (with advice from a health professional) that health surveillance is unnecessary, but where there is a reasonable likelihood of silicosis developing then health surveillance will be appropriate. The decision must be made by the duty-holder, in the light of competent advice, taking account of current (and past) exposure circumstances. Health surveillance could require chest x-rays (at intervals, in addition to symptoms enquiries) and a baseline assessment would be appropriate. However, the benefits of such health surveillance need to be weighed against the risks associated with serial chest x-rays. It is good practice to monitor workers exposed to respirable crystalline silica for signs of COPD, which could include questionnaire and lung function testing.

KEY HEALTH SURVEILLANCE REQUIREMENTS IN THE CONSTRUCTION INDUSTRY (5)

Recommendations for health surveillance and monitoring for employees exposed to respirable crystalline silica (RCS) following appropriate risk assessment

Decisions regarding Health Surveillance should be made on the basis an assessment of risks of silicosis, taking account of medical advice.

Where health surveillance is required this will involve a Pre-placement assessment to establish a baseline of respiratory health, which will include use of a questionnaire, and a chest X ray.

The results should be reviewed by a occupational health physician, who should advise on the frequency of further health surveillance (using chest x-rays), and monitor the results. The results of health surveillance may lead to a need to review the control measures in place.

HSE also recommends (as good practice) that workers with significant exposure to dust containing RCS are annually monitored by spirometry for COPD.

(Note the distinction between health surveillance, which circumstances may indicate is required under COSHH (2002), and health monitoring, which will not be a requirement but nevertheless will represent good practice.)

4.4.3 Chronic Obstructive Pulmonary Disease (COPD)

COPD is a common chronic progressive lung disease which is mainly caused by smoking. It is a lung condition that encompasses chronic bronchitis (regular phlegm production) and emphysema (damage to the air sacs in the lung)

Although smoking is the main cause of COPD, exposure at work to dusts, gases, fumes and vapours contribute to about 15 deaths in every 100 from this condition – meaning that there about 4000 more deaths each year than there would otherwise be.

COPD by definition results in slowly progressive irreversible decline in lung function. The main emphasis should be on primary prevention, which is best achieved by smoking cessation, and the elimination or reduction of exposures to causative substances in the workplace. The evidence for a link between exposure to silica and COPD is such that annual spirometry is recommended to monitor workers for early signs of this disease. This recommendation should be distinguished from the need for health surveillance involving chest x-rays where the risk indicates this is required under COSHH (2002)

KEY HEALTH SURVEILLANCE REQUIREMENTS IN THE CONSTRUCTION INDUSTRY (6)

Recommendations for health monitoring (as opposed to health surveillance) for COPD in construction workers

The evidence that RCS exposure or other exposures encountered in construction can cause COPD is not strong enough for health surveillance by symptom enquiry and spirometry to be a requirement under COSHH, but for RCS exposure the evidence is sufficiently strong for it to be good practice to monitor workers with significant exposure for early signs of COPD in this way. Health monitoring would best be done at Pre-placement assessment and at yearly intervals thereafter.

It is recommended that employers should have a workplace smoking cessation policy
It is recommended that respiratory health is assessed annually (using Questionnaire, & Spirometry) and is usually reviewed by a doctor.

4.4.4 Asbestos

Where workers are exposed to airborne levels of asbestos above the action levels specified in the Control of Asbestos at Work regulations (2006) then the provisions laid down will apply and a doctor must be appointed for the purposes of the regulations. The requirements for Health surveillance are specified in the regulations.

4.5 MUSCULO-SKELETAL DISORDERS

Musculoskeletal disorders (MSD) are problems affecting the muscles, tendons, ligaments, nerves or other soft tissues and joints and can cause conditions such as low back pain, joint injuries and repetitive strain injuries of various sorts. Injury can happen while doing any activity that involves some movement of the body, from heavy lifting to typing. MSD has not been included in the matrix in section 8 as although there is no requirement for health surveillance, symptoms can be monitored.

There are certain tasks and factors that increase the risk such as:

- (1) repetitive and heavy lifting
- (2) bending and twisting
- (3) repeating an action too frequently
- (4) uncomfortable working position
- (5) exerting too much force
- (6) working too long without breaks
- (7) adverse working environment (e.g. hot, cold)
- (8) psychosocial factors (e.g. high job demands, time pressures and lack of control).

There are no well founded methods for selecting workers to predict future musculoskeletal problems. However, the aim of health monitoring for musculoskeletal disorders is to detect symptoms early and ensure the worker gets appropriate advice and treatment and importantly, modifying the work where practicable.

KEY HEALTH SURVEILLANCE REQUIREMENTS IN THE CONSTRUCTION INDUSTRY (7)

Recommendations for Health Monitoring for Musculo-Skeletal Disorders

A musculo-skeletal questionnaire can be completed annually and returned to the occupational health provider.

A *responsible person* can be trained and appointed so that employees can report any musculoskeletal symptoms. The reporting of musculoskeletal symptoms should lead to referral to the occupational health provider.

It is recommended that any employees identified with or reporting musculo-skeletal problems must then be referred for more detailed assessment with an Occupational Health practitioner (nurse or doctor).

It is recommended that a statement of fitness to continue in work with exposure to musculoskeletal or manual handling hazards should be recorded including any advised restrictions.

Pressure is part and parcel of all work and helps to keep us motivated, but excessive pressure can lead to stress, which undermines performance, is costly to employers and can make people ill.

HSE defines work-related stress as *'The adverse reaction people have to excessive pressure or other types of demand placed on them'*. Employers have a legal duty under the Health and Safety at Work etc. Act 1974 and Management of Health and Safety at Work Regulations 1999 to assess and control the risk of stress-related ill health arising from work activities.

Compared to other industries, the construction industry is not a sector known to be at high risk of work-related stress. For example, a large-scale representative survey of the UK population conducted in 2001/02, found that construction workers' self-reported stress levels were lower in comparison to various other sectors, including manufacturing, transport, finance, education and health.

