Workplace Infection Risks
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INTRODUCTION

CSP members, along with other health care workers, face possible risks of infection during the course of their work, both from patients and fellow health care personnel. There are several ways that such infections can be transmitted, from direct bodily contact with an infected person to contact with contaminated objects and airborne transmission of bacteria, for example.

A study by the London School of Hygiene and Tropical Medicine and the Central Public Health Laboratory, commissioned by the Department of Health, has suggested that hospital acquired infection costs the NHS as much as £1 billion a year. The National Audit Office, in its report ‘The Management and Control of Hospital Acquired Infection in Acute NHS Trusts in England’ (National Audit Office, 17 February 2000) states that “on the basis that infection control teams believe a reduction of 15% is achievable…” the “potential avoidable costs (of infection control) are around £150 million a year” (excluding remedial measures taken to achieve this saving and assuming achievable reductions across the full range of infections).

The NAO also delivers the verdict that although “A number of NHS Trusts have put infection control high on their agenda...health authorities and NHS Trusts generally could do more to improve its strategic management.”

This briefing paper addresses the risks to CSP members of possible infection from TB, MRSA and bloodborne viruses. Some consideration is also given to pregnant workers, who may be more susceptible to infection in certain circumstances, although it should be noted that many pregnant and breast feeding women continue to work in areas where there is a risk of infection without harm occurring to them or their child.

The guiding principle for effectively addressing the issue of infection risk is risk assessment, and universal precautions play a crucial role in successfully ameliorating any risk of infection. Good local infection control policies, properly implemented and communicated to all staff, are essential. The provision of regular
and effective education and training is a key measure in infection control and prevention.

**RISK ASSESSMENT & APPROPRIATE LOCAL INFECTION CONTROL POLICIES**

Risk assessment is a legal obligation placed on employers to eliminate or minimise hazards at work. Its operation is a management function.

Approaches to risk assessment vary, but the common theme is the employer’s responsibility to assess hazards at a *generic and individual-specific* level. The changed circumstances of female employees who become pregnant also need to be taken into account. A written record of the assessment needs to be kept and the results of the assessment need to be communicated to staff.

Under the Health and Safety at Work Act 1974 and the Safety Representatives and Safety Committees Regulations 1977, trade union accredited safety representatives have the legal right to be consulted, in good time, over all matters which significantly affect the health and safety of their members at work. This includes the planning and implementation of risk assessments. The CSP recommends that a formal structure should be in place which fosters close and strong links between the infection control department and the safety committee.

Trust chief executives have had overall responsibility for ensuring the provision of effective infection control arrangements since 1995. However, there is a marked variation in the actual level of interest demonstrated by chief executives in infection control policies. The National Audit Office found, for example, that few chief executives are members of their Hospital Infection Control Committee, “the key management forum for infection control in NHS Trusts”. According to the NAO, 58% of NHS Trust chief executives “never received reports on resources spent on hospital acquired infection and less than half received reports on rates or numbers of hospital acquired infections.” Only 40% of NHS Trusts have a separate budget for hospital infection control, despite Department of Health guidance that “there are advantages for the planning and implementation of an effective infection control programme if infection control teams have separate budgets.”

Local Infection Control Policies, including monitoring and reporting procedures, should build on existing good practice and be properly and clearly communicated to staff. Staff should be clear about their roles and responsibilities when faced with a case of infection.
Infection control policies should incorporate the following:

- identification of work-related infection risks (risk assessment);
- surveillance measures, including effective monitoring and investigation procedures ("an essential component of the prevention and control of infection" – National Audit Office);
- prevention strategies, including the use of universal precautions (see below) and immunisation for vaccine-preventable diseases;
- management of staff exposure to infected persons, including isolation precautions to prevent exposure to infectious agents and post-exposure prophylaxis;
- work restrictions for exposed or infected staff;
- staff education and training;
- the need for staff to take their own individual responsibility for infection control;
- post-infection care for affected staff (including classifying time-off for those absent with work-acquired infection as 'leave', to protect the individual from misplaced and unwanted comment and/or prejudice).

Care should be taken to ensure agency staff, who may be unfamiliar with local procedures and who, in moving frequently from one place of work to another, may act as carriers of infection, are covered.

The use of universal precautions, ie standard precautions which are taken with all patients at all times, should help to prevent the risk of infection. Application of universal precautions should be undertaken in conjunction with education on risk assessment and appropriate training.

Examples of universal precautions include:

- **handwashing** – hands should be washed before and after all procedures;
- **covering of broken skin** – broken skin should be covered with a waterproof dressing;
- **use of protective clothing** – gloves, aprons, masks & goggles should be used as appropriate. *Gloves* should be worn for direct contact with blood or body fluid, and for direct contact with non-intact skin or mucous membrane, and should be discarded after each procedure. *Plastic aprons* should be worn whenever contamination of clothing with blood and/or body fluid is anticipated. *Protective eyewear* and a *mask* must be worn during any procedure when there is a risk of blood or body fluid splashing into the face;
- **spillage** – spillages of blood or body fluids visibly stained with blood should be appropriately treated, in accordance with hospital guidelines, before being safely discarded (gloves should be worn). Physiotherapy departments should have
appropriate equipment, such as gloves and sharps bins for example, in stock and readily to hand.

