NICE National Institute for Health and Care Excellence

Infection

Prevention and control of healthcare-associated infections in primary and community care

Issued: March 2012

NICE clinical guideline 139

guidance.nice.org.uk/cg139

NICE has accredited the process used by the Centre for Clinical Practice at NICE to produce guidelines. Accreditation is valid for 5 years from September 2009 and applies to guidelines produced since April 2007 using the processes described in NICE's 'The guidelines manual' (2007, updated 2009). More information on accreditation can be viewed at www.nice.org.uk/accreditation

© NICE 2012

Contents

© NICE 2012. All rights reserved. Last modified March 2012

© NICE 2012. All rights reserved. Last modified March 2012

Introduction

This guideline partially updates and replaces 'Infection control: prevention of healthcare-associated infection in primary and community care' (NICE clinical guideline 2). The recommendations are labelled according to when they were originally published (see About this guideline for details).

Clinical context

A wide variety of healthcare is delivered in primary and community care settings. Healthcare-associated infections arise across a wide range of clinical conditions and can affect patients of all ages. Healthcare workers, family members and carers are also at risk of acquiring infections when caring for patients.

Healthcare-associated infections can occur in otherwise healthy individuals, especially if invasive procedures or devices are used. For example, indwelling urinary catheters are the most common cause of urinary tract infections, and bloodstream infections are associated with vascular access devices.

Healthcare-associated infections are caused by a wide range of microorganisms. These are often carried by the patients themselves, and have taken advantage of a route into the body provided by an invasive device or procedure. Healthcare-associated infections can exacerbate existing or underlying conditions, delay recovery and adversely affect quality of life.

Patient safety has become a cornerstone of care, and preventing healthcare-associated infections remains a priority. It is estimated that 300,000 patients a year in England acquire a healthcare-associated infection as a result of care within the NHS. In 2007, meticillin-resistant *Staphylococcus aureus* (MRSA) bloodstream infections and *Clostridium difficile* infections were recorded as the underlying cause of, or a contributory factor in, approximately 9000 deaths in hospital and primary care in England.

Healthcare-associated infections are estimated to cost the NHS approximately £1 billion a year, and £56 million of this is estimated to be incurred after patients are discharged from hospital. In addition to increased costs, each one of these infections means additional use of NHS resources, greater patient discomfort and a decrease in patient safety. A no-tolerance attitude is now prevalent in relation to avoidable healthcare-associated infections.

© NICE 2012. All rights reserved. Last modified March 2012

Rationale for the update

Since the publication of the NICE clinical guideline on the prevention of healthcare-associated infection in primary and community care in 2003, many changes have occurred within the NHS that place the patient firmly at the centre of all activities. First, the NHS Constitution for England defines the rights and pledges that every patient can expect regarding their care. To support this, the Care Quality Commission (CQC), the independent regulator of all health and adult social care in England, ensures that health and social care is safe, and monitors how providers comply with established standards. In addition, the legal framework that underpins the guidance has changed since 2003.

New guidance is needed to reflect the fact that, as a result of the rapid turnover of patients in acute care settings, complex care is increasingly being delivered in the community. New standards for the care of patients and the management of devices to prevent related healthcare-associated infections are needed that will also reinforce the principles of asepsis.

This guideline assumes that all providers of healthcare in primary and community care settings are compliant with current code of practice on preventing and controlling infections[1]. The guideline aims to help build on advice given in the code and elsewhere to improve the quality of care and practice in these areas over and above current standards.

The Guideline Development Group (GDG) recognises the important contribution that surveillance makes to monitoring infection, but it is not within the scope of this guideline to make specific recommendations about this subject.

This clinical guideline is a partial update of 'Infection control: prevention of healthcare-associated infection in primary and community care' (NICE clinical guideline 2; 2003), and addresses areas in which clinical practice for preventing healthcare-associated infections in primary and community care has changed, where the risk of healthcare-associated infections is greatest or where the evidence has changed. Where high-quality evidence is lacking, the GDG has highlighted areas for further research.

Audience

The population covered in this guideline is all adults and children receiving healthcare for which standard infection-control precautions apply in primary care and community care. This guideline

© NICE 2012. All rights reserved. Last modified March 2012

is commissioned by the NHS, but people providing healthcare in other settings, such as private settings, may also find the guidance relevant.

This guideline applies to all healthcare workers employed in primary and community care settings, including ambulance services, and should ensure safe practice if applied consistently. Much care is also delivered by informal carers and family members, and this guideline is equally applicable to them.

Healthcare settings covered by this guideline are:

- Primary care settings, such as general practices, dental clinics, health centres and polyclinics. This also includes care delivered by the ambulance service.
- Community care settings, such as residential homes, nursing homes, the patient's own home, schools and prisons, where NHS healthcare is provided or commissioned.

Medical Device Regulations

The Medical Device Regulations implement the EC Medical Devices Directives into UK law. They place obligations on manufacturers to ensure that their devices (including medical gloves, needles and other devices discussed in this guideline) are safe and fit for their intended purpose before they are CE marked and placed on the market in any EC member state. Guidance on the MHRA's adverse incident reporting system is available for reporting adverse incidents involving medical devices.

Use of 'must' in recommendations

The GDG recognised that there is a legal duty to implement some of the recommendations in this guideline in order to comply with legislation. The word 'must' is used in these recommendations and details of the relevant legislation are given in footnotes to the recommendations.

The GDG was also aware that the consequences of not implementing some other recommendations on patient safety would be very serious – that is, there would be a greatly increased risk of adverse events, including death. The GDG therefore concluded that the use of the word 'must' in these recommendations is justified, in line with the guidance in chapter 9 of 'The guidelines manual (2009)'.

© NICE 2012. All rights reserved. Last modified March 2012

Drug recommendations

The guideline will assume that prescribers will use a drug's summary of product characteristics to inform decisions made with individual patients.

This guideline recommends some drugs for indications for which they do not have a UK marketing authorisation at the date of publication, if there is good evidence to support that use. Where recommendations have been made for the use of drugs outside their licensed indications ('off label use'), these drugs are marked with a footnote in the recommendations.

---

[1] At the time of publication of the guideline (March 2012): The Health and Social Care Act 2008 Code of Practice on the prevention and control of infections and related guidance.

© NICE 2012. All rights reserved. Last modified March 2012

Patient-centred care

This guideline offers best practice advice on the prevention and control of healthcare-associated infections in primary and community care.