However, there is anecdotal evidence and recent survey research to suggest that stress may be a concern within the construction industry. A recent study conducted by the Health and Safety Laboratory¹ found that around 10% of their sample of construction industry workers found their job very or extremely stressful. The ‘top five’ most stressful aspects of work for respondents were:

- (1) Having too much work to do in the time available
- (2) Travelling or commuting
- (3) Being responsible for the safety of others at work
- (4) Working long hours
- (5) Having a dangerous job

In their sample, management grade employees, along with road maintenance staff, designers and administration staff report more stress than other job roles, primarily construction labourers/operatives.

KEY REQUIREMENTS IN THE CONSTRUCTION INDUSTRY (8)

Recommendations for Managing Work related Stress

It is recommended that the management standards be applied where practicable to the construction sector. (<http://www.hse.gov.uk/stress/standards/index.htm>)

¹ <http://www.hse.gov.uk/research/rrhtm/rr518.htm>

5 SAFETY-CRITICAL WORK

Organisations have a duty under the Health and Safety at Work Act (1974) to ensure a safe system of work. It is implicit in this duty that the medical fitness of employees is a component of such a safe system of work, to the extent that the effects of a medical condition are foreseeable. Not only do employers have duties towards their employees but also have a duty to ensure that the safety of all employees and others is not compromised. In the current context, therefore, the employer need take into account the individual employee's fitness both in respect of those activities where an employee's fitness may be likely to affect their own health and safety and those where it may affect others' health and safety.

In some activities the consequences of adverse events may be serious and the term "Safety Critical Work" has been used. Safety critical work (or roles) were defined in the Faculty of Occupational Medicine's "Guidance on alcohol and drug misuse in the workplace" 2006 as;- " those involving activities where, because of risks to the individuals concerned or to others, the employees need to have full, unimpaired control of their physical and/or mental capabilities...".

In the construction industry it would seem appropriate to make a distinction between those employees who, by virtue of the nature of their work, are potentially in a position which could increase the risk to the health and safety of others, whether these be other employees or third parties, and those employees where the increased risk is only to themselves. In the former situation the employer, and employee, would have responsibilities to meet standards of best practice whilst in the latter there would be a need to fulfill required health surveillance and a need for employees to be made aware of any health issues that arise.

The risk assessment that identifies an activity as safety critical in the construction industry should therefore distinguish between the risk of harm to the individual worker and from that to other employees and third parties.

Whilst the use of professional judgment would help to ensure that an individual is fit to perform a task effectively and without risk to their own or others health and safety in broad terms, although there are general duties of care under the HSAWA, it is likely that only those exposed to safety critical work would need be subjected to a full medical assessment. In this situation the medical fitness standards for the rail industry (Railtrack PLC 2000) may be broadly applicable to safety critical work in the construction industry (<http://www.rgsonline.co.uk/docushare/dsweb/Get/Rail-38005/Rt3255a.pdf>):

"Candidates shall not be suffering from medical conditions, or be taking medical treatment likely to cause:

- (1) sudden loss of consciousness;
- (2) impairment of awareness or concentration;
- (3) sudden incapacity;
- (4) impairment of balance or co-ordination;
- (5) significant limitation of mobility."

5.1 RECOMMENDATION FOR APPLICABILITY OF STANDARDS FOR SAFETY CRITICAL WORK TO CONSTRUCTION WORKERS

The requirement of fitness for Safety Critical Work should only be applied where it is necessary and not used as a form of medical selection and potential disability discrimination. Where an activity was safety critical and an essential job requirement, it may be reasonable not to employ an individual even if the Disability Discrimination Act was likely to apply if the risk was of harm to third parties. (However legal advice should be sought to check this view)

SUMMARY RECOMMENDATIONS (4)

General Recommendations for safety critical work

It is recommended that a suitable risk assessment of any activity should identify whether it has a safety critical nature and whether in the event of worker incapacity this would be likely to result in a significant risk of harm to the individual worker performing the task or to others i.e. third parties.

All workers undertaking safety critical work are to be examined to the above general health standards of safety critical work and that where individuals do not meet these standards employers are advised of this restriction. It may be possible to restrict an individual from "safety critical work" or the specific aspects that would be problematic. A record of the fitness standard achieved should be recorded indicating "fitness satisfactory for safety critical work".

Where the risk associated with the activity is to the individual worker a careful explanation of these risks and consequences should be given to the worker.

5.2 VISUAL ACUITY REQUIREMENTS

There are also specific visual and hearing requirements of the rail standards and the applicability to construction workers who will not be undertaking "train working" is discussed below.

The visual acuity of 3/60 means that someone can see at 3m distance an object that should be seen at 60m distance by someone with 6/6 vision. Vision below 3/60 allows certification for blindness i.e. the person would be considered unable to do any work for which eyesight is essential. The rail standard for visual acuity is the same as that for new entrants to Class 2 driving.

Colour vision is a particular requirement of the rail standards because of the need to see signals and these are often red or green coloured. There may be trades within construction that require colour vision e.g. electrical and the testing of colour vision would highlight to individuals if they may have a problem. Most tradesmen will either already be aware and / or have adapted to any difficulty.

SAFETY CRITICAL WORK

Recommendations for visual acuity standards for the construction industry

It is recommended that the Visual Acuity Standards for safety critical construction workers are the same as those for the rail standards but where individuals fail to achieve an aided binocular visual acuity of 6/12 it should be recognized that they may have other difficulties in the working environment. It is therefore important to determine whether they are capable of undertaking the required tasks, with or without reasonable adjustments. A record of the vision standard achieved should be recorded indicating "vision satisfactory for safety critical work" and any advised restrictions.

It is recommended that the Colour Vision Standards for safety critical construction workers are the same as those for the rail standards. Testing colour vision would allow employers to be aware of any colour vision deficiency and a "trade test" or practical test could be used to determine whether in practice this is a problem, thereafter making any reasonable adjustment. A record of the colour vision standard achieved should be recorded indicating "colour vision satisfactory for safety critical work" and any advised restrictions.

5.3 RECOMMENDATION FOR HEARING STANDARDS FOR SAFETY CRITICAL CONSTRUCTION WORKERS

The rail standards guidance suggests that an audiometric assessment shall be carried out and hearing loss in either ear should not exceed 30dB, averaged over frequencies of 0.5, 1 and 2 kHz. Providing this requirement is met without use of a hearing aid, hearing aids may be used to improve hearing further. No pathological condition likely to cause unpredictable fluctuation in hearing levels should be present.

