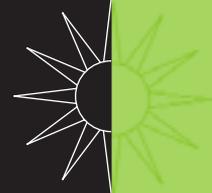


THE COLLEGE OF
RADIOGRAPHERS



Health Care Associated Infections (HCAIs): Practical guidance and advice

THE SOCIETY OF
RADIOGRAPHERS





Health Care Associated Infections (HCAIs): Practical guidance and advice

Society of Radiographers' Responsible Officer:
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Foreword

This document is issued by the Society & College of Radiographers (SCoR) to provide advice and guidance on control of infection to all members, including students.

The Society and College of Radiographers is grateful to Val Challen, Radiographer and formerly Director for the Centre for the Development of Learning and Teaching (CDLT) St Martin's College, Lancaster, Lancashire for all her work in developing this advisory document for the profession. This was undertaken with the invaluable help and advice from Alison Kilburn, MR radiographer, formerly infection control key worker, Royal Oldham Hospital, Oldham, Lancashire now BUPA, Manchester.

Executive Summary

- a. Section 2 [2.1] Staff in Clinical Imaging and Radiotherapy and Oncology Departments, in common with all healthcare workers, play an important part in ensuring that the incidence of Health Care Associated Infections (HCAIs) is minimised. This can be achieved through a number of straightforward measures which include hand washing, providing a clean clinical environment and ensuring skills and knowledge, related to infection control, are regularly and systematically updated.
- b. Section 2 [2.5] The Society and College of Radiographers (SCoR) advises that departments may wish to consider the development of the role of a link radiographer to the Trust (or equivalent) infection control team. That individual would act as a conduit for the provision of current and pertinent on-going advice and guidance regarding the practical applications of infection control within the Clinical Imaging and Radiotherapy and Oncology environments.
- c. Section 4 [4.5] Alcohol based handrubs should be placed near to where staff have patient contact¹. This means that all rooms where radiographers, assistant practitioners, students and other staff have patient contact must be supplied with such. Handrubs, when used, must come into contact with all surfaces of the hands.
- d. Section 5 [5.3] [5.4] Risk assessment within the Clinical Imaging and Radiotherapy and Oncology departmental settings must consider uniforms and other work-based clothing items (eg, cardigans) as potential routes for cross infection including those departmental uniforms/work based clothing worn by clinicians which may have been adapted to conform to, and recognise, particular religious beliefs.
- e. Section 6 [6.3] It is considered to be unnecessary to wear, aprons, gowns and masks in everyday clinical settings^{2,3} as there is lack of evidence that they are effective in preventing HCAIs in such circumstances⁴.
- f. Section 8 Service managers should ensure that all staff receive education in infection control⁵.
- g. Section 10 [10.3] Service managers must ensure that all staff have undertaken mandatory training and updates in the management of spillages and follow their employer's written policy in the event of any spillages.
- h. Section 12 [12.3] It is suggested that service managers should take regular formal feedback from patients about the cleanliness of their department and encourage them to highlight any problems or concerns⁶.
- i. Section 13 Service managers must ensure that all staff are aware of any resources relevant to the prevention and control of HCAIs and provide appropriate opportunities for them to access such resources.

1. Introduction

- 1.1 Health Care Associated Infections (HCAIs) are acquired as a result of patient or staff contact with the health care system. In any health care system, there is a wide variety of micro-organisms including bacteria, viruses, fungi and mycoplasmas that may be transmitted. The majority of HCAIs, however, are caused by bacteria which are often carried harmlessly by healthy people and include *Staphylococcus aureus* (carried on the skin and in the nose causing no harm to the host)⁷ and *Clostridium difficile* (present as one of the 'normal' bacteria in the gut of up to 3% of healthy adults and 66% of infants). *Clostridium difficile* rarely causes problems in children or healthy adults. However, when certain broad spectrum antibiotics disturb the normal bacterial balance in the gut, *Clostridium difficile* can multiply and produce toxins resulting in diarrhoea⁸.
- 1.2 It is likely that many hospital staff may be passive carriers of *Staphylococcus aureus* without showing any symptoms, but may transfer the bacteria from patient to patient via their hands. Similarly, patients themselves and visitors may harbour the bacteria. Casewell (1998) indicated that *Staphylococcus aureus* frequently inhabits the anterior nares in 30% of adults⁹.
- 1.3 *Clostridium difficile* infection may be spread via the hands of those healthcare workers who come into contact with infected patients or environmental surfaces such as floors, couches or toilets contaminated with the bacteria or bacterial spores. Over 80% of *Clostridium difficile* infections are found in patients over 65 years of age⁸.
- 1.4 The British Medical Association (BMA) (2006) recognises that the occurrence of HCAIs, whilst not new, is to some degree inevitable in any primary, community or secondary healthcare setting⁸.
- 1.5 HCAIs are prevalent across the globe and in most developed countries, 6-10% of patients who enter hospital are likely to acquire an infection of some sort, which may include *Methicillin Resistant Staphylococcus Aureus* (MRSA)¹⁰.
- 1.6 This is an important area for all health care workers to be aware of as it has been calculated that in the United Kingdom, HCAIs lead to the death of 5000 patients each year and costs the NHS up to a £1 billion per annum¹¹.
- 1.7 The Department of Health (DH) has, through its various policy and guidance publications^{10,12,13,14}, demonstrated its full commitment to reducing HCAIs. Furthermore, the DH, has published guidelines for NHS bodies to work towards compliance with these policies thus minimising any risk of HCAI to patients, staff and visitors^{15,16}.