Patients have the right to expect that those who provide their care meet appropriate standards of hygiene and follow the correct procedures to minimise the risk of healthcare-associated infection. Treatment and care should also take into account patients' needs and preferences. Patients should have the opportunity to make informed decisions about their care and treatment, in partnership with their healthcare professionals. If patients do not have the capacity to make decisions, healthcare professionals should follow the Department of Health's advice on consent and the code of practice that accompanies the Mental Capacity Act. In Wales, healthcare professionals should follow advice on consent from the Welsh Government.

If the patient is under 16, healthcare professionals should follow the guidelines in the Department of Health's Seeking consent: working with children.

Good communication between healthcare professionals and patients is essential. It should be supported by evidence-based written information tailored to the patient's needs. Treatment and care, and the information patients are given about it, should be culturally appropriate. It should also be accessible to people with additional needs such as physical, sensory or learning disabilities, and to people who do not speak or read English.

If the patient agrees, families and carers should have the opportunity to be involved in decisions about treatment and care.

Families and carers should also be given the information and support they need.

© NICE 2012. All rights reserved. Last modified March 2012

Key priorities for implementation

The following recommendations have been identified as priorities for implementation.

Standard principles: general advice

- Everyone involved in providing care should be:
  - educated about the standard principles of infection prevention and control **and**
  - trained in hand decontamination, the use of personal protective equipment, and the safe use and disposal of sharps. **[2012]**
- Wherever care is delivered, healthcare workers must[2] have available appropriate supplies of:
  - materials for hand decontamination
  - sharps containers
  - personal protective equipment. **[new 2012]**
- Educate patients and carers about:
  - the benefits of effective hand decontamination
  - the correct techniques and timing of hand decontamination
  - when it is appropriate to use liquid soap and water or handrub
  - the availability of hand decontamination facilities
  - their role in maintaining standards of healthcare workers' hand decontamination. **[new 2012]**

Standard principles for hand decontamination

- Hands must be decontaminated in all of the following circumstances:
  - immediately before every episode of direct patient contact or care, including aseptic procedures

© NICE 2012. All rights reserved. Last modified March 2012

- immediately after every episode of direct patient contact or care
- immediately after any exposure to body fluids
- immediately after any other activity or contact with a patient's surroundings that could potentially result in hands becoming contaminated
- immediately after removal of gloves. **[new 2012]**

Long-term urinary catheters

- Select the type and gauge of an indwelling urinary catheter based on an assessment of the patient's individual characteristics, including:
  - age
  - any allergy or sensitivity to catheter materials
  - gender
  - history of symptomatic urinary tract infection
  - patient preference and comfort
  - previous catheter history
  - reason for catheterisation. **[new 2012]**
- All catheterisations carried out by healthcare workers should be aseptic procedures. After training, healthcare workers should be assessed for their competence to carry out these types of procedures. **[2003]**
- When changing catheters in patients with a long-term indwelling urinary catheter:
  - do not offer antibiotic prophylaxis routinely
  - consider antibiotic prophylaxis[3] for patients who:
    - have a history of symptomatic urinary tract infection after catheter change **or**
    - experience trauma[4] during catheterisation. **[new 2012]**

© NICE 2012. All rights reserved. Last modified March 2012

Vascular access devices

- Before discharge from hospital, patients and their carers should be taught any techniques they may need to use to prevent infection and safely manage a vascular access device[5]. **[2003, amended 2012]**
- Healthcare workers caring for a patient with a vascular access device[5] should be trained, and assessed as competent, in using and consistently adhering to the infection prevention practices described in this guideline. **[2003, amended 2012]**
- Decontaminate the skin at the insertion site with chlorhexidine gluconate in 70% alcohol before inserting a peripheral vascular access device or a peripherally inserted central catheter. **[new 2012]**

---

[2] In accordance with current health and safety legislation (at the time of publication of the guideline [March 2012]): Health and Safety at Work Act 1974, Management of Health and Safety at Work Regulations 1999, Health and Safety Regulations 2002, Control of Substances Hazardous to Health Regulations 2002, Personal Protective Equipment Regulations 2002 and Health and Social Care Act 2008.

[3] At the time of publication of the guideline (March 2012), no antibiotics have a UK marketing authorisation for this indication. Informed consent should be obtained and documented.

[4] The GDG defined trauma as frank haematuria after catheterisation or two or more attempts of catheterisation.

[5] The updated recommendation contains 'vascular access device' rather than 'central venous catheter'. This change has been made because peripherally inserted catheters were included in the scope of the guideline update.

© NICE 2012. All rights reserved. Last modified March 2012

1 Guidance

The following guidance is based on the best available evidence. The full guideline gives details of the methods and the evidence used to develop the guidance.

Terms used in this guidance

Aseptic technique An aseptic technique ensures that only uncontaminated equipment and fluids come into contact with susceptible body sites. It should be used during any clinical procedure that bypasses the body's natural defences. Using the principles of asepsis minimises the spread of organisms from one person to another.

Direct patient care 'Hands on' or face-to-face contact with patients. Any physical aspect of the healthcare of a patient, including treatments, self-care and administration of medication.

Hand decontamination The use of handrub or handwashing to reduce the number of bacteria on the hands. In this guideline this term is interchangeable with 'hand hygiene'.

Handrub A preparation applied to the hands to reduce the number of viable microorganisms. This guideline refers to handrubs compliant with British standards (BS EN1500; standard for efficacy of hygienic handrubs using a reference of 60% isopropyl alcohol).

Healthcare worker Any person employed by the health service, social services, a local authority or an agency to provide care for a sick, disabled or elderly person.

Healthcare waste In this guideline, healthcare waste refers to any waste produced by, and as a consequence of, healthcare activities.

Personal protective equipment Equipment that is intended to be worn or held by a person to protect them from risks to their health and safety while at work. Examples include gloves, aprons, and eye and face protection.

© NICE 2012. All rights reserved. Last modified March 2012

1.1 Standard principles

1.1.1 General advice

1.1.1.1 Everyone involved in providing care should be:

- educated about the standard principles of infection prevention and control **and**
- trained in hand decontamination, the use of personal protective equipment, and the safe use and disposal of sharps. **[2012]**

1.1.1.2 Wherever care is delivered, healthcare workers must[6] have available appropriate supplies of:

- materials for hand decontamination
- sharps containers
- personal protective equipment. **[new 2012]**

1.1.1.3 Educate patients and carers about:

- the benefits of effective hand decontamination
- the correct techniques and timing of hand decontamination
- when it is appropriate to use liquid soap and water or handrub
- the availability of hand decontamination facilities
- their role in maintaining standards of healthcare workers' hand decontamination. **[new 2012]**

1.1.2 Hand decontamination

1.1.2.1 Hands must be decontaminated in all of the following circumstances:

- immediately before every episode of direct patient contact or care, including aseptic procedures