Additionally, because latex barriers are frequently used to protect staff from exposure to and transmission of infectious agents, and because the use of latex barriers may lead to latex allergy or hypersensitivity, consideration should be given to include the use of latex barriers and preventative methods against sensitisation in any local policy on infection control. Substitutes to latex should also be considered because of the issue of latex sensitivity. Latex-free alternatives include vinyl and nitrile, for example.

Infection control teams estimate that between 5-20% of hospital-acquired infection is preventable, and effective surveillance is thought essential to reduce hospital infection rates and associated costs.

CSP safety representatives should ensure that employers review their policies on the provision of education and training on infection control procedures to ensure that all staff are targeted for induction training and that key staff are kept up-to-date on good infection control practice. Procedures and policies that comply with current Department of Health guidance and best practice should be regularly reviewed and clearly communicated.

One of the dangers to effective infection control is insufficient staffing and other resources, and this also needs to be addressed.

Any exposure to viruses or disease should be reported immediately to the occupational health or infection control department. Close co-operation and liaison between the infection control team and occupational health staff is essential in formulating and implementing measures to avoid staff contracting or spreading infections in the course of their employment.

All infection control policies should be implemented only after consultation with safety representatives and staff potentially directly affected.

**SPECIFIC INFECTIONS**

**Bloodborne pathogens/viruses**

Bloodborne pathogens include Hepatitis B & C and HIV. Whilst a risk, these viruses, which are transmitted through blood and other body fluids, are unlikely to cause
major problems for CSP members during the course of their work. However, universal precautions – such as appropriate handwashing and barrier precautions - need to be taken in the usual way.

Occupational exposure to blood occurs through needlestick injuries or cuts from other sharp implements contaminated with an infected patient's blood, or through contact with a patient's blood or body fluids through broken skin. There is also a potential risk through contact of the eye, nose or mouth with blood or body fluids. Barriers are an effective way of preventing exposure to this type of infection risk. Providing an apron, gloves, mask and goggles are worn, for example, and providing any breaks in the skin are covered, the risk of infection should be eliminated. Gloves should always be worn when handling body fluids.

Members treating patients with these infections should take appropriate advice and/or training before treatment commences and should receive regular checks on their immune status. Whilst vaccine is available against Hepatitis B there is no vaccine against Hepatitis C, and no treatment after an exposure that will prevent infection. Vaccination for Hepatitis B should be offered free to all CSP members by their employer. Women who are pregnant or who are breast feeding should be vaccinated against Hepatitis B. Infection during pregnancy can cause severe illness in the mother and chronic infection in the newborn. Hepatitis B vaccine does not harm the foetus.

Training (which should be provided at the time of initial employment and at least annually thereafter) for staff should be given and should include:

- a copy of the organisation’s rules on infection control, with an explanation of their contents and a statement underlining its importance;
- a general explanation of how bloodborne diseases are spread, and the symptoms of bloodborne diseases;
- how to recognise tasks and other activities that may involve exposure to blood or other possibly infectious body fluids;
- what work practices and equipment can be used to reduce the risk from or prevent exposure to blood or body fluids;
- information on the proper use, location, removal, handling, decontamination and/or disposal of personal protective equipment or garb;
- Hepatitis B vaccination information;
- Information on where to go to report instances of exposure to risk;
- Information on post-exposure treatment, if available (eg for HIV exposure)
Because of the lack of vaccination for Hepatitis C and HIV, following recommended infection control procedures is imperative. Employers should also have a system in place for:

- Reporting exposures, in order to quickly evaluate the risk of infection;
- Informing staff about the treatments available to help prevent infection;
- Monitoring staff for side effects of treatments and determining if infection actually occurs

Prompt reporting of the exposure to blood is essential. This should be done to the infection control department or the occupational health department, or according to the Trust/employer policy, whichever is most appropriate. Prompt reporting of exposure is important because, in some cases, postexposure treatment may be recommended, which should start as soon as possible.

Employers should establish and maintain accurate, up-to-date records for each employee with occupational exposure to bloodborne pathogens. The employer should also provide confidential medical evaluation, treatment and follow-up. Most exposures, however, do not result in infection.

**Tuberculosis (TB)**

Tuberculosis bacillus (TB) is usually transmitted by airborne microdroplets containing the tuberculosis bacteria which has been expelled from the respiratory tract of an infected individual. CSP members engaged in administering respiratory treatment will, therefore, be at greater risk of infection. The greatest risk of infection will not come from patients who are known to have TB and who are on treatment but from patients who have TB but have not been identified as having TB at the stage of admission.

Members who are pregnant, provided they have been fully vaccinated and immunised, should be at no greater risk from TB than otherwise. However, after a sustained period of falling, the incidence of TB is once again on the increase. Of particular concern is the appearance of new strains of tuberculosis, which are more resistant to drug therapy. As TB can be an extremely debilitating illness which requires extensive and prolonged drug therapy, pregnant women will be particularly keen to avoid any risk.

