



Royal College
of Nursing

Catheter care

RCN guidance for nurses



Acknowledgements

RCN Continence Forum Committee

Liz Bonner, Rona Agnew, Tony Brooks, Ali Wileman, Alison Bardsley, Kath Wilkinson, Stephen Miles, Joanne Mangnall.

Angela Rantell – Senior Urogynaecology Nurse Specialist Kings College Hospital

Barbara Constable – Continence Nurse Specialist Cambridge Community Services NHS Trust

Sue Foxley – Nurse Consultant (retired) ACA

Gaye Kyle – Specialist Practitioner in Palliative Care, independent lecturer, and Education Lead for ACA

Wendy Ness – Colorectal Nurse Specialist, The Lancaster Suite, Croydon University Hospital, ACA

Amanda Cheesley – RCN Long Term Conditions Adviser

Tanis Hand – RCN Health Care Assistant Adviser

Rose Gallagher – RCN Infection Prevention and Control Adviser

Original authors

R Addison, S Foxley, C Mould, W Naish, H Oliver, J Sullivan, S Thomas, J Reid, K Logan OBE, S Jones, A Phillimore, and A Vaughan

Supported by an unrestricted educational grant from Coloplast and Skills for Health



RCN Legal Disclaimer

This publication contains information, advice and guidance to help members of the RCN. It is intended for use within the UK but readers are advised that practices may vary in each country and outside the UK.

The information in this booklet has been compiled from professional sources, but its accuracy is not guaranteed. While every effort has been made to ensure that the RCN provides accurate and expert information and guidance, it is impossible to predict all the circumstances in which it may be used. Accordingly, the RCN shall not be liable to any person or entity with respect to any loss or damage caused or alleged to be caused directly or indirectly by what is contained in or left out of this information and guidance.

Published by the Royal College of Nursing, 20 Cavendish Square, London, W1G 0RN

© 2012 Royal College of Nursing. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted in any form or by any means electronic, mechanical, photocopying, recording or otherwise, without prior permission of the Publishers. This publication may not be lent, resold, hired out or otherwise disposed of by ways of trade in any form of binding or cover other than that in which it is published, without the prior consent of the Publishers.

Catheter care

RCN guidance for nurses

Contents

Foreword	2	11. Trial without catheter	30
1. Introduction	5	12. Intermittent self-catheterisation	33
2. Legislation, policy and good practice	6	13. Catheter care review and follow up	36
3. Competence	10	14. Patient education	40
4. Documentation	13	15. Medication and catheterisation	43
5. Anatomy and physiology	16	16. Infection control and catheter care	45
6. Consent	19	17. Catheter guidance for the end of life	48
7. Reasons for, and decisions influencing, catheterisation	21	18. Environmental nursing care considerations	49
8. Risk assessment	23	19. Health care assistants	51
9. Catheter related equipment	25	20. Organisations	53
10. Suprapubic catheterisation	27	21. References and further reading	54

Foreword

This revised publication aims to encourage further adoption of the National Occupational Standards (NOS) across all NHS and independent health care sectors, by enabling a full understanding of the standards and providing quality care for patients.

Continence is one of the fundamentals of basic nursing care, and maintaining continence can significantly increase a patient's quality of life. Many people may need the support of continence products such as catheters, to help them manage their everyday activities. Catheters can provide an effective way of draining the bladder, for both short and long-term purposes, and it is therefore important that the NOS are available to guide practice in catheter care.

The NOS relating to catheter care were developed through a partnership between the Royal College of Nursing (RCN) and Skills for Health (SfH) with generous funding by Coloplast.

The work produced by the original authors has been updated, with input from the RCN Continence Care Forum, the Association for Continence Advice (ACA) and other independent health care and academic professionals to give an up to date, easy to use document.

Editor

Angela Billington

Independent Nurse Consultant

The RCN *Catheter care* guidelines have been used extensively by many health care professionals over the years. Not only in influencing their own practice and teaching, but the guidance has also been used and quoted extensively within local policies. It is with great pleasure that we are able to publish this updated publication.

We are indebted to the work done by both present and past members of the RCN Continence Care Forum Committee. For the expertise and willingness of members of ACA, and others who have suggested additions and changes, we are also immensely thankful – their help has been central to the successful revision of this document.

I am also very grateful to Angela Billington who willingly took on the editorship, incorporating the suggested changes and additions, reviewing other parts and updating the reference section.

I hope practitioners will continue to benefit from the use of these guidelines and, more especially, our patients, by the use of good evidence-based practice.

I would also like to thank Skills for Health for ensuring the information on the National Occupational Standards is up to date and also Coloplast for their continuing sponsorship support.

Stephen Miles

Chair, RCN Continence Forum Committee

1

Introduction

In 2006, the RCN and Skills for Health (SfH) jointly identified a need for competences related to continence care. On completion of scoping, development, field testing and approval processes, a competence suite – containing six competences for catheter care – was produced. A full insight into the competency frameworks can be found at the SfH website at www.skillsforhealth.org.uk

Full consultations in all four UK countries were undertaken at local RCN centres, and in September and October 2007 the RCN led a working group to ‘field test’ the competences. The following areas related to catheter care were included in the competence suite:

- insert and secure urethral catheters
- monitor, and help individuals to self-monitor, urethral catheters
- manage suprapubic catheters
- undertake a trial without catheter (TWOC)
- enable individuals to carry out intermittent self-catheterisation
- review catheter care.

The aims of this revised publication are the same as for the original document: to produce further clarity and depth to the six competences related to aspects of catheter care. As before, the design and development of this publication were shaped by a number of considerations and features:

- it was written by, and designed for, a nursing audience
- it aims to link the six approved catheter care related competences within one document and enhance core themes
- the order of content within the document aims to reflect that used by Skills for Health in the design of their competences
- that it be written and endorsed by a group of expert practitioners, and represents their collective views and opinions
- each section focuses on a specific statement or group of statements taken from the catheter care related competency,

- that it ‘maps out’ a wide range of Skills for Health competences that relate to that specific aspect of catheter care within each section of the document
- the need to produce an RCN supported publication on catheter care to enhance teaching and other developments within catheter care
- the document is not a literature review and many of the statements are based on clinical experience and expert opinion.

How to use this publication

This publication is a resource and framework for practice; it can be used in a number of ways, including:

- as a practical guide to take the NOS to a user-friendly clinical level within nursing
- forming a catheter care benchmark to reflect and compare competence and practice against, within nursing
- as a point of reference to support academic work related to catheter care for nurses
- as a point of reference for the development of KSF friendly job descriptions related to specialist nurses working within catheter care
- in recruitment plans, advertising, staff selection and appraisals within nursing
- as a nursing resource to support the development of guidelines, policies and protocols related to catheter care at a local level
- as a guide for the development of catheter care related clinical procedures
- to support catheter care related nursing assessment and the effective use of the nursing process at all levels of practice
- to inform integrated catheter care pathways (ICPs)
- as a framework on which to develop catheter care related teaching material, programmes of learning and courses
- to stimulate nursing audit and research activity in catheter care.

Legislation, policy and good practice

What you need to know:

You need to apply:

- legislation, policy and good practice, the current international, European, UK and national legislation, guidelines and local policies, protocols and procedures which affect your work practice in relation to the care of individuals using urinary catheters
- a factual knowledge of the current European and national legislation, national guidelines, organisational policies and protocols in accordance with clinical/corporate governance which affect your work practice in relation to the care of individuals using urinary catheters.

The above statements appear in a significant number of NOS. In essence, they relate to key documents and publications which influence this specific aspect of care, and outline your areas of responsibility.

National Occupational Standards

A number of key documents that relate to catheter care are listed below; this list is not comprehensive or exhaustive in nature. Please use it as a guide to influence you within your area of care and responsibility.

International Continence Society (ICS)

P. Abrams, K.E. Andersson, L. Birder, L. Brubaker, L. Cardozo, C. Chapple, A. Cottenden, W. Davila, D. de Ridder, R. Dmochowski, M. Drake, C. DuBeau, C. Fry, P. Hanno, J. Hay Smith, S. Herschorn, G. Hosker, C. Kelleher, H. Koelbl, S. Khoury, R. Madoff, I. Milsom, K. Moore, D. Newman, V. Nitti, C. Norton, I. Nygaard, C. Payne, A. Smith, D. Staskin, S. Tekgul, J. Thuroff, A. Tubaro, D. Vodusek, A. Wein and J.J. Wyndaele (2009) Fourth international consultation on incontinence recommendations of the international scientific committee: Evaluation and treatment of urinary incontinence, pelvic organ prolapse, and fecal incontinence, *Neurourology and Urodynamics*, 29 (1), pp. 213-240.

Cottenden A, Bliss, D., Fader M., Getliffe K., Herrer H., Paterson J., Szonyi G., Wilde M., (2005) 'Management with continence products', in Abrams P., Cardozo L., Khoury S., Wein A. (eds.), *Third international consultation on incontinence*, Bristol: ICS, pp.149-253.

Haylen B, Riddler D, Freeman R, Swift S, Berghams B, Lee J, Monga A, Petri E, Rixk D, Sand P and Schaer G (2010) An International Urogynaecological Association IUGA / International Continence Society ICS joint

report on the terminology for female pelvic floor dysfunction, *International Urogynaecology Journal*, 21, pp. 5-26.

McConnell J, Denis L, Akaza H, Khoury S, Schalken J, (2006) Male lower urinary tract dysfunction – evaluation and management, *Sixth international consultation on new developments in prostate cancer and prostate disease*.

Staskin D, Hilton P, Emmanuel A, Goode P, Mills I, Shull B, Yoshida M, Zubieta R (2005) Initial assessment of incontinence in Abrams P, Cardozo L, Khoury S, Wein A, *Third international consultation on incontinence*, Bristol: ICS, pp. 485-518.

European Association of Urology (EAU)

De La Rosette J, Alivizatos G, Madersbacher S, Rioja Sanz C, Nording J and Emberton M (2002) *Guidelines on benign prostatic hyperplasia*, Arnhem: EAU.

Naber KG, Bergman B, Bishop MC, Bjerklund Johansen TE, Botto H, Lobel B, Jimenez Cruz F and Selvaggi FP (2002) *Guidelines on urinary and male genital tract infections*, Arnhem: EAU.

Thuroff J., Abrams P., Andersson KE., Artibani W Chapple CR, Drake MJ, Hampel C, Neisius A Schroder A., Tubaro A, (2011) *EAU Guidelines on incontinence European Urology* 59 pp387-400.

Benyan M, de Laat T, Greenwood J, Van Opstal T, Lindblom E, Emblem EL (2005) *Good practice in health*

care – urethral catheterisation – Section 1 – male catheterisation, European Association of Urology Nurses (EAUN).

Geng V, Emblem EL, Gratzl S, Incesu O, Jenson K (2006) *Good practice in health care – urethral catheterisation – section 2 – male, female and paediatric intermittent catheterisation*, European Association of Urology Nurses (EAUN).

Medicines and Healthcare Products Regulatory Agency (MHRA)

Medical Devices Agency (2000) *Equipped to care. The safe use of medical devices in the 21st century*, London: MDA.

Medicines and Healthcare products Regulatory Agency (2006) *Information about the EC medical devices directives. Bulletin No. 8*, London: MHRA.

Medicines and Healthcare products Regulatory Agency (2006) *The medical devices regulations: implications on health care and other related establishments. Bulletin No. 18*, London: MHRA.

Medicines and Healthcare products Regulatory Agency (2007) *Buyers' guide: Foley catheter valves*, London: MHRA.

Medicines and Healthcare products Regulatory Agency (MHRA) (2007) *The CE mark. Bulletin No. 2*, London: MHRA.

Association for Continence Advice (ACA)

The Association's notes on good practice (2006) are available to members only by accessing the ACA website at www.aca.uk.com

No. 7: Intermittent catheterisation

No. 8: Urethral catheterisation

No. 9: Suprapubic catheters

No. 10: Catheter maintenance solutions

Association for Continence Advice (2004) *Continence resource pack for care homes*, Bathgate: ACA.

Royal College of Nursing (RCN)

Royal College of Nursing (2002) *Chaperoning: the role of the nurse and the rights of patients*, London: RCN (reprinted 2006).

Available at www.rcn.org.uk/publications

Royal College of Nursing (2004) *The future nurse – the RCN vision*, London: RCN. Available at www.rcn.org.uk/publications

Royal College of Nursing (2006) *Essence of care-continence care for people with Parkinson's Disease*, London: RCN. Available at www.rcn.org.uk/publications

Royal College of Nursing (2006) *Improving continence care for patients – the role of the nurse*, London: RCN. Available at www.rcn.org.uk/publications

Royal College of Nursing (2006) *Supervision, accountability and delegation of activities to support workers*, London: RCN. Available at www.rcn.org.uk/publications

Royal College of Nursing (2006) *Competencies: an integrated career and competency framework for information sharing in nursing practice*, London: RCN. Available at www.rcn.org.uk/publications

Royal College of Nursing (2007) *Continence care in care homes*, London: RCN. Available at www.rcn.org.uk/publications

Royal College of Nursing (2010) *Pillars of the community: the RCN's UK position on the development of the registered nursing workforce in the community*, London: RCN. Available at www.rcn.org.uk/publications

Royal College of Nursing (2011) *Informed consent in health and social care research*, London: RCN. Available at www.rcn.org.uk/publications

Royal College of Nursing (2011) *HCA Toolkit*, London: RCN. Available at www.rcn.org.uk/publications

Royal College of Nursing (2011) *Principles of nursing practice – the principles*, London: RCN. Available at www.rcn.org.uk/publications

Department of Health

Department of Health (1999) *Saving lives: our healthier nation*, London: DH. Available at www.dh.gov.uk

Department of Health (2001) *Good practice in consent: achieving the NHS Plan commitment to patient-centred consent practice*, London: DH. Available at www.dh.gov.uk

Department of Health (2003) *Winning ways: working together to reduce healthcare associated infection in England*, London: DH. Available at www.dh.gov.uk

Department of Health (2004) *A matron's charter: an action plan for cleaner hospitals*, London: DH. Available at www.dh.gov.uk

Department of Health (2004) *Towards cleaner hospitals and lower rates of infection: a summary of action*, London: DH. Available at www.dh.gov.uk

Department of Health (2005) *The Mental Capacity Act code of practice – Parts 1 and 2*, London: DH.

Department of Health (2005) *Guidance on the role and effective use of chaperones in primary and community care settings*, London: NHS Clinical Governance Support Team. Available at www.dh.gov.uk

Department of Health (2005) *Management, prevention and surveillance of Clostridium difficile: findings from a national survey of NHS acute trusts in England*, London: DH. Available at www.dh.gov.uk

Department of Health (2006) *The Health Act 2006: code of practice for the prevention and control of healthcare associated infections*, London: DH. Available at www.dh.gov.uk

Department of Health (2006) *Third prevalence survey of healthcare associated infections in acute hospitals in England 2006*, London: DH. Available at www.dh.gov.uk

Department of Health (2006) *Our health, our care, our say – investing in the future of community hospitals and service*, London: DH. Available at www.dh.gov.uk

Department of Health (2007) *NHS confidentiality code of practice*, London: DH. Available at www.dh.gov.uk

Department of Health (2007) *Patient confidentiality*, London: DH. Available at www.dh.gov.uk

Department of Health (2007) *Saving lives: reducing infection, delivering clean and safe care*, London: DH. Available at www.dh.gov.uk

Department of Health (2007) *Mental Health Act*, London: DH. Available at www.dh.gov.uk

Department of Health (2008) *The Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance*, London: DH. Available at www.dh.gov.uk

Department of Health (2010) *High impact interventions – care bundles*, London: DH. Available at www.dh.gov.uk

Department of Health (2011) *High Impact Interventions*, London: DH. Available at www.dh.gov.uk

National Institute for Health and Clinical Excellence (NICE)

NICE (2003) *Infection control: prevention of health care associated infection in primary and community care. Clinical guideline ref. CG2* (expected review date March 2012), London: NICE.

NICE (2003) *Management of multiple sclerosis in primary and secondary care. Clinical guideline ref. CG8*, London: NICE.

NICE (2006) *Parkinson's disease: diagnosis and*

management in primary and secondary care. Clinical guideline Ref. CG35, London: NICE.

NICE (2006) *Intrapartum Care. Clinical guideline ref. CG55*, London: NICE.

NICE (2006) *Urinary incontinence: the management of urinary incontinence in women. Clinical guideline ref. CG40*, London: NICE.

NICE (2007) *Urinary tract infection: diagnosis, treatment and long-term management of urinary tract infection in children. Clinical guideline ref. CG54*, London: NICE.

NICE (2010) *The management of lower urinary tract symptoms in men. Clinical guideline ref. CG97*, London: NICE.

National Institute for Health Research

For the titles listed below, search for 'continence care' at www.evidence.nhs.uk/search

NIHR (2006) *Improving continence care for patients: the role of the nurse. Clinical guideline*, London: NIHR.

NIHR (2007) *The role of the nurse in community continence care: a systematic review. Clinical guideline*, London: NIHR.

NIHR (2010) *Continence care in residential and nursing homes. Clinical guideline*, London: NIHR.

NIHR (2010) *Privacy and dignity in continence care: guideline for health and social care settings. Clinical guideline*, London: NIHR.

NIHR (2010) *National Audit of Continence Care. Clinical guideline*, London: NIHR.