The rail standards are high and may not be met by a significant number of employees who have worked in a noise-exposed environment. The Fire and Rescue Services guidance suggests for retained firefighters that undertaking safety critical work is compatible with a standard of:

- (1) The sum of Low Frequency thresholds (0.5, 1 and 2 kHz) [60 dB Hearing Loss
- (2) The sum of High Frequency thresholds (3, 4 and 6 kHz) [80 dB Hearing Loss
- (3) The sum of the Speech Frequency thresholds (1, 2, 3 kHz) [60 dB Hearing Loss and (no value > 25 dB HL).

Assessment to any such standards requires audiometric testing. However, audiometry at baseline and regular intervals is required for construction workers who may be likely to be exposed to significant noise at work (The Control of Noise at Work Regulations 2005). Therefore, occupational health providers and construction employers should have access to such testing and the mechanism for incorporating within health surveillance for safety critical roles.

SAFETY CRITICAL WORK

Recommendations for hearing standards for the construction industry

It is recommended that the Hearing Standards for safety critical construction workers are the same as those suggested for the Fire and Rescue Services Retained Firefighters standard given above. A record of the Hearing standard achieved should be given to the employer indicating "hearing satisfactory for safety critical work" and any advised restrictions.

5.4 RE-ASSESSMENT OF FITNESS FOR SAFETY CRITICAL WORK

The rail standards guidance further requires medical assessment for safety critical work periodically; and states that medical fitness shall be assessed and re-certificated as follows:

Age at date of medical assessment	Maximum validity of certificate
	(unless revoked earlier)
Less than 40 years	10 years
From 40 to 49 years inclusive	6 years
From 50 to 59 years inclusive	4 years
60 years and over	2 years

and in the event of:

- (1) any episode of convulsion, loss of consciousness, disturbance of consciousness or dizziness;
- (2) any episode of visual disturbance;
- (3) prescription of long term medication;
- (4) any incident or accident where there is reason to believe that the physical or mental health of the person might have been a causal factor or adversely affected by it;

- (5) any other circumstances or medical condition which might impair the person's ability to carry out safety critical duties; whether or not the person has been absent from duty, or
- (6) any absence certified as being due to a psychiatric disturbance.

5.5 RECOMMENDATION FOR RE-ASSESSMENT OF FITNESS FOR SAFETY CRITICAL WORK FOR CONSTRUCTION WORKERS

The rail standards do not provide an evidential basis for the re-certification periods although the frequency increases as age increases. Group 2 driving licenses are normally issued at age 21 and valid till age 45. Group 2 licenses are renewable thereafter every five years to age 65 unless restricted to a shorter period for medical reasons. From age 65 Group 2 licenses are renewable annually without upper age limit. The basis for the age related periodic review of driving fitness is informed by accident data from motor insurers.

The further reasons for reviewing fitness for safety critical work under the rail standards may be summarised as, "any substantial change in medical circumstances".

SAFETY CRITICAL WORK

Recommendations for re-assessment in the construction industry

It is recommended that the standards for re-assessment of fitness for safety critical construction workers be set at a fixed periodic review after first assessment. Adopting such a policy avoids any suggestion of an age discriminatory bias in an area where little objective data may support alternative schedules. Since audiometry is a suggested requirement of safety critical fitness it may be sensible to link re-assessment to the 3 yearly review of hearing that is required under the provisions of The Control of Noise at Work Regulations 2005. Re-assessment of fitness for safety critical construction work with any substantial change in medical circumstances is also recommended. Such an assessment need only address the specific change in medical circumstances with full re-assessment when next scheduled.

5.6 DRUGS AND ALCOHOL

The rail standards have specific requirements of contractors to have established a Drug and Alcohol policy which conform to set criteria. These standards require testing for Drugs and Alcohol prior to rail working, "with cause" (in the event of an incident or accident) and random unannounced testing.

Much of the debate (RSSB 2004) on the value of workplace drug testing appears polarised with some suggesting that there is good data to support the value of testing improving safety, while others question its value. An HSL review (Beswick 2002) highlighted the paucity and low quality of data available to answer such questions. A later study funded by HSE (RR193 HSE 2004) states, "on the whole the evidence suggests that there is no systematic relationship between drug use and workplace accidents, and it seems unlikely that working whilst actually under the influence of drugs is highly prevalent". The study itself did not find an association between work place accidents and drug use. It also comments that "much of the existing research in this area has also found little evidence for an association between drug use and workplace accidents.... rather work in this area more often suggests an association with higher absenteeism and employee turnover" (RR193 HSE 2004). However, there have been high profile incidents within construction work where drug use was involved. One of the difficulties in testing for drugs and alcohol is that only for alcohol is there a clear relationship between the test result and the level of likely impairment. For all other drugs, the detection of parent drug or their metabolites only indicates use at some prior time and has no significance about any impairment at the time of testing. This has led to issues about the legality of such drug testing in the light of recent human rights legislation. A recent review on workplace drug testing did conclude that current testing based on the presence or absence of drug metabolites would not counter UK law for safety critical

activities (Rowntree Foundation 2004). Functionality or impairment testing for drugs based on eye pupil responses to light stimuli are being trailed in the transportation sectors in the US and Australia.

Given the above, it is recommended that construction employers employ suitable Drugs and Alcohol policy for safety critical workers

SAFETY CRITICAL WORK

Recommendations for a drugs and alcohol policy in the construction industry

It is recommended that construction employers employ suitable Drugs and Alcohol policy. The standards for drugs and alcohol for safety critical construction workers should be the subject of further consideration taking account of known data on such substance use in this demographic group, evidence from others sectors on the value of any testing and the likely impact of alternative approaches.

5.7 VOCATIONAL DRIVING

The Health and Safety at Work etc Act 1974 requires employers to ensure, so far as is reasonably practicable, the health and safety of all employees while at work. There is also a responsibility to ensure that others are not put at risk by any work-related driving activities. (Self-employed people have a similar responsibility to that of employers.)

Under the Management of Health and Safety at Work Regulations 1999, there is a responsibility to manage health and safety effectively. This means there should be an assessment of the risks to the health and safety of employees, while they are at work, and to other people who may be affected by their work activities and this should be periodically reviewed. Although there is no legal requirement for medical assessment there is an implied duty in ensuring a safe system of work that drivers are medically fit.