© NICE 2012. All rights reserved. Last modified March 2012

- immediately after every episode of direct patient contact or care
- immediately after any exposure to body fluids
- immediately after any other activity or contact with a patient's surroundings that could potentially result in hands becoming contaminated
- immediately after removal of gloves. **[new 2012]**

1.1.2.2 Decontaminate hands preferably with a handrub (conforming to current British standards[7]), except in the following circumstances, when liquid soap and water must be used:

- when hands are visibly soiled or potentially contaminated with body fluids **or**
- in clinical situations where there is potential for the spread of alcohol-resistant organisms (such as *Clostridium difficile* or other organisms that cause diarrhoeal illness). **[new 2012]**

1.1.2.3 Healthcare workers should ensure that their hands can be decontaminated throughout the duration of clinical work by:

- being bare below the elbow[8] when delivering direct patient care
- removing wrist and hand jewellery
- making sure that fingernails are short, clean and free of nail polish
- covering cuts and abrasions with waterproof dressings. **[new 2012]**

1.1.2.4 An effective handwashing 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** of 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 before drying with good quality paper towels. **[2003]**

© NICE 2012. All rights reserved. Last modified March 2012

1.1.2.5 When decontaminating hands using an alcohol handrub, hands should be free from 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. **[2003]**

1.1.2.6 An emollient hand cream should be applied regularly to protect skin from the drying effects of regular hand decontamination. If a particular soap, antimicrobial hand wash or alcohol product causes skin irritation an occupational health team should be consulted. **[2003]**

1.1.3 Use of personal protective equipment

1.1.3.1 Selection of protective equipment must[6] be based on an assessment of the risk of transmission of microorganisms to the patient, and the risk of contamination of the healthcare worker's clothing and skin by patients' blood, body fluids, secretions or excretions. **[2003]**

1.1.3.2 Gloves used for direct patient care:

- must[6] conform to current EU legislation (CE marked as medical gloves for single use)[9]**and**
- should be appropriate for the task. **[new 2012]**

1.1.3.3 Gloves must[6] be worn for invasive procedures, contact with sterile sites and non-intact skin or mucous membranes, and all activities that have been assessed as carrying a risk of exposure to blood, body fluids, secretions or excretions, or to sharp or contaminated instruments. **[2003]**

1.1.3.4 Gloves must[6] be worn as single-use items. They must be put on immediately before an episode of patient contact or treatment and removed as soon as the activity is completed. Gloves must be changed between caring for different patients, and between different care or treatment activities for the same patient. **[2003]**

© NICE 2012. All rights reserved. Last modified March 2012

1.1.3.5 Ensure that gloves used for direct patient care that have been exposed to body fluids are disposed of correctly, in accordance with current national legislation[10] or local policies (see section 1.1.5). **[new 2012]**

1.1.3.6 Alternatives to natural rubber latex gloves must be available for patients, carers and healthcare workers who have a documented sensitivity to natural rubber latex. **[2012]**

1.1.3.7 Do not use polythene gloves for clinical interventions. **[new 2012]**

1.1.3.8 When delivering direct patient care:

- wear a disposable plastic apron if there is a risk that clothing may be exposed to blood, body fluids, secretions or excretions **or**
- wear a long-sleeved fluid-repellent gown if there is a risk of extensive splashing of blood, body fluids, secretions or excretions onto skin or clothing. **[2012]**

1.1.3.9 When using disposable plastic aprons or gowns:

- use them as single-use items, for one procedure or one episode of direct patient care **and**
- ensure they are disposed of correctly (see section 1.1.5). **[2012]**

1.1.3.10 Face masks and eye protection must[6] be worn where there is a risk of blood, body fluids, secretions or excretions splashing into the face and eyes. **[2003]**

1.1.3.11 Respiratory protective equipment, for example a particulate filter mask, must[6] be used when clinically indicated. **[2003]**

1.1.4 Safe use and disposal of sharps

1.1.4.1 Sharps should[11] not be passed directly from hand to hand, and handling should be kept to a minimum. **[2003, amended 2012]**

1.1.4.2 Used standard needles:

© NICE 2012. All rights reserved. Last modified March 2012

- must not be bent[12] or broken before disposal
- must not be recapped.

  In dentistry, if recapping or disassembly is unavoidable, a risk assessment must be undertaken and appropriate safety devices should be used. **[new 2012]**

1.1.4.3 Used sharps must be discarded immediately by the person generating the sharps waste into a sharps container conforming to current standards[13]. **[new 2012]**

1.1.4.4 Sharps containers:

- must[10] be located in a safe position that avoids spillage, is at a height that allows the safe disposal of sharps, is away from public access areas and is out of the reach of children
- must not[10] be used for any other purpose than the disposal of sharps
- must not[10] be filled above the fill line
- must[10] be disposed of when the fill line is reached
- should be temporarily closed when not in use
- should be disposed of every 3 months even if not full, by the licensed route in accordance with local policy. **[new 2012]**

1.1.4.5 Use sharps safety devices if a risk assessment has indicated that they will provide safer systems of working for healthcare workers, carers and patients. **[new 2012]**

1.1.4.6 Train and assess all users in the correct use and disposal of sharps and sharps safety devices. **[new 2012]**

1.1.5 Waste disposal

1.1.5.1 Healthcare waste must be segregated immediately by the person generating the waste into appropriate colour-coded storage or waste disposal bags or

© NICE 2012. All rights reserved. Last modified March 2012

containers defined as being compliant with current national legislation[10] and local policies. **[new 2012]**

1.1.5.2 Healthcare waste must be labelled, stored, transported and disposed of in accordance with current national legislation[10] and local policies. **[new 2012]**

1.1.5.3 Educate patients and carers about the correct handling, storage and disposal of healthcare waste. **[new 2012]**

1.2 Long-term urinary catheters

1.2.1 Education of patients, their carers and healthcare workers

1.2.1.1 Patients and carers should be educated about and trained in techniques of hand decontamination, insertion of intermittent catheters where applicable, and catheter management before discharge from hospital. **[2003]**

1.2.1.2 Community and primary healthcare workers must be trained in catheter insertion, including suprapubic catheter replacement and catheter maintenance. **[2003]**

1.2.1.3 Follow-up training and ongoing support of patients and carers should be available for the duration of long-term catheterisation. **[2003]**

1.2.2 Assessing the need for catheterisation

1.2.2.1 Indwelling urinary catheters should be used only after alternative methods of management have been considered. **[2003]**

1.2.2.2 The patient's clinical need for catheterisation should be reviewed regularly and the urinary catheter removed as soon as possible. **[2003]**