2. Professional responsibilities

- 2.1 Staff in Clinical Imaging and Radiotherapy and Oncology Departments, in common with all healthcare workers, play an important part in ensuring that the incidence of HCAs are minimised. This can be achieved through a number of straightforward measures which include hand washing, providing a clean clinical environment and ensuring skills and knowledge related to infection control are regularly and systematically updated.
- 2.2 The Health Act 2006 Code of Practice for the prevention and control of HCAs puts a duty of care onto NHS bodies to ensure that healthcare workers are free of, and are protected from, exposure to communicable disease during the course of their work and are suitably educated in the prevention and control of HCA¹⁷. See appendix 2 of this document for all 11 section headings of the Code of Practice.

In addition, there is a specific legal requirement on NHS bodies, as employers, to carry out risk assessments of biological agents that employees could be exposed to³². It is, however, the ethical responsibility of members of the profession who believe that they themselves may have a communicable disease to obtain medical advice and, if found to be infected, to submit to regular medical supervision including counselling. It is the duty of such members of the profession to act upon medical advice they have been given, which may include the necessity to cease practice either altogether or, in some areas of practice, to modify their practice.

- 2.3 The Health Professions Council (HPC) is clear about the requirements of health professionals in the matter of infection control and their duty of care towards patients, themselves and visitors in this respect.

HPC Section 11 You must deal fairly and safely with the risks of infection

Source: Health Professions Council: Standards of Care, Performance & Ethics (2003)¹⁸.

You must take appropriate precautions to protect your patients, clients and users, their carers and families, your staff and yourself from infection. In particular, you should protect your patients, clients and users from infecting one another.

- 2.4 Service managers should recognise the need to develop and compile specific departmental policies which have a direct relevance to their staff. Local infection control teams as well as the National Resource for Infection Control (NRIC) are a valuable source of information and guidance.
- 2.5 The Society and College of Radiographers (SCoR) advises that departments may wish to consider the development of the role of a link radiographer to the Trust (or equivalent) infection control team. That individual would act as a conduit for the provision of current and pertinent on-going advice and guidance regarding the practical applications of infection control within the Clinical Imaging and Radiotherapy and Oncology environments.

3. Standard infection control precautions

- 3.1 In the mid 1980s, the term and elements of universal precautions were introduced into the UK from the USA as a response to the recognition of the risk of transmission of HIV and other blood borne viruses to health care workers from either known or unknown carriers of the virus¹⁹. This led to greater compliance with, and increased use of, for example, the wearing of gloves in the health care environment.
- 3.2 During the 1990s the term 'standard (infection control) precautions' was introduced in an attempt to standardise procedures in order to reduce the risk of transmission of micro-organisms from known or unknown sources of infection (principally, but not solely, blood borne viruses) during periods of patient care and handling²⁰.
- 3.3 Standard precautions are a set of principles which must be adopted by all healthcare workers when potentially coming into contact with any patient's blood or bodily fluids. As it is not always possible to tell who has an infection, blood and bodily fluids from all patients should be treated as infected.
- 3.4 Radiographers are advised that extra precautions may be required when handling cadavers. Further advice, guidance and information may be obtained from officers of the Association of Forensic Radiographers (AFR) and from the AFR website www.afr.org.uk.
- 3.5 For further information about standard precautions refer to the National Institute for Clinical Excellence (NICE) clinical guideline (2003)³ and the epic guidelines (2001)².
- 3.6 Standard precautions must be used by all health and social care workers in all situations involving patients to prevent the spread of micro organisms that may cause infection and include:

- | | |
|---|------------|
| ● Hand hygiene | Section 4 |
| ● Work based clothing/attire/uniforms | Section 5 |
| ● Personal protective equipment | Section 6 |
| ● Clinical equipment including linen | Section 7 |
| ● Control of the environment | Section 8 |
| ● Safe handling and disposal of sharps | Section 9 |
| ● Managing blood & bodily fluid spillages | Section 10 |
| ● Safe disposal of waste | Section 11 |

These areas will be addressed in order on the following pages.

