

Care Bundles – Putting theory into practice

Vanessa Whatley

Lead Nurse Infection Prevention

Royal Wolverhampton Hospitals NHS
Trust

Session aims

- Remind us of the purpose of care bundles
- Define and explain key elements related to care bundles
- Discuss the use of care bundles
- Discuss care bundles as a means of monitoring care provision

Do we need care a bundle?

- Variance in practice, motivation and skills
- Assurance of patient outcomes
- Lack of systematic approach to care
- Behavioural variance



Care Bundles

What a bundle is

- Evidence based
- Small number of interventions
- Carries a level of accountability & ownership
- Specific to one element of care
- Aimed at increasing reliability

What a bundle is not

- A checklist
- A long list of interventions
- An audit
- Non-specific
- A description of the implementation strategy designed to improve practice

IHI Definition

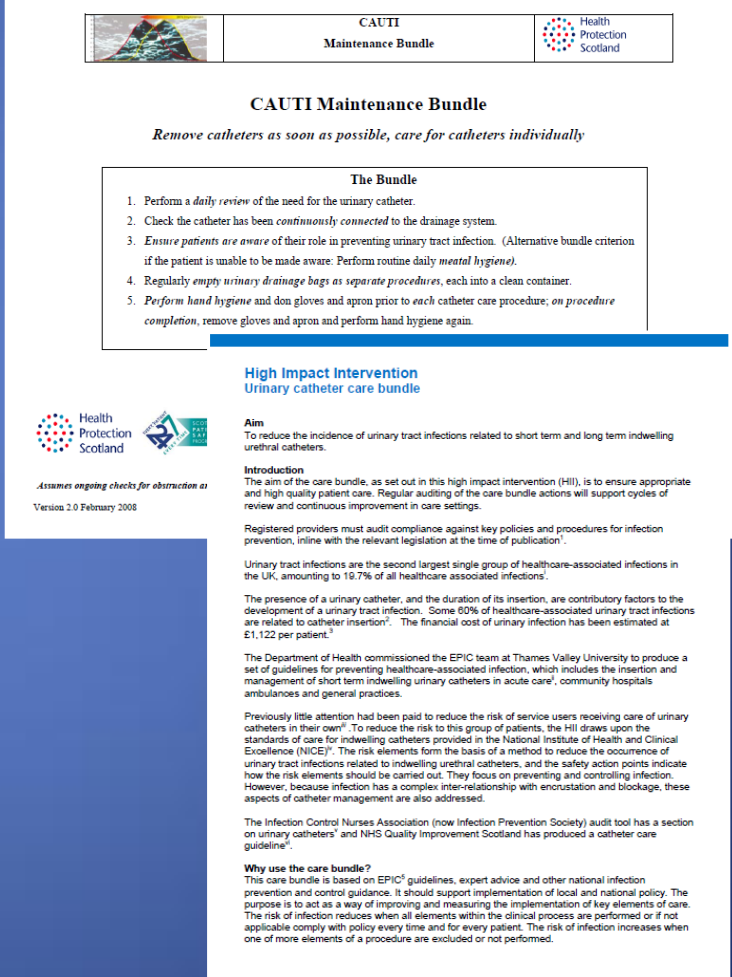
- “A bundle is a structured way of improving the processes of care and patient outcomes: a small, straightforward set of evidence-based practices (generally three to five) that, when performed collectively and reliably, have been proven to improve patient outcomes.”

– Institute for Healthcare Improvement 2011

<http://www.ihl.org/explore/bundles/Pages/default.aspx>

Care bundles for CA-UTI reduction

- Department of Health High Impact Interventions
- <http://hcai.dh.gov.uk/files/2011/03/2011-03-14-HII-Central-Venous-Catheter-Care-Bundle-FINAL.pdf>
- Health Protection Scotland
- <http://www.documents.hps.scot.nhs.uk/hai/infection-control/bundles/cauti/maintenance/uc-maintenance-bundle.pdf>



The image shows the cover and first page of a document titled 'CAUTI Maintenance Bundle'. The cover features the Health Protection Scotland logo and a small image of a mountain. The main title is 'CAUTI Maintenance Bundle' and the subtitle is 'Remove catheters as soon as possible, care for catheters individually'. Below this is a box titled 'The Bundle' containing five numbered points: 1. Perform a daily review of the need for the urinary catheter. 2. Check the catheter has been continuously connected to the drainage system. 3. Ensure patients are aware of their role in preventing urinary tract infection. (Alternative bundle criterion if the patient is unable to be made aware: Perform routine daily meatal hygiene). 4. Regularly empty urinary drainage bags as separate procedures, each into a clean container. 5. Perform hand hygiene and don gloves and apron prior to each catheter care procedure; on procedure completion, remove gloves and apron and perform hand hygiene again.

High Impact Intervention
Urinary catheter care bundle

Aim
To reduce the incidence of urinary tract infections related to short term and long term indwelling urethral catheters.

Introduction
The aim of the care bundle, as set out in this high impact intervention (HII), is to ensure appropriate and high quality patient care. Regular auditing of the care bundle actions will support cycles of review and continuous improvement in care settings.

Registered providers must audit compliance against key policies and procedures for infection prevention, in line with the relevant legislation at the time of publication¹.

Urinary tract infections are the second largest single group of healthcare-associated infections in the UK, amounting to 10.7% of all healthcare associated infections².

The presence of a urinary catheter, and the duration of its insertion, are contributory factors to the development of a urinary tract infection. Some 60% of healthcare-associated urinary tract infections are related to catheter insertion³. The financial cost of urinary infection has been estimated at £1,122 per patient⁴.

The Department of Health commissioned the EPIC team at Thames Valley University to produce a set of guidelines for preventing healthcare-associated infection, which includes the insertion and management of short term indwelling urinary catheters in acute care⁵, community hospitals, ambulances and general practices.

Previously little attention had been paid to reduce the risk of service users receiving care of urinary catheters in their own⁶. To reduce the risk to this group of patients, the HII draws upon the standards of care for indwelling catheters provided in the National Institute of Health and Clinical Excellence (NICE)⁷. The risk elements form the basis of a method to reduce the occurrence of urinary tract infections related to indwelling urethral catheters, and the safety action points indicate how the risk elements should be carried out. They focus on preventing and controlling infection. However, because infection has a complex inter-relationship with enourstiation and blockage, these aspects of catheter management are also addressed.

The Infection Control Nurses Association (now Infection Prevention Society) audit tool has a section on urinary catheters⁸ and NHS Quality Improvement Scotland has produced a catheter care guideline⁹.

Why use the care bundle?
This care bundle is based on EPIC² guidelines, expert advice and other national infection prevention and control guidance. It should support implementation of local and national policy. The purpose is to act as a way of improving and measuring the implementation of key elements of care. The risk of infection reduces when all elements within the clinical process are performed or if not applicable comply with policy every time and for every patient. The risk of infection increases when one of more elements of a procedure are excluded or not performed.

Assumes ongoing checks for obstruction as
Version: 2.0 February 2008

DH High Impact Intervention

Insertion Actions

1. Procedure carried out using recognised Aseptic Non Touch Technique

- Gown, gloves and drapes (in line with local policy), used for the insertion of invasive devices.

2. Personal protective equipment

- Disposable apron and gloves to be worn and disposed of following use and between patients.

3. Catheter needed?