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Infection control

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Issue record

Issue	Date	Comments
01	April 2006	New Issue
02	August 2006	Revised issue, section on sharps injuries added
03	March 2009	Revised issue in light of changes in medical practice and greater emphasis placed on importance of risk assessment

Reference documentation

BS 7320:1990	Specifications for Sharps Container
NR/L3/INV/0103	Reporting of personal accidents and assaults of employees and contractors
NR/SP/OHS/00102	Work Activity Risk Assessment
SI 2002:1093	Control of Substances Hazardous to Health Regulation 2002 (as amended)
SI 1999: 3242	The Management of Health and Safety Regulation 1999 (as amended)

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1 Purpose

This guidance provides information on the identification, assessment and control of potential risk of infections at work and those that employees may bring into the workplace. In addition, it details the support available to staff who are accidentally exposed to blood borne infections through needle stick injury or body splash incidents. The application of this guidance assists Network Rail to meet its legal compliance under the Management of Health and Safety at Work Regulations 1999 (as amended), as well as demonstrating its commitment to the health, safety and welfare of its employees.

2 Scope

The guidance in this document is applicable to all work situations within Network Rail.

3 Definitions

Blood borne viruses (BBV)
BBV's are viruses that some people carry in their blood and which may cause severe disease in certain people and few or no symptoms in others. The virus can spread to another person whether the carrier of the virus is ill or not. The main BBV's of concern are Hepatitis B virus, Hepatitis C virus and Human Immunodeficiency Virus (HIV).

Body fluid
Body fluids are:

- Blood
- Nasal secretions
- Urine
- Faeces
- Vomit
- Semen
- Vaginal fluid
- Saliva
- Sputum

Urine, faeces, saliva, sputum, tears, sweat and vomit, present a minimal risk of blood-borne virus infection unless they are contaminated with blood. However, they may be hazardous for other reasons.

Control of infection
The method by which the exposure of individuals to contaminated substances is reduced.

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Infection
The invasion of the body by organisms causing disease.

Personal protective equipment (PPE)
PPE is any device or appliance designed to be worn or held for protection against one or more health and safety risks. PPE in infection control may include gloves, masks, goggles, waterproof clothing and footwear.

Routes of transmission
The method by which an organism is transferred to an individual. These are:

- Inhalation
- Ingestion (swallowing)
- Injection (penetrating skin injury via used hypodermic needles, blades, knives and bites, which break the skin and which are potentially contaminated by infected blood or body fluids)
- Absorption (through the skin and mucous membranes e.g. a body fluid splash to the eyes or through non intact skin e.g. cuts, abrasions).

Safe working practices
A safe working practice is a logical approach to a task designed to eliminate or minimise the risk of infection.

Sharps injury
A sharps injury is any injury which involves penetration or breaking of the skin by a blood contaminated sharp object such as used hypodermic needles, knives or broken glass.

4 Risk Management

4.1 Identification and assessment of risk

Specific legislation on hazards that arise from working with biological agents such as BBV's is contained in the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Under COSHH there is a legal duty on Network Rail to assess the risk of infection for employees and others affected by their work. When the risks are known, suitable control measures are required to eliminate or mitigate risk and protect employee health.

In undertaking a risk assessment the following steps are required:

- identify the hazards – where BBV's or other infections may be present ;
- decide who might be harmed and how – which employees and others may be exposed to BBV's or other infections and how this might happen, for example through dealing with accidents or handling contaminated items for cleaning or disposal;
- evaluate the risks and decide on precautions - assess the likelihood of BBV's or other infections causing ill health and decide if existing precautions are adequate or whether more should be done;

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Factors to consider include:

- the frequency and scale of contact with blood or other body fluids;
- the number of different persons' blood/body fluids with which contact is made;
- any existing information on injuries reported in the workplace;
- the efficacy of control measures used;

- record the findings and implement them ; and
- review the assessment and revise it, if necessary.

Experience shows that the risk of BBV infection is low for all occupations within Network Rail as direct contact with blood and body fluids does not occur regularly. Much depends on the nature of the exposure, as not all exposures result in infection.

4.2 Preventing or controlling risk

4.2.1 General

Following a work activity risk assessment, should a risk to BBV's and other infections be identified, the following precautions should be taken to reduce the risk.

4.2.2 Health awareness

All employees should be made aware of the nature of the risk of infection and methods of control and prevention.

4.2.3 Effective skin care

Skin is a natural barrier to infection. However, when the skin is grazed, chapped or cut (this includes dermatitis, eczema, psoriasis and other skin diseases) bacteria and viruses causing infection can enter the body. Particular care should be taken to cleanse and dress any cut, scratch or abrasion of the skin with a waterproof dressing as soon as possible after injury, whether this is suffered at work or not.

4.2.4 Hand care

Hand washing is the single most important step in reducing the spread of disease. Hands that are visibly dirty or potentially contaminated should be washed with soap and water and dried thoroughly (preferably with paper towels or hand dryers rather than on clothes). Nails should be scrubbed. It is important to note while alcohol hand gels and rubs are a practical alternative to soap and water, alcohol is not a cleaning agent.