NIHR (2010) *Urinary Continence Service: Commissioning and benchmarking tool. Clinical guideline*, London: NIHR.

NIHR (2010) *NICE Quality Standards: Stroke continence management. Clinical guideline*, London: NIHR.

National Patient Safety Agency (NPSA)

The NPSA leads and contributes to improved, safe patient care by informing, supporting and influencing the health sector.

NPSA (2009) *Female urinary catheters causing trauma to adult males*, London: NPSA. Available at: www.nrls.npsa.nhs.uk/resources/type/alerts/?entryid45=59897&p=2 (Accessed 19/02/12) (Web).

NPSA (2009) *Hospital alerted to risks of inserting suprapubic catheters incorrectly*, London: NPSA. Available at: www.npsa.nhs.uk/corporate/news

Nursing and Midwifery Council (NMC)

Nursing and Midwifery Council (2007a) *NMC record keeping guidance*, London: NMC. Available at www.nmc-uk.org

Nursing and Midwifery Council (2007b) *New advice for delegation to non-regulated health care staff*, London: NMC. Available at www.nmc-uk.org

Nursing and Midwifery Council (2008) *The Code: standards for conduct, performance and ethics for nurses and midwives*, London: NMC. Available at www.nmc-uk.org

Nursing and Midwifery Council (2010) *Lack of competence*, London: NMC. Available at www.nmc-uk.org

Other relevant documents

Aaronson DS, Walsh T J, Smith J F, Davies B J, Hsieh M H, Koneyt B R (2009) Meta-analysis: does lidocaine gel before flexible cystoscopy provide pain relief, *British Journal Urology International*, 104, pp. 506-510.

Greene L, Marx J, Oriola S (2008) APIC Guide to the elimination of catheter associated urinary tract infections (CAUTIs). Assessment for professionals in infection control and epidemiology, APIC Washington DC

Booth F (2009) Urinary catheterisation – why do we use local anaesthetic gels?, *Continence UK*, 3 (2), pp. 35-39.

Bond P, Harris C (2005) Best practice in urinary catheterisation and catheter care, *Nursing Times*, 101 (8), pp. 54-58.

Bradshaw A, Merriman C (2008) Competence ten years on: fit for practice and purpose yet?, *Journal of Clinical Nursing*, 10 pp. 1263-1269.

Gould C., Umscheid C, Agarwal R, Kuntz G, Pegues A and The Health Infection Control Practice Advisory Committee (2009) *Guideline for prevention of catheter associated urinary tract infections*, Healthcare Infection Control Practices Advisory Committee. USA Centre For Disease Control and Prevention.

Health Protection Agency (2007) *Annual report on health care-associated infections*, London: HPA

Infection Control Nurses' Association (2004) *Audit tools for monitoring infection control standards*, London: ICNA. Available online at www.icna.co.uk

Jamieson J, Maquire S, Mccain J (2009) *Catheter policies for management of long-term voiding problems in adults with neurogenic bladder disorders*. The Cochrane Collaboration, London: John Wiley and Sons Ltd.

National Audit Office (2000) *The management and control of hospital acquired infection in acute NHS trusts in England (HC230)* London: National Audit Office.

National Nursing Research Unit (2009) *Nursing competence: what are we assessing and how should it be measured? Policy +*, 18 June 2009 www.kcl.ac.uk

NHS Quality Improvement Scotland (2004) *Urinary catheterisation and catheter care – best practice statement*, Edinburgh: NHS Quality Improvement Scotland.

Pratt RJ, Pellowe CM, Wilson JA, Loveday H P, Harper P, Jones SRLJ, McDougall C, Wilcox M H (2006) *Section 3 – guidelines for preventing infections associated with use of short term indwelling urethral catheters – EPIC 2, in national evidence based guidelines for preventing health care associated infections in NHS hospitals in England*, London: Thames Valley University.

Plowman R, Graves N, Griffin M, Roberts J, Swan A, Cookson B (2000) *The socio-economic burden of hospital-acquired infection*, London: Public Health Laboratory Service.

Robinson J. (2006) Selecting a urinary catheter and drainage system. *British Journal of Nursing* 15, 19: 1045-1050

Senese V, Hendricks M, Morrison M, Harris J (2006) Clinical practice guidelines; care of the patient with an indwelling catheter, *Urological Nursing*, 26 (1), pp. 80-81.

Tew L, Pomfret I, King D (2005) Infection risks associated with urinary catheters, *Nursing Standard*, 20 (7), pp. 55-61.

Local documentation

Examples may include:

- antibiotic policy
- catheter care policy
- infection control policy
- Continence Products Formulary
- High Impact Intervention – see Department of Health (2007) *High Impact Intervention: Urinary catheter care bundle*. Available at: <http://hcai.dh.gov.uk>

3

Competence

What you need to know:

- the importance of working within your sphere of competence and when to seek advice if faced with situations outside of your sphere of competence
- your responsibilities and accountability in relation to the current European and national legislation, national guidelines and local policies and protocols and clinical/corporate governance.

National Occupational Standards

The following provide clarity around the competence requirements outlined in the NOS:

- monitoring competence or self-monitoring can be described as awareness of what you know. A high level of monitoring competence means you can make accurate assessments of your skill or knowledge while a low level means the opposite
- curiously, people who are grossly incompetent at tasks tend to grossly overestimate their competence, while very competent people tend to underestimate their competence
- a skill is the ability or talent to perform a task well or better than average
- competence is a standardised requirement for an individual to properly perform a specific job.

Some reflective questions to consider in relation to the competence process include:

- as a nurse, do you need to gain this competence as part of your current nursing role?
- how will you gain this competence?
- are there resource and cost implications in gaining this competence?
- who will act as a mentor for this specific competence, and how will supervised practice be facilitated or obtained?
- will this specific competence require formal or informal approval?
- is this a registered competence?
- how will professional clinical supervision in relation to issues/problems surrounding this competence be

facilitated?

- how will you keep this specific competence updated, and how often?
- how will you facilitate the mentoring of others to gain this competence?

The following section is taken from the NMC's *The Code: standards for conduct, performance and ethics for nurses and midwives* (NMC, 2008):

- you must have the knowledge and skills for safe and effective practice when working without direct supervision
- you must recognise and work within the limits of your competence
- you must keep your knowledge and skills up to date throughout your working life
- you must take part in appropriate learning and practice activities that maintain and develop your competence and performance
- you must facilitate students and others to develop their competence
- you must deliver care based on the best available evidence or best practice.

Performance criteria (What you need to do)

The following section is taken from the *Skills for Health GEN63 relating to acting within the limits of your competence and authority*, see www.skillsforhealth.org.uk

- adhere to legislation, protocols and guidelines relevant to your role and field of practice

- work within organisational systems and requirements as appropriate to your role
- recognise the boundary of your role and responsibility and seek supervision when situations are beyond your competence and authority
- maintain competence within your role and field of practice (SfH)
- use relevant research-based protocols and guidelines as evidence to inform your practice
- promote and demonstrate good practice as an individual and as a team member at all times
- identify and manage potential and actual risks to the quality and safety of practice
- evaluate and reflect on the quality of your work and make continuing improvements.
- performance criteria taken from the NOS must be used to measure level of competence
- develop and use nursing indicators based on the NOS performance criteria as a 'tool' to monitor competence
- gaining consent from a patient to perform a procedure indicates that the nurse is competent; do not mislead patients about your abilities and competence when gaining consent, as this is unlawful
- if a procedure performed by a nurse does not go according to plan, it may indicate a lack of competence and should be assessed; if incompetence is identified, then an individual programme of reflection and learning must be undertaken to ensure the competence is attained and maintained

In relation to competence, you should take into consideration the following:

- the nurse and/or employer will need to identify if gaining a specific competence is required
- you should become competent in a procedure or aspect of nursing care beyond undergraduate training or to a higher level of practice
- undertake a programme of learning based on the NOS
- observation and supervision are required, as is assessment/evaluation of knowledge and skills in catheterisation and catheter care
- declaring competence requires the nurse to have an agreed/approved level of knowledge, understanding and skill
- being competent requires the nurse to have skills and abilities
- to maintain competence requirements, a nurse must regularly practise these skills; performing procedures once or twice a year is not acceptable to maintain competence
- even though you feel competent to perform a procedure, your employer must allow/approve its nursing workforce or individual named nurses to undertake this
- to maintain competence requires the nurse to keep up-to-date with new knowledge and changes to procedures
- professional clinical supervision is an ideal framework to facilitate reflection on competence
- in gaining competence in clinical practice, a competent mentor is essential
- use the NOS when teaching nurses to gain competence in specific procedures
- training courses, lectures and study days should focus on specific competences based on the NOS
- documented evidence of competence attainment or updating should be kept as evidence for KSF reviews.

Practice recommendations

The suggested structure for gaining competence in catheterisation is as follows:

- gain a theoretical knowledge and understanding in aspects of catheterisation
- observe model/manikin being catheterised
- practise catheterisation on a model/manikin under supervision until confident
- observe catheterisation performed by others on actual patients
- undertake supervised catheterisation on actual patients
- be able to catheterise without direct supervision
- gain experience and become confident
- become a competent mentor for others

- have catheterisation technique observed as part of clinical audit (Saving lives).

In all care settings nurses should have observed clinical practice for the following procedures:

- assessing individual patients to ensure catheterisation is still required
- obtaining a CSU
- changing urinary drainage systems
- emptying a urine bag or catheter valve
- catheter insertion
- catheter removal
- meatal cleansing
- bag position and support.
- In relation to all aspects of catheter care it is recommended that nurses have a formal update at least every five years, and more often if appropriate or required.

Mapping SfH competencies to this aspect of practice:

- act within the limits of your competence and authority (GEN63).

4

Documentation

What you need to do:

- you need to record clearly, accurately, and correctly any relevant information in the ongoing catheter care records. You also need to be aware of the importance of documentation, the data protection act, care of patient records and disclosure of information with consent from the patient and your employer and the legal and professional consequences of poor practice.

National Occupational Standards

Some general principles relating to documentation apply. These include confidentiality, legibility and that documents can be photocopied.

Documentation has a number of purposes, and these include:

- contributing to and establishing a diagnosis
- influencing a care bundle and pathway of catheter care for an individual patient
- a legal record of care bundle provision and what actually happened
- effective communication for other health care professionals involved in a patient's care
- a point of reference used to influence decisions for further interventions
- facilitating product tracing, if for any reason an individual patient experiences product failure
- a record for the investigation of complaints and/or litigation
- facilitating critical reflective thinking
- focus for clinical professional supervision and identification of learning needs
- completing an episode of care, end of a procedure or care bundle (group of procedures, tasks or activities forming a bundle of care).

In the development of documentation related to catheter care, ensure the documentation is designed to be audit friendly and understood by the patient. Regard must be given to the documentation of consent, whether this is written or verbally given.

Catheter insertion documentation should include:

- the reason for the catheterisation, catheter change or ongoing need for a catheter with all its risks
- well/unwell/serious health status of the patient prior to catheterisation
- is the patient febrile, temperature (over 39°C, are blood cultures needed)?
- if taking antibiotics for a urinary tract infection, are they effective?
- is the individual patient in any form of localised discomfort or pain?
- initially it may be necessary to record fluid intake balanced against urinary output and in some cases this may be ongoing (eg renal function and or failure)
- the results of a risk assessment prior to catheterisation
- allergy status (for example latex, gels and medication)
- consent obtained for the procedure; some organisations now require this to be in written form
- if antibiotic cover was used, state drug and dosage (see infection control and catheter care section on page 43)
- meatal or genital abnormalities observed, including discharge
- if the insertion was easy or difficult
- indications used to ensure catheter was inserted correctly (in men – amount of catheter inserted, obstruction felt at prostatic area, patient reaction to passing the prostatic area, urine drained, no resistance to balloon inflation, no patient reaction or pain related to balloon inflation, free movement of the catheter once balloon inflated)

- if urine is drained, the amount, colour, smell and, if necessary, dipstick and record the result (blood, protein, pH, glucose, nitrite, leucocytes)
- if no urine drains, document what actions you took
- brand, catheter name, material, tip type, catheter length, charrière size, balloon size, batch number, expiry date
- cleaning fluid used
- lubricant/anaesthetic gel used
- if specimens were sent, and why.

Drainage equipment documentation should include:

- is this type of urinary drainage system appropriate for this particular patient?
- appropriateness of brand, capacity, tube length
- support system being used and if it was appropriate
- if a link system is being used and the type of night bag (single use or drainable)
- check when the drainage system was previously changed and if this was appropriate. Note date of change of bag or valve
- urinary drainage bags are dated whenever they are changed within health and social care settings
- batch number of equipment and sterility expiry date
- any problems with product function
- any problems with the supply of equipment
- any problems with comfort
- any associated skin or allergy problems
- any problems related to lifestyle or daily activities
- is the system being used cost effective?

Catheter removal documentation should include:

- that the length of time the catheter was in-situ was appropriate for the type being used
- the type of catheter, drainage system and support garments/straps being removed were appropriate
- the catheter tip and balloon were intact upon removal
- if encrustation was present, and to what degree
- if the section of the catheter retained within the bladder was clean or dirty or if debris was evident

- if the balloon deflated appropriately
- if the catheter was removed because of blockage, the catheter was not present to allow direct observation, was it dissected to identify the cause and severity?
- if the removal was painful
- if blood was present, and if so, where (catheter tip, in the bag, around the meatus, clots in drainage bag tube) and to what degree (clot, red coloured urine, meatal bleeding, frank haematuria)?
- observation around the meatus for any abnormalities (inflammation, swelling, meatal erosion, discharge/amount/colour)
- observations of urine for signs of infection (cloudy, debris, amount, colour and smell)
- patient tolerance of the catheter.

Ongoing observations documentation should include, if a problem occurs:

- the health status of the patient (well/unwell/seriously ill)
- is the patient febrile, temperature (over 39°C, are blood cultures needed)?
- if taking antibiotics for a urinary tract infection, type, duration of course and are they effective?
- patient tolerance of the catheter and associated drainage system
- is the individual patient in any form of discomfort or pain?
- the fluid intake balanced against urinary output
- if first-time catheterisation takes place in primary care, it is safe practice to monitor urine output for four hours after catheterisation. If the patient passes more than 200mls per hour after initial drainage, they need to be referred to the accident and emergency unit for fluid replacement as they are in risk of hypovolaemic shock
- hourly urine output in critically ill patients
- bowel activity
- renal status
- blood results (prostatic specific antigen PSA, urea, creatinine), the results, diagnosis and further interventions

- glycosuria, in a known diabetic is indicative of poor control and infection risk, if diagnosis is unknown then further investigations are needed to establish a diagnosis
- blood pressure status, in relation to proteinuria and nocturnal polyuria (increased night time urinary output) to help establish a diagnosis
- immune status influencing interventions and associated risks
- communication with other members of the multidisciplinary team regarding this individual patient's observations.

Mapping SfH competencies to this aspect of practice:

- produce documents in a business environment (BAA211)
- prepare text from notes (BAA213)
- communicate with, and complete records for individuals (HSC21)
- use and develop methods and systems to communicate record and report (HSC41)
- maintain and manage records and reports (HSC434)
- determine a treatment plan for an individual (CHS41)
- develop clinical protocols for delivery of services (CHS170)
- monitor your own work practice (GEN23)
- capture and transmit information using electronic communication media (GEN69)
- observe, monitor and record the conditions of individuals (HSC224)
- develop models for processing data and information in a health context (HI5)
- provide authorised access to records (SS34)
- protect records (SS35).

5

Anatomy and physiology

What you need to know:

You need to apply:

- an indepth understanding of the anatomy and physiology of the male and female lower urinary tract in relation to lower urinary tract function and continence status including:
 - a) urine production and what influences this
 - b) normal micturition
 - c) the nervous system including autonomic dysreflexia
 - d) the bowel and its links to voiding problems
 - e) endocrine system
 - f) sexual function and links to catheter usage
 - g) the prostate gland, urethral sphincters and the urethra
 - h) anatomy and physiology applied to voiding dysfunction and how a urethral urinary catheter could be used to relieve this
 - i) anatomy and physiology links of how common catheter related complications occur.
- an indepth understanding of how to educate and advise individuals in the use of catheters in relation to their anatomy, its function and sensation.

National Occupational Standards

Urine production

The production of urine is influenced by several body systems; failure of any of these systems to function within normal limits will alter urine production. When a catheter has been inserted, these influencing factors must be considered in the measurement of urine output and fluid intake.

Urine production is controlled by the kidneys, whose primary function is to remove and restore selected amounts of water and solutes, in order to maintain homeostasis of blood pressure.

Renal function in the formation of urine is carried out by the nephrons. Nephrons carry out three important functions:

- the control of blood concentration and volume by removing selected amounts of water solutes
- regulating blood pH
- removing toxic waste from the blood.

The nephrons remove many unwanted materials from blood, return ones that the body needs and excrete the remainder as urine. The kidneys become less effective with age; at 70 years of age the filtering mechanism is half that of someone who is 40 years of age. Nurses therefore need to know what actions to take if urine production is reduced or stops.

The bladder is a hollow muscular organ situated retroperitoneally in the pelvic cavity. Its shape depends on the volume of urine in it; empty, it is collapsed and becomes spherical when slightly distended. It rises into the abdominal cavity as urine volume increases. The function of the bladder is to store urine. Nurses need to understand how catheter usage affects bladder function from both a positive and negative perspective.