4. Hand hygiene

- 4.1 Evidence has shown that patient contact results in the contamination of healthcare staff's hands by pathogens that cause HCAs^{2,3} and that hand hygiene compliance limits the spread of infection by removing these pathogens²¹. The failure of staff to adequately decontaminate their hands between patients has been shown to contribute to the spread of infection. Staff in Clinical Imaging and Radiotherapy and Oncology Departments are required to demonstrate high sustained levels of compliance with hand decontamination policies and protocols¹⁴.
- 4.2 The BMA (2006) contend that the issue is no longer whether hand hygiene is effective but how to produce a sustained improvement in compliance by all Health Care Professionals⁶.

A survey of over 200,000 NHS staff in some 570 NHS Trusts and 25 Strategic Health Authorities in England published in March 2006, indicated that one in four staff said that their Trust does not do enough to promote the importance of hand cleaning to staff, patients and visitors and only 61% reported that hot water, soap and paper towels, and alcohol rubs were always available when needed. (A further 28%, however, did report they were available most of the time)⁸

- 4.3 The National Patient Safety Agency (NPSA) reports that increased compliance with hand washing by Health Care Professionals could result in reductions in infection rates ranging from 10% to 50%¹.
- 4.4 Hand washing with a non-medicated liquid soap and warm water will remove transient micro-organisms and provide adequate hand decontamination for everyday clinical practice. Alcohol based handrubs are a highly acceptable alternative to hand washing when hands are not grossly soiled and are thus recommended for routine use¹⁰.
- 4.5 Alcohol-based handrubs should be placed near to where staff have patient contact¹. This means that all rooms where radiographers, assistant practitioners, students and other staff have patient contact must be supplied with such. Handrubs, when used, must come into contact with all surfaces of the hands.

Advice on hand hygiene

Source: Standard Principles for preventing hospital acquired infections J Hosp Infect 2001; 47 (Suppl) S21-S82²²

- Hands must be decontaminated immediately before each and every episode of direct patient contact/care and after any activity or contact that potentially results in hands becoming contaminated.

- 4.6 Fingernails must be kept short. Health care professionals should never wear artificial nails as these have been demonstrated not only to harbour bacteria but also to prevent the elimination of bacteria through hand cleansing/ decontamination²³.
- 4.7 All departmental staff are required to remove any hand or wrist jewellery, with the possible exception of wedding or civil partnership rings, prior to any episode of direct patient contact
- 4.8 The provision of posters on the correct way to decontaminate hands should be next to sinks and other appropriate places for staff information and as a reminder to clean hands between patients.
- 4.9 It is the professional responsibility of all radiographers to bring to the attention of departmental managers, the lack of, or inappropriately placed, facilities for hand hygiene.

Assistant practitioners, radiography students and other staff also have a responsibility in this regard.

4.10 Radiographers can expect patients and carers to ask staff to use an alcohol handrub before any contact is made. It is imperative that all clinical staff adhere to local procedures and protocols before and after contact with a patient.

4.11

Guidelines on the standard principles of hand hygiene

Source: The epic project: developing national evidence-based guidelines for preventing healthcare associated infections².

- Hands must be decontaminated immediately before each and every episode of direct patient contact/care and after any activity or contact that could potentially result in hands becoming contaminated
- Hands that are visibly soiled or potentially grossly contaminated with dirt or organic material must be washed with liquid soap and water
- Apply an alcohol-based handrub or wash hands with liquid soap and water to decontaminate hands between caring for different patients, or between different caring activities for the same patient
- Remove all wrist and hand jewellery at the beginning of each clinical shift before regular hand decontamination begins. Cuts and abrasions must be covered with waterproof dressings. Fingernails must be short, clean and free from nail polish
- An effective hand-washing technique involves three stages: preparation, washing and rinsing and drying. Preparation requires wetting hands under tepid running water before applying liquid soap or an antimicrobial preparation. The handwash solution must come into contact with all the surfaces of the hand. The hands must be rubbed together vigorously for a minimum of 10-15 seconds paying particular attention to the tips of the fingers, the thumbs and the areas between the fingers. Hands should be rinsed thoroughly prior to drying with good quality paper towels.
- When decontaminating hands using an alcohol handrub, hands should be free of dirt and organic material. The handrub solution must come into contact with all surfaces of the hand. The hands must be rubbed together vigorously, paying particular attention to the tips of the fingers, the thumbs and the areas between the fingers until the solution has evaporated and the hands are dry.
- Apply an emollient hand cream regularly to protect skin from the drying effects of regular hand decontamination. If a particular soap, antimicrobial handwash or alcohol product causes skin irritation an occupational health team should be consulted.

4.12 Antimicrobial preparations for hand hygiene purposes must be provided and used for all invasive/interventional procedures. Alcohol-based handrubs are insufficient for these procedures.