Hand washing is particularly important:

- before and after using the toilet;
- before eating, drinking and smoking;
- after handling animals, and
- after physical contact with individuals and/or their body fluids;
- after any work activity where you may have become contaminated;
- after removing gloves.

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Once the hands are washed thoroughly the application of a barrier cream before work and an 'After Work' cream can prevent cracking of the skin and thus reduce the risk of infection.

Although broken skin increases the danger of infection, this can occur without breaks being visible especially when the skin is wet. A barrier cream can help to lessen this danger. This can be purchased through I-procurement.

4.2.5 Gloves

Disposable gloves should be worn whenever there might be contact with blood or body fluids; they are not a substitute for hand washing. Gloves should be put on immediately before contact, then removed and discarded appropriately as soon as the task has been completed. When removing disposable gloves, peel off from the wrist down to the fingers, effectively turning them inside out, thereby enclosing any contamination. Do not allow them to 'snap' off. Hands should always be washed following removal of gloves. Neoprene and nitrile (cacrylonitrile) gloves are a good alternative for those who are sensitive to natural rubber latex.

It is important that the gloves worn are the right length and size and suitable in material for the task. Where there is a risk of the skin being cut, grazed or punctured leather or Kevlar gloves should be worn. Disposable gloves should be worn under the leather gloves if there is also a risk of contamination with body fluid.

4.2.6 Vulnerable groups

Some people may be placed at increased risk due to their personal health status, for example those with chronic skin conditions, reduced immune levels or expectant mothers. Vulnerable groups should advise management appropriately. The line manager should then take account of their health status when planning work and if necessary take further advice from the Occupational Health provider.

4.2.7 Decontamination and safe disposal of waste

Minor spillages of blood or body fluids should be cleaned up promptly to minimise the risk of transmissions of blood borne viruses and other infections. This should be undertaken using a chlorine releasing agent such as household bleach. A dilute solution of one part bleach to 10 parts water is an effective disinfectant against blood borne viruses.

Any items of protective equipment or materials which are not going to be used again e.g. gloves that are to be disposed of, should be double bagged in yellow plastic bags labelled 'Danger, Biological Hazard' and displaying the International Biohazard Symbol. These bags and labels should be kept secure until they can be disposed of.

All 'sharps' should be placed in suitable specified sharps containers that conform to BS 7320:1990. These should not be filled by more than two-thirds and should be kept secure and away from the public.

The sharps containers, yellow plastic bags and Biohazard labels will routinely be supplied and all clinical waste disposed of by the specialised licensed contractor, for example Biffa Limited. For further information please contact Biffa customer services on 01494 754375 or networkrail@biffa.co.uk.

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4.2.8 Safe working practices

Once a work activity risk assessment has been performed the methods chosen to adequately control the identified risks should, as far as possible, follow the hierarchical approach set out in the Management of Health and Safety at Work Regulations 1999 (as amended) and COSHH, namely:

- eliminate the hazard e.g when possible avoid use of, or exposure to blood and body fluids through splashes or sharps handling by changing the process. Always report sightings of sharps so that they can be removed by specialised licensed contractors;
- reduction in the number of people exposed to the hazard. Limit number of persons in direct contact with blood or body fluids when attending injured persons or fatalities;
- substitution e.g. consider the use of devices incorporating safety features, such as tongs to pick up and dispose of used needles if handling is unavoidable;
- use of company procedures e.g safe systems of work, information, instruction and training;
- use of personal protective equipment- wear plastic disposable overshoes over work boots when the floor or ground is likely to be contaminated; protect the eyes and mouth by using a visor/goggles or safety spectacles and a mask, where splashing is possible, avoid contamination by using water-resistant protective clothing;
- vaccination.

Each level of the hierarchy should be applied in a way that is appropriate to the activity and consistent with the risk assessment. Most situations require several levels of the hierarchy to be used in order to adequately control the risk associated with exposure. In this way, residual risks should be dealt with by the next level of the hierarchy.

4.2.9 Vaccination

Vaccination programmes exist for many identified types of infection, for example Tetanus, Tuberculosis and Hepatitis B and are available through the National Health Service by the General Practitioner.

A vaccination programme is available against the hepatitis B virus but not other BBV's. General Practitioners will only immunise individuals free of charge against Hepatitis B who are classed as 'at risk' by the Department of Health; these being healthcare workers, laboratory staff and morticians.

The need for a worker to be vaccinated should be determined by a work activity risk assessment. Vaccination should only be seen as a supplement to reinforce other control measures. In cases where an employee is identified as 'at risk' following completion of a work activity risk assessment; the line manager will be required to raise a purchase order locally with the Network Rail Occupational Health provider who will then administer the vaccination. Vaccination should only be seen as a supplement to reinforce other control measures.

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