Infection control

NICE CG139: 2012

This guideline covers the prevention and control of healthcare-associated infections in:
- primary care settings including general practices, dental clinics, health centres, polyclinics and the ambulance service,
- community care settings including the patient’s home, residential homes, nursing homes, schools and prisons.

This guideline updates and replaces NICE CG2; 2003.

Definition of terms

Hand decontamination: the use of handrub or handwashing to reduce the number of bacteria on the hands.
CRBSI: catheter-related bloodstream infection.
N: New recommendation.

Legal requirements - ‘must’ recommendations

There is a legal duty to implement some of the recommendations in this guideline. The word **must** is used to highlight these recommendations.

- See full guideline for details of the relevant legislation.

Standard principles

General advice

- Everyone involved in providing care should be:
  - educated about standard principles of infection prevention and control and,
  - trained in hand decontamination, use of personal protective equipment, and the safe use and disposal of sharps. N
- Healthcare workers **must** have appropriate supplies of:
  - materials for hand decontamination,
  - sharps containers,
  - personal protective equipment. N
- All patients and carers should be educated 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 hand decontamination. N

Hand decontamination

- Decontaminate hands immediately:
  - before and after every episode of direct patient contact or care,
  - after any exposure to body fluids,
  - after any other activity or contact with a patient's surroundings that could result in hands becoming contaminated,
  - after removal of gloves. N

First-line: Use a handrub that conforms to current British standards (BS EN 1500: 1997).

However, in the following circumstances, liquid soap and water must be used:
- when hands are visibly soiled or potentially contaminated with body fluids, or
- when there is potential for the spread of alcohol-resistant organisms (such as *Clostridium difficile* or other organisms that cause diarrhoeal illness). N

- All healthcare workers should ensure they can decontaminate their hands at all times by:
  - being bare below the elbow when delivering direct patient care, i.e. wearing short-sleeved garments or being able to roll/push up sleeves,
  - removing wrist and hand jewellery i.e. not wearing a wrist-watch or stoned rings,
  - keeping fingernails short, clean and free of nail polish,
  - covering cuts/abrasions with waterproof dressings. N

Handwashing technique

- Effective handwashing involves: preparation, washing and rinsing, drying – see full guideline for detailed method.

Use of personal protective equipment

- Personal protective equipment is used to protect a person from risk to their health and safety whilst at work e.g. gloves, apron, eye and face protection.
- Selection of protective equipment **must** 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.

Gloves

- Gloves **must** be worn for:
  - invasive procedures,
  - contact with sterile sites and non-intact skin or mucous membranes,
  - all activities that carry a risk of exposure to blood, body fluids, secretions or excretions, or to sharp or contaminated instruments.
- Gloves should be appropriate for the task and **must** conform to current European Union legislation (CE marked as medical gloves for single use - BS EN 455 Parts 1-4: 2000). N
- Gloves **must** be worn as single-use items. They must be put on immediately before patient contact or treatment and removed when the activity is complete.
- Gloves must be changed between caring for different patients and between different care or treatment activities for the same patient.
- For patients, carers and healthcare workers who have a documented sensitivity to natural rubber latex - use natural rubber latex-free gloves. N
- **Do NOT** use polythene gloves for clinical interventions. N

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Other protective equipment

- 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
  - 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. N
- Plastic aprons or gowns should only be used for one procedure or one episode of direct patient care.
- Face masks and eye protection must be worn where there is a risk of blood, body fluids, secretions or excretions splashing into the face and eyes.
- Respiratory protective equipment, e.g. a particulate filter mask, must be used when clinically indicated.

Waste disposal

- In accordance with current national legislation* and local policy, all healthcare waste must be:
  - segregated into appropriate colour-coded storage or waste disposal bags or containers, N
  - labelled, stored, transported and disposed of. N
- Healthcare waste includes protective equipment, gloves, disposable plastic aprons and gowns.

Safe use and disposal of sharps

- Sharps should not be passed directly from hand to hand, and handling should be kept to a minimum.
- Used needles must not be:
  - bent or broken before disposal, or recapped.
  - In dentistry, if recapping or disassembly is unavoidable, a risk assessment must be undertaken and appropriate safety devices should be used. N
- Used sharps must be discarded immediately into a sharps container conforming to current standards (UN3291, BS7320). N
- Sharps containers must:
  - be located in a safe position that avoids spillage,
  - at a height that allows the safe disposal of sharps,
  - be away from public access areas,
  - be out of the reach of children,
  - not be used for any other purpose than sharps disposal,
  - not be filled above the fill line,
  - be disposed of when the fill line is reached.
- Containers should be temporarily closed when not in use and disposed of every 3 months, even if not full, in accordance with local policy. N
- Train and assess all users in the correct use and disposal of sharps and sharps safety devices. N

Patients with long-term urinary catheters, or with enteral feeding or vascular access devices

Education of patients, carers and healthcare workers

- Patients, carers and healthcare workers should be educated about and trained in techniques for hand decontamination, prevention of infection and management of urinary catheters, enteral feeding tubes or vascular access devices as appropriate, before being discharged from hospital.
- Follow-up training and ongoing support of patients and carers should be available for the duration of long-term catheterisation, home enteral tube feeding or use of vascular access devices.
- Where appropriate, healthcare workers should be trained, and assessed as competent, in using and consistently adhering to the infection prevention practices described in this guideline.

Medical devices

Long-term urinary catheters

See full guideline for details on assessment, insertion and maintenance of catheters.
- Healthcare workers must decontaminate their hands and wear a new pair of clean non-sterile gloves before manipulating a patient’s catheter. Hands must be decontaminated after removing gloves.
- Do NOT use bladder instillations or washouts to prevent catheter-associated infections.
- Do NOT routinely give antibiotic prophylaxis before changing a long-term indwelling urinary catheter.
- Consider antibiotic prophylaxis for patients who:
  - have a history of symptomatic urinary tract infection after catheter change or,
  - experience trauma during catheterisation. N

Enteral feeding

See full guideline for details on preparation, storage and administration of feeds.

Care of insertion site and feeding tube

- Wash the stoma daily with water and dry thoroughly.
- To prevent blockages:
  - flush the tube before and after feeding or giving medicines using single-use or single-patient-use (reusable) syringes,
  - use fresh tap water for patients who are not immunocompromised,
  - use cooled, freshly boiled water or sterile water from a new container for patients who are immunocompromised. N

Vascular access devices

See full guideline for details on the care of the vascular access device site.
- Use chlorhexidine gluconate in 70% alcohol to decontaminate the injection port or vascular access device catheter hub before and after accessing the system. N
- Use an aqueous solution of chlorhexidine gluconate if the manufacturer’s recommendations prohibit the use of alcohol with their catheter. N
- If using needleless devices, minimise the risk of contamination by decontaminating the access port with either alcohol or an alcoholfic solution of chlorhexidine gluconate before and after using it to access the system.
- Do NOT use in-line filters routinely for infection prevention.
- Do NOT use antibiotic lock solutions or systemic anticoagulants routinely to prevent CRBSI.
- Do NOT use systemic antimicrobial prophylaxis routinely to prevent catheter colonisation or CRBSI, either before insertion or during the use of a central venous catheter.
- Use sterile 0.9% sodium chloride injection to flush and lock catheter lumens.
- Flush and lock implanted ports or opened-ended catheter lumens with heparin sodium flush solutions, if the manufacturer recommends this.
- To prevent the contamination of infusates, do NOT use multidose vials. N

Visit the NICE Pathway: Prevention and control of healthcare associated infections.