4.13 Where *Clostridium difficile* is confirmed or suspected, all health care professionals must wash their hands with non-medicated liquid soap and warm water in addition to using alcohol hand gels. For further information visit the Health Protection Agency website: http://www.hpa.org.uk/infections/topics_az/clostridium_difficile/InterimReport05htm.

5. Uniforms/Work based clothing

- 5.1 Research has shown that uniforms and other items of clothing worn by members of staff may be bacterially contaminated (with, for example; *Staphylococcus aureus*, *Clostridium difficile*, *Vancomin resistant enterococci*) and thus act as a potential source of infection^{24,25,26}. Although the studies have looked primarily at nurses and doctors, it must be presumed that similar instances are applicable to radiography staff.
- 5.2 Contamination is more likely at those parts of the uniform which have frequent contact by the wearer such as sleeves and pockets²⁷. Clothing, such as ties, appears to be a vector of bacterial transmission as they are frequently touched and unlikely to be regularly washed or cleaned²⁴. The BMA has thus advised health care professionals to refrain from wearing any functionless clothing items such as ties¹⁰. For the purpose of this guide, the term 'uniform' encompasses any clothing worn as part of any patient care activity and includes jackets, cardigans and other clothing.
- 5.3 Risk assessment within the Clinical Imaging and Radiotherapy and Oncology Departmental settings must consider uniforms and other work based clothing items (such as cardigans) as potential routes for cross infection.
- 5.4 Risk assessment must include those departmental uniforms/work based clothing worn by clinicians that may have been adapted to conform to and recognise particular religious beliefs.
- 5.5 It appears that few hospitals now launder staff uniforms²⁸ despite calls by professional groups such as the Royal College of Nursing (RCN) for employers to provide both laundering and changing facilities. Patel et al's study showed that domestic laundering is an acceptable alternative to hospital laundering facilities, even using low temperature (40°C) programmes, but ONLY if combined with either tumble drying or ironing.
- 5.6

Guidelines on uniforms

Source: The epic project: developing national evidence-based guidelines for preventing healthcare associated infections².

- Comply with employers' standards, advice and guidance on the wearing, laundering and decontamination of uniforms
- Sufficient uniforms must be available to enable freshly laundered uniforms for each work session
- Radiographers should assume that some degree of uniform contamination is present, even if not visibly soiled.
- Radiographers should change out of uniform promptly at the end of a clinical shift
- Uniforms must be changed on becoming soiled
- The hand washing of uniforms is not an acceptable practice
- Domestically laundered uniforms, washed separately from other items at the temperature 65-70°C, must either be tumble dried or ironed or both
- Uniforms should be kept separate from other items of clothing and stored appropriately to avoid contamination, eg in a sealable plastic bag
- Guidance on adaptation of clothing to comply with religious beliefs while maintaining good practice in infection control should be explicit
- Guidance on the circumstances of the wearing of items such as jackets or cardigans in the clinical setting should be explicit
- The wearing of uniforms outside the clinical setting is unacceptable practice and must be avoided
- Where possible shoes worn in clinical areas should not have shoelaces or any crevices that can harbour bacteria

6. Personal Protective Equipment

- 6.1 Personal Protective Equipment is used for the protection of healthcare staff and patients from the risks of cross infection and includes gloves, aprons, masks, goggles or visors.
- 6.2 The decision to use or wear Personal Protective Equipment must be based on risk assessment of transmission of micro-organisms associated with the activity and take into account Health and Safety legislation³³.
- 6.3 It is considered to be unnecessary to wear, aprons, gowns and masks in everyday clinical settings^{2,3} as there is lack of evidence that they are effective in preventing HCAs in such circumstance⁴.

Advice on Personal Protective Equipment

Source: Standard Principles for preventing hospital acquired Journal of Hospital Infection (2001) 47 (Suppl) S21-S82²².

Radiographic staff are advised to:

- Select protective equipment on the basis of assessment of the risk of transmission of micro-organisms to the patient and the risk of contamination of healthcare practitioners' clothing and skin by patients' blood, body fluids, secretions and excretions

6.4

Guidelines on disposable gloves

Source: The epic project: developing national evidence-based guidelines for preventing healthcare associated infections².

- Adhere to local policy guidelines on their use and disposal
- Must be worn where the healthcare provider is likely to be in contact with blood, bodily fluids, or non-intact skin or mucous membranes
- Gloves should be worn as single use items
- They should be put on immediately prior to the task to be performed and removed immediately after the task
- Gloves must be disposed of as clinical waste and hands decontaminated following the removal of gloves
- Gloves conforming to European Community (EC) standards and of an acceptable quality must be available in all clinical areas
- Alternatives to natural rubber latex (NRL) gloves must be made available for use by practitioners with NRL sensitivity
- Polythene gloves are not suitable for clinical usage due to their permeability and tendency to damage easily

6.5

Guidelines on disposable aprons

Source: The epic project: developing national evidence-based guidelines for preventing healthcare associated infections².