Some drivers will hold class 2 driving licenses and be subject to statutory relicensing by the DVLA because of the size of vehicle driven (over 3.5 tonnes for a new license and over 7.5 tonnes for those holding a current Group 1 license issued prior to 1997). There is also specific guidance issued by HSE in relation to lift trucks and this recommends medical standards for operators (HSG 6). It is suggested that fitness to hold a class 1 driving license will usually be sufficient but that subject to risk assessment of the work e.g. when moving highly toxic or explosive materials, working in a particularly demanding environment, working at night, or if large, heavy trucks are to be operated. In these instances some or all of the medical standards equivalent to that of Group 2 entitlement may be appropriate. Periodic screening for fitness is also recommended, after the age of 40 at five-yearly intervals and annual assessments after age 65. This is a requirement above that of a class 1 driving licence. Assessment is also recommended after an absence of more than one month or after a shorter absence if it is likely that the illness may have affected fitness to operate lift trucks. The guidance specifically points out that fitness to return to work when “signed off” by a GP may not indicate fitness to operate a lift truck.

SAFETY CRITICAL WORK

Recommendations for vocational driving in the construction industry

As advised by INDG 382 (Driving at Work Managing work related road safety) employers should develop and implement a policy on Driving at Work. This should cover driving whether on the public highway or on site.

Where a job requires an employee to hold a driving licence (Class 1 or 2) the employer should ensure that the employee remains fit to drive for work purposes by:

- Monitoring absences to identify conditions that may impair driving
- A requirement to cease driving in the presence of medical conditions as specified by DVLA in their at a glance guide (<http://www.dvla.gov.uk/medical/ata glance.aspx>)
- Informing staff that they should not drive, or undertake other duties, with a medical condition or while taking a course of medicine that might impair their control or judgment. In cases of doubt they should seek the view of their GP or occupational health provider.

Where a job requires driving but the employee does not need to hold a driving licence the medical fitness guidance given in HSG 6 is recommended. Fitness to class 1 standard can usually be confirmed by the occupational health provider reviewing a suitable questionnaire.

A record of “fitness to drive at class 1 equivalent” should be given to the employer with the recommended age related review period.

6 ETHICAL AND LEGAL ISSUES

The construction industry has multiple independent employers which range from the large conglomerates to the small companies with only a few employees. Each employer could, potentially, have their own occupational health provider and as much of the workforce are mobile, employees may move from one employer to another over relatively short time periods.

Therefore, by nature of the complexity of the industry and because occupational health deals with sensitive personal data any model for a national occupational health scheme will inevitably give rise to potential concerns over consents, confidentiality and data security. These are not purely ethical issues as they fall within a legislative framework including the Data Protection Act (1998) and the Disability Discrimination Act (1995)

6.1 SCOPE

Before considering the ethical and legal concerns, it is important to look at the range of activity, which any model for an occupational health scheme might encompass. This might include:

- Fitness for work; pre-placement and pre-employment screening
- Health monitoring or surveillance (including statutory health surveillance)
- Occupational Health provision (which might include, for example, inputs to sickness absence and health promotion)
- Research

In order to meet these potential objectives the data recorded would likely include:

i) Information relating to the individual

- (a) Personnel record (at least in part)
- (b) Competency²
- (c) Exposure history
- (d) Health record³
- (e) Occupational medical record

ii) Information relating to the occupational health provider

- (a) Accreditation of occupational health providers

In any proposed model the range of personnel needing access to this information in a form where individual employees could be identified would be all those having a direct involvement in the scheme. In summary, those having access would therefore include:

- (i) Employer – Human Resources
- (ii) Employer – Occupational Health provider
- (iii) Worker

² As set out in The Construction (Design and Management) Regulations 2007 (CDM2007) an individual's competency need be assessed through an assessment of the person's task knowledge and through their experience and track record.

³ As defined by, for example, COSHH. This would include fitness for work statements.

The implication from discussion of a national occupational health scheme within the construction industry is that there should be a central 'data warehouse' which acts as a repository for all data records in order to facilitate the potential objectives of the scheme (listed above). This might best serve the needs of the 'mobile' workforce within the construction industry. The central 'warehouse' apart from more immediate needs would provide a comprehensive database allowing for research allowing for the identification of existing or emerging occupational health issues across the industry. In this scenario, in addition to the above, personal data access would also required by:

(i) Administrators of the 'data warehouse'

(ii) Researchers

Arguably those engaged in research would not require access to identifiable data and it is most likely that information could be anonymised.

Having considered the potential scope of the project, it is now possible to turn to a number of ethical and legal issues, which will need to be addressed.

6.2 STORAGE OF PERSONAL OCCUPATIONAL HEALTH DATA – AN EXAMPLE.

The practical use of Occupational Health monitoring systems has been established by the National Health Service (NHS) scheme for doctors and medical students with the use of 'Smart Cards'.

Health check data is securely stored within the smart card and the information is available to authorised Occupational Health staff, either to supplement or update previously submitted health questionnaires. Human Resource officers, with limited access to information on the card, can confirm immediately whether a doctor can deal safely with patients. This is designed to save administrative time and enable the doctor to start work without delay.

The NHS scheme provides that data subjects may at any time request sight of, or a print out of, the data held about them on the Occupational Health 'Smart Card' system, and have the right to challenge any data they consider is incorrect. Another security feature is the audit trail, all information placed on the database is done by personnel who hold operator cards, which have a unique pin number. This enables a record to be created that identifies which operator entered the information, which health care trust they work at, and the date.

Details of this scheme can be found at <http://www.nhsemployers.org/practice/smart-cards.cfm>

It needs to be clear at the outset that a workable model in the construction industry would most likely, as with the NHS system, comprise two parallel data sets; those accessible to the employer for the purposes of employment and personnel functions, and those relating to the occupational health (medical) assessments which may reasonably be classed a 'medical in confidence'. In the occupational health context these may be considered to be the 'health record' and the 'medical record' respectively.

6.3 DATA PROTECTION ACT

It is clear that any national occupational health scheme for the construction industry will come within the boundaries of the Data Protection Act (1998) which applies to the processing of data which are deemed to be personal data. Definitions and key principles set out in the DPA are outlined below:

6.3.1 Definitions

Under the Data Protection Act the key definitions, explained in broad terms are:

‘data’ this term covers not only information processed (vide infra) but also information which is intended to be processed by means of automatic devices (such as IT systems), but also information recorded in ‘relevant filing systems’ (vide infra).