Prostate – only present in males. It sits around the urethra just below the level of the bladder. It enlarges normally with age causing bladder outflow obstruction, which can lead to urinary retention and is a common reason to insert a urinary catheter. Outflow obstruction can also be caused by inflammation of the prostate.

In catheterisation technique, it is important to understand how the patient reacts and the feeling of obstruction as the catheter is passed through the prostate gland. It is also important to be aware of catheter insertion and removal techniques in individuals following prostatic surgery.

Urethral sphincters – closure of these during bladder filling help to maintain continence, but damage or excessive detrusor pressure can lead to incontinence. They may be damaged during catheterisation or post-prostatic surgery. In catheterisation, it is important to understand how the patient reacts and the feeling of obstruction as the catheter passes through the sphincters.

Urethra – the anatomy of the urethra makes it sensitive to trauma during catheterisation. The lumen of the urethra is neither hollow nor cylindrical, but is a convoluted, ribbon-like structure only dilating during urination or when accommodating a urethral catheter. The urethra is lined with transitional epithelium; underlying the epithelium lays a thin layer of tissue that is rich in blood vessels. Therefore any trauma to the epithelium during urethral catheterisation provides convenient entry sites for micro-organisms into the blood and lymphatic system.

The female urethra is 3-4cm long and its elasticity is influenced by circulating oestrogens. The male urethra is 18-22cm long; trauma to the male urethra often results in the formation of scar tissue which can cause urethral stricture. Its function is to allow the discharge of urine from the body. Its length is important in relation to how much of the catheter is needed to reach the bladder.

Catheters come in different lengths and this relates to urethral length, so a female catheter is not long enough to reach the bladder in a male. In the catheterisation technique of a male patient, the amount of catheter inserted is an important indication of being in the bladder, along with other key observations.

Normal micturition – this is caused by a combination of involuntary and voluntary nerve impulses. As the bladder fills, stretch receptors in the bladder wall transmit nerve impulses to the spinal cord. These impulses transmit by way of sensory tracts to the cortex, initiating a conscious desire to void.

Parasympathetic impulses from the micturition centre in the sacral spinal cord are conducted to the urinary

bladder wall and internal urethral sphincter. These cause contraction of the detrusor muscle and relaxation of the internal urethral sphincter. The cerebral cortex of the brain then allows voluntary relaxation of the external sphincter and urination takes place.

Involuntary micturition may occur as a result of:

- unconsciousness
- injury to the spinal nerves controlling the urinary bladder
- irritation due to abnormal constituents in urine
- disease of the urinary bladder
- damage to the external sphincter
- inability of the detrusor muscle to relax.

Urinary retention may occur as a result of:

- obstruction at the bladder neck
- enlarged or inflamed prostate
- obstruction of the urethra (stricture)
- contraction of the urethra during voiding
- lack of sensation to pass urine
- neurological dysfunction
- urinary tract infection
- the effects of medication
- pain overriding normal bladder sensation
- psychological causes.

Nervous system – this needs to be intact to allow normal bladder function to take place, but it may be a reason for catheterisation. Poor or no bladder sensation can lead to incomplete emptying or urinary retention. Catheterisation technique needs more caution in individuals with altered sensation, as normal reactions are absent.

Endocrine system – there are a number of factors that influence its effect on the production of urine, such as angiotensin II and antidiuretic hormone (ADH) or vasopressin:

- angiotensin II stimulates thirst, promotes the release of aldosterone, which increases the rate of salt and water re-absorption by the kidneys
- antidiuretic hormone (ADH) is produced by the hypothalamus and released into the blood stream by

the posterior pituitary gland. This hormone regulates the rate of water re-absorption by the kidneys and causes constriction of blood vessels

- aldosterone is secreted by the renal cortex; release of aldosterone enhances the re-absorption of sodium and water
- glycosuria is usually an indicator of diabetes mellitus. When glucose exceeds the renal threshold in normal glomerular filtration the sodium-glucose symporters cannot work fast enough to reabsorb the glucose and glucose is excreted in the urine. It can lead to symptoms of urgency and frequency; and can also become infected as bacteria have a medium to multiply quickly.

Nurses need to link urinary output and symptoms to possible endocrine dysfunction.

Cardiac system – the heart is responsible for pumping blood around the body. As the blood flows through body tissues it picks up waste products, which are excreted via the kidneys. An inefficiently functioning heart can produce the side effects of nocturia or nocturnal polyuria. Where catheterised patients produce more urine at night than during the day, nocturnal polyuria should be considered and appropriate interventions considered.

Pelvic floor muscles – in females, the pelvic floor supports the organs within the abdominal cavity, resists increased intra-abdominal pressure and draws the anus towards the pubis and constricts it. Nerve supply is from sacral nerves S3-S4 and the perineal and pudendal nerve. Where catheters fall out of females, pelvic floor laxity can be considered as a cause.

In males, the bulbocavernosus and deep transverse perineus helps to expel the last drops of urine during micturition. Ischiocavernosus helps to maintain erection of the penis. Nerve supply is from sacral nerves S4 and the perineal and pudendal nerve.

Sexual function – can be compromised in the use of a catheter. Altered body image due to urethral or suprapubic catheterisation may impede the person's desire to want sexual intercourse. The presence of an indwelling catheter in a male urethra may cause trauma to the urethra on erection. Painful erections, particularly during sleep, are a common complication of having an indwelling urethral catheter. In undertaking a catheter care review, nurses must consider sexual needs and plan care where possible to facilitate an individual's ability to meet these.

Skin – has several functions, but related to continence and catheterisation it offers:

- **protection** – providing a physical barrier that protects the underlying tissues from physical abrasion, bacterial invasion and dehydration
- **sensation** – skin contains abundant nerve endings and receptors that detect stimuli related to pain, touch and pressure.

It is important to make every effort to ensure that incontinence and catheterisation do not compromise these vital functions of the skin. Catheterisation can increase sacral skin breakdown due to lack of movement. Where sacral skin breakdown has occurred, catheter related complications increase because of cross infection from wound to bladder; bacteraemia risk increases in this situation.

6

Consent

What you need to do:

- you need to obtain the individual's valid consent for the procedure (catheterisation), and, in terms of the care and support of the individual, know how to obtain valid consent and how to confirm that sufficient information has been provided on which to base this judgement (catheterisation).

National Occupational Standards

The five key principles of the Mental Capacity Act (2005) need to be taken into consideration when consenting a patient to catheterisation:

1. **A presumption of capacity** – every adult has the right to make their own decisions and must be assumed to have capacity to do so unless it is proved otherwise.
2. **Individuals should be supported to make their own decisions** – a person must be given all practicable help before anyone treats them as not being able to make their own decisions.
3. **Unwise decisions** – just because an individual makes what might be seen as an unwise decision, they should not be treated as lacking capacity to make that decision.
4. **Best interests** – an act done or decision made under the act, for or on behalf of a person who lacks capacity, must be done in their best interests.
5. **Least restrictive option** – anything done for or on behalf of a person who lacks capacity should be the least restrictive of their basic rights and freedoms.

Other key statements related to consent and catheterisation include:

- a health care worker may decline temporarily (not consent) to perform any aspect of catheterisation or ongoing catheter care because of a lack of competence, until it is gained within an agreed reasonable period of time (at local level)
- catheterisation is an invasive procedure with associated serious risks, therefore obtaining documented, valid consent is vital prior to the procedure
- in gaining consent for catheterisation the patient expects that it is in their best interest and safety
- in the process of gaining consent to catheterise a patient, they should be provided with supportive written information in a format that they can understand
- when consenting to catheterisation, the patient understands the rationale, the alternatives and the consequences of not being catheterised
- it is expected by the patient that their catheter care reflects up-to-date, evidence-based best practice in the giving of consent
- where other health care workers are present to observe or perform, under supervision, aspects of catheter care, patient consent is required
- patient consent is required for the use, or not, of a chaperone during any aspect of catheterisation or ongoing catheter care
- in an acute care setting, in gaining consent to insert a catheter, the patient understands that the catheter will be removed as soon as possible because of the daily increase in the serious risk of infection
- in gaining consent to use a catheter, the patient understands the types (indwelling urethral, suprapubic, intermittent) available and has made an informed choice for the one selected
- the common risks associated with long-term catheter usage (over three months) are explained in the process of gaining consent. These would include bypassing, discomfort, blockage, infection, multi-resistant infection, bleeding and, in men, painful erections
- in gaining consent to catheterise a patient, they are accepting that the health care worker is competent and can demonstrate this if required

- avoid coercing or restraining patients for catheterisation, including aspects of ongoing catheter care, as this is assault in law and demonstrates a lack of consent
- in giving consent for catheterisation, the patient would expect that any health care worker will take all standard precautions in performing the procedure in an aseptic manner
- in undertaking any aspect of catheter care, the patient gives consent to that individual health care worker to perform specific tasks
- in gaining consent for screening/testing/monitoring of urine, performing other investigations and reaching a diagnosis, the rationale needs to be explained and the implications of the results
- if a patient is being discharged from hospital with any form of urinary catheter in place, consent is required before information concerning their care can be passed onto community staff within another organisation
- consent is required for all aspects of catheter care including catheter removal, meatal care, use of a catheter instillation, solution and medication
- in using any catheter care equipment or medication, the consent is valid on the grounds of indications, manufacturers' directives and license
- when considering onward referral (urologist, specialist nurse, and so on), patient choice, the rationale, what it involves, the waiting times and possible outcomes need to be explained before the patient can give consent and comply
- if a home delivery service is recommended for catheter care equipment (dispensing appliance contractor), consent is required before passing on agreed information outside of your organisation
- in the usage of catheterised patient's data, ethical approval and consent are required in writing before the data can be released or used for this specific purpose
- documenting the giving of consent for catheter usage and ongoing catheter care is vital from a professional, ethical and legal perspective.

Mapping SfH competencies to this aspect of practice:

- obtain valid consent for or authorisation (CHS167)
- enable individuals to make informed choices and decisions (PE1).

7

Reasons for, and decisions influencing, catheterisation

Clinical indications for intermittent, suprapubic or urethral catheterisation include:

- acute urinary retention (AUR)
- chronic urinary retention, only if symptomatic and/or with renal compromise
- monitoring renal function hourly during critical illness
- monitoring/recording/draining residual urine volumes (wherever possible, a bladder scanner is the preferred option to measure residual urine volumes)
- during and post surgery, for a variety of reasons
- allowing bladder irrigation/lavage
- allowing instillation of medications, eg chemotherapy
- bypassing an obstruction
- enabling bladder function tests, eg urodynamics
- facilitating continence and maintain skin integrity (when all conservative treatment methods have failed)
- obtaining a sterile urine specimen.

What you need to do

- During individual assessment when instrumental bladder drainage is deemed necessary, consideration needs to be given to the patient's suitability for intermittent, suprapubic or urethral catheterisation.
- You need to understand the reasons for catheterisation and constantly review the need for continued catheter usage.
- Where it is viewed as appropriate for the patient to use a catheter, such as end-of-life care, disability, unfit for surgery, nurses must remember that the risks associated with catheter usage are of a serious nature that increasingly may become more difficult to justify.
- Never catheterise or continue catheter usage for nursing convenience.
- Nurses must ensure that catheterisation is based on a balanced decision with more benefits than disadvantages, in consultation with the patient, where possible.
- Routine catheterisation must not be routinely supported by nurses, particularly in specific patient groups such as fractured neck or femur.
- Incontinence is rated as a major factor in the development of pressure ulcers. Inserting an indwelling catheter could be assessed as reducing this risk, however with a catheter in-situ, there is less need for the patient to mobilise as they would with toileting or pad changes, so the risk can be higher.
- Catheterisation of patients who are agitated and/or cognitively impaired is best avoided where possible.
- Where a residual volume of urine is identified, the patient's symptom and severity profile along with their renal function and cognitive status must be considered prior to considering catheterisation.
- Where a residual volume of urine is identified and a decision to catheterise is made, it is imperative that the nurse ensures that the route of catheterisation is made within a multi-disciplinary team (MDT) framework.
- Nurses must always assess clinical need for catheter usage as part of their professional role, even if medical directives state 'to catheterise'.
- When an indwelling catheter is inserted the nurse should consider and plan for early removal as the infection risk increases on a daily basis.
- Nurses should not, under any circumstance, present or promote catheterisation to patients as an easy, best option to regain continence.
- With the continued development of multi-resistant bacteria and lack of effective antibiotics, nurses must be mindful of the serious implications when making the decision to catheterise.

Mapping SfH competencies to this aspect of practice:

- plan assessment of an individual's health status (CHS38)
- plan inter-disciplinary assessment of the health and well-being of individuals (CHS52)
- assess an individual's health status (CHS39)
- assess risks associated with health conditions (CHS46)
- obtain valid consent or authorisation (CHS167)
- establish a diagnosis of an individual's health condition (CHS40).

8

Risk assessment

What you need to know:

- you need to understand the different risks and health issues that will influence how, where and when to catheterise and when to undertake a trial without catheter
- you need to understand the risks associated with catheterisation and how to minimise their impact. You need to undertake a risk assessment to determine whether the patient still requires an indwelling catheter or is ready to undergo a trial without catheter or perform intermittent catheterisation.

National Occupational Standards

Using any form of catheter has a number of associated risks. These risks are becoming more serious with the continued development of a wide range of multiresistant bacteria which cause catheter associated urinary tract infections and associated life threatening complications. It is of great importance that risk assessment becomes an important part in catheter care in all care settings and the following questions should be considered:

- Is there a catheter in use, is it necessary?
- What type of catheter is in use (eg 3-way, long-term short-term, tieman tip)?
- Is this type of catheter normally used in this facility?
- Is a closed system being maintained?
- Is the catheter inserted using a catheter 'insertion tray' with pre-connected catheter and drainage bag? (refer to local formulary.)
- Is the catheter secured to the patient's body to prevent urethral tension?
- How secure is it (eg tape, securement device)?
- Is the bag below the level of the patient's bladder?
- Is the tubing from the catheter to the bag free of dependent loop?
- Is the tubing secured to the bed or chair to prevent pulling on entire system?
- Is the bag hanging free without touching the floor?
- Does the patient have an individual measuring device marked with their name and room number?

Patients where associated catheterisation infection risk may be of a serious nature (Pratt et al., 2006):

The following are examples of risks associated with catheterisation and catheter usage. They are examples and are not comprehensive in nature. They can be used in the formation of risk assessment tools for nurses to use in clinical practice. By performing a risk assessment, indwelling catheterisation may not be the best management for the patient; intermittent catheterisation or pad or external appliance may be a better choice, however, indwelling catheterisation may be the only choice and then you must manage the risks.

In carrying out a risk assessment you may decide:

- artificial heart valve
- heart defect
- urinary infections post catheterisation, the urinary catheter and drainage system will become colonised by bacteria within 48 hours (the longer a catheter remains in situ the greater the risk)
- immuno-suppressed
- organ transplants
- the patient has poor bowel control/diarrhoea since having a catheter (high risk of infection)
- one kidney (risk of renal infection)
- since having a catheter the patient has had a urinary infection (high risk of further infection, potential to become resistant).

Factors that could identify the risk of failing a trial without catheter in men (Gratzk et al., 2006):

- prostate size
- previous episode of acute urinary retention
- over 70 years of age
- previous failed trial without catheter
- not on alpha blockers.

Allergy risks related to catheterisation to consider include:

- latex
- soap
- medication, eg Lidocaine.

Factors which identify underlying health problems include:

- previous difficulty in catheter insertion and/or removal
- history of catheter blockage
- catheter has fallen out
- bypassing
- pain, discomfort and discharge associated with catheter usage
- the patient is currently on antibiotics, high risk of further infection, increased usage (leads to resistance).

Risks of haematuria include:

- medication such as aspirin or warfarin
- recent catheter related trauma
- recent urinary tract surgery
- known bladder/prostate cancer
- blood clots have been observed by patient
- meatal bleeding observed by patient.

Risk factors which may increase urinary output when supine (important when considering flow rates or trial without catheter when the patient is upright) include:

- heart disease
- diuretics
- postural oedema
- hypertension.

Risk factors which increase the serious complications associated with catheter related infection include:

- the patient has been in hospital in the last 12 months, exposed to cross infection
- the patient has taken antibiotics in the last six months (higher risk of having multiresistant infection)
- pregnancy
- over 65 years of age increased vulnerability
- diabetes
- more than six medications indicative of compromised health status
- chemotherapy within the last six months (immune compromised, high infection risk)
- taking steroids (immune compromised, high infection risk)
- underlying renal tract abnormalities
- one functioning kidney – currently taking antibiotics for a urinary tract infection
- at least one urinary tract infection since using a catheter
- chronic wounds requiring dressings will potentially cross-infect the catheter and drainage system.

Mapping SfH competencies to this aspect of practice:

- plan assessment of an individual's health status (CHS38)
- plan inter-disciplinary assessment of the health and wellbeing of individuals (CHS52)
- assess an individual's health status (CHS39)
- assess risks associated with health conditions (CHS46).

Catheter related equipment

What you need to know:

- the types of catheters, urinary drainage bags, catheter valves, catheter supports and link systems that can be used and why you should select the appropriate catheter management system
- how to obtain, store and dispose of catheter care equipment according to manufacturer recommendations and local policy.