- Adhere to local policy guidelines on their use and disposal
- Must be worn where there is a risk that uniform/clothing will be contaminated by blood, bodily fluids, secretions or excretions
- Must be used for a single task before being disposed of
- Hands must be washed following apron removal
- Aprons must be disposed of as clinical waste

6.6

Guidelines on Personal Protective Equipment – disposable face masks and eye protection

Source: The epic project: developing national evidence-based guidelines for preventing healthcare associated infections².

- Adhere to local policy guidelines on their use and disposal
- Must be worn if a procedure is likely to cause blood, bodily fluids, secretions or excretions to splash into the face and eyes
- Hands must be washed following their removal
- Items must be disposed of as clinical waste

7. Equipment in Clinical Imaging and Radiotherapy and Oncology Departments

- 7.1 All hospital equipment, including that used for imaging or therapeutic activities is either single use or reusable. All reusable equipment must be decontaminated between patients. Decontamination should be in accordance with the manufacturers' instructions and current guidelines. The NHS Decontamination Programme website is available at the following website <http://deconprogramme.dh.gov.uk>.
- 7.2 Decontamination is the combination of processes including cleaning, disinfection and sterilisation used to ensure a reusable medical device is safe for further usage:
- Cleaning is a process which uses water and detergent to remove visible contamination but does not necessarily destroy micro-organisms
 - Disinfection is a process that uses chemical agents or heat to reduce the number of viable organisms. This should not be used as a substitute for sterilisation
 - Sterilisation is a process to render an object free from viable micro-organisms, including bacterial spores
- 7.3 Decontamination is the responsibility of the user of the equipment. Any disinfectants in use should be subject to a risk assessment and handled in accordance with the findings of the risk assessment³².
- 7.4 Equipment including cassettes, positioning/immobilisation aids etc, will need to be either covered with a single use disposable paper cover or else decontaminated following use.
- 7.5 Other equipment used in the department will need to be decontaminated through cleaning, and/or disinfected or sterilised. The method of choice will depend on the risk of infection associated with the equipment.

The choice of an appropriate decontamination method may be aided by the table below:

Adapted from Medical Devices Agency (1996) Sterilisation, Disinfection and Cleaning of Medical Equipment²⁸.			
	Equipment description	Level of cleaning needed	Examples
High risk	Equipment that: <ul style="list-style-type: none"> ■ enters a sterile body cavity ■ penetrates the skin ■ touches a break in the skin or mucous membranes 	Equipment must be cleaned and sterilised (fully decontaminated) after each patient use and be in a sterile state for subsequent use	Surgical Instruments: any instruments used for invasive radiological procedures
Medium risk	Equipment which touches intact skin or mucous membranes	Equipment does not need to be sterile at the point of use but must be cleaned and sterilised (decontaminated) between each patient	Vaginal speculum or bedpan
Low risk	Equipment that does not touch broken skin or mucous membranes, or is not in contact with patients	Equipment must be cleaned and/or disinfected after use	X-ray cassettes, positioning aids, couches

7.6

Guidelines on cleaning of equipment

- All equipment MUST be cleaned using the appropriate cleaning solutions following the manufacturer's instructions. Manufacturers of all medical devices (including imaging and therapy equipment) are required to provide a decontamination guide for reusable products
- All electrical equipment MUST be isolated from the mains electricity supply when being cleaned
- Where possible, use equipment designed for single use only. Single use equipment must never be reprocessed or reused

7.7 After each patient use, used linen should be placed directly into the appropriate colour coded laundry bag (as defined by local policy). Used linen must be handled with care to minimise the dispersal of microbes into the environment. Care must be taken to ensure that items apart from linen are not inadvertently placed into the laundry bag.

7.8 Equipment manufacturers and service engineers visiting Clinical Imaging and Radiotherapy and Oncology Departments are required to comply with departmental procedures and requirements and must also work within policies and decontamination guidelines for service equipment as laid down by their own employers.

8. Environment

- 8.1 The epic project² has identified routine activities generally considered to be central to the prevention of HCAs and includes those which may be appropriate to Clinical Imaging or Radiotherapy and Oncology Departments.

Advice on the hospital environment

Source: The epic project: developing national evidence-based guidelines for preventing healthcare associated infections².

- The hospital environment must be visibly clean, free from dust and soilage and acceptable to patients, their visitors and staff

- 8.2 A Matron's charter: an action plan for cleaner hospitals⁵ is aimed at all staff in the NHS and sets out 10 broad commitments that should be adopted everywhere in the NHS. The purpose of the commitments is to act as a:

- basis for discussion
- spur to audit practice
- tool for the setting of local targets

A Matron's charter

The Commitments

Source: A Matron's Charter: an action plan for cleaner hospitals⁵.