1.2.2.3 Catheter insertion, changes and care should be documented. **[2003]**

© NICE 2012. All rights reserved. Last modified March 2012

1.2.3 Catheter drainage options

1.2.3.1 Following assessment, the best approach to catheterisation that takes account of clinical need, anticipated duration of catheterisation, patient preference and risk of infection should be selected. **[2003]**

1.2.3.2 Intermittent catheterisation should be used in preference to an indwelling catheter if it is clinically appropriate and a practical option for the patient. **[2003]**

1.2.3.3 Offer a choice of either single-use hydrophilic or gel reservoir catheters for intermittent self-catheterisation. **[new 2012]**

1.2.3.4 Select the type and gauge of an indwelling urinary catheter based on an assessment of the patient's individual characteristics, including:

- age
- any allergy or sensitivity to catheter materials
- gender
- history of symptomatic urinary tract infection
- patient preference and comfort
- previous catheter history
- reason for catheterisation. **[new 2012]**

1.2.3.5 In general, the catheter balloon should be inflated with 10 ml of sterile water in adults and 3–5 ml in children. **[2003]**

1.2.3.6 In patients for whom it is appropriate, a catheter valve may be used as an alternative to a drainage bag. **[2003]**

© NICE 2012. All rights reserved. Last modified March 2012

1.2.4 Catheter insertion

1.2.4.1 All catheterisations carried out by healthcare workers should be aseptic procedures. After training, healthcare workers should be assessed for their competence to carry out these types of procedures. **[2003]**

1.2.4.2 Intermittent self-catheterisation is a clean procedure. A lubricant for single-patient use is required for non-lubricated catheters. **[2003]**

1.2.4.3 For urethral catheterisation, the meatus should be cleaned before insertion of the catheter, in accordance with local guidelines/policy. **[2003]**

1.2.4.4 An appropriate lubricant from a single-use container should be used during catheter insertion to minimise urethral trauma and infection. **[2003]**

1.2.5 Catheter maintenance

1.2.5.1 Indwelling catheters should be connected to a sterile closed urinary drainage system or catheter valve. **[2003]**

1.2.5.2 Healthcare workers should ensure that the connection between the catheter and the urinary drainage system is not broken except for good clinical reasons (for example changing the bag in line with the manufacturer's recommendations). **[2003]**

1.2.5.3 Healthcare workers must decontaminate their hands and wear a new pair of clean, non-sterile gloves before manipulating a patient's catheter, and must decontaminate their hands after removing gloves. **[2003]**

1.2.5.4 Patients managing their own catheters, and their carers, must be educated about the need for hand decontamination[14] before and after manipulation of the catheter, in accordance with the recommendations in the standard principles section (section 1.1). **[2003, amended 2012]**

1.2.5.5 Urine samples must be obtained from a sampling port using an aseptic technique. **[2003]**

© NICE 2012. All rights reserved. Last modified March 2012

1.2.5.6 Urinary drainage bags should be positioned below the level of the bladder, and should not be in contact with the floor. **[2003]**

1.2.5.7 A link system should be used to facilitate overnight drainage, to keep the original system intact. **[2003]**

1.2.5.8 The urinary drainage bag should be emptied frequently enough to maintain urine flow and prevent reflux, and should be changed when clinically indicated. **[2003]**

1.2.5.9 The meatus should be washed daily with soap and water. **[2003]**

1.2.5.10 To minimise the risk of blockages, encrustations and catheter-associated infections for patients with a long-term indwelling urinary catheter:

- develop a patient-specific care regimen
- consider approaches such as reviewing the frequency of planned catheter changes and increasing fluid intake
- document catheter blockages. **[new 2012]**

1.2.5.11 Bladder instillations or washouts must not be used to prevent catheter-associated infections. **[2003]**

1.2.5.12 Catheters should be changed only when clinically necessary or according to the manufacturer's current recommendations. **[2003]**

1.2.5.13 When changing catheters in patients with a long-term indwelling urinary catheter:

- do not offer antibiotic prophylaxis routinely
- consider antibiotic prophylaxis[15] for patients who:
  - have a history of symptomatic urinary tract infection after catheter change **or**
  - experience trauma[16] during catheterisation. **[new 2012]**

© NICE 2012. All rights reserved. Last modified March 2012

1.3 Enteral feeding

1.3.1 Education of patients, their carers and healthcare workers

1.3.1.1 Patients and carers should be educated about and trained in the techniques of hand decontamination, enteral feeding and the management of the administration system before being discharged from hospital. **[2003]**

1.3.1.2 Healthcare workers should be trained in enteral feeding and management of the administration system. **[2003]**

1.3.1.3 Follow-up training and ongoing support of patients and carers should be available for the duration of home enteral tube feeding. **[2003]**

1.3.2 Preparation and storage of feeds

1.3.2.1 Wherever possible pre-packaged, ready-to-use feeds should be used in preference to feeds requiring decanting, reconstitution or dilution. **[2003]**

1.3.2.2 The system selected should require minimal handling to assemble, and be compatible with the patient's enteral feeding tube. **[2003]**

1.3.2.3 Effective hand decontamination must be carried out before starting feed preparation. **[2003]**

1.3.2.4 When decanting, reconstituting or diluting feeds, a clean working area should be prepared and equipment dedicated for enteral feed use only should be used. **[2003]**

1.3.2.5 Feeds should be mixed using cooled boiled water or freshly opened sterile water and a no-touch technique. **[2003]**

1.3.2.6 Feeds should be stored according to the manufacturer's instructions and, where applicable, food hygiene legislation. **[2003]**

1.3.2.7 Where ready-to-use feeds are not available, feeds may be prepared in advance, stored in a refrigerator, and used within 24 hours. **[2003]**

© NICE 2012. All rights reserved. Last modified March 2012

1.3.3 Administration of feeds

1.3.3.1 Use minimal handling and an aseptic technique to connect the administration system to the enteral feeding tube. **[new 2012]**

1.3.3.2 Ready-to-use feeds may be given for a whole administration session, up to a maximum of 24 hours. Reconstituted feeds should be administered over a maximum 4-hour period. **[2003]**

1.3.3.3 Administration sets and feed containers are for single use and must be discarded after each feeding session. **[2003]**

1.3.4 Care of insertion site and enteral feeding tube

1.3.4.1 The stoma should be washed daily with water and dried thoroughly. **[2003]**

1.3.4.2 To prevent blockages, flush the enteral feeding tube before and after feeding or administering medications using single-use syringes or single-patient-use (reusable) syringes according to the manufacturer's instructions. Use:

- freshly drawn tap water for patients who are not immunosuppressed
- either cooled freshly boiled water or sterile water from a freshly opened container for patients who are immunosuppressed. **[new 2012]**