National Occupational Standards

The following provides further clarity to support the broad statements contained in the NOS:

- a medical device can be defined as any instrument, apparatus, appliance, material or health care product, excluding drugs (MDA, 2000)
- be aware of the importance of the work undertaken by the Medicines and Health care products Regulatory Agency (MHRA) in safeguarding the use of medical equipment for and by patients
- to appreciate the value of research and audit in equipment evaluation, selection and usage. All equipment and its use needs, where possible, to be evidence-based
- health services across the UK need to make the best use of available resources and work to ensure best possible value for money when purchasing catheter equipment, that is the work undertaken by the NHS Purchasing and Supply Agency (PASA)
- Continence Product Evaluation Network – one of four centres in England which evaluates equipment for the MHRA. Multi-centre evaluations are undertaken, which provide current, impartial and comprehensive data for purchasers and providers. Many continence services have their own formulary based on evidence based research, cost and availability
- all catheter products require a CE mark. This is a declaration by the manufacturer that the equipment meets all the appropriate provisions of the relevant legislation implementing certain European directives
- nurses should ensure that all catheter equipment is used according to manufacturers guidelines and only be used for the purpose it was designed for
- health professionals have the task of familiarising themselves with the vast array of equipment available, which ensures service users have an informed choice of product availability
- nurses need to know what type of catheter equipment is available including types of catheter, indwelling urethral (short and long-term), intermittent or suprapubic, leg bags, belly bags, night bags, link systems, catheter valves, support garments and stands. Nurses need to have an understanding of the benefits and disadvantages of catheter equipment used
- nurses need to have the knowledge and skills to be able to offer self-catheterisation or the use of a catheter valve to suitable patients
- patient assessment would ensure the appropriate need for the use of a catheter. Further assessment of competence would be required if the patient was to self manage the use of a catheter. Product selection will be made on an individual basis and reviewed periodically, thus ensuring the user's needs are met and that the catheter is still required
- patients who manage their own care will require appropriate individually planned education, preparation and support to ensure they are competent in catheter care
- nurses need to understand the reasons why comprehensive documentation of all catheter care equipment is paramount
- supportive written guidance about any catheter equipment issued needs to be given to the patient. Patient leaflets regarding equipment need to be

- accurate, up-to-date and available in several different formats to cater for all user needs
- adverse incidents need to be reported to the MHRA and the manufacturer, and must follow local trust incident reporting procedures
 - in all care settings the reuse or reconnection of items classed as single use must be avoided. Do not wash urine bags and reconnect them in any care settings unless the manufacturer concerned has given instructions in writing that their products can be washed and reused
 - ensure correct ordering and storage within the clinical area is as per local policy. Ensure stocks of equipment are kept at appropriate levels, avoid overstocking. Ensure the ward stock of equipment is rotated so that products do not become out of date. Ensure urinary catheters are stored without being secured with rubber bands. Store sterile catheter equipment within designated clean areas. Avoid storing sterile catheter equipment in patients' lockers, bays or bathroom/toilet areas, due to cross infection risks and contamination
 - consider privacy and dignity issues when using catheter equipment. Select equipment that is discreet, particularly outside of the hospital environment
 - nurses should be able to advise patients on the choices available regarding type of catheterisation, type of catheter and catheter equipment, this may vary from area to area
 - appreciate local and national infection control guidelines when using catheter equipment
 - ensure that the correct equipment in the correct size and capacity is given to the patient. Avoid inappropriate use of female length urinary catheters, not suitable/licensed for male use or children – see www.nrls.npsa.nhs.uk/resources (issue date 30 April 2009)
 - nurses need to know how to obtain catheter equipment in all care settings, what catheter equipment is advised for patients discharged from hospital, the services provided by a dispensing appliance contractor and how to resolve equipment related problems
 - nurses need to check the manufacturer's guidelines and licensing of catheter products regarding use
 - nurses need to know how to dispose of catheter care equipment within all care settings, including a hospital ward or patient's home. It is important to check your local waste policy as this may vary from area to area.

Mapping SfH competencies to this aspect of practice:

- insert and secure urethral catheters (CC02)
- care for individuals with urethral catheters (CC03)
- manage suprapubic catheters (CC04)
- undertake a trial without catheter (TWOC) (CC05)
- enable individuals to carry out intermittent catheterisation (CC06)
- review catheter care (CC07).

Suprapubic catheterisation

What you need to know:

- an indepth understanding of the reasons why suprapubic catheterisation is necessary including; maintaining urethral integrity, urethral surgery, long-term catheterisation, sexual needs
- an indepth understanding of the different short and long-term risks and health implications associated with suprapubic catheterisation and intermittent or continual bladder drainage
- an indepth understanding of the adverse effects and potential complications that may occur during suprapubic catheterisation and appropriate actions
- an indepth understanding of how to terminate the usage of a suprapubic catheter in an effective and safe manner
- a working knowledge of the types of sterile dressings, indications for use, aseptic care and when to change them in relation to a cystostomy site.

What you need to do:

- comply with the correct protocols and procedures relating to changing a suprapubic catheter
- observe the cystostomy site for any abnormalities and take appropriate action
- remove the previous indwelling suprapubic catheter in accordance with protocols
- observe the catheter on removal
- contain any leakage from the cystostomy
- aseptically clean the site for insertion of the new catheter and administer appropriate lubrication or anaesthetic gel
- insert the catheter safely, aseptically and correctly, according to manufacturer's instructions and with minimal discomfort and trauma to the individual
- ensure the catheter is in the correct position using the appropriate indicators before balloon inflation.

The National Patient Safety Agency (NPSA) has issued a *Rapid Response Report (RRR): minimising risks of supra pubic catheter insertion* (NPSA/2009/RRR005). Many trusts have acted upon this information to produce local guidelines, so check local policy. See www.nrls.npsa.nhs.uk/resources (issue date 30 July 2009)

National Occupational Standards

Indications for a suprapubic catheter:

- urethral catheterisation is contraindicated or where it is technically not possible to relieve urinary retention in both acute and chronic conditions (Kumar and Pati, 2005)
- it may be used as a short term alternative to urethral catheterisation when procedure is not possible or contraindicated. For example, in cases of traumatic injury to the lower urinary tract or when the passage of a urethral catheter has not been possible such as in vulva carcinoma (Kumar and Pati, 2005)

- the mechanics of intercourse may be easier, although the drive may not because of altered body image (Winder, 1994; Addison, 1999a; Fillingham and Douglas, 2004)
- to minimise urethral trauma in long-term catheterised patients (Addison, 1999a). Some surgeons prefer suprapubic catheterisation to minimise the risk of urethral trauma (Dineen et al., 1990; O'Kelly, et al., 1995)
- it is considered by research undertaken within the last 20 years to reduce the incidence of urinary tract infection when compared to urethral catheterisation (Dineen et al., 1990; Horgan et al., 1992; Shah and Shah, 1998; Addison, 1999a; Mitsu et al., 2000)
- suprapubic catheterisation allows easier assessment of voiding following gynaecological surgery for urinary incontinence or hysterectomy (Wells et al., 2008)
- suprapubic catheterisation is required in some urological procedures to allow instruments to be passed via the urethra to perform surgery (Hilton and Stanton, 1980; Shah and Shah, 1998)
- suprapubic catheterisation may be identified as a longer term solution to bladder drainage in patients with neurological conditions that result in bladder insufficiency, decreased genital sensation or in people who require regular catheterisation but are unable to self-catheterise (Kumar and Pati, 2005)
- where long-term catheterisation is used to manage incontinence (Hilton and Stanton, 1980; Winder, 1994).

Contraindications for a suprapubic catheter (Winn, 1996; Shah and Shah, 1998):

(In the absence of an easily palpable or ultrasonographable localised distended urinary bladder, caution should be used.)

- haematuria
- pelvic cancer with or without radiation (increased risk of adhesions)
- prosthetic devices or material in the lower abdomen.

Changing a suprapubic catheter

The first change of a suprapubic catheter must be done without delay so the cystostomy (insertion site) is not allowed to close. Subsequent changes, when the

cystostomy is established, are not so critical but do need to be carried out immediately after removal of the old catheter.

Never remove a suprapubic catheter unless it is going to be changed immediately or removed permanently (Rigby, 2009).

Positive aspects of suprapubic catheterisation:

- there is no risk of urethral trauma, necrosis or catheter induced urethritis
- there is greater comfort, particularly for patients who are wheelchair users
- access to the cystostomy site is easier for cleansing and catheter changing
- there is greater freedom to be or remain sexually active (Addison and Mould, 2000)
- voiding trials (TWOC) may be easier
- micturition is still possible if urethra not surgically closed or obstructed

Negative aspects of suprapubic catheterisation:

- altered body image (Addison and Mould, 2000)
- cystostomy complications (Ichsan and Hunt, 1987), including swelling, infection, cellulitis, encrustation and granulation may be encountered (Addison, 1999c)
- drainage may be compromised in that urine has to drain upwards via a suprapubic catheter (Fenelly, 1983)
- although suprapubic is overall less painful than urethral long-term catheterisation, certain individuals may experience associated pain (Winder, 1994; Winn, 1994; Addison, 1999c)
- bladder stones are more common with suprapubic catheterisation (Winder, 1994; Shah and Shah, 1998; Numaru, 2000; Mitsi, 2000)
- cuffing and/or encrustation of the catheter may cause trauma on removal (Jannings, 2001; Parkin, 2002; Robinson, 2005)
- nurses may lack the appropriate skills, be unwilling to carry out (Anderson, 2002) or local policy directs first changes to be undertaken in secondary care. First change should not be before four weeks when tract has formed
- complications, such as perforation of the bowel or bleeding, can occur during cystostomy formation (Bruce et al., 2006, NPSA, 2009)

- if urethral closing pressure is not adequate or absent, urethral leakage is likely to result (Fenelly, 1983; Chao et al., 1993; Addison, 1999c; Addison and Mould, 2000)
- as multiresistant infection is becoming a serious issue, patients with a suprapubic catheter may be more at risk (eg chronic wound, dressings, indwelling catheter). Admitting patients to hospital with an indwelling suprapubic catheter should indicate to nursing and medical staff that the patient has a very high risk of being colonised with multi-resistant bacteria. Patients with suprapubic catheters should be screened on admission to hospital
- debate continues about the risk of the development of squamous cell carcinoma in patients with long-term suprapubic catheters (Breul et al., 1992; Shah and Shah, 1998). Where the puncture wound is in the bladder wall, this is thought to have a potential for abnormal cell growth. Limited evidence exists to support this belief and some urologists may not support it. Many years may be required before this risk reaches its potential, and longitudinal follow up studies may help give further guidance on this risk. Shah and Shah, (1998) recommend regular cystoscopy, as one American survey found that in chronic spinal cord injured patients, squamous cell carcinoma was more common in patients who had long-term indwelling catheters compared to those who undertook intermittent catheterisation.

Dressings

Dressings can be used to contain discharge, however in general dressings are unnecessary and best avoided. If a suprapubic Foley catheter has been sutured in place, the suture should be removed. The dressing should be changed when a decolonisation programme is being undertaken.

In undertaking a catheter care review or meeting a new patient for the first time, if a dressing is in place it must be checked and removed for cystostomy observation. Replace if needed.

Applying dressing must be undertaken as a strict aseptic technique due to infection risks. Where possible, patients should be encouraged to change their own dressings.

Once the insertion site has healed (7-10 days), the site and catheter can be cleaned during bathing using soap, water and a clean cloth (Fillingham and Douglas, 2004).

If overgranulation is a problem, a non-occlusive foam dressing is advised (Vowden and Vowden, 2010).

Antibiotic administration is indicated where there is evidence of cellulitis in the catheter site area or where there is evidence of symptomatic urinary infection. Systemic antibiotics should not be used to treat uncomplicated pericatheter discharge or asymptomatic bacteruria (Harrison et al., 2010).

Licensed products

If in doubt, check the catheter being used is licensed for suprapubic usage with the manufacturer. Ensure lubrication and anaesthetic agents are licensed for suprapubic usage.

Mapping SfH competencies to this aspect of practice:

- assess bladder and bowel dysfunction (CC01)
- care for individuals with urethral catheters (CC03)
- manage suprapubic catheters (CC04)
- undertake a trial without catheter (TWOC) (CC05)
- review catheter care (CC07).

11

Trial without catheter

What you need to know:

- the reasons why trial without catheter is necessary
- the different types of trial without catheter and the rationale behind chosen methods
- how to minimise any unnecessary discomfort during treatments relevant to trial without catheter
- when not to proceed or when to abandon a trial without catheter for an individual and what actions to take
- the reasons why intermittent bladder drainage is the better option if the trial without catheter is unsuccessful
- how to perform a trial of voiding for an individual with a suprapubic catheter
- how to perform and interpret bladder ultrasound.

What you need to do:

- provide the individual and relevant others with the appropriate health related information and advice to establish the individual's health needs and suitability for trial without catheter
- undertake a risk assessment and use the outcomes to determine a suitable method for trial without catheter
- recognise any adverse effects and potential complications during the trial without catheter
- identify appropriate treatments for the individual based on the results of the trial without catheter
- provide appropriate care for individuals where the trial without catheter is not effective.

National Occupational Standards

Indications for a trial without catheter (TWOC) to ascertain if voiding is possible, thus preventing unnecessary continued catheter usage:

- to ascertain voiding function post-operatively
- post-acute urinary retention and to ascertain the effectiveness of alpha blockers in men
- chronic retention to ascertain voiding, and to what degree
- if a suprapubic catheter is present, a catheter valve can be used to stop continuous drainage, if appropriate. If voiding is satisfactory and the residual is low, the catheter can be removed after three days.

Suitability for a TWOC:

- self-scheduled assessment where possible, with a focused history combined with a risk assessment
- medical status to include infection history and status, antibiotic indications, nocturnal polyuria indications, cognitive status and social status
- catheter history, equipment being used, who is involved in catheter care
- is medical status improving, stable or deteriorating?
- ability to consent/co-operate
- falls, poor mobility, dexterity, difficulty in getting to the toilet.

Cautions:

- presence of a large urogenital prolapse
- previous failed TWOC
- any surgery for stress incontinence
- medication, eg anticholinergics
- large fibroid uterus.

Types of TWOC:

(Refer to local policy, if available.)

- early daytime with an increased fluid intake, undertaken more for convenience of those involved
- daytime extended overnight, with next day review especially for those patients with likely residual urine volume
- night time; useful for inpatients and those with nocturnal polyuria

How to minimise discomfort during a TWOC:

- in removing a catheter at the start of a TWOC, check water volume in balloon. Avoid pulling on the syringe as this may create a vacuum and cause the balloon to cuff making removal difficult. Instead allow water to drain out of the balloon under its own pressure
- warn the patient of potential discomfort prior to catheter removal. The patient should be encouraged to drink normally (1.5 to 2 litres during the day) prior to TWOC as over consumption may compromise bladder function
- the patient should be advised of protocol should TWOC fail, ie regarding catheterisation or learning to perform intermittent self-catheterisation.

Indications to abandon a TWOC:

- patient withdraws consent
- bleeding is of concern
- pain is of concern
- if urine is not passed or an unacceptable amount of residual urine is showing present on a bladder ultrasound. (Bladder scanners should be used in caution postpartum. If you have a real time imaging scanner and can competently identify the bladder they can be used and have been shown to be reliable. However, a standard bladder scan will often give a false positive result due to increased fluid in and around the uterus postpartum (Pallis et al., 2003).

Where to perform a TWOC and why:

- at home, if possible, as it is more relaxed for the patient and reduces the risk of cross infection by not bringing them back into a hospital ward environment
- an isolated environment, if immuno-compromised. This is best performed in the patient's own home to minimise the risk of cross infection
- in a supervised environment if urinary output is a concern, because of ill health problems such as renal failure, cardiac failure, postural oedema
- in a supervised environment where functional issues may be of concern, such as assistance with toileting or falls in relation to toilet or commode usage
- in a supervised environment where haemorrhage is of concern, such as prostate cancer, medication or a combination of these factors
- in a supervised environment if the likelihood of re-catheterisation could be difficult
- in a supervised environment for complex patients, where sudden acute urinary retention may be the outcome with a time delay in returning to the patient and potential difficulty in catheterisation
- continual supervision because of cognitive impairment, such as dementia resulting in the patient's inability to follow instructions.

Reasons why intermittent bladder drainage is the better option if a TWOC is unsuccessful:

- intermittent bladder drainage can be achieved by use of a catheter valve or intermittent catheterisation as these allow the bladder to expand to store urine and contract to empty, therefore maintaining the muscular effect, stimulate blood supply and maintain normal bladder health
- if bladders are allowed to remain on long-term continual/free drainage, bladder function can be lost and may not return if a TWOC is considered in the future
- intermittent bladder drainage or catheterisation should be considered by nurses caring for patients using long-term indwelling catheters because of the long-term (over six months) consequences of continual drainage.

Mapping SfH competencies to this aspect of practice:

- assess bladder and bowel dysfunction (CC01)
- insert and secure urethral catheters (CC02)
- care for individuals with urethral catheters (CC03)
- manage suprapubic catheters (CC04)
- undertake a trial without catheter (TWOC) (CC05)
- enable individuals to carry out intermittent catheterisation (CC06)
- review catheter care (CC07)
- care for individuals using containment products (CC08)
- help individuals to effectively evacuate their bowels (CC09)
- assess residual urine by use of portable ultrasound (CC10)
- implement toileting programmes for individuals (CC11)
- enable individuals to undertake pelvic floor muscle exercises (CC12)
- enable individuals with complex pelvic floor dysfunction to undertake pelvic floor muscle rehabilitation (CC13)
- plan inter-disciplinary assessment of the health and wellbeing of individuals (CHS52)
- assess risks associated with health conditions(CHS46)
- establish a diagnosis of an individual's health condition (CHS40).