1. Keeping the NHS clean is everybody's responsibility
2. The patient environment will be well-maintained, clean and safe
3. Matrons will establish a cleanliness culture across their units
4. Cleaning staff will be recognised for the important work they do. Matrons will make sure they feel part of the ward team
5. Specific roles and responsibilities for cleaning will be clear
6. Cleaning routines will be clear, agreed and well publicised
7. Patients will have a part to play in monitoring and reporting on standards of cleanliness
8. All staff working in healthcare will receive education in infection control
9. Nurses and infection control teams will be involved in drawing up cleaning contracts and Matrons have authority and power to withhold payment
10. Sufficient resources will be dedicated to keeping hospitals clean

9. Safe Handling and Disposal of Sharps

9.1 Sharps including needles, scalpels, glass ampoules etc, are a source of cross infection when handled inappropriately. Surveillance shows that most sharps' injuries occur during a clinical procedure (58%) with a further 37% occurring after the procedure has been performed, or during/after disposal³⁴.

9.2

Guidelines on the safe disposal of sharps

Source: The epic project: developing national evidence-based guidelines for preventing healthcare associated infections².

- Sharps must not be passed directly from hand to hand and handling should be kept to a minimum
- Needles must not be recapped, bent or broken prior to use or disposal
- Needles and syringes must not be disassembled by hand prior to disposal
- Used sharps must be discarded into a sharps container (conforming to UN3291 and BS7320 standards) at the point of use. These must not be filled above the mark indicating that they are full
- Containers in public areas must not be placed on the floor and should be located in a safe position
- Consider the use of needlestick-prevention devices where proper risk assessment indicates that they are likely to reduce the risk of injury
- Conduct a rigorous evaluation of needlestick-prevention devices to determine their effectiveness, acceptability to practitioners, impact on patient care, and cost-benefit prior to widespread introduction

9.3 The main hazards of a sharps' injury are from hepatitis B virus (HBV), hepatitis C virus (HCV) and Human Immunodeficiency virus (HIV).

9.4 Some procedures have a higher than average risk of causing injury to staff and include IV cannulation, injections and venepuncture.

9.5 Staff need to be aware of the inoculation injury policy of their employing authority including the requirement that all needlestick injuries are immediately reported. Training in the correct use and disposal of sharps and the inoculation policy should form part of any employer's induction programme

9.6 Safer Needles Now (website: <http://www.saferneedlesnow.net/index.asp>) aims to reduce the number of needlestick injuries in the NHS by promoting preventative measures and safer systems of working. The Department of Health, Health and Safety Executive, NHS Unions and the Safer Needle Network have contributed to the setting up of an interactive website to allow for exchange of information on new alternatives and how to source them. This can be found at www.pasa.nhs.uk.

10. Managing blood and bodily fluid spillages

- 10.1 Occupational exposure to spillages of blood, bodily fluids, secretions and excretions presents a potential risk of infection to radiography staff, other patients and visitors.
- 10.2 For all patients encountered in the clinical arena, the presumption must be that they could be harbouring a potentially harmful micro-organism that may be transmitted and cause infection to others. The immediate, safe and effective management of all spillages is a precaution that must be applied as standard.
- 10.3 Service managers must ensure that all staff have undertaken mandatory training and updates in the management of spillages and follow their employer's written policy in the event of any spillages.
- 10.4 Posters demonstrating the actions to be taken to deal with spillages must be displayed in those areas of the department where a risk assessment has been undertaken.
- 10.5 All items of equipment to deal with a spillage must be gathered prior to tackling a spillage including Personal Protective Equipment and spillage kits.
- 10.6 Disposal of waste generated during the management of spillages must be appropriate to the nature of the spillage.
- 10.7 Hand hygiene must be performed following management of spillages.
- 10.8 A system to report any spillage incident must be available within the department to ensure future incidents from spillages can be avoided and appropriate measures put into place.

11. Waste Management

The Department of Health published the guidance document 'Safe management of Healthcare Waste' which has been subject to a public consultation (1/11/05-7/02/06) and will be printed and published in late 2006. the guidance will replace the Health Services Advisory Committee publication 'Safe Disposal of Clinical Waste'.

Definitions and practical guidance on the classification and segregation of healthcare hazardous waste are proposed (including hazardous infectious waste and hazardous medical wastes) together with the recommended move towards a nationally adopted colour-coded waste packaging system.

Radiography managers and professionals are advised to ensure that they keep abreast of current regulatory changes.

Each employing authority will have a waste management advisor from whom advice and guidance will be obtainable.