‘relevant filing systems’ these refer to any structured set of information which is organised either by reference to individuals or by criteria relating to individuals so that specific details about a particular person may easily be selected from that system.

‘personal data’ relates to data from which it is possible to identify a living individual, either directly from that information or from additional information, which is in (or is likely to come into) the possession of anyone processing that data. The phrase ‘likely to come into the possession of’ should be interpreted broadly.

‘sensitive personal data’ this covers personal data which relates to racial or ethnic origins, political opinions, religious beliefs, trade union membership, physical or mental health or condition, sexual life, commission (or alleged commission) of any offence, legal proceedings or sentencing. For this data more onerous conditions apply when it is being processed (vide infra).

‘processing’ this term covers almost any conceivable use of data, from the moment the data are obtained, to the method of recording, retrieving, disclosing and destroying the data.

‘data controller’ those who determine the manner in which processing is carried out.

‘data processor’ in relation to personal data any person (other than an employee of the data controller) who processes the data on behalf of the data controller.

6.3.2 Key principles

The registered data controller is required to notify the Information Commissioner the purposes under which personal data are processed. Within the notified framework of data processing, data controllers are required to comply with the eight data protection principles set out in the Act. These principles, which are set out in Schedule 1 of the Act, form the fundamental core of the Data Protection Act, and may be summarised thus:

1. Personal data shall be processed fairly and lawfully and, in particular, shall not be processed unless-
 - a) at least one of the conditions in Schedule 2 is met, and
 - b) in the case of sensitive personal data, at least one of the conditions in Schedule 3 is also met,
2. Personal data shall be obtained only for one or more specified purposes.
3. Personal data should be adequate, relevant and not excessive.
4. Personal data shall be accurate and, where necessary, kept up to date.
5. Personal data shall not be kept for longer than is necessary.
6. Data shall be processed in accordance with the rights of data subjects.
7. Appropriate technical and organisational measures shall be taken against unauthorised or unlawful processing or personal data and against accidental loss or destruction of, or damage to personal data.
8. Personal data shall not be transferred to a country or territory outside of the European Economic Area (EEA), unless there is adequate protection in that other country.

The first data protection principle of fair and lawful processing, requires further discussion. Under this principle individuals have a right to be informed whether personal data about them is being processed and if so to be given a description of the data, the purposes for which it is being processed and any recipients to whom it may be disclosed. They should be given the identity of the data controller. This

information must be supplied or made available, so far as is possible, when the data are first processed.

The second requirement of the first data principle is that at least one of the conditions set out in Schedule 2⁴ of the Act must have been met and that in relation to the processing of 'sensitive personal data' data controllers must also satisfy at least one of the conditions set out in Schedule 3⁵. These

⁴ Schedule 2 conditions may be listed as:

1. The data subject has given their consent to the processing.
2. The processing is necessary -
 - a) for the performance of a contract to which the data subject is a party, or
 - b) for the taking of steps at the request of the data subject with a view to entering into a contract.
3. The processing is necessary to comply with any legal obligation to which the data controller is subject, other than an obligation imposed by contract.
4. The processing is necessary in order to protect the vital interests of the data subject.
5. The processing is necessary -
 - a) for the administration of justice,
 - b) for the exercise of any functions conferred by or under any enactment,
 - c) for the exercise of any functions of the Crown, a Minister of the Crown or a government department, or
 - d) for the exercise of any other functions of a public nature exercised in the public interest.
6. The processing is necessary for the purposes of legitimate interests pursued by the data controller or by the third party or parties to whom the data are disclosed, except where the processing is unwarranted in any particular case because of prejudice to the rights and freedoms or legitimate interests of the data subject. The Secretary of State may by order specify particular circumstances in which this condition is, or is not, to be taken to be satisfied.

⁵ Schedule 3 conditions may be listed as:

1. The data subject has given their explicit consent to the processing of the personal data .
2. The processing is necessary for the purposes of exercising or performing any right or obligation which is conferred or imposed by law on the data controller in connection with employment. The Secretary of State may by order specify cases where this condition is either excluded altogether or only satisfied upon the satisfaction of further conditions.
3. The processing is necessary –
 - a) in order to protect the vital interests of the data subject or another person, in a case where-
 - i. consent cannot be given by or on behalf of the data subject, or
 - ii. the data controller cannot reasonably be expected to obtain the consent of the data subject, or
 - b) in order to protect the vital interests of another person, in a case where consent by or on behalf of the data subject has been unreasonably withheld.
4. The processing -
 - a) is carried out in the course of its legitimate activities by any body or association which exists for political, philosophical, religious or trade-union purposes and which is not established or conducted for profit,
 - b) is carried out with appropriate safeguards for the rights and freedoms of data subjects,
 - c) relates only to individuals who are either members of the body or association or who have regular contact with it in connection with its purposes, and
 - d) does not involve disclosure of the personal data to a third party without the consent of the data subject.
5. The information contained in the personal data has been made public as a result of steps deliberately taken by the data subject.
6. The processing -
 - a) is necessary for the purpose of, or in connection with, any legal proceedings (including prospective legal proceedings),
 - b) is necessary for the purpose of obtaining legal advice, or
 - c) is otherwise necessary for the purposes of establishing, exercising or defending legal rights.
7. The processing is necessary -
 - a) for the administration of justice,
 - b) for the exercise of any functions conferred by or under any enactment, or
 - c) for the exercise of any functions of the Crown, a Minister of the Crown or a government department. The Secretary of State may by order specify cases where this condition is either excluded altogether or only satisfied upon the satisfaction of further conditions.
8. The processing is necessary for medical purposes (including the purposes of preventative medicine, medical diagnosis, medical research, the provision of care and treatment and the management of healthcare services) and is undertaken by-
 - a) a health professional (as defined in the Act), or
 - b) a person who owes a duty of confidentiality which is equivalent to that which would arise if that person were a health professional.

conditions are set out in full in the footnotes below from which it will be apparent that consent is often the key primary requirement to fair and lawful processing, as one of the Schedule 2 conditions is that the data subject has consented to the processing. A similar Schedule 3 condition is that the data subject has given his/her 'explicit consent' to the processing of sensitive personal data. This latter is obviously a more exacting test for data controllers to meet.