Intermittent self-catheterisation

What you need to know:

- how to undertake intermittent catheterisation
- an indepth understanding of the effects of intermittent catheterisation and dilatation on the individual's comfort and dignity, and ways of handling this
- an indepth understanding of the different short and long-term risks and health implications associated with intermittent catheterisation/dilatation and how to resolve or minimise these
- an indepth understanding of the clinical decisions and method/s required to terminate the usage of intermittent catheterisation/dilatation in an effective and safe manner
- an indepth understanding of how individuals should risk assess themselves and how this will influence their self-care
- an indepth understanding of how to minimise any unnecessary discomfort during and after the procedure.

What you need to do:

- assess the individual's ability to perform self-catheterisation
- explain and demonstrate the relevant aspects of self-catheterisation
- enable individuals to develop the necessary skills and actions to carry out intermittent self-catheterisation safely and correctly
- maintain the comfort and dignity of the individual during and post procedure
- review the continued need and frequency of self-catheterisation with all its associated risks with the symptom improvement, quality of life indicators and volumes drained.

Intermittent catheterisation is considered to be the Gold Standard for urine drainage (NICE, 2006)

Intermittent catheterisation can be indicated as treatment for voiding problems due to disturbances or injuries to the nervous system, non neurogenic bladder dysfunction or intravesical obstruction with incomplete bladder emptying. In a hospital setting intermittent catheterisation is often used for diagnostic evaluation, eg to obtain a sample to facilitate urodynamics (EAU, 2006).

As with any urethral catheterisation, intermittent catheterisation is contraindicated if the patient is experiencing priapism, suspected urethral injury or urethral tumours. False passage, stricture and some diseases of the penis, such as injury, tumours or

infection, can contraindicate intermittent catheterisation as well (EAU, 2006)

Caution should be displayed with patients following prostatic, bladder neck or urethral surgery and in patients with stent or artificial prosthesis (EAU, 2006).

The following points provide further clarity to support intermittent catheterisation:

- before commencing a patient on intermittent catheterisation, their symptom severity profile, renal function, risk assessment, psychological and physical ability to perform intermittent catheterisation and residual urine status must be considered. It is not best practice to initiate intermittent catheterisation based solely on the residual urine status:

- intermittent catheterisation is preferable to indwelling urethral or suprapubic catheters with patients with bladder emptying dysfunction and spinal cord injured patients
- with the usage of portable ultrasound equipment, nurses can easily identify residual urine status and have the ability to initiate intermittent catheterisation as an intervention. It is imperative that the importance of cause is not overlooked by the nurse and that the patient has further investigations or onward referral to reach a formal diagnosis
- intermittent catheterisation has a reduced infection rate when compared to indwelling catheters although there still is a risk (Patel et al., 2001; Woodward and Rew, 2003)
- where patients fail a trial without catheter, they should, if appropriate, use intermittent catheterisation
- the reduced risk of infection
- in gaining consent from a patient to perform intermittent self-catheterisation, the following must be included:
 - rationale for intermittent catheterisation
 - lifestyle and disability
 - the procedure may be lifelong and performed several times each and every day
 - positive benefits of intermittent catheterisation including increased independence
 - negative risks and common complications
 - need for continual follow up and regular review.
- in helping patients to choose an intermittent catheter, nurses will be aware of:
 - the types available
 - value previous user feedback
 - lifestyle needs
 - company reputation, quality assurance and support
 - clinical evidence base
 - catheters that have infection reducing properties, ie 'no touch'
 - additional features such as integral drainage bags
- cost effectiveness
- user friendly aspects of design.
- local formulary in using catheter samples the nurse:
 - must use them only for demonstration purposes
 - may use them to inform patient choice and nursing recommendation
 - must not use them in actual catheterisation unless the company concerned takes vicarious liability.
 - must not give them to patients for insertion unless the company concerned takes vicarious liability.
- in teaching a patient the procedure of intermittent catheterisation nurses must be mindful that:
 - intermittent catheterisation is best taught by a competent experienced specialist nurse with the relevant communication skills
 - exclusions to intermittent catheterisation include cognitive impairment and lack of consent
 - assessment of the likely level of motivation and compliance with intermittent catheterisation
 - motivational factors include the benefits of intermittent catheterisation, improved quality of life, symptom improvement, reduced risks
 - anatomical and physiological aspects of self-catheterisation supported by the use of visual aids
 - nurses teaching intermittent catheterisation need to carry a wide range of samples to ensure the patient has choice
 - nurses need to demonstrate the features, size, preparation, lubrication and handling of the intermittent catheter
 - usage of models demonstrates catheter insertion and removal
 - products must be used in line with the manufacturer guidelines
 - intermittent catheterisation should be taught in a safe environment with the patient sitting or lying or standing, depending on patient choice and ability

- teaching must be in an environment that offers the least risk of cross infection
- genital and hand hygiene should be supervised prior to insertion and removal
- aids and devices such as mirrors, leg dividers and grips should be discussed where appropriate
- when teaching intermittent catheterisation, it is acceptable for the patient to use a clean technique
- the process of catheterisation should be adapted depending on their lifestyle and daily activities
- observation of the patient post intermittent catheterisation is important if this is a first time catheterisation as decompression of the bladder may cause bleeding and/or shock. To avoid this occurring the residual urine should be assessed by bladder scan prior to undertaking first catheterisation
- equipment must be disposed of appropriately according to local waste disposal policy
- advice should be given re transporting catheters for daily usage outside of the home environment
- there are various ways to obtain a supply of equipment, from GP dispensing practices, high street pharmacists and dispensing appliance contractors
- in further supporting patients using intermittent catheterisation, learning programmes, literature, websites, classes, meeting others via patient support groups, recommending organisations and help lines may all be helpful
- it is unlikely that a patient (or carer if performing procedure) will become competent in intermittent catheterisation with one interaction. Over a period of time several sessions are required to support learning, problem solving, review experiential learning and related habits. The patient will then require follow up and review depending on need
- patients should be taught how to deal with common complications associated with intermittent catheterisation which include signs and symptoms of a urinary tract infection, colonisation, the indications for antibiotic usage, bleeding, false passage, difficult insertion or removal, how to manage multiresistant bacterial invasion and initiate unscheduled care for urgent catheter related needs.
- the frequency and continued usage of intermittent catheterisation is based on:
 - symptom severity improvement
 - quality of life and lifestyle indicators
 - volumes drained related to times of urinary output
 - clinical requirement
 - renal function
 - during periods of infection increased intermittent catheterisation may be needed, not a reduction or withdrawal.

Mapping SfH competencies to this aspect of practice:

- assess bladder and bowel dysfunction (CC01)
- care for individuals with urethral catheters (CC03)
- enable individuals to carry out intermittent catheterisation (CC06)
- review catheter care (CC07)
- care for individuals using containment products (CC08)
- help individuals to effectively evacuate their bowels (CC09)
- assess residual urine by use of portable ultrasound (CC10)
- acquire, interpret and report on ultrasound examinations (CI.C)
- acquire, interpret and report on ultrasound examinations of the abdomen and pelvis (CI.C1)
- plan inter-disciplinary assessment of the health and wellbeing of individuals (CHS52)
- assess risks associated with health conditions (CHS46)
- establish a diagnosis of an individual's health condition (CHS40).

Catheter care review and follow up

What you need to know:

- how to undertake an assessment and catheter care review of an individual
- the importance of ensuring that an individual using any form of urinary catheter is in a care pathway and has a named nurse responsible for their care in all care settings
- the importance of ensuring that catheter changes and other care arrangements are made with the individual and carer in all care settings
- the reasons why patients have scheduled and unscheduled catheter care reviews
- how to assess the function of a urinary catheter and the methods available to undertake this
- your organisation's local policies and guidance involving urinary catheters.

What you need to do:

- review an individual's catheter care.

The current key drivers will influence a catheter care review, these include:

Reducing healthcare associated infections

<http://hcai.dh.gov.uk>

Essence of Care

www.dh.gov.uk/en/publicationsandstatistics

Energising for Excellence

www.institute.nhs.uk/qipp

High Impact Actions (England) www.institute.nhs.uk

Harm Free Care (Safety Express) (England)

www.harmfreecare.org

Indwelling catheters should only be inserted following a risk assessment and removed as soon as possible due to high risk of morbidity and mortality particularly if the patient is elderly or seriously ill.

A general catheter care review would incorporate:

- a clear rationale for ongoing usage of a catheter; that it is appropriate and that there is no better alternative to the type of catheter being used
- the general health status of the patient, including long-term chronic conditions, surgical and medical history, medication
- the health of the patient's bladder
- how the patient accepts the use of a catheter (psychological implications)
- the patient's understanding and compliance with catheter care and practices are safe and follow the manufacturer's guidelines. This will include social and meatal hygiene practices, bag/valve emptying and changing routines. The review should also ensure that no washing of urinary drainage equipment or reconnection takes place in any care setting
- review of bowel activity and relationship to the catheter function
- review of the impact of the catheter on lifestyle and quality of life. This would include employment, home life, sexual activity, shopping, recreation and sports, socialising, travel, staying away from home and holidays
- if multiresistant
- review of the frequency of catheter and drainage system changes and if this is appropriate. Use a catheter diary for monitoring changes and to plan ongoing management
- review of the fluid intake, the types of fluid consumed, the patient's health belief in relation to this and its appropriateness

- review of the 24-hour urinary output and its appropriateness
- understand the roles of health care workers and review the appropriateness of those involved; this includes community nurses and matrons, urologists, and specialist nurses
- review of the patient's level of ability to self-care and dependence status.

A catheter care infection review would incorporate:

- review of the patient for potential indications of a catheter associated urinary tract infection (CAUTI). Maintaining a sterile, closed urinary drainage system is central to the prevention of CAUTIs. Nurses need to be aware that any breaches in the closed system, such as emptying the drainage bag or taking a urine sample increase the risk of catheter related infection (Pratt et al., 2007)
- clinical indicators of urinary tract infection include pyrexia, tachycardia abdominal pain and changes in urine characteristics, such as aroma and appearance, which may highlight the need for specimen collection for microbial sensitivity. The development of infection may, however, present differently in different individuals and in the elderly. Note that the presence of bacteria in the urine is not indicative of an infection, and laboratory results should always be interpreted in association with the patient's clinical symptoms
- catheter specimens of urine (CSU) may also be required to examine levels of metabolites or presence of drug or drug metabolites, eg hormones or patients being treated for poisoning or overdose (Higgins, 2008)
- review of the current treatments and interventions, such as antibiotics. Antibiotics should only be prescribed if the patient is symptomatic with a suspected or confirmed urinary tract infection, and antibiotic prescriptions must be reviewed with laboratory results as soon as possible to ensure the correct treatment is prescribed

Antibiotics:

- always follow local antibiotic policy
- ensure a patient review is undertaken after approximately 72 hours (check your local policies for guidance) to ensure the appropriate route of antibiotic administration is in place (eg IV to oral switch)

- can cause bowel dysfunction (diarrhoea/constipation) therefore resulting in catheter related complications
- must only be used to treat systemic infection and not bacterial colonisation of the urinary tract (bacteruria)
- routine use of prophylactic antibiotics should be avoided on grounds of cost, potential side effects and danger of encouragement of antibiotic resistance (Saint and Lipsky, 1999)
- used prophylactically for catheterisation in patients with heart valve replacements, heart defects and a history of CAUTI following catheter change (Pratt et al., 2006; NICE 2003)
- NICE (2008) guidance on prophylaxis against endocarditis no longer recommend antibiotic prophylaxis when changing urinary catheters in patients at risk of infective endocarditis.

Prophylactic use of antibiotics

A Cochrane review of antibiotic policies for short term catheter bladder drainage in adults concluded that there was only weak evidence that antibiotic prophylaxis (compared with antibiotics when clinically indicated) reduced the rate of symptomatic urinary tract infection in female patients following abdominal surgery and catheterisation for 24 hours. There was also limited evidence that prophylactic antibiotics reduced bacteria in non-surgical patients.

General opinion is that prophylactic antibiotics should be reduced. NICE guidance is that antibiotic prophylaxis should be used when changing catheters only in those with a history of catheter associated UTI or those at risk of endocarditis. Long-term antibiotic prophylaxis against CAUTI is not recommended.

A catheter care equipment review would incorporate:

- check that the correct equipment is being used, that it is being stored and disposed of correctly
- catheter license – some catheters are not licensed for suprapubic usage
- correct catheter size; ensure patients have the smallest size to meet their needs:
 - 12ch, 14ch or 16ch for male long-term usage
 - 12ch or 14ch for female long-term usage
 - 16ch or 18ch for suprapubic usage in both males and females.

- check that the correct length of catheter is being used depending on the patient's needs:
 - male/standard length for men in all situations
 - male standard length is recommended for female patients in the following situations: bedbound, immobile, post-operative, emergency situations, clinically obese with fat thighs and critically ill
 - female length catheters have a limited role and are used for patients who are ambulant and of normal weight.
- material
- balloon size (always 10ml balloon, unless following prostatic surgery)
- clear rationale for non-valve usage and patient understands the long-term implications
- complications, such as accidental disconnection
- problems relating to wearing products
- capacity of bags
- clear rationale for use of a night bag
- supply issues, appropriate stock levels, safe storage
- correct emptying techniques
- correct changing techniques
- correct disposal techniques of urine and equipment (local waste policy).
- overgranulation, discharge and bleeding
- catheter position, type of catheter and size to ensure the correct position and appropriateness of equipment in use
- support system being used, and its effectiveness and appropriateness
- drainage system, condition and suitability
- urine, colour, volume, contents, smell and consider if urine testing and screening are indicated
- check skin for signs of reaction to products or pressure damage
- meatal hygiene and general hygiene. Expert opinion indicates that there is no advantage in using antiseptic preparations for cleansing the urethral meatus before catheter insertion and sterile normal saline is sufficient (Dunn et al., 2000)
- evidence of incontinence (urinary and faecal), if containment products are in use and their impact on the catheter function and complications
- discharges (urethral, vaginal, other), send swabs as indicated
- health of the genital area.

A review of catheter associated complications would incorporate:

- what complications the patient is experiencing
- complications including bypassing, discomfort or pain, bleeding, painful erections, blocked catheter, infection, insertion or removal problems, history of difficult catheterisation, meatal sores, bladder and meatal erosion, stone formation and catheter rejection.
- the severity and frequency of the complications
- any triggers that cause the complications such as sports activity
- if the complications are of a serious nature
- what interventions have been used in the treatment of these complications and the effectiveness
- entry site of the catheter for sores, inflammation,

Mapping SfH competencies to this aspect of practice:

- obtain valid consent or authorisation (CHS167)
- plan assessment of an individual's health status (CHS38)
- plan inter-disciplinary assessment of the health and wellbeing of individuals (CHS52)
- assess an individual's health status (CHS39)
- support individuals in undertaking desired activities (GEN15) and enable carers to support individuals (GEN20)
- inform an individual of discharge arrangements (GEN16), contribute to the discharge into the care of another service (GEN17) or discharge and transfer individuals from a service of your care (GEN28)
- interact with individuals using telecommunications (GEN21)

- minimise the risk of spreading infection by cleaning, disinfecting and maintaining environments (IPC1)
- perform hand hygiene to prevent the spread of infection (IPC2)
- minimise the risk of spreading infection by cleaning, disinfecting and storing care equipment (IPC4)
- use personal protective equipment to prevent the spread of infection (IPC6)
- minimise the risks of exposure to blood and body fluids while providing care (IPC5)
- clean, disinfect and remove spillages of blood and other body fluids to minimise the risk of infection (IPC3)
- minimise the risks of spreading infection when laundering used linen (IPC11)
- enable individuals to make informed health choices decisions (PE1)
- manage information and materials for access by patients and carers (PE2)
- work with individuals to evaluate their health status and needs (PE3)
- agree a plan to enable individuals to manage their health condition (PE4)
- develop relationships with individuals that support them in addressing their health needs (PE5)
- identify the learning needs of patients and carers to enable management of a defined condition (PE6)
- enable individuals to manage their defined health condition (PE8) by providing advice and information to individuals on how to manage their own condition (GEN14)
- collate and communicate information to individuals (GEN62)
- develop learning tools and methods for individuals and groups with a defined health condition (PE7).

Patient education

What you need to know:

- how to educate individuals using catheters in relation to lifestyle advice, maintaining catheter function, reducing infection, what to do in the event of problems with equipment and how to deal with common complications.

National Occupational Standards

The purpose of patient/carer education, in relation to catheter care, is:

- to enable the patient and/or carers to have more control and to find problem solving easier
- part of the consent process
- to enable patients to make informed choices
- to enable patients to understand the risks and how to minimise these
- to reduce dependence on health care workers and facilitate self-care
- to reduce infection risks by enabling patients to be self-caring
- to adjust to life with long-term catheter usage whether indwelling or intermittent can take a considerable time.