1.4 Vascular access devices

1.4.1 Education of patients, their carers and healthcare workers

1.4.1.1 Before discharge from hospital, patients and their carers should be taught any techniques they may need to use to prevent infection and safely manage a vascular access device[17]. **[2003, amended 2012]**

1.4.1.2 Healthcare workers caring for a patient with a vascular access device[17] should be trained, and assessed as competent, in using and consistently adhering to the infection prevention practices described in this guideline. **[2003, amended 2012]**

© NICE 2012. All rights reserved. Last modified March 2012

1.4.1.3 Follow-up training and support should be available to patients with a vascular access device[17] and their carers. **[2003, amended 2012]**

1.4.2 General asepsis

1.4.2.1 Hands must be decontaminated (see section 1.1.2) before accessing or dressing a vascular access device. **[new 2012]**

1.4.2.2 An aseptic technique[18] must be used for vascular access device catheter site care and when accessing the system. **[new 2012]**

1.4.3 Vascular access device site care

1.4.3.1 Decontaminate the skin at the insertion site with chlorhexidine gluconate in 70% alcohol before inserting a peripheral vascular access device or a peripherally inserted central catheter. **[new 2012]**

1.4.3.2 Use a sterile transparent semipermeable membrane dressing to cover the vascular access device insertion site. **[new 2012]**

1.4.3.3 Consider a sterile gauze dressing covered with a sterile transparent semipermeable membrane dressing only if the patient has profuse perspiration, or if the vascular access device insertion site is bleeding or oozing. If a gauze dressing is used:

- change it every 24 hours, or sooner if it is soiled **and**
- replace it with a sterile transparent semipermeable membrane dressing as soon as possible. **[new 2012]**

1.4.3.4 Change the transparent semipermeable membrane dressing covering a central venous access device insertion site every 7 days, or sooner if the dressing is no longer intact or moisture collects under it. **[2012]**

1.4.3.5 Leave the transparent semipermeable membrane dressing applied to a peripheral cannula insertion site in situ for the life of the cannula, provided that the integrity of the dressing is retained. **[new 2012]**

© NICE 2012. All rights reserved. Last modified March 2012

1.4.3.6 Dressings used on tunnelled or implanted central venous catheter sites should be replaced every 7 days until the insertion site has healed, unless there is an indication to change them sooner. **[2003]**

1.4.3.7 Healthcare workers should ensure that catheter-site care is compatible with catheter materials (tubing, hubs, injection ports, luer connectors and extensions) and carefully check compatibility with the manufacturer's recommendations. **[2003]**

1.4.3.8 Decontaminate the central venous catheter insertion site and surrounding skin during dressing changes using chlorhexidine gluconate in 70% alcohol, and allow to air dry. Consider using an aqueous solution of chlorhexidine gluconate if the manufacturer's recommendations prohibit the use of alcohol with their catheter. **[2012]**

1.4.3.9 Individual sachets of antiseptic solution or individual packages of antiseptic-impregnated swabs or wipes should be used to disinfect the dressing site. **[2003]**

1.4.4 General principles for management of vascular access devices

1.4.4.1 Decontaminate the injection port or vascular access device catheter hub before and after accessing the system using chlorhexidine gluconate in 70% alcohol. Consider using an aqueous solution of chlorhexidine gluconate if the manufacturer's recommendations prohibit the use of alcohol with their catheter. **[new 2012]**

1.4.4.2 In-line filters should not be used routinely for infection prevention. **[2003]**

1.4.4.3 Antibiotic lock solutions should not be used routinely to prevent catheter-related bloodstream infections (CRBSI). **[2003]**

1.4.4.4 Systemic antimicrobial prophylaxis should not be used routinely to prevent catheter colonisation or CRBSI, either before insertion or during the use of a central venous catheter. **[2003]**

© NICE 2012. All rights reserved. Last modified March 2012

1.4.4.5 Preferably, a single lumen catheter should be used to administer parenteral nutrition. If a multilumen catheter is used, one port must be exclusively dedicated for total parenteral nutrition, and all lumens must be handled with the same meticulous attention to aseptic technique. **[2003]**

1.4.4.6 Preferably, a sterile 0.9 percent sodium chloride injection should be used to flush and lock catheter lumens. **[2003]**

1.4.4.7 When recommended by the manufacturer, implanted ports or opened-ended catheter lumens should be flushed and locked with heparin sodium flush solutions. **[2003]**

1.4.4.8 Systemic anticoagulants should not be used routinely to prevent CRBSI. **[2003]**

1.4.4.9 If needleless devices are used, the manufacturer's recommendations for changing the needleless components should be followed. **[2003]**

1.4.4.10 When needleless devices are used, healthcare workers should ensure that all components of the system are compatible and secured, to minimise leaks and breaks in the system. **[2003]**

1.4.4.11 When needleless devices are used, the risk of contamination should be minimised by decontaminating the access port with either alcohol or an alcoholic solution of chlorhexidine gluconate before and after using it to access the system. **[2003]**

1.4.4.12 In general, administration sets in continuous use need not be replaced more frequently than at 72-hour intervals unless they become disconnected or a catheter-related infection is suspected or documented. **[2003]**

1.4.4.13 Administration sets for blood and blood components should be changed every 12 hours, or according to the manufacturer's recommendations. **[2003]**

1.4.4.14 Administration sets used for total parenteral nutrition infusions should generally be changed every 24 hours. If the solution contains only glucose and amino

© NICE 2012. All rights reserved. Last modified March 2012

acids, administration sets in continuous use do not need to be replaced more frequently than every 72 hours. **[2003]**

1.4.4.15 Avoid the use of multidose vials, in order to prevent the contamination of infusates. **[new 2012]**

---

[6] In accordance with current health and safety legislation (at the time of publication of the guideline [March 2012]): Health and Safety at Work Act 1974, Management of Health and Safety at Work Regulations 1999, Health and Safety Regulations 2002, Control of Substances Hazardous to Health Regulations 2002, Personal Protective Equipment Regulations 2002 and Health and Social Care Act 2008.

[7] At the time of publication of the guideline (March 2012): BS EN 1500:1997.

[8] For the purposes of this guideline, the GDG considered bare below the elbow to mean: not wearing false nails or nail polish; not wearing a wrist-watch or stoned rings; wearing short-sleeved garments or being able to roll or push up sleeves.

[9] At the time of publication of the guideline (March 2012): BS EN 455 Parts 1–4 Medical gloves for single use.

[10] For guidance see (at the time of publication of the guideline [March 2012]): Safe management of healthcare waste (2011).