The rise in the incidence of TB and the appearance of a drug-resistant strain underlines the importance of taking care at all times. This is especially true for CSP
members, who will often have contact with patients before TB is diagnosed at a time when barrier measures may not be in place, putting the therapist at greater risk of infection.

While many CSP members will have been vaccinated for TB, it remains vital that high levels of immunity are maintained at all times. The CSP recommends, therefore, that on commencement of employment all members should be tested to establish their immunity level to TB. Should immunity be found to be borderline or weak, the CSP believes that free re-vaccination should be offered and immunity re-tested regularly thereafter. Regular re-testing of immunity should be conducted for all staff, including those with a high level of immunity at the commencement of their employment. Consideration should be given as to the frequency of re-testing, and this is likely to be determined by local negotiation.

All CSP members are encouraged to wear masks when treating all patients with undiagnosed respiratory conditions or those known to be at risk. High filtration masks may be needed (and should be provided by the employer) and advice should be sought. Members should also be aware of their positioning vis-à-vis the patient whilst administering treatment.

**Rubella (German Measles)**

Members who haven’t been vaccinated against rubella and who work with children are most at risk, and infection can occur by close contact and via respiratory secretions. Mass immunisation has reduced the risk of infection in pregnancy to a very low level, and in the UK the rubella vaccine is given routinely to all children and adults who have not had the infection. In 1996, an unusually high incidence of rubella in Scottish men resulted in three non-immune pregnant women contracting the virus and becoming infected.

As with TB, the CSP believes that once pregnancy is confirmed (or before conception if the pregnancy is planned) members should have their resistance levels tested. Any contact with the virus during pregnancy should be reported to a GP or to occupational health as soon as possible. While German measles is not a serious illness in itself, it can have profound adverse effects on the unborn child.
Varicella-Zoster (Chicken Pox)

Most adults are likely to be immune to chicken pox due to its common occurrence in childhood. For adults who haven’t contracted the disease in childhood and who aren’t immune, however, chicken pox can be serious, particularly for pregnant women. The health risk to the unborn child is highest in the second trimester but low in the first trimester. Pregnant women who have contracted chicken pox in the past can be at risk from shingles, which can occur many years after chicken pox and which can be brought on by stress.

Immunity to chicken pox should be checked during pregnancy. Members who come into contact with the disease during pregnancy should seek a check-up from their GP or their occupational health department.

MRSA

MRSA – *methicillin resistant Staphylococcus aureus* – is a bacterium that has developed a resistance to most antibiotics commonly used for staphylococcus infections. MRSA is a problem in most hospitals and most often spreads from person to person by direct skin contact, eg by health care workers’ hands. Staff can acquire the infection through skin contact (especially if they have a wound) or if their immune system is weakened or compromised. MRSA is particularly important as infections caused by MRSA are very difficult to treat. All NHS Trusts have policies in place for dealing with MRSA, although methods of dealing with MRSA may vary from employer to employer.

A House of Lords Select Committee report on Resistance to Antibiotics and other Antimicrobial Agents in 1998 identified increasing concerns about the rise of MRSA, and concluded that MRSA poses one of the biggest challenges to infection control and that, in some hospitals, it is now endemic.

The single most effective way of preventing the spread of infection is by proper and thorough handwashing, both before and after contact with a patient. Thorough handwashing is one of the most effective prevention against infection risks, yet some 8% of NHS Trusts do not have a policy on handwashing according to the National Audit Office. The NAO is moved to state that handwashing “is one example of good practice that needs to be more widely implemented. There is ample evidence that compliance with handwashing protocols is poor.”

Controlling the spread of infection of MRSA can be successful when health care providers, along with other parties such as patients, patients’ families and carers
strictly adhere to isolation precautions in the work setting. The use of barriers should also be strictly adhered to.

Screening for staff potentially at risk should be considered, and accurate, up-to-date records on MRSA patients and infected staff should be kept. Accurate record keeping for patients is important, particularly where patients are transferred between hospitals, nursing homes and the community. Staff who are infected during the course of their work should report the infection to their infection control or occupational health department, who should then alert the local Health & Safety Executive office.

**ACTION POINTS FOR SAFETY REPS**

- Ensure risk assessments are regularly carried out;
- Ensure that universal precautions are followed;
- Pay particular attention to, and communicate to members, the importance of handwashing as good practice in the prevention of infection;
- Ensure local infection control policies adhere to latest Department of Health guidance and are clearly communicated to members;
- Ensure CSP members receive regular, up-to-date information on best practice in prevention of infection risks, and receive regular training;
- Establish, and maintain, strong links between the safety committee and the infection control department;
- Ensure that the employer complies with reporting requirements under RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations);
- Ensure infection control is discussed at Board meetings at least once a year
REFERENCES


CDC (1999) Exposure to Blood: What Health-Care Workers Need to Know Center for Disease Control and Prevention, National Center for Infectious Diseases Hospital Infections Program, Department of Health & Human Services, USA


FURTHER READING

Available from the CSP’s Employment Relations & Union Services Department