Methods of providing patient related catheter care education by nurses include:

- local leaflet or booklet on catheter care, or one produced and provided by the manufacturer of the products they are using
- verbal information
- demonstration of aspects of catheter care
- models and diagrams
- visualising and handling of sample equipment
- meeting other catheter users
- attending a locally run support group for catheter users
- attending a catheter care class or series of classes
- contacting a helpline
- being provided with a company produced newsletter

- a structured learning programme
- details of organisations to contact
- how to obtain research papers and other articles
- using the internet with specific websites recommended
- contacting or visiting a specialist urology or continence nurse
- DVD
- explanation to the patient of the reasons for use of a catheter should include:
 - symptoms associated with poor bladder emptying
 - acute and chronic urinary retention
 - post surgery
 - critical illness.
- explanation to the patient of common catheter related problems should include:
 - urinary tract infection (UTI)
 - blocked catheter
 - bypassing
 - bleeding
 - pain
 - painful erections.
- education of male patients who are using a catheter for retention purposes should include:
 - the prostate gland, its function and why it causes obstruction
 - urethral stricture and how it causes obstruction
 - symptoms associated with outflow obstruction
 - what is retention

- types of retention and management
- complications of retention
- investigations associated with retention
- treatments for retention besides catheters (medication, surgery).
- smoking advice should include:
 - the effects of smoking on bladder health and function
 - how a GP can help
 - how to contact the NHS smoking helpline
 - how to refer to and contact the local smoking cessation officer.
- activity advice should include:
 - sustained exercise or walking may trigger bleeding and associated soreness
 - swimming may cause irritation
 - riding a bicycle increases risk of urethral stricture formation.
- fluid and dietary advice should include:
 - caffeine restriction has been thought to reduce bladder spasm, bypassing and bladder over-activity, but research is poor (Patterson, 2011)
 - how much fluid to drink and what influences this
 - awareness of the patient's specific health needs that would restrict fluid intake, such as heart failure
 - importance of diet in reducing the risk of constipation.
- advice on holidays, travel, staying away from home, going to work should include:
 - need to carry adequate spare equipment
 - the need to carry a GP letter
 - travelling by air the need to carry equipment in hand luggage
 - within Europe, the need to carry the relevant card.
- information on specialist nursing services should include:
 - services available
 - how they can help
 - how to access specialist nursing services.

Equipment

You need to review at regular intervals the method of catheterisation; indwelling urethral (short and long-term), intermittent or indwelling suprapubic. You also need to discuss types of catheters, drainage systems; leg bags, night bags, belly bags and supportive products link systems and catheter valves. You should discuss the benefits and disadvantages of equipment used, and the disadvantages of using continual drainage on a long-term basis.

How to obtain equipment – if leaving hospital using a catheter, the patient and/or carer need to know what equipment to take home with them. Who will provide a prescription for equipment after discharge, where to take or send the prescription (pharmacist or dispensing appliance contractor), some of the common problems experienced by patients in obtaining equipment, and finally, the implications of running out of equipment.

When to change equipment – ensure the patient has planned care for these procedures and review the importance and implications of the manufacturer's instructions

Storage of equipment – store in a cool, dry place away from direct sunlight and radiators to maintain the quality of the product. Store in original boxes and store flat and not standing up, to stop products becoming deformed or pierced, therefore maintaining sterility.

Disposal of equipment – explain how to dispose of the equipment in household rubbish and explain the indications for a special rubbish collection if needing to be arranged by the community nurse.

Mapping SfH competencies related to patient education:

- enable individuals to make informed health choices and decisions (PE1)
- manage information and materials for access by patients and carers (PE2)
- work with individuals to evaluate their health status and needs (PE3)
- agree a plan to enable individuals to manage their health condition (PE4)
- develop relationships with individuals that support them in addressing their health needs (PE5)

- identify the learning needs of patients and carers to enable management of a defined condition (PE6)
- enable individuals to manage their defined health condition (PE8) by providing advice and information in to individuals on how to manage their own condition (GEN14)
- collate and communicate information to individuals (GEN62)
- develop learning tools and methods for individuals and groups with a defined health condition (PE7).

Medication and catheterisation

What you need to know:

- how to carry out a medication review to identify medication related to the management of urinary tract symptoms which may impact on catheter care
- the indications, mode of action, side-effects, cautions, contraindications and potential interactions of medication, antibiotics, anaesthetic agents and associated solutions used for individuals with urethral catheters.

National Occupational Standards

Key drivers:

- British National Formulary (BNF)
- manufacturer's license, indications for administration, cautions, contraindications and side effects
- local antibiotic policy and other formularies
- EAU (European Urology Association) directives on treatment of complicated urinary tract infection.

In prescribing or recommending medication, nurses must ensure they:

- give correct indications
- acknowledge cautions and contraindications
- advise about the side effects.

Anticholinergics/antimuscarinics (used to treat bladder over activity when catheter bypassing is a problem):

- can cause bowel dysfunction (diarrhoea/constipation) which may affect the function of a catheter
- caution when using with outflow obstruction or neurological diseases in men, as voiding problems are likely, resulting in the possible need to use a urinary catheter
- follow BNF directives for usage when a catheterised patient has a urinary tract infection.

Analgesia:

- invariably causes constipation and may indirectly affect the function of a catheter
- with strong analgesia, bladder sensation and function can be affected resulting in voiding problems

- where analgesia causes constipation, patients with indwelling catheters may find their catheter bypasses because of increased straining during defecation
- if soiling or faecal incontinence are associated with the use of analgesia, patients using catheters may have an increased risk of urinary tract infection.

Catheter instillations:

- clinical rationale for use
- risk of infection as breaking closed link system
- do not use to unblock a catheter
- be aware of the different substances and their indications
- follow the manufacturer's administration instructions.

Lidocaine:

More research is needed to decide which is the most effective – plain aqueous gel or an anaesthetic gel. At present it is left to the practitioner to decide on behalf of individual patients:

- evidence supports the routine use of a sterile urethral gel prior to both male and female catheterisation to reduce pain, discomfort and minimise trauma (Devine, 2003; Woodward, 2005)
- national guidelines are ambivalent as to whether a lubricant gel or an anaesthetic gel should be used prior to catheterisation (EPIC2 guidelines, 2007; NICE, 2003; NHS QIS, 2004)
- there is limited evidence to support use of chlorhexidine gluconate in gel to prevent

contamination from bowel bacteria. However anaphylactic reactions have been reported and caution should be applied (Jayathilake and Broome, 2003; Wicki et al., 1999)

- cautions and contraindications, check BNF
- caution should be exercised if cleaving of the penis is present.

Warfarin and aspirin:

- increased risk of haematuria following bladder decompression post-catheterisation for retention
- increased risk of haematuria following scheduled catheter changes
- haematuria may be prolonged
- more likely to spontaneously bleed
- should not consume cranberry juice if taking Warfarin. See: www.mhra.gov.uk/Safetyinformation

Prostate related medication:

- alpha blockers are recommended for post acute urinary retention prior to a trial without catheter
- alpha blockers will enhance the outcome of a TWOC in male patients (24 to 72 hours prior to removal of catheter, and up to a maximum of eight days) (Zeif and Subramonian, 2009)
- used in the management of bladder outflow obstruction managed by a urinary catheter.

Botulinum toxin used in the treatment of bladder over activity:

- in many areas it is policy that patients must be willing and able to perform intermittent catheterisation prior to treatment; this will depend on the surgeon
- patients accept the potential need to self-catheterise on a long-term basis.

Mapping SfH competencies to this aspect of practice:

- prepare for the administration of medication/intervention
- administer and advise on use of prescribed medication and pharmaceutical agents (gastroenterology related).

Infection control and catheter care

What you need to know:

- knowledge of the causes of urinary tract invasion from bacteria and how to minimise this in all care settings
- knowledge of the importance of applying standard precautions for infection control and the potential serious life threatening consequences of poor practice
- knowledge of how to meet standards of environmental cleanliness in the area where catheterisation is to take place to minimise the infection risk
- knowledge of how to assess an individual using a urinary catheter to ascertain their multi-resistant bacteria risk status
- knowledge of when to undertake urinalysis, obtain a catheter specimen of urine (CSU) or screen for multi resistant bacteria.

National Occupational Standards

The complication of infection and catheterised patient is now a serious issue because of the evolving development of multiresistant infection and an ever-diminishing range of antibiotics to treat them. It is imperative that the critical topic of infection control becomes part of all catheter care education.

Nurses must be aware of the following documents, their content and clinical implications:

Department of Health (2003) *Winning ways: working together to reduce healthcare associated infection in England: report from the Chief Medical Officer*, London: DH.

Department of Health (2007) *Saving lives: reducing infection, delivering clean and safe care. High Impact Interventions No 6, Urinary Catheter Care Bundle*, London: DH.

Naber KG, Bergman B, Bishop MC, Bjerklund Johansen TE, Botto H, Lobel B, Jimenez Cruz F and Selvaggi FP (2002) *Guidelines on urinary and male genital tract infections*, Arnhem: EAU.

Pratt RJ, Pellowe CM, Wilson JA et al. (2006) 'Guidelines for preventing infections associated with use of short term indwelling urethral catheters', in *National evidence based guidelines for preventing health care associated infections in NHS hospitals in England*, London: Thames Valley University.

Potential sources of infection in a catheterised patient are at insertion of the catheter, the space between the catheter and urethra, the catheter lumen, the catheter connection to the valve/bag, the sample port, any reflux from the bag, the tap on the bag/valve, self-infection and cross infection by the patient, nurse, doctor, therapist or others.

Bladder irrigation, instillation and washouts must not be used to prevent catheter-associated infection (Pratt et al., 2006).

The Cochrane Review of 2009 which looked at 10 studies found that cranberry products were more effective in reducing the incidence of UTIs in women suffering with recurrent UTIs, than in treating elderly men and women or those with indwelling catheters. Drop out rates suggested that the long term ingestion of cranberry products is not well tolerated. It is also unclear what the optimum dose is and whether cranberry juice or the capsules are best.

Caution is advisable with diabetics, arthritic patients and patients with gastric problems (Addison, 1999d). It is not recommended for patients with multiple sclerosis (NICE, 2003):

Refer to local infection control policy regarding the use of personal protective equipment (PPE). Gloves must be worn when in contact with body fluids such as urine, pus and blood (Addison, 1999 a/b/c). Hands must be

washed/decontaminated before and after attending to a catheter or performing catheter care (Colley, 1999; Pratt et al., 2006).

Meatal care and observation is best undertaken during daily hygiene practices. Only soap and water are needed to maintain meatal hygiene (Pratt et al., 2006).

Drainage bags with taps must be emptied often enough to maintain urinary flow and prevent reflux. A separate container must be used for each patient and contact between the tap and the container avoided. (Pratt et al., 2006).

Drainage bags should be changed when they become discoloured, contain sediment, smell offensive or are damaged. All bags must be changed at least every seven days in line with manufacturer guidelines. Never wash urine bags and reconnect them in any care setting, unless the manufacturer of that particular product has put in writing that this is an acceptable practice. Antiseptic or antimicrobial solutions must not be added to drainage bags (Pratt et al., 2006).

General nursing principles:

- always challenge the need for catheterisation and catheter usage (DH, 2007)
- always review your own competence and challenge others where you have concerns; all staff involved in catheter care must be trained and competent (Pratt et al., 2006)
- observation of health care workers delivering catheter care is a high priority within nursing (DH, 2007)
- a risk assessment is imperative prior to catheterisation in all care settings
- always consider the environment in which the catheterisation is to take place and the associated risk variance.

Defining a urinary tract infection; nurses must understand the following terms and the associated implications for care:

- colonisation
- bacteruria
- urinary tract infection
- asymptomatic urinary tract infection
- symptomatic urinary tract infection

- uncomplicated urinary tract infection
- complicated urinary tract infection
- nosocomial urinary tract infection
- hospital acquired, community acquired urinary tract infection and how to classify
- bacteraemia
- septicaemia.

Nurses must understand the aetiology of the following organisms:

- Escherichia. Coli (E Coli)
- Methicillin-Resistant Staphylococcus Aureus (MRSA)
- Extended Spectrum Beta-Lactamases (ESBL)
- Clostridium Difficile (C Diff).

How and when to undertake urinalysis and send a CSU:

- urine samples must be obtained aseptically from a sampling port (Pratt et al., 2006; DH, 2007)
- if systemically unwell
- rigors and severe fever
- admission to hospital to ascertain CAI or HAI (community or health care acquired infection)
- not responding to treatment
- following local policy.

Screening catheter patients:

- all community based patients admitted to hospital with an indwelling catheter should be screened for multiresistant infection
- where patients do not respond to one course of antibiotics multi resistant screening should be considered in high risk groups such as the elderly.

Environmental and geographical risk areas:

- where patients with urinary catheters are mixed/clustered with patients who have chronic wounds such as vascular wards
- nursing homes where patients with poor health requiring continuous nursing care are grouped together and older men are more likely to have a catheter
- orthopaedic units particularly those wards grouping the frail elderly with fractured femurs

- intensive care and high dependency areas when the majority of patients will have a urinary catheter
- emergency departments where the insertion of catheters may be for emergency life-saving reasons and aseptic technique may be minimised or abandoned
- in elderly care wards and departments where male patients (who are more likely to have a long-term catheter on admission) are grouped together in bays (as in single sex accommodation).
- sterile field is created
- all sterilisation dates must be checked. Catheters, drainage bags and catheter valves have a shelf life of five years, pre-inflated catheters only three years: they must be discarded if out of sterilisation date
- the packaging of sterile items must be checked to ensure it is intact and discarded if damaged.

Care of the patient with a multi-resistant infection:

- all patients who have a multi-resistant infection associated with an indwelling catheter must be isolated
- if the patient undergoes a programme of decolonisation, the catheter and drainage system should be changed
- a TWOC is indicated to ensure that ongoing catheter usage with all its associated serious risks is unavoidable
- where possible intermittent catheterisation by the patient has less associated risks but is not risk free
- antibiotics should only be used if the patient is systemically ill.

Procedures which require an aseptic technique:

- catheter insertion
- CSU or MSU
- changing a bag or valve
- changing a suprapubic dressing
- administering any form of catheter instillation
- the urethral meatus must be cleaned before catheter insertion (Pratt et al., 2006; DH, 2006).

Broad principles of an aseptic technique:

- patient or area of body is socially clean
- sterile equipment (catheters, bags, sterile gloves)
- protective clothing (aprons and sterile gloves)
- appropriate clothing (suits, jackets, long sleeve shirts and ties are not suitable)
- trolleys and trays are decontaminated and cleaned prior to individual procedures

Mapping SfH competencies to this aspect of practice:

- minimise the risk of spreading infection by cleaning, disinfecting and maintaining environments (IPC1)
- minimise the risk of spreading infection by cleaning, disinfecting and storing equipment (IPC4)
- perform hand hygiene to prevent the spread of infection (IPC2) and use personal protective equipment to prevent the spread of infection (IPC6)
- clean, disinfect and remove spillages of blood and other body fluids to minimise the risk of infection (IPC3)
- minimise the risk of spreading infection when storing and using clean linen (IPC12).

Catheter guidance for the end of life

What you need to know:

- to understand the role of catheterisation at end of life and indications for catheter insertion.

National Occupational Standards

There is a lack of evidence on the role of catheters at end of life/palliative care. (Fainsinger and Bruera, 1991). The relaxation of the urethral sphincters of the bladder causing urinary incontinence can indicate approaching death (WHO, 2003). It is appropriate to use absorbent pads at this stage. However, if a full distended bladder or urinary retention is suspected then prompt action of urethral catheterisation is indicated before the patient becomes agitated or distressed (Ellershaw, 2003). It is important to note that a peripheral side effect of opioid medication may cause retention.

Indications for urethral catheterisation at the end of life:

- the management or prevention of wound damage, eg sacral pressure ulcers, fungating wounds or soreness of the anus, perineum, vulva or penis
- painful physical movements due to frequent changes of bed linen caused by incontinence (NICE, 2006)
- pain or difficulty for female patients getting in and out of bed to use a commode
- urinary incontinence associated with obstruction
- urinary retention/distended bladder – excessive oedema of the genitalia making micturition uncomfortable

Catheterisation is an invasive procedure and it is therefore important to explore alternatives. Consideration should be given to which method of containment is in the patient's best interest in order to maintain comfort, hygiene, dignity and wellbeing, especially if the patient is unable to give consent.

The benefits of inserting a urinary catheter at the end of life must outweigh any possible complications, such as catheter encrustation leading to frequent changes or bladder spasm leading to pain and discomfort and possible catheter expulsion.

Mapping SfH competencies to this aspect of practice:

- assess bladder and bowel dysfunction (CC01)
- obtain valid consent or authorisation (CHS167)
- plan assessment of an individual's health status (CHS38)
- assess risks associated with health conditions (CHS46).

Environmental nursing care considerations

What you need to know:

- knowledge of how to meet standards of environmental cleanliness in the area where catheterisation is to take place to minimise the infection risk.

Key drivers:

Department of Health (2004) *A matron's charter: an action plan for cleaner hospitals*, London: DH.

Department of Health (2004) *Towards cleaner hospitals and lower rates of infection: a summary of action*, London: DH.

Department of Health (2007) *Saving lives: reducing infection, delivering clean and safe care*, London: DH. Available at: www.clean-safe-care.nhs.uk

Department of Health (2006) *Essence of Care*, London: DH.