[11] The updated recommendation contains 'should' rather than 'must' (which is in the 2003 guideline) because the GDG considered that this is not covered by legislation (in accordance with the NICE guidelines manual, 2009).

[12] It is acceptable to bend needles when they are part of an approved sharps safety device.

[13] At the time of publication of the guideline (March 2012): UN3291 and BS 7320.

[14] The text 'Patients managing their own catheters, and their carers, must be educated about the need for hand decontamination…' has replaced 'Carers and patients managing their own catheters must wash their hands…' in the 2003 guideline.

© NICE 2012. All rights reserved. Last modified March 2012

[15] At the time of publication of the guideline (March 2012), no antibiotics have a UK marketing authorisation for this indication. Informed consent should be obtained and documented.

[16] The GDG defined trauma as frank haematuria after catheterisation or two or more attempts of catheterisation.

[17] The updated recommendation contains 'vascular access device' rather than 'central venous catheter'. This change has been made because peripherally inserted catheters were included in the scope of the guideline update.

[18] The GDG considered that Aseptic Non Touch Technique (ANTT™) is an example of an aseptic technique for vascular access device maintenance, which is widely used in acute and community settings and represents a possible framework for establishing standardised guidance on aseptic technique.

© NICE 2012. All rights reserved. Last modified March 2012

2 Notes on the scope of the guidance

NICE guidelines are developed in accordance with a scope that defines what the guideline will and will not cover.

How this guideline was developed

NICE commissioned the National Clinical Guideline Centre to develop this guideline. The Centre established a Guideline Development Group (see appendix A), which reviewed the evidence and developed the recommendations. An independent Guideline Review Panel oversaw the development of the guideline (see appendix B).

There is more information about how NICE clinical guidelines are developed on the NICE website and in How NICE clinical guidelines are developed: an overview for stakeholders, the public and the NHS.

© NICE 2012. All rights reserved. Last modified March 2012

3 Implementation

NICE has developed tools to help organisations implement this guidance.

© NICE 2012. All rights reserved. Last modified March 2012

4 Research recommendations

The Guideline Development Group has made the following recommendations for research, based on its review of evidence, to improve NICE guidance and patient care in the future.

4.1 Standard principles of infection prevention and control

What are the barriers to compliance with the standard principles of infection prevention and control that patients and carers experience in their own homes?

Why this is important

Recent changes to the delivery of healthcare mean that care is increasingly delivered within a patient's home environment. Infection prevention in this setting is just as important as in hospital. There are currently approximately 6 million unpaid carers in the UK, a number that is likely to increase with an aging population. The association between carer training and infection rates is unknown. No evidence of surveillance of healthcare-associated infections in the community is currently available in the UK.

A qualitative study is needed to investigate the themes surrounding the barriers to patient and carer compliance with the standard principles of infection prevention in their own homes. It would be important to assess whether lack of awareness or knowledge is a barrier. If patients and carers have received education, this should be assessed to see if this was applicable to the patient's home setting. Areas of low compliance in the home environment need to be identified. The findings could have far-reaching implications for discharge planning and duty of care.

4.2 Hand decontamination

When clean running water is not available, what is the clinical and cost effectiveness of using wipes, gels, handrubs or other products to remove visible contamination?

Why this is important

Community healthcare workers often encounter challenges in carrying out hand decontamination when there is no access to running water. This particularly affects ambulance service staff, who often provide emergency care at locations where running water is not available. No evidence

© NICE 2012. All rights reserved. Last modified March 2012

from randomised controlled trials is available on the most effective way for community-based healthcare workers to remove physical contamination, such as blood, from their hands in the absence of running water. In recent years, hand decontamination products that can be used without running water, such as gels, handrubs and wipes, have become available. However, their efficacy and suitability in actual clinical practice for use with visibly dirty hands has not been determined. A randomised controlled trial is required to compare hand wipes (alcohol and antiseptic), hand gels and other hand decontamination products that can be used without running water, to determine the most effective way to remove physical dirt in the absence of running water, in order to make a recommendation for their use in real situations. The primary outcome measure should be colony-forming units on the basis of the adenosine triphosphate (ATP) surface test.

4.3 Intermittent urinary catheters: catheter selection

For patients performing intermittent self-catheterisation over the long term, what is the clinical and cost effectiveness of single-use non-coated versus single-use hydrophilic versus single-use gel reservoir versus reusable non-coated catheters with regard to the following outcomes: symptomatic urinary tract infections, urinary tract infection-associated bacteraemia, mortality, patient comfort and preference, quality of life, and clinical symptoms of urethral damage?

Why this is important

Long-term (more than 28 days) intermittent self-catheterisation is performed by many people living in the community. It is important that the choice between intermittent catheters is informed by robust evidence on clinical and cost effectiveness.

The cost-effectiveness model developed for this guideline combined evidence of clinical effectiveness, costs and quality of life with respect to symptomatic urinary tract infection and associated complications. The results of the analysis showed that reusable non-coated catheters were the most cost-effective option for intermittent self-catheterisation. However, the clinical evidence informing this model was of low to very low quality. Currently, non-coated catheters are considered to be single-use devices. In order to make an 'off-licence' recommendation for the use of these catheters, better quality evidence is needed.

A four-arm randomised controlled trial is required. The trial population should be diverse, including wheelchair users, people with spinal cord injuries and people over 16 who regularly

© NICE 2012. All rights reserved. Last modified March 2012

self-catheterise. The primary outcome measures should be incidence of symptomatic urinary tract infections, urinary tract infection-associated bacteraemia, mortality, patient comfort and preference, quality of life, clinical symptoms of urethral damage, and costs.

4.4 Indwelling urinary catheters: catheter selection

For patients using a long-term indwelling urinary catheter, what is the clinical and cost effectiveness of impregnated versus hydrophilic versus silicone catheters in reducing symptomatic urinary tract infections, encrustations and/or blockages?

Why this is important

Long-term indwelling catheters (both urethral and suprapubic) are commonly used in both hospital and community care settings. Long-term catheterisation carries a significant risk of symptomatic urinary tract infection, which can lead to more serious complications. Several different types of impregnated and hydrophilic long-term indwelling catheters on the market claim to be more effective than non-coated catheters, but are also more expensive.

The clinical evidence review for the guideline revealed an absence of evidence for the effectiveness of indwelling catheters over the long term. A comparison of impregnated (for example, with silver), hydrophilic and silicone catheters is needed. The primary outcome measures should be symptomatic urinary tract infections, encrustations, blockages, cost/resource use and quality of life. Secondary outcome measures should include the mean number of days the catheter remains in situ (mean dwell time) and patient comfort.

