

Clinical Guideline 2

Infection control

Prevention of healthcare-associated infection in primary and community care

Issue date: June 2003

This sheet is one of four that form part of the NICE guideline on infection control (see above). The others concern the recommendations on standard principles (no. 1), care of patients with long-term urinary catheters (no. 2) and care during enteral feeding (no. 3). Copies of the NICE guideline can be obtained free of charge from the NICE website (www.nice.org.uk) or from the NHS Response Line (phone 0870 1555 455 and quote reference number N0218). A version for patients, their carers and the public, called *Prevention of healthcare-associated infections in primary and community care*, is also available from the website and the NHS Response Line (quote reference number N0219 for an English-only version and N0220 for a version in English and Welsh).

Information on the full guideline produced by Thames Valley University under the auspices of the National Collaborating Centre for Nursing and Supportive Care, from which the NICE guideline has been prepared, is given in Section 5 of the NICE guideline.

This guidance is written in the following context:

This guidance represents the view of the Institute, which was arrived at after careful consideration of the evidence available. Health professionals are expected to take it fully into account when exercising their clinical judgment. The guidance does not, however, override the individual responsibility of health professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.

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ISBN: 1-84257-303-9

Published by the National Institute for Clinical Excellence

June 2003

Artwork by LIMA Graphics, Frimley, Surrey

Printed by Oaktree Press, London

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N0218 50k 1P Jun 03 (OAK)

Developed by Thames Valley University under the auspices
of the National Collaborating Centre for Nursing and Supportive Care

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(No. 4) Care of patients with central venous catheters

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Care of patients with central venous catheters

Education of patients, their carers and healthcare personnel

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 central venous catheter.

Community healthcare personnel caring for a patient with a central venous catheter should be trained, and assessed as competent, in using and consistently adhering to the infection prevention practices described in this guideline.

Follow-up training and support should be available to patients with central venous catheters and their carers.

General principles for catheter management

The injection port or catheter hub should be decontaminated using either alcohol or an alcoholic solution of chlorhexidine gluconate before and after it has been used to access the system.

In-line filters should not be used routinely for infection prevention.

Antibiotic lock solutions should not be used routinely to prevent catheter-related bloodstream infections (CRBSI).

Preferably, a sterile 0.9 percent sodium chloride injection should be used to flush and lock catheter lumens.

Systemic anticoagulants should not be used routinely to prevent CRBSI.

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.

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

Administration sets used for total parenteral nutrition infusions should generally be changed every 24 hours. If the solution contains only glucose and amino acids, administration sets in continuous use do not need to be replaced more frequently than every 72 hours.

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.

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

When needleless devices are used, healthcare personnel should ensure that all components of the system are compatible and secured, to minimise leaks and breaks in the system.

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 parental nutrition, and all lumens must be handled with the same meticulous attention to aseptic technique.

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.

If needleless devices are used, the manufacturer's recommendations for changing the needleless components should be followed.

Catheter site care

Preferably, a sterile, transparent, semipermeable polyurethane dressing should be used to cover the catheter site.

If a patient has profuse perspiration, or if the insertion site is bleeding or oozing, a sterile gauze dressing is preferable to a transparent, semi-permeable dressing.

Gauze dressings should be

changed when they become damp, loosened or soiled, and the need for a gauze dressing should be assessed daily. A gauze dressing should be replaced by a transparent dressing as soon as possible.

Dressings used on tunnelled or implanted CVC sites should be replaced every 7 days until the insertion site has healed, unless there is an indication to change them sooner.

An alcoholic chlorhexidine gluconate solution should be

used to clean the catheter site during dressing changes, and allowed to air dry. An aqueous solution of chlorhexidine gluconate should be used if the manufacturer's recommendations prohibit the use of alcohol with the product.

Healthcare personnel 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.

Transparent dressings should be changed every 7 days, or sooner if they are no longer intact or moisture collects under the dressing.

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

General asepsis

An aseptic technique must be used for catheter site care and for accessing the system.

Before accessing or dressing central venous catheters, hands must be decontaminated either by washing with an antimicrobial liquid soap and water, or by using an alcohol handrub.

Hands that are visibly soiled or contaminated with dirt or organic material must be washed with soap and water before using an alcohol handrub.

Following hand decontamination, clean gloves and a no-touch technique or sterile gloves should be used when changing the insertion site dressing.