12. Information for patients and accompanying visitors

- 12.1 It is the responsibility of all staff in Clinical Imaging and Radiotherapy and Oncology Departments to keep patients and visitors informed about the environment and the measures in place to combat the risk of cross infection.
- 12.2 Clinical staff are advised that patients may ask if hand hygiene procedures have been undertaken by staff prior to clinical procedures being undertaken and staff must be able to reassure patients and others that such measures have been undertaken.
- 12.3 It is suggested that service managers should take regular formal feedback from patients about the cleanliness of the department and encourage them to highlight any problems or concerns¹⁰.
- 12.4 Any information provided in written format must ensure that translations are provided in the appropriate languages which reflect the make up of the population catchment area.
- 12.5 Recognition of and adherence to the requirements of the Disability Discrimination Act 2005 should be reflected in any information and notices provided for patient and visitor information.

13. Training

- 13.1 Radiography staff are advised that the National Resource for Infection Control (NRIC) is an excellent starting point when looking for a range of resources related to infection control. The NRIC is self styled as a project developed by healthcare professionals and is aimed at being a single-access point to existing resources within infection control for both infection control staff and all other healthcare workers. Their website (www.nric.org.uk) provides direct access to a large number of resources including policy examples and templates.
- 13.2 National evidence-based guidelines of good practice have been produced and are intended to inform the development of detailed operational protocols to prevent HCAs.

These include:

1. The epic project: developing national evidence-based guidelines for preventing HCAs, phase 1 Guidelines for preventing hospital acquired infections 2001 DH².
2. Infection control: prevention of healthcare associated infection in primary and community care 2003 NICE³.
3. Healthcare associated infection: a guide for Health Care Professionals 2006 BMA¹⁰.
4. Winning ways: working together to reduce healthcare associated infection in England 2003 DH¹⁴.
5. Improving patient care by reducing the risk of hospital acquired infection: a progress report 2004 NAO¹¹.

Key action points and recommendations are included in these resources including specific responsibilities of all health care professionals working in primary, secondary and community healthcare.

Service managers must ensure that all staff are aware of any resources relevant to the reduction in HCAs and provide appropriate opportunities for them to access such resources.

14. Checklist BMA 2006: sharing responsibility⁶

Recommendation for all Healthcare Professionals

Source: BMA (2006) Healthcare associated infections – a guide for healthcare professionals

- Healthcare professionals must be aware of the current evidence-based national guidelines for the control and prevention of HCAs, and ensure these are effectively implemented in every clinical setting
- Healthcare professionals should ensure they comply with the high standards of hygiene in clinical practice and, in particular, with respect to:
 - hand hygiene protocols
 - the use of Personal Protective Equipment
 - the safe disposal of sharps
 - dress code in the clinical setting
- Healthcare professionals should ensure they adhere to guidelines on the management and use of indwelling devices including urinary catheters, central venous catheters, arterial catheters, enteral and parenteral feeding equipment, peripheral intravenous cannulae and respiratory support equipment
- In addition to carrying out their own responsibilities appropriately, healthcare professionals are duty bound to ensure that their colleagues fulfil their responsibilities with regard to infection prevention and control
- Senior healthcare professionals should lead by example by demonstrating good infection control and hygiene practices. This should include ensuring that junior staff members adhere to the same principles
- Healthcare professionals and managers should ensure that they provide clear information to patients on HCAs and advice on how they can help to prevent and control them

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Appendix One

MRSA (Methicillin Resistant *Staphylococcus Aureus*)

MRSA (Methicillin Resistant *Staphylococcus Aureus*) is a term used to describe examples of this organism that are resistant to a range of antibiotics. Methicillin was an antibiotic used many years ago to treat patients with *Staphylococcus aureus* infections and is now only used as a term for identification of this particular type of antibiotic resistance. MRSA is resistant to methicillin, cloxacillin, flucloxacillin and all other β -lactam antibiotics³⁰. The present concern is that *Staphylococcus aureus* is capable of developing further resistance mechanisms to antibiotics such as vancomycin – once thought of as a ‘last resort’ antibiotic. New evolutions of the MRSA bacteria, are known as *Vancomycin Intermediate Resistant Staphylococcus Aureus* (VISA) and *Vancomycin Resistant Staphylococcus Aureus* (VRSA) and have already been identified in some countries eg, the United States of America³¹.

Although the body’s defences must be weakened or breached before *Staphylococcus aureus* bacteria cause disease, many people especially when hospitalised are susceptible to such infections. *Staphylococcus aureus* can enter the body through wounds such as burns and lacerations and through surgical incisions or indwelling catheters. Individuals with a weakened immune system are vulnerable to infection as are patients undergoing radiotherapy or chemotherapy.

Staphylococcus aureus also spreads via dust, clothing and medical equipment that has been in contact with infected patients.