4.5 Indwelling urinary catheters: antibiotic prophylaxis

When recatheterising patients who have a long-term indwelling urinary catheter, what is the clinical and cost effectiveness of single-dose antibiotic prophylaxis in reducing symptomatic urinary tract infections in patients with a history of urinary tract infections associated with catheter change?

Why this is important

The immediate clinical and economic impact of urinary tract infection is so great that patients at risk of infection are sometimes offered the option to receive prophylactic antibiotics. However, the

© NICE 2012. All rights reserved. Last modified March 2012

widespread use of antibiotics, including their prophylactic use, has been identified as a major factor in the increasing levels of antibiotic resistance observed across England and Wales. There is currently an absence of evidence about the short-term and long-term effects of prophylactic antibiotic use during catheter change. The GDG identified this as an important area for research to establish the benefits and harms of this practice in order to develop future guidance (the recommendation on this topic in the current guideline was based on GDG consensus).

A randomised controlled trial or cohort trial comparing single-dose antibiotic prophylaxis with selected major antibiotic groups is needed. The primary outcome measures should be symptomatic urinary tract infection, cost and quality of life. This is an important area for patients as it could minimise the inappropriate use of antibiotics

4.6 Vascular access devices: skin decontamination

What is the clinical and cost effectiveness of 2% chlorhexidine in alcohol versus 0.5% chlorhexidine in alcohol versus 2% chlorhexidine aqueous solution versus 0.5% chlorhexidine aqueous solution for cleansing skin (before insertion of peripheral vascular access devices [VADs] and during dressing changes of all VADs) in reducing VAD-related bacteraemia and VAD site infections?

Why this is important

The effective management of VADs is important for reducing phlebitis and bacteraemia. In the community, compliance is improved when a single solution is used for all aspects of VAD-related skin care. There is no direct evidence comparing different percentages of chlorhexidine in aqueous and alcohol solutions, and little evidence on the use of such solutions in the community. A randomised controlled trial is required to compare the clinical and cost effectiveness of the different solutions available. The trial should enrol patients in the community with a VAD. The protocol would need to use the same skin preparation technique regardless of solution, and could also investigate the effects of decontamination technique and drying time. The primary outcome measures should be rate of VAD-related bacteraemia, rate of VAD site infections, mortality, cost and quality of life. Secondary outcome measures should include visual infusion phlebitis (VIP) score, insertion times and skin irritation.

© NICE 2012. All rights reserved. Last modified March 2012

5 Other versions of this guideline

5.1 Full guideline

The full guideline, Infection: prevention and control of healthcare-associated infections in primary and community care, contains details of the methods and evidence used to develop the guideline. It is published by the National Clinical Guideline Centre.

5.2 NICE pathway

The recommendations from this guideline have been incorporated into a NICE pathway.

5.3 Information for the public

NICE has produced information for the public explaining this guideline.

We encourage NHS and voluntary sector organisations to use text from this information in their own materials about prevention and control of healthcare-associated infections in primary and community care.

© NICE 2012. All rights reserved. Last modified March 2012

6 Related NICE guidance

Published

- Prevention and control of healthcare-associated infections quality improvement guide. NICE advice (2011).
- Tuberculosis. NICE clinical guideline 117 (2011).
- Lower urinary tract symptoms. NICE clinical guideline 97 (2010).
- Needle and syringe programmes. NICE public health guidance 18 (2009).
- Surgical site infection. NICE clinical guideline 74 (2008).
- Prophylaxis against infective endocarditis. NICE clinical guideline 64 (2008).
- Urinary tract infection in children. NICE clinical guideline 54 (2007).
- Urinary incontinence. NICE clinical guideline 40 (2006).
- Nutrition support in adults. NICE clinical guideline 32 (2006).

Under development

NICE is developing the following guidance:

- Intravenous fluid therapy in adults in hospital. NICE clinical guideline. Publication expected June 2013.
- Urinary incontinence in neurological disease. NICE clinical guideline. Publication expected August 2012.
- Stroke rehabilitation. NICE clinical guideline. Publication expected 2013.

© NICE 2012. All rights reserved. Last modified March 2012

7 Updating the guideline

NICE clinical guidelines are updated so that recommendations take into account important new information. New evidence is checked 3 years after publication, and healthcare professionals and patients are asked for their views; we use this information to decide whether all or part of a guideline needs updating. If important new evidence is published at other times, we may decide to do a more rapid update of some recommendations. Please see our website for information about updating the guideline.

© NICE 2012. All rights reserved. Last modified March 2012

Appendix A: The Guideline Development Group, National Collaborating Centre and NICE project team

Guideline Development Group (2012)

Carol Pellowe (Chair)
Senior Lecturer Infection Control, Florence Nightingale School of Nursing and Midwifery, King's College, London

Elizabeth Gibbs
Patient member, Member of National Alliance of Childhood Cancer Parents Organisations (NACCPO)

Ellie Hayter
Professional Practice Lead, Sussex Community NHS Trust, West Sussex

Zara Head
Nurse Practitioner, Doncaster

Eugenia Lee
General Practitioner, Thamesmead, London

Michael Nevill
Infection Control Lead, British Pregnancy Advisory Service (bpas), Warwickshire

Brian Pullen
Infection Control Manager and Registered Paramedic, South East Coast Ambulance Service NHS Foundation Trust

Godfrey Smith
Consultant Medical Microbiologist, and Infection Prevention Doctor, Royal Liverpool and Broadgreen University Hospitals NHS Trusts (member until GDG meeting 7)

Julian Spinks
General Practitioner, Strood, Kent

© NICE 2012. All rights reserved. Last modified March 2012

Sally Stucke
Consultant Paediatrician (Community Child Health), Wye Valley NHS Trust (formerly Hereford Hospital NHS Trust)

Graham Tanner
Patient member, Member of National Concern for Healthcare Infections (NCHI)

Sue Wright
Lead Nurse, Infection Prevention and Control, Cornwall and the Isles of Scilly Primary Care Trust, Cornwall

Guideline Development Group (2003)

Anne Mulhall (Chair)
Independent Consultant

Robert Pratt
Project Director, Thames Valley University, London

Carol Pellowe
Project Manager, Thames Valley University, London

Godfrey Smith
Honorary Consultant Microbiologist, Royal Liverpool Hospital

Sarah Chieveley Williams
Consultant Anaesthetist, University College Hospital NHS Trust, Harrow

Joe Peters
Consultant Surgeon, Princess Alexandra Hospital, Harlow

PJR Shah
Senior Lecturer in Urology and Consultant Urologist, University College London Hospital NHS Trust