Article 2 of the Directive⁶ defines the data subject's consent as '.... Any freely given specific and informed indication of his wishes by which the data subject signifies his agreement to personal data relating to him to be processed'. The guidelines⁷ state that 'data controllers cannot infer consent from non-response to a communication'

In the case of sensitive personal data then use of the term 'explicit consent' should be noted. The guidelines here suggest that the consent of the data subject should be 'absolutely clear' and that this may involve obtaining consent to a specific type of data to be processed, to particular purposes and particular disclosures.

The Information Commissioner provides a detailed Code of Practice⁸ which sets out to help employers comply with the Data Protection Act and to encourage them to adopt good practice. The Code aims to strike a balance between the legitimate expectations of workers that personal information about them will be handled properly and the legitimate interests of employers in deciding how best, within the law, to run their own businesses. This Code of Practice contains a section on pre-employment vetting⁹ (screening) and substantive sections on employment records¹⁰ and on information about workers health¹¹.

The core principles in relation to employees are:

“(1) It will be intrusive and may be highly intrusive to obtain information about your workers' health.

(2) Workers have legitimate expectations that they can keep their personal health information private and that employers will respect their privacy.

(3) If employers wish to collect and hold information on their workers' health, they should be clear about the purpose and satisfied that this is justified by real benefits that will be delivered.

(4) One of the sensitive data conditions must be satisfied.

(5) Workers should be aware of the extent to which information about their health is held and the reasons for which it is held.

(6) Decisions on a worker's suitability for particular work are properly management decisions but the interpretation of medical information should be left to a suitably qualified health professional.”

9. The processing -

a) is of sensitive personal data consisting of information as to racial or ethnic origin,

b) is necessary for the purpose of identifying or keeping under review the existence or absence of equality of opportunity or treatment between persons of different racial or ethnic origins, with a view to enabling such equality to be promoted or maintained, and

c) is carried out with appropriate safeguards for the rights and freedoms of data subjects. The Secretary of State may by order specify circumstances in which such processing is, or is not, to be taken to be carried out with appropriate safeguards for the rights and freedoms of data subjects.

10. The personal data are processed in circumstances specified in an order made by the Secretary of State.

⁶ Directive 95/46/EC

⁷ The Data Protection Act, An Introduction. Version 1: October, 1998. Chapter 3, Para. 1.6.

⁸ The Employment Practices Code. This may be obtained at www.ico.gov.uk

⁹ Section 1.6

¹⁰ Part 2

¹¹ Part 4

6.4 MEDICAL DATA

In addition to the above discussion it is appropriate to consider how much of the sensitive personal data may also be considered to be medical data, which is data obtained by health professionals in the context of a doctor/client relationship.

Although it could be argued that the occupational health physician has no primary duty of care towards an employee, this being the role of the GP, he/she would nevertheless be seen as a 'medical person' and as a result may be taken into confidence on matters of personal health. For this reason, if for no other, there should be adherence to professional guidance on confidentiality¹².

In the context of the NHS the Government has made it clear that the fundamental principle governing the use of information that individuals provide in confidence is that of informed consent^{13,14}. This is rooted in both legal and ethical requirements but is also an essential element of an open and honest partnership between health professionals and the public that is based on trust.

Medical (health) information should be deemed 'Medical in Confidence' and not therefore be automatically available¹⁵ for wider purposes of an overarching occupational health scheme unless there is a specific legal requirement to disclose.

Could disclosure be justified on a 'Benefits to Society' argument? There is a potential conflict between protecting the privacy and confidentiality of individuals and realising benefits to society from allowing access to information. The Human Rights Act (1998), with its emphasis on respect for private life, strengthens the hand of those advocating increased privacy¹⁶ and it seems difficult to believe that one could sustain a 'Benefits to Society' argument in the current context.

However, even if one could conclude that consent was not required, the requirement to inform still applies and again this requirement has both a legal¹⁷ and an ethical basis.

There would thus appear to be an obligation on occupational health professionals to make their position clear and to seek informed consent where information is to be shared. Where specific consent is not obtained then information passed on should be restricted to a broad statement of the relevance of ill health to 'fitness to work'. Non-consented information should be treated 'Medical in Confidence'.

Taking all the above into account the case for consent would seem overwhelming for the processing of sensitive personal data and might be considered prudent for all personal data in the current context¹⁸.

It is probably worth noting in this regard that health information obtained by a health professional is different from health information obtained by a (properly identified) non-health professional (eg responsible person). In the latter instance there is no reason why such information should be considered differently from non-health information.

¹² e.g. *Confidentiality: Protecting and Providing Information*. General Medical Council, 2000.

¹³ *Building the Information Core. Protecting and Using Confidential Patient Information – A Strategy for the NHS*. Dept. of Health, Information Policy Unit, Dec. 2001.

¹⁴ *Informed consent implies that the individual is competent to act, receives full disclosure, understands the disclosure, acts voluntarily and then consents to 'participation'.*

¹⁵ *By breaking confidentiality a doctor may be struck from the Medical Register. If this were to occur a Company occupational health professional could no longer meet their conditions of employment. In this sense maintaining confidentiality may of itself be construed a condition of employment.*

¹⁶ Article 8.

¹⁷ *Data Protection Act, 1998*

¹⁸ *There is an issue as to whether such consents need to be written or whether a verbal consent would suffice. The Information Commissioner has indicated that "explicit consent" need not necessarily be written consent, so long as it is unequivocal; and has advised data controllers to "consider the extent to which the use of personal data by them is or is not reasonably foreseeable by data subjects." (Guidelines 1998 Ch. 3, Para. 1.6). In the context of data being obtained during any occupational health scheme then a written consent would seem to be the most appropriate.*

6.5 ISSUES FOR CONSIDERATION

Following from the above a number of issues need to be discussed and considered in developing any proposal for a national occupational health scheme in the construction industry.

(1) The different objectives within a comprehensive national occupational health scheme for the construction industry need to be clearly defined. For each of these the data items involved should be identified together with the levels of access (e.g. manager, doctor, research scientist) that would be required for each.