The following statements are based on SfH competencies related to environmental care and Department of Health Essence of Care (EoC) benchmarks related to the clinical environment. The statements relate to health and social care settings and are not applicable to home care settings. The statements have been adapted to relate to catheter care provided by nurses:

- manage environments and resources for use during health care activities (SfH, GEN6)
- minimise the risk of spreading infection by cleaning, disinfecting and maintaining environments (EoC, SfH, IPC1)
- patients must receive catheter care in a consistently clean environment (EoC)
- monitor and manage the environment and resources during and after clinical activities (SfH, GEN7)
- patients and visitors feel confident that infection control precautions are in place for catheter care (EoC)
- patients using catheters feel comfortable, safe, reassured, confident and welcome (EoC)
- catheter patients' personal environment is managed to meet their individual needs (EoC)
- catheter patients and carers are confident that the team is well led and that all members are competent to do their job (EoC)
- supplies, materials and well maintained equipment are available when required for the catheter patients (EoC)
- minimise the risk of spreading infection by cleaning, disinfection and storing care equipment (SfH, IPC4)
- clean, disinfect and remove spillages of blood and other body fluids to minimise the risk of infection (SfH, IPC3)
- maintain health, safety and security practices within a health setting (SfH, GEN96)
- minimise the risk of spreading infection when storing and using clean linen (SfH, IPC12)
- isolate patients with multi resistant infection within health and social care settings
- avoid catheterised patients being in adjacent beds to minimise cross infection
- dispose of urine and used catheter care equipment appropriately and safely according to local policy
- perform hand hygiene to prevent the spread of infection, and use personal protective equipment
- minimise the risks of exposure to blood-borne infections and appropriately clean and remove spillages of blood and other body fluids.

Mapping KSF competencies to this area of practice:

- ensure the availability of physical resources (GEN64)
- make recommendations for the use of physical resources (GEN65)

- control the use of physical resources (GEN66)
- minimise the risk of spreading infection by cleaning, disinfecting and maintaining environments (IPC1) and minimise the risk of spreading infection by cleaning, disinfection and storing care equipment (IPC4).

Health care assistants

These guidelines refer to health care assistants (HCAs), health care support workers (HCSWs) and assistant practitioners (APs), but the term HCA has been used throughout to prevent complication.

The health care assistant (HCA) is an important part of the workforce within health care. HCAs deliver much of the 'essential care' within the wider nursing workforce and this includes large proportions of day-to-day catheter care. The registered nurse is accountable for ensuring that the delegation of any task is appropriate and in the best interest of the patient (RCN, 2011). See www.rcn.org.uk/hcaaccountability. The following statements consider some aspects of the role of the HCA in catheter care, and are not comprehensive.

HCAs may undertake a range of catheter care procedures following patient assessment (including risk assessment) by a registered competent nurse, if:

- the HCA has been deemed competent in the particular catheter care task
- the employing organisation authorises HCAs to perform that particular task
- the registered nurse agrees that it is appropriate to delegate that catheter care task to that particular HCA and,
- the patient consents.

The list below outlines the types of tasks/procedures that could be considered for competent HCAs to perform, but the delegating nurse must consider each unique situation, the context of care, training and the competences achieved:

- empty a catheter bag or valve
- form/connect and disconnect a link system
- wash a patient with an indwelling catheter, including meatal care (DH, 2007)
- move a patient with an indwelling catheter (manual handling)
- be aware of and use a variety of catheter care support equipment
- change a catheter bag or valve
- remove an indwelling catheter

- administer a catheter instillation (there must be a patient specific direction in place if a prescription-only medicine is to be administered. (2010 NMC Standards for medicine management)
- undertake urinalysis, obtain a catheter specimen of urine (CSU) and send for culture (DH, 2007)
- maintain appropriate drainage bag positions (DH, 2007)
- recognise common associated catheter complications
- be able to identify the symptoms of a UTI
- record keeping
- simple re-catheterisations, inserting urethral and suprapubic catheters following comprehensive training, and acquisition of relevant competencies, as long as this is in line with local trust policy.

Re-catheterisation does raise issues, in relation to patient selection for this specific procedure being performed by an HCA, and the delegating nurse needs to carry out a comprehensive risk assessment prior to delegation.

HCAs have an individual responsibility to ensure they are confident and competent in the knowledge and skills of practice in line with local guidelines, procedures and policies. HCAs should work as the patient's advocate in all aspects throughout urinary catheter care. HCA 'continence champions' are recommended in each clinical area, with the aim of promoting best practice and safe practice which should be adhered to at all times. All staff should have access to appropriate equipment that complies with CE, safety and maintenance requirements within local/national guidelines.

Developing competence in catheter care

The HCA must acquire knowledge, understanding and skills relating to the supervised delivery of urinary catheter care, to ensure competency in line with national occupational standards to meet patient service needs. HCAs must inform their immediate line manager if they feel they are not competent to undertake urinary catheter care, so that additional training needs can be identified and facilitated at local level.

Programmes of learning, in line with national occupational standards related to all aspects of catheter care, should be facilitated by competent registered staff at local levels for HCAs.

Programmes of learning for HCAs must be based on national occupational standards and include the following:

- consideration of physical, social, sexual and physiological aspects of urinary catheterisation
- continence assessment, catheter care risk assessment prior to catheterisation
- reasons why catheters are needed and ongoing usage with all its associated risks (DH, 2007)
- common complications and solutions associated with catheter usage
- how to undertake an aseptic technique (DH, 2007)
- how to maintain a sterile closed drainage system (DH, 2007)
- the legal aspects of catheter care provision
- catheter care equipment selection (catheters, bags, valves, stands, bag capacity)
- catheter maintenance
- care of patients using different forms of catheterisation to include urethral indwelling, suprapubic intermittent self-catheterisation and a trial without catheter
- infection control, hand hygiene (DH, 2007) and personal protective equipment (DH, 2007).

Acceptable performance criteria for clinical practice will be demonstrated by observation and supervision by competent registered. This needs to be documented and signed by the supervisory nurse and kept within the HCAs personal portfolio and will likely be recorded by the employer also.

The importance of accurate documentation (catheter record charts) relating to urinary catheterisation and catheter care are vital.

Annual updates should be considered as mandatory because of the serious risks associated with catheter care. HCAs needs to be aware of their limitations to practice (for example, difficult or abusive patients) and that it is vital to ensure that the patient's care actively achieves social continence status, and promotes the individual's privacy, dignity and protects their modesty.

Finally, the HCA needs to actively report risks and untoward incidents to registered staff, in line with local policy guidelines.

The NMC sets out ten principles for nurses and midwives to follow when delegating to non-regulated health care staff. It replaces the previous advice sheet on delegation to keep in line with the nature of enquiries being received by NMC professional advisers on this issue. As catheter care tasks undertaken by an HCA are 'delegated', it is appropriate to include a link to the latest advice from our licensing body.

NMC (2008) *Delegation*. Available at: www.nmc-uk.org/Nurses-and-midwives

Royal College of Nursing (2011) *The principles of accountability and delegation for nurses, students, health care assistants and assistant practitioners*, London: RCN. Available at: www.rcn.org.uk/publications Publication code: 003 942.

20

Organisations

Age UK (combining Age Concern and Help the Aged)

Each region has its own offices.

Advice line: 0800 169 6565

www.ageuk.org.uk

Alzheimer's Society

Devon House, 58 St Katharine's Way, London. E1W 1LB

0845 300 0336

www.alzheimers.org.uk

Association of Continence Advice (ACA)

c/o Fitwise Management Ltd., Drumcross Hall,

Bathgate, West Lothian. EH48 4JT

01506 811077

www.aca.uk.com

Bladder and Bowel Foundation

SATRA Innovation Park, Rockingham Road, Kettering,

Northants. NN16 9JH

Helpline 0845 3450165

www.bladderandbowelfoundation.org

British Toilet Association

PO Box 847, Horsham, West Sussex. RH12 5AL

01403 258779

www.britloos.co.uk

Care Quality Commission

Finsbury Tower, 103–105 Bunhill Row, London.

EC1Y 8TG

03000 616161

www.cqc.org.uk

Clinicalskills.net

114 Park Road, Chiswick, London. W4 3HP

020 8995 3336

www.clinicalskills.net

Continence Care Forum

Royal College of Nursing, 20 Cavendish Square, London.

W1G 0RN

020 7409 3333

www.rcn.org.uk

Disabled Living Foundation

380-384 Harrow Road, London. W9 2HU

Helpline 0845 130 9177

www.dlf.org.uk

Multiple Sclerosis Society

MS National Centre, 372 Edgware Road, London.

NW2 6ND

020 8438 0700

Helpline 0808 800 8000

www.mssociety.org.uk

Parkinson's Disease Society

PDS national office, 215 Vauxhall Bridge Road, London.

SW1V 1EJ

020 7931 8080

Helpline 0808 800 0303

www.parkinsons.org.uk

PromoCon

Redbank House, St. Chad's Street, Cheetham,

Manchester. M8 8QA

0161 832 3678

Helpline 0161 607 8219

www.disabledliving.co.uk/promocon

RADAR

12 City Forum, 250 City Road, London. EC1V 8AF

020 7250 3222

www.radar.org.uk

Skills for Care

West Gate, 6 Grace Street, Leeds. LS1 2RP

0113 2245 1716

www.skillsforcare.org.uk

Skills for Health

Goldsmiths House, Broad Plain, Bristol. BS2 0JP

0117 922 1155

www.skillsforhealth.org.uk

Spinal Injuries Association (SIA)

SIA House, 2 Trueman Place, Oldbrook, Milton Keynes

MK6 2HH

0845 678 6633

www.spinal.co.uk

The Cystitis and Overactive Bladder Foundation

Kings Court, 17 School Rd, Birmingham. B28 8JG

Advice line 0121 702 0820

www.cobfoundation.org

References and further reading

Catheter valves

Addison R (1999) Catheter valves: a special focus on the Bard Flip Flo catheter valve, *British Journal of Nursing*, 8 (5), pp.567-580.

Doherty W (1999) The Sims Portex catheter valve: an alternative to the leg bag, *British Journal of Nursing*, 8 (7), pp.457-462.

Fader M, Petterson L, Brooks R, Dean G, Wells M, Cottenden J and Malone-Lee J (1997) A multicentre comparative evaluation of catheter valves, *British Journal of Nursing*, 8 (7), pp.359-367.

German K, Rowley P, Stone D, Kumar U and Blackford HN (1997) A randomised cross over study comparing the use of a catheter valve and a leg bag in urethral catheterised male patients, *British Journal of Urology*, 79 (1), pp.96-98.

Kristiansen P, Pompeius R and Wadstrom LB (1983) Long term urethral catheter drainage and bladder capacity, *Neurourology Urodynamics*, 2, pp.135-143.

Petterson L and Fader M (1997) Choosing a catheter valve that suits the patient, *Community Nurse*, 3 (40), p.9.

Roe B (1996) Do we need to clamp our catheters? *Nursing Times*, 86 (43), pp.66-67.

Rowley P, German K, Kumar U, Stone D, Stone V and Blackford HN (1995) *A randomised cross-over study comparing the catheter valve with the leg bag in male patients with urethral catheters* (Paper presented at the International Continence Society Conference in Sydney 1995).

Sabbuba NA, Stickler DJ, Long MJ, Dong Z, Short TD and Fenseley RJC (2005) Does the valve regulated release of urine from the bladder decrease encrustation and blockage of indwelling catheters by crystalline proteus mirabilis biofilms? *Journal of Urology*, 173 (10), pp.262-266.

Wilson C, Sandhu SS and Kaisary AV (1997) A prospective randomised study comparing a catheter valve with a standard drainage system, *British Journal of Urology*, 80 (96), pp.915-917.

Woods M, McCreanor J and Aitchison M (1999) An assessment of urethral catheter valves, *Professional Nurse*, 14 (7), pp.472-474.

Infection and catheters

Addison R and Rew M (1999a) Administering a catheter maintenance solution: Part 1, procedure 32.6 – practical procedures for nurses, *Nursing Times*, 95 (39), supplement.

Addison R and Rew M, (1999b) Administering a catheter maintenance solution: Part 2, procedure 32.7 – practical procedures for nurses, *Nursing Times*, 95 (39), supplement.

Addison R (1999d) Fluid intake and continence care: procedure 37.1 – practical procedures for nurses, *Nursing Times*, 95 (49), supplement.

Addison R (2000) *Bladder washout, irrigation, instillation: a guide for nurses*, Sheffield: Braun Ltd.

Curran E and Murdoch H (2009) Aiming to reduce catheter – associated urinary tract infections (CAUTI) by adopting a checklist and bundle to achieve sustained system improvements, *Journal of Infection Prevention*, 10(2), pp. 57-61.

Department of Health (2003) *Winning ways: working together to reduce health care associated infection in England: report from the Chief Medical Officer*, London: DH.

Department of Health (2006) *Essential steps to safe, clean care – reducing health care-associated infections in primary care trusts, mental health trusts, learning disability organisations, independent health care, care homes, hospices, GP practices, and ambulance services*, London: DH.

Department of Health (2007) *Saving Lives: reducing infection, delivering clean and safe care. High Impact Interventions No 6. Urinary Catheter Care Bundle*, London: DH.

Department of Health (2008) *The Health and Social Care Act 2008: Code of Practice for health and adult social care on the prevention and control of infections and related guidance*, London: DH.

Fraczyk L, Godfrey H (2004) Current practice of antibiotic prophylaxis for catheter procedures, *British Journal of Nursing*, 13 (10), pp. 610-617.

Howell AB, Foxman B (2002) Cranberry juice and adherence of antibiotic resistant uropathogens. *Journal of the American Medical Association*, 287, pp. 3082-3.

Jepson RG, Craig JC. *Cranberries for preventing urinary tract infections*. Cochrane Database of Systematic Reviews 2008, Issue 1. Art. No.: CD001321. DOI: 10.1002/14651858.CD001321.pub4.

Kial R, Nashersky J (2003) Does cranberry juice prevent or treat urinary tract infection? *Journal of Family Practice* 52 (2).

Medicines and Health care Products Regulatory Agency (2000) *Equipped to care. The safe use of medical devices in the 21st century*, London: MHRA.

Naber KG, Bergman B, Bishop MC, Bjerklund Johansen TE, Botto H, Lobel B, Jimenez Cruz F and Selvaggi FP (2002) *Guidelines on urinary and male genital tract infections*, Arnheim: EAU.

National Institute for Clinical Excellence (2003) *Prevention of health-care associated infection in primary and community care: clinical guidance 2*. London: NICE.

Niel Weise BS, Van den Broek PJ (2005) *Antibiotic policies for short term catheter bladder drainage in adults*. Cochrane Database of Systematic Reviews, 20 (3), Art no. CD005428.

Pellowe C (2001) Preventing infections from short term indwelling catheters, *Nursing Times*, 97 (14), pp. 34-35.

Pratt RJ, Pellowe CM and Loveday HP (2001) EPIC1: the development of national evidence based guidelines for preventing hospital acquired infections in England associated with the use of short-term indwelling urethral catheters in acute care, *Journal of Hospital Infection*, 47 (supplement), S1-82.

Pratt RJ, Pellowe CM, Wilson JA Loveday H P, Harper P, Jones SRLJ, McDougall C, Wilcox M H, (2006) 'Guidelines for preventing infections associated with use of short term indwelling urethral catheters', in *National evidence based guidelines for preventing health care associated infections in NHS hospitals in England*, London: Thames Valley University.

Pratt RJ, Pellowe CM, Wilson JA Loveday H P, Harper P, Jones SRLJ, McDougall C, Wilcox M H (2007) EPIC2:

national evidence based guidelines for preventing health care associated infections in NHS hospitals in England, *Journal of Hospital Infection*, 655 (supplement), S1-64.

Pratt RJ and O'Malley B (2007) Supporting evidence-based infection prevention and control practice in the National Health Service in England: the NHS/TVU/intuition approach, *Journal of Hospital Infection*, 65 (S2), pp. 142-147.

Antiseptic lubricant gel prior to urethral catheterisation

Addison R (2000a) Catheterisation using lignocaine gel, *Nursing Times*, 96 (41), pp.43-44.

Bardsley A (2005) Use of lubricant gels in urinary catheterisation, *Nursing Standard*, 2 (20), 8, pp.41-46.

Bond P and Harris C (2005) Best practice in urinary catheterisation and catheter care, *Nursing Times*, 101 (8), pp.54-58.

Devine A (2003) Female catheterisation: what nurses need to know! *Accident and Emergency Nursing*, 11, pp. 91-95.

Docherty W (1999) Instillagel: an anaesthetic antiseptic gel for use in catheterisation, *British Journal of Nursing*, 8 (2), pp.109-112.

Pratt RJ, Pellowe CM, Wilson JA, Loveday H P, Harper P, Jones SRLJ, McDougall C, Wilcox M H (2007) EPIC 2 National evidence based guidelines for preventing healthcare-associated infection in NHS Hospitals in England, *The Journal of Hospital Infections*, 65S, S1-S64.

Getliffe K (2001) Review of catheter care guidelines, *Nursing Times*, 97 (20), p.70.

Jayathillake A MD, Broome K (2003) Allergy to chlorhexidine gluconate in urethral gel: report of four cases and review of the literature, *Urology* 61(4), p.837.

Kyle G (2011) Reducing urethral catheterisation trauma with urethral gels, *British Journal of Neuroscience Nursing*, 7 (5), pp. S8-S12.