© NICE 2012. All rights reserved. Last modified March 2012

David Silk
Consultant Physician, Central Middlesex Hospital, London

Jim Newey
General Practitioner, Weaver Vale Practice, Runcorn

Jo Bray
Nutrition Nurse Specialist, Central Middlesex Hospital, London

Daphne Colpman
Continence Adviser, University College London Hospitals NHS Trust

Anne Carroll
Community Infection Control Nurse, South West Kent Primary Care Trust

Nicola Pratelli
Community Infection Control Nurse, South West London Health Protection Unit

Ian McQuarrie
District Nurse Team Leader, Langthorne Health Centre, London

Carolyn Wheatley
Patient representative, Patients on Intravenous and Nasogastric Nutrition Therapy (PINNT)

Gerry Richardson
Research Fellow (Health Economist), Centre for Health Economics, York

Lisa Cooper
Head of Dietetics, St Catherine's Hospital, Wirral

Elizabeth McInnes
Senior Research and Development Fellow, National Collaborating Centre for Nursing and Supportive Care

© NICE 2012. All rights reserved. Last modified March 2012

Guideline Development Group co-optees (2012)

Kelly Alexander
Lead Antibiotic Pharmacist, Central Manchester Foundation NHS Trust

Daphne Colpman
Incontinence Specialist, St Helier Hospital, Epsom

Andrew Jackson
Consultant Nurse, Intravenous Therapy and Care, Rotherham General Hospital

Vera Todorovic
Consultant Dietitian in Clinical Nutrition, Dietetic and Nutrition Services, Bassetlaw Hospital, Worksop

Professor Mark Wilcox
Consultant/Clinical Director of Microbiology/Pathology, Leeds Teaching Hospitals NHS Trust; Professor of Medical Microbiology, University of Leeds; Lead on *Clostridium difficile* infection in England, Health Protection Agency.

National Clinical Guideline Centre

Joanna Ashe
Senior Information Scientist

Nina Balachander
Senior Research Fellow and Project Manager (until September 2010)

Sarah Bermingham
Health Economist

Caroline Blaine
Research Fellow (from January 2011)

Lee-Yee Chong
Senior Research Fellow

© NICE 2012. All rights reserved. Last modified March 2012

Karen Head
Senior Research Fellow and Project Manager (from September to December 2010)

Sarah Hodgkinson
Senior Research Fellow and Project Manager

Jennifer Hill
Guidelines Operations Director (until March 2011)

Susan Latchem
Guidelines Operations Director (from March 2011)

Smita Padhi
Research Fellow (from January 2011)

NICE project team

Christine Carson
Programme Director, Centre for Clinical Practice

Sarah Dunsdon
Guideline Commissioning Manager

Natalie Boileau
Guideline Coordinator

Judith Thornton
Technical Lead

Prashanth Kandaswamy
Health Economist

Lyn Knott, Katie Prickett
Editors

© NICE 2012. All rights reserved. Last modified March 2012

Appendix B: The Guideline Review Panel

The Guideline Review Panel is an independent panel that oversees the development of the guideline and takes responsibility for monitoring adherence to NICE guideline development processes. In particular, the panel ensures that stakeholder comments have been adequately considered and responded to. The panel includes members from the following perspectives: primary care, secondary care, lay, public health and industry.

Guideline Review Panel (2012)

Mr Peter Robb (Chair)
Consultant ENT Surgeon, Epsom & St Helier University Hospitals and The Royal Surrey County NHS Trusts

Dr Aomesh Bhatt
Director of Regulatory & Medical Affairs (North Europe), Reckitt Benckiser Healthcare (UK)

Dr Christine Hine
Consultant in Public Health (Acute Commissioning), Bristol and South Gloucestershire PCTs

Dr Greg Rogers
General Practitioner, Kent

Mr John Seddon
Lay member

Guidelines Advisory Committee (2003)

Professor Martin Eccles (Chairman of the Committee)
Professor of Clinical Effectiveness, Centre for Health Services Research, University of Newcastle upon Tyne

Miss Amanda Wilde
Association of British Healthcare Industries (ABHI) representative

© NICE 2012. All rights reserved. Last modified March 2012

Mrs Joyce Cormie
Lay representative

Mrs Judy Mead
Head of Clinical Effectiveness, Chartered Society of Physiotherapy

Dr Marcia Kelson
Director, Patient Involvement Unit for NICE, College of Health, London

© NICE 2012. All rights reserved. Last modified March 2012

Changes after publication

August 2013: Recommendation 1.1.4.2 – a clarification has been made to this recommendation on the disposal of used standard needles.

October 2012: minor maintenance.

May 2012: minor maintenance.

© NICE 2012. All rights reserved. Last modified March 2012

About this guideline

NICE clinical guidelines are recommendations about the treatment and care of people with specific diseases and conditions in the NHS in England and Wales.

The guideline was developed by the National Clinical Guideline Centre, which is based at the Royal College of Physicians. The Collaborating Centre worked with a group of healthcare professionals (including consultants, GPs and nurses), patients and carers, and technical staff, who reviewed the evidence and drafted the recommendations. The recommendations were finalised after public consultation.

The methods and processes for developing NICE clinical guidelines are described in The guidelines manual.

This guidance is a partial update of NICE clinical guideline 2 (published June 2003) and replaces it.

Recommendations are marked as **[2003]**, **[2003, amended 2012]**, **[2012]** or **[new 2012]**:

- **[2003]** indicates that the evidence has not been updated and reviewed since 2003
- **[2003, amended 2012]** indicates that the evidence has not been updated and reviewed since 2003, but a small amendment has been made to the recommendation
- **[2012]** indicates that the evidence has been reviewed but no changes have been made to the recommendation
- **[new 2012]** indicates that the evidence has been reviewed and the recommendation has been updated or added.

The recommendations from this guideline have been incorporated into a NICE pathway. We have produced information for the public explaining this guideline. Tools to help you put the guideline into practice and information about the evidence it is based on are also available.

Your responsibility

This guidance represents the view of NICE, which was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. However, the guidance does not override the individual

© NICE 2012. All rights reserved. Last modified March 2012

responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer, and informed by the summary of product characteristics of any drugs they are considering.

Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way that would be inconsistent with compliance with those duties.

Copyright
© National Institute for Health and Clinical Excellence 2012. All rights reserved. NICE copyright material can be downloaded for private research and study, and may be reproduced for educational and not-for-profit purposes. No reproduction by or for commercial organisations, or for commercial purposes, is allowed without the written permission of NICE.

Contact NICE

National Institute for Health and Clinical Excellence
Level 1A, City Tower, Piccadilly Plaza, Manchester M1 4BT

www.nice.org.uk
nice@nice.org.uk
0845 003 7780