(2) The option of different levels of access to the data set should be fully explored not only in terms of the different categories of data (i.e. personnel, health, or medical) but also in terms of updating or changing records.

(3) Who is the Data Controller? In the current context both the employee and the occupational health provider would be contracted to the employer and it would seem difficult to conclude other than that the employer were the data controller. In this situation, with multiple employers, the position of a central 'Data Warehouse' would need to be defined. Could Data Controllers, for example, contract the management of data to a central organisation?

(4) The role of the 'Data Warehouse' would also need to be carefully defined. There is an implication that this will host the master database and as such would hold all data. Whether it could do this, particularly in respect of medical data, within the framework of the Data Protection Act, taking into account employer-employee contractual arrangements and taking into account guidelines under which health-professionals work requires further discussion.

The residency of the database may also be a concern if workers might perceive that the data is being accessed for an unauthorised use such as determining individual rights to pension scheme entry or retirement benefits.

(5) The issue of consent is crucial and warrants specific discussion in relation to any proposed model. The question is whether a fully informed consent, that is consent to all possible uses of the data, could be achieved. If the proposal was to place medical information with a third party then it is likely that this would not be in accord with health professional guidelines and therefore not receive support from health professionals. In this regard the guidance on ethics for occupational physicians from the Faculty of Occupational Medicine¹⁹ should be consulted.

(6) There is also a question as to whether there needs to be a single consent within the scheme or multiple consents covering the different objectives (eg research and employment objectives). In the event of multiple consents then how would this impact on the overall operation of the scheme?

(7) Anonymisation (or linked anonymisation) should be given consideration. It may be that a limited data set could be passed as linked anonymised data to the 'Data Warehouse' and that this would allow it to fulfil its function of monitoring trends and facilitating research. It seems unlikely that the 'Data Warehouse' could 'operate' with anonymised data as linking would be required for the longitudinal management of information from individual employees.

(8) Although the ultimate goal might be to use Smart Card technology the options of fax, post or telephone transmission, which might be considered for the early stages of implementation, are potentially open to significant risk in relation to breach of confidentiality. This would require careful control.

(9) The distinctions between the objectives covering pre-employment screening and pre-placement screening need to be made clear. For new workers it is reasonable to suggest that if they apply for a safety critical post but are unsuitable for health reasons then the employer should be free to decide not

¹⁹ *Guidance on ethics for occupational physicians, 6th edition. Faculty of Occupational Medicine, May 2006*

to employ them. However, if an existing worker doing a safety critical job is 'tested' and found to be unsuitable then he would have to be redeployed or made redundant. In this context the implications of passing data from one employer to the next need to be transparent. The risks for a new employer in accepting data at face value from a past employer need to be explored.

6.6 PRE-EMPLOYMENT SCREENING

This warrants a separate comment. Pre-employment screening might be an attractive option for any national occupational health service. The advantages in allowing for individual employee's personal sensitive data to be passed from one employer to the next would not only be to the benefit of the employee, in terms of continuity of occupational health monitoring, but also to the employer for the purposes of pre-employment screening and 'fitness for work' assessment.

Pre-employment assessment would be expected to be on the basis of occupational history and experience, and associated 'fitness for work' statements. In this way the 'new' employer might be saved recourse to occupational health advice. It would, however, seem to assume that (e.g.) a 'bricklayer' is a 'bricklayer' and that declared 'fitness to work' as a 'bricklayer' would cover all workplace situations. The risk assessment is, however, workplace dependent and a generic 'fitness for work' assessment on the job title should not be assumed.

In this situation an individual could be rejected from employment on the basis of a declared 'unfit for work' assessment from previous employment. This could open the 'new' employer to an action under the Disability Discrimination Act (1995) that would be difficult to defend.

On the other hand an employer might, as a result of past information, take on a worker who subsequently suffers an occupational ill health. In this case the 'new' employer would have to accept liability.

Furthermore the, perhaps false, assumptions imparted by a proposed model in respect of a reliance on the advance data and its ability to permit 'adequate' screening of potential employees may actually lead to a threat to the protection of employees through increasing the likelihood that employers would engage in activities where risk has not been adequately controlled. In this scenario the employer could deliberately fail to minimize risks on the basis that he would have a defence in respect of liability through a previous fitness to work statement from another employer who had not been so disreputable. In this situation the proposed model could cause an employer to abrogate their responsibilities under the Health and Safety at Work Act (1974). Whilst this might be considered unlikely it serves to raise the question as to the adequacy of risk assessment and how fitness for work statements relate.

7 CONCLUSIONS

The development of a national occupational health scheme that will allow the construction industry to both monitor the occupational health status of its workforce and also make a step-change in the health improvement of its two million plus workers is a challenging, yet achievable objective.

There is a definite commitment to the 'idea' of a national scheme but progressive steps toward its implementation need to be taken carefully to ensure that all of the stakeholders needs are considered. The main issues to be addressed are securing the support of the *quality providers* within the occupational health community to inevitably change some of their working practices and systems; ensuring that any scheme caters for all sizes of construction company and not just those with the financial resource to deliver on IT based solutions; and ensuring that the data held is both managed in accordance with legal requirements and is subject to appropriate quality assurance.

8 MATRIX

OCCUPATION	SOC	Safety Critical Work (Risk to others)	HAVS	Audiometry	Respiratory			Skin
					Asthma	Silicosis	COPD	
Bricklayers/ Stonemasons/ Masons	5312		X	X		X	X	X
Marks, carves and cuts bricks and stone using hammers, mallets and hand or powered tools .			X	X		X	X	X
Spreads mortar on foundations and bricks, and places, levels and aligns bricks in mortar beds. Levels, aligns and embeds stone in mortar and faces brick, concrete or steel frames with stone to make and repair structures.								X
Carpenters / Joiners / Builders Joiner / Shopfitter	5315		X	X	X		X	X
Selects and measures appropriate wood, cuts shapes and drills to specification using saws, planes, chisels and other power or hand tools.			X	X	X		X	
Aligns and fixes prepared wood pieces by screwing, nailing, gluing and dowelling to form frames, shop fronts, counter units, decking, theatrical sets, furniture, small wooden craft, scale models and wooden templates.					X			X
Electrical Fitters / Electrician/ Electrical Engineer/ Electrical Fitter	5241	X			X		X	
Select, cuts and lays wires and connects to sockets, plugs or terminals by crimping, soldering, brazing or bolting		X			X		X	
Cuts, bends and installs electrical conduit.								
Assembles parts and sub-assemblies using hand tools and by brazing, riveting or welding.		X			X		X	
Installs or examines electrical plant, machinery and other electrical fixtures and appliances such as fuse boxes, generators, light sockets etc. If 'wall-chasing' consider HAVS		X	(X)					