Appendix Two

The Health Act 2006 Code of Practice for the Prevention and Control of HCAs¹⁷

Section Headings of the Code

Management, organisation and the environment

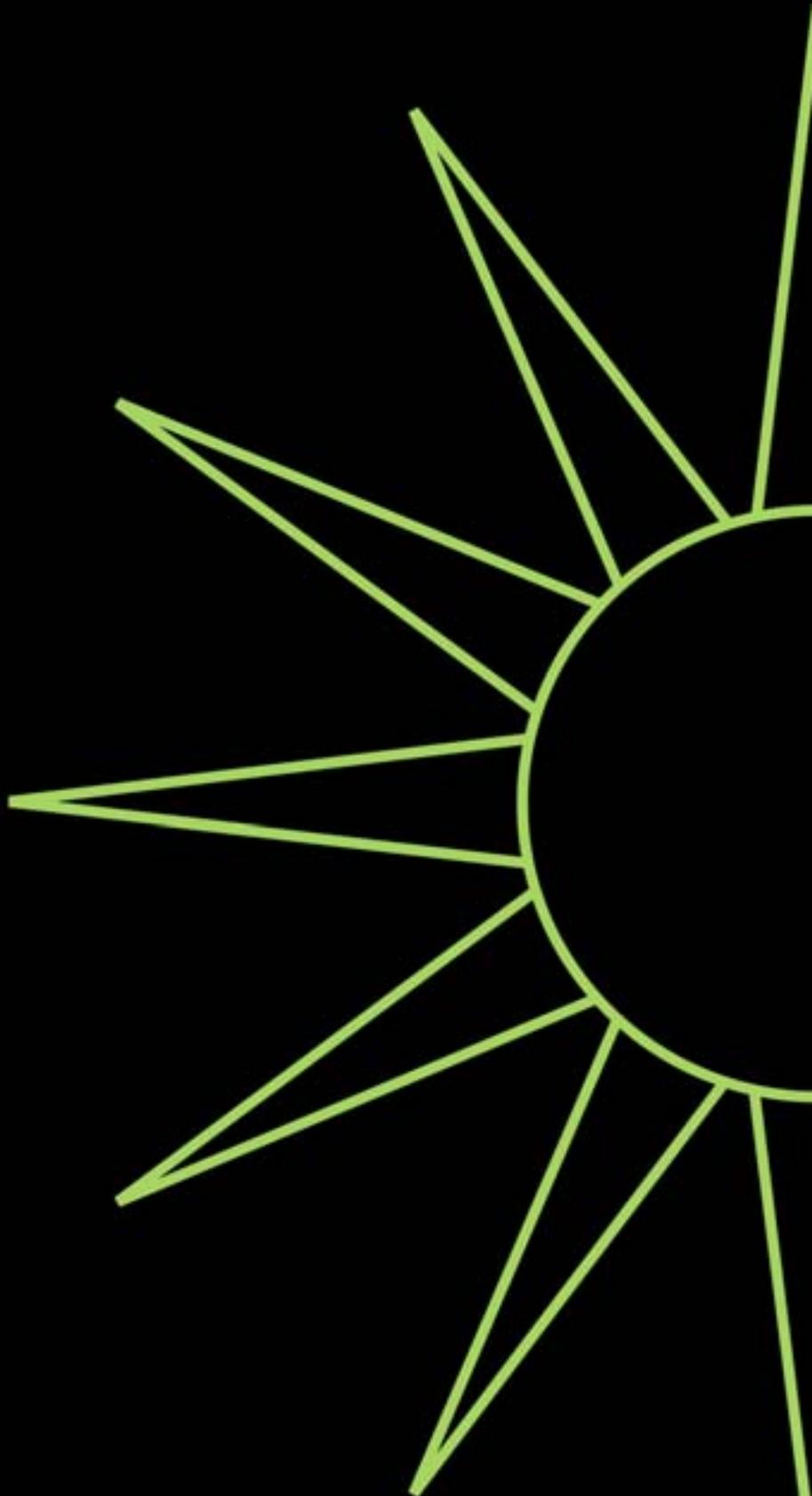
1. General duty to protect patients, staff and others from HCAI
2. Duty to have in place appropriate management systems for infection prevention and control
3. Duty to assess risks of acquiring HCAI and to take action to reduce or control such risks
4. Duty to provide and maintain a clean and appropriate environment for health care
5. Duty to provide information on HCAI to patients and the public
6. Duty to provide information when a patient moves from the care of one health care body to another
7. Duty to ensure co-operation
8. Duty to provide adequate isolation facilities
9. Duty to ensure adequate laboratory support

Clinical care protocols

10. Duty to adhere to policies and protocols applicable to infection prevention and control

Health care workers

11. Duty to ensure, so far as reasonably practicable, that health care workers are free of, and are protected from, exposure to communicable infections during the course of their work, and that all staff are suitably educated in the prevention and control of HCAI.





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