Ogden V (2003) Anaesthetic gel insertion during male catheterisation, *Journal of Community Nursing*, 17 (1), pp.4-8.

- Pomfret I (2001) Urethral catheterisation – is gel needed? *Journal of Community Nursing*, 15 (10), pp.24-26.
- Pomfret I and Wells M (2006) Urinary catheter problems, *Journal of Community Nursing*, 20 (07), pp.13-18.
- Stewart E (2006) Development of catheter care guidelines for Guy's and St. Thomas', *British Journal of Nursing*, 15 (8), pp.420-425.
- Wicki JDC, Cirafici L, Deluze C, Desmeules J (1999) Anaphylactic shock induced by intraurethral use of chlorhexidine, *Allergy*, 54 (7), pp. 768-769.
- Woodward S (2005) Use of lubricant in female urethral catheterisation, *British Journal of Nursing*, 14 (19), pp.1022-1023.
- ## Trial without catheter
- Desgrandchamps F, De La Taille A and Doublet JD (2006) Lower urinary tract – the management of acute urinary retention in France: a cross sectional survey in 2618 men with benign prostatic hyperplasia, *BJU International*, 97, pp.727-733.
- Emberton M and Anson K (2007) Clinical review – acute urinary retention in men: age old problem, *BMJ*, 318, pp.921- 925.
- Gratzke C, Reich O, Staehler M, Seitz M, Schlenker B, Stief CG, (2006) Risk assessment and medical management of acute urinary retention in patients with benign prostatic hyperplasia, *EAU-EBU update series: series 4*, pp.109-116. Available at: www.sciencedirect.com or www.europeanurology.com
- Khoubehi B, Watkin N, Mee A, Ogden CW (2000) Morbidity and the impact of daily activities associated with catheter drainage after acute urinary retention, *BJU International*, 85, pp.1033-1036.
- Kumar V, Marr C, Bhuvangiri A, Irwin P (2000) A prospective study of conservatively managed acute urinary retention: prostate size matters, *BJU International*, 86, pp.816-819.
- Lepor H (2005) Managing and preventing acute urinary retention, *Reviews in Urology*, 7, Supplement 8, pp.26- 33.
- Lucas M, Sptehenson T and Nargund V (2005) Tamsulosin in the management of patients in acute urinary retention from benign prostatic hyperplasia, *BJU International*, 95, pp.354-357.
- Manikandan R, Srirangam S, O'Reilly, Collins GN (2004) Management of acute urinary retention secondary to benign prostatic hyperplasia in the UK: a national survey, *BJU International*, 93, pp.84-88.
- McNeill S, Daruwala I, Mitchell M, Shearer MG, Hargreave TB (1999) Sustained-release alfuzosin and trial without catheter after acute urinary retention: a prospective, placebo controlled trial, *BJU International*, 84, pp.622-627.
- Naish W (2003) Intermittent self-catheterisation for managing urinary problems, *Urology Nursing*, 18 (10), pp.7-10.
- Narzako L (2010) How to perform a trial without catheter (TWOC), *Continence UK*, 14 (1), pp. 13-18.
- Pallis LM and Wilson M (2003) Ultrasound assessment of bladder volume: is it valid after delivery? *The Australian and New Zealand Journal of Obstetrics and Gynaecology*, 43 (6), pp. 453-6.
- Patel M, Watts W and Grant A (2001) The optimal form of urinary drainage after acute urinary retention of urine, *BJU International*, 88, pp.26-29.
- Quek K, Loh C, Low W, Razack A, Chua C (2002) The effects of treating lower urinary tract symptoms on health related quality of life: a short term outcome, *Singapore Medical Journal*, 43(8), pp.391-398.
- Willis S, McNeill A (2004) New trends in acute retention: developing a management protocol, *Urology News*, 18 (5), pp. 6-10.
- Zaif HJ, Subramonian K (2009) Alpha blockers prior to removal of a catheter for acute retention in adult men, *Cochrane Database of Systematic Reviews*, 74, Art no. CD006744.
- ## Urethral catheterisation
- Bond P and Harris C (2005) Best practice in urinary catheterisation and catheter care, *Nursing Times*, 101 (8), pp. 54-58.
- Cravens D and Zweig S (2000) Urinary catheter management, *American Academy of Family Physicians*, 61 (2), pp.369-376.
- Evans A, Godfrey H and Fraczyk L (2001) An audit of problems associated with urinary catheter withdrawal, *British Journal of Community Nursing*, 6 (10), pp.511-519.

Foxley S (2011) Indwelling urinary catheters: accurate monitoring of urine output, *British Journal of Nursing*, 20 (9), pp. 564-569.

Fleming A, Day J and Glanfield L (2000) Registered nurse management of urinary catheters in a rehabilitation and long-term care hospital, *International Journal of Nursing Practice*, 6 (5), pp.237-245.

Jamison J, Maguire S and McCann J (2006) *Catheter policies for management of long-term voiding problems in adults with neurogenic bladder disorders: the Cochrane Collaboration*, London: Wiley and Sons Ltd.

Kotake S and Satoh W (2004) Changes in lower urinary tract symptoms before and after an indwelling urethral catheter, *Japan Journal of Nursing Science*, 1 (2), pp.99-105.

Logan K (2003) Indwelling catheters: developing an integrated care pathway, *Nursing Times*, 99 (44), pp.45-51.

Madeo M and Roohouse AJ (2011) Reducing the risks associated with urinary catheters, *Nursing Standard*, Supplement, pp. 3-13.

Madigan E and Neff D (2003) *Care of patients with long-term indwelling urinary catheters*, Maryland, USA: Online Journal of Issues in Nursing. Available at: www.nursingworld.org (Web).

Mercer-Smith J (2003) Indwelling catheter management; from habit-based to evidence-based practice, *Ostomy/Wound Management*, 49 (12), pp.34-45.

NHS Quality Improvement Scotland (2004) *Urinary catheterisation and catheter care – best practice statement*, Edinburgh: NHS Quality Improvement Scotland.

Robinson J (2006) Selecting a urinary catheter and drainage system, *British Journal of Nursing*, 15 (19), pp.1045-1050.

Turner B and Dickens N (2011) Long term urethral catheterisation, *Nursing Standard*, 25 (24), pp. 49-56.

Urinary drainage systems

Cravens D and Zweig S (2000) Urinary catheter management, *American Academy of Family Physicians*, 61 (2), pp.369-376.

Jones S, Brooks A, Foxley S and Dunkin J (2007) Care of urinary catheters and drainage systems, *Nursing Times*, 103 (42), pp.48-50.

Mercer-Smith J (2003) Indwelling catheter management; from habit-based to evidence-based practice, *Ostomy/Wound Management*, 49 (12), pp.34-45.

NHS Quality Improvement Scotland (2004) *Urinary catheterisation and catheter care – best practice statement*, Edinburgh: NHS Quality Improvement Scotland.

Pomfret I (2006) Which urinary system is for you? *Charter Continence Care*, 4, p.12.

Pomfret I (2007) Urinary catheter problems 2, *Journal of Community Nursing*, 21 (7), pp. 23-25.

Robinson J (2006) Selecting a urinary catheter and drainage system, *British Journal of Nursing*, 15 (19), pp.1045-1050.

Senese V, Hendricks M, Morrison M and Harris J (2006) Clinical practice guidelines; care of the patient with an indwelling catheter, *Urological Nursing*, 26 (1), pp.80-81.

Stewart E (2006) Development of catheter care guidelines for Guy's and St Thomas', *British Journal of Nursing*, 15 (8), pp.420-425.

Toughill E (2005) Indwelling urinary catheters: common mechanical and pathogenic problems, *American Journal of Nursing*, 105 (5), pp.35-37.

Wilson M and Coates D (1996) Infection control and urine bag drainage design, *Professional Nurse*, 11 (4), pp.245-252.

Suprapubic catheterisation

Addison R (1999b) Changing a suprapubic catheter, Part 2, Procedure 34.2: practical procedures for nurses, *Nursing Times*, 95 (43) (supplement).

Addison R (1999c) Changing a suprapubic catheter Part 3, Procedure 34.3: practical procedures, *Nursing Times*, 95 (44) (supplement).

Addison R and Mould C (2000) Risk assessment in suprapubic catheterisation, *Nursing Standard*, 14 (36), pp.43-46.

Ahluwalia RS, Johal N, Kouriels C, Kooiman G, Montgomery B, Plail RO (2006) The surgical risk of suprapubic catheter insertion and long term sequelae, *College Surgery England*, 88, pp. 210-213.

- Anderson P, Walsh JM, Louey MA, Meade C and Fairbrother G (2002) Comparing first and subsequent suprapubic catheter change: complications and cost, *Urologic Nursing*, 22 (5), pp.324-325.
- Barnes DG, Shaw P, Tomoney AG and Tsokos N (1993) Management of the neurophathic bladder by suprapubic catheterisation, *British Journal of Urology*, 72(2), pp.169-172.
- Breul J, Block T, Breidenbach H and Hartung R (1992) Implantation metastasis after a suprapubic catheter in a case of bladder cancer, *European Urology*, 22 (1), pp.86-88.
- Chao R, Mayo ME, Bejany DE and Bavendum T (1993) Bladder neck closure with continent augmentation or suprapubic catheter in patients with neurogenic bladders, *Journal of the American Paraplegia Society*, 16 (1), pp.18-22.
- Dineen MD, Wetter LA, May AR (1990) Urethral strictures and aortic surgery, Suprapubic rather than urethral catheters, *European Journal of Vascular Surgery*, 4 (5), pp.535-538.
- Fenelly R (1983) The management of female incontinence by suprapubic catheterisation, with or without urethral closure, *British Journal of Urology*, 55 (2), pp.203-207.
- Hadfield-Law L (2001) Male catheterisation, *Accident and Emergency*, 9 (4), pp. 257-263.
- Harrison S, Lawrence W, Morley R, Pearce I and Taylor J (2011) British Association of Urological Surgeons supra pubic catheter guidelines, *BJU International*, 107 (1), pp. 77-85.
- Hilton P (1988) Bladder drainage – a survey of practices among gynaecologists in the British Isles, *Journal of Obstetrics and Gynaecology* 95 (11), pp.1178 – 1189.
- Jannings W and Kelly M (2001) Difficulty in removing suprapubic catheters in home based patients: a comparative study, *The Australian Journal of Advanced Nursing*, 1 (2), pp.20-25.
- Kumar P and Pati J (2005) Suprapubic catheters: indications and complications, *British Journal of Hospital Medicine*, 66 (8), pp.466-8.
- National Patient Safety Agency (2009) Rapid Response Report (RRR): minimising risks of supra pubic catheterisation (NPSA/2009/RRR005), London NPSA. Available at www.nrls.npsa.nhs.uk/resources
- O’Kelly TJ, Matthew A, Ross S and Munro A (1995) Optimum method for urinary drainage in major abdominal surgery: a prospective randomised trial of suprapubic versus urethral catheterisation, *British Journal of Surgery*, 82 (10), pp.1367-1368
- Peate I (1997) Patient management following suprapubic catheterisation, *British Journal of Nursing*, 6 (1), pp.555-562.
- Parkin J, Scanlon J, Wooley M, Grover D, Evans A and Feneley RCL (2002) Urinary catheter deflation cuff formation: clinical audit and quantitative in vitro analysis, *BJU International*, 7, pp.666-671.
- Rigby D (2009) An overview of supra pubic catheter care in community practice. *British Journal Nursing*, 14 (7), pp. 278,280, 283-4.
- Robinson J (2006) Suprapubic catheterisation: challenges in changing catheters, *British Journal of Community Nursing*, 10 (10).
- Wells T, Stead H, Copstik V, Schepanksy A, Hiltz M and Faught W (2008) Suprapubic or urethral catheter: what is the optimal method of bladder drainage after radical hysterectomy? *Journal of Obstetrics and Gynaecology Canada*, pp.1034-38.
- Winder A (1994) Suprapubic catheterisation, *Community Outlook*, 4 (12), pp. 25-26.

Intermittent self-catheterisation

- Addison R (2001) Intermittent self-catheterisation, *Nursing Times Plus*, 97 (20), pp.67-69.
- Barton R (2000) Intermittent self-catheterisation, *Nursing Standard*, 15 (9), pp.47-52.
- Colley W and Naish W (editors) (2007) *Catheterisation-intermittent self-catheterisation*, London: Clinical Skills Ltd.
- Doherty W (1999) Indications for and principles of intermittent self-catheterisation, *British Journal of Nursing*, 8 (2), pp.73-84.
- Geng V, Emblem EL, Gratzl S, Incesu O, Jenson K (2006) *Good practice in health care – urethral catheterisation – section 2 – male, female and paediatric intermittent catheterisation*, European Association of Urology Nurses (EAUN).

- Getliffe K, Fader M, Allen C, Pinar K and Moore KA. (2007) Current evidence on intermittent catheterisation, *Journal of Wound, Ostomy and Continence Nursing*, 34 (3), pp.289-296.
- Haynes S (1994) Intermittent self –catheterisation: the key facts, *Professional Nurse*, 10 (2), pp. 100-104.
- Hunt, GM and Whitaker RH (1984) Intermittent self-catheterisation in adults, *British Journal of Urology*, 289, pp. 467-468.
- Johansson I, Ethlin E, Frykholm L, Bolinder H, Larsson G (2002) Intermittent versus indwelling catheters for older patients with hip fractures, *Journal of Clinical Nursing*, 11, pp. 651-656.
- Jolley S (1997) Intermittent catheterisation for postoperative urine retention, *Nursing Times*, 93 (33), pp. 46-47.
- Lapides J, Diokno AC, Sibling SJ and Lowe BS (1972) Clean intermittent self-catheterisation in the treatment of urinary tract disease, *Journal of Urology*, 107, pp.458-461.
- Lapides J, Diokno AC, Gould FR and Lowe BS (1976) Further observations on self-catheterisation, *Journal of Urology*, 116, pp.169-171.
- McConville A (2002) Patients' experience of clean intermittent catheterisation, *Nursing Times Plus*, 98 (4), pp.55-56.
- Naish W (2003) Intermittent self-catheterisation for managing urinary problem, *Professional Nurse*, 18 (10), pp.7-9.
- Oakeshott P and Hunt GM (1992) Intermittent self-catheterisation for patients with urinary incontinence or difficulty emptying the bladder, *British Journal of General Practice*, 42, pp.253-255.
- Patel MI, Watts W and Grant A (2001) The optimal form of urinary drainage after acute retention of urine, *British Journal of Urology International*, 88, pp.26-29.
- Peloso HV, David FR and Carter RE (1973) Hydronephrosis: silent hazard of intermittent catheterisation, *Journal of Urology*, 110, p.375.
- Perkash I (1978) Detrusor-sphincter dyssynergia and detrusor hyperreflexia leading to hydronephrosis during intermittent catheterisation, *Journal of Urology*, 120, p.620.
- Robinson J (2007) Intermittent self-catheterisation: teaching the skill to patients, *Nursing Standard*, 21 (29), pp.48-56.
- Skelly JM, Guyatt GH, Kalbfleisch R, Singer J, Winter L (1992) Management of urinary retention after surgical repair of hip fracture, *Canadian Medical Association Journal*, 146 (7), pp.1185-1189.
- Smith NK and Marrant JD (1990) Post-operative retention in women: management by intermittent catheterisation, *Age and Ageing*, 19 (5), pp. 337-340.
- Waller L, Jonsson O, Norlen L and Sullivan L (1995) Clean intermittent catheterisation in spinal cord injury patients: long-term follow up of a hydrophilic low friction technique, *Journal of Urology*, 153, pp.345-348.
- Whitelaw S, Hammond JC and Tregellas R (1987) Clean Intermittent self-catheterisation in the elderly, *British Journal of Urology*, 60, pp.125-127.
- Woodward S. and Rew M (2003) Patient's quality of life and clean intermittent self-catheterisation, *British Journal of Nursing*, 12 (18), p.1066.
- Wyndaele J (2002) Intermittent catheterisation: which is the optimal technique? *Spinal Cord*, 40, pp.432-437.

Patient education

Patterson A (2011) *Behaviour change to treat overactive bladder syndrome*, NursingTimes.Net. Available at: www.nursingtimes.net/nursing-practice (Web).

End of life

Ellershaw J (2003) Care of the dying patient: the last hours or days of life, *British Medical Journal*, 326, pp. 30-34.

Fainsinger R and Bruero E (1991) Urinary catheters in palliative care, *Journal of Pain and Symptom Management*, 6 (7), pp. 449-451.

Kyle G (2010) Bowel and bladder care at the end of life, *British Journal of Nursing*, 19 (7), pp. 408-414.

Royal College of Nursing (2011) *When someone asks for your assistance to die. RCN guidance on responding to a request to hasten death*, London: RCN. Available at www.rcn.org.uk/publications (publication code: 004 167)

World Health Organization (2003) *Symptom management and end of life*, Switzerland: WHO.



Royal College
of Nursing

The RCN represents nurses and nursing,
promotes excellence in practice and
shapes health policies

Second edition May 2012

RCN Online
www.rcn.org.uk

RCN Direct
www.rcn.org.uk/direct
0345 772 6100

Published by the Royal College of Nursing
20 Cavendish Square
London
W1G 0RN

Publication code 003 237

ISBN 978-1-908782-06-9

Supported by an unrestricted educational grant
from Coloplast and Skills for Health