OCCUPATION	SOC	Safety Critical Work (Risk to others)	HAVS	Audiometry	Respiratory			Skin
					Asthma	Silicosis	COPD	
Plasterers / Plastering Contractor	5321		X				X	X
Mixes, or directs the mixing of plaster to desired consistency. Applies and smooths one or more coats of plaster and produces a finished surface, using hand tools or mechanical spray. Pours liquid plaster into mould to cast ornamental plaster work							X	X
Measures, cuts (using hand held or powered tools), installs and secures plaster board and/or ornamental plasterwork to walls and ceilings. Covers and seals joints between boards and finishes surface			X					
Plumbers / Plumbing & Heating Engineers/ Air Conditioning Engineer/ Gas Service Engineer / Heating Engineer	5314		(X)		X		X	X
Measures and cuts required lengths of copper, lead, steel, iron, aluminium or plastic using hand or machine tools. (If using powered tools consider HAVS)			(X)					
Installs fittings such as storage tanks, cookers, baths, toilets, taps and valves, refrigerators, boilers, radiators and fires.								
Tests completed installation for leaks and makes any necessary adjustments.								
Attaches fitting and joins piping by welding, soldering, cementing, fusing, screwing or other methods.					X		X	X
Repairs burst pipes and mechanical combustion faults and replaces faulty taps, washers and valves etc.								
Roofer/ Roof Tiler/ Roof Sheeter/ Felt Roofer/ Slater/ Thatcher	5313							X
Cuts wooden battens, felt and underfelt to required size.								
Cutting tiles and slates								
Lays and secures underfelt and covers with hot bitumen or other adhesive compound.								X

OCCUPATION	SOC	Safety Critical Work (Risk to others)	HAVS	Audiometry	Respiratory			Skin
					Asthma	Silicosis	COPD	
Lays, aligns and secures successive overlapping layers of roofing material.								
Seals edges of roof with mortar and ensures that joints are watertight.								X
Steel fixer / Steeplejack/ General Builder	5319		(X)	X				X
Selects, measures and cuts steel bars, rods and wire to required lengths, positions and fixes reinforcements into position and tensions as required using hydraulic jacks.			X	X				
Maintains and repairs steeples, industrial chimneys and other high structures, and installs and replaces lightning conductors								
Lays bricks, tiles, and building blocks to construct, repairs and decorate buildings.								
Pours and lays concrete, prepares surfaces for painting and plastering, and mixes and applies plaster and paint. If using powered tools consider HAVS			(X)					X
Installs plumbing fixtures, woodwork structures and fittings and sets in glass frames.								
Steel Erectors/ Structural erector/ Steel fabricator	5311		X	X	X		X	
- Erects ladders, scaffolding or working cage.								
- Directs hoisting and positioning of girders and other metal parts and checks alignment.								
Arranges for or undertakes bolting and welding of metal parts.			X	X	X		X	

OCCUPATION	SOC	Safety Critical Work (Risk to others)	HAVS	Audiometry	Respiratory			Skin
					Asthma	Silicosis	COPD	
Glaziers / Window fabricators & fitters / Double Glazing Installer/ Glass Fitter	5316		(X)		X			X
Scores plain, coloured, safety and ornamental glass with hand cutter (if using powered tools consider HAVS) and breaks off glass by hand or pliers.			(X)					X
Smooths edges of glass and positions and secures in a frame or grooved lead strips.								
Applies mastic, putty or adhesive between glass and frame and trims off excess with knife.					X			X
Fixes mirror panels to interior and exterior walls and repairs and replaces broken glass.								
Floor and Wall Tilers / Floor Layer/ Tile Fixer	5322				X	X	X	X
Cleans floor surface, fixes wooden laying guides and mixes, pours and levels granite and terrazzo mixtures, bitumen, synthetic resin or other composition mixtures to form flooring.					X	X	X	X
Examines premises to plan suitable layout and cuts, lays and secures underlay, carpet and linoleum.								X
Finishes covering by rolling, smoothing, grouting or polishing.								X
Mixes screed or other adhesive, cuts and positions floor and wall tiles and checks alignment of tiling with a spirit level.								X

OCCUPATION	SOC	Safety Critical Work (Risk to others)	HAVS	Audiometry	Respiratory			Skin
					Asthma	Silicosis	COPD	
Painters / Decorators / House Painter / French Polisher / Sign Writer	5323				X			X
Erects working platform or scaffolding up to five metres in height.			(X)					
Prepares surfaces by cleaning, sanding and filling cracks and holes with appropriate filler. (If using powered tools consider HAVS)			(X)					
Applies primer, undercoat and finishing coat(s) using brush, roller or spray equipment.					X			
Mixes adhesive or removes self-adhesive backing and positions covering material on wall, matching up patterns where appropriate and removing wrinkles and air bubbles by hand or brush.								X
Stains, waxes and French polishes wood surfaces by hand.								X
Scaffolders / Riggers	8141							
Examines scaffold tubing and couplings for defects and selects, fits and bolts scaffold tubes until scaffolding reaches required height.								
Lays and secures wooden planking to form working platforms and fixes guard rails, ladders, cradles and awnings as required.								
- Erects jib, derrick and similar hoisting equipment and install ropes, pulleys and other lifting tackle.								

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Occupational health standards in the construction industry

HSE estimates that 2,000,000 people within the UK currently suffer from an illness caused by, or made worse by the working environment. Ill-health can have a significant impact on the productivity of a business – sickness absence costs the UK economy an estimated £12 billion per annum. In 2005/2006 the construction industry had the second highest rate of self reported illness attributed to work at 3,800 cases per 100,000 employed persons (Health and Safety statistics 2005/06 HSE Books 2006). Construction workers have a high overall mortality rate, independent of social class, with bricklayers and labourers being recorded as having the second highest mortality rate (Snashall, 2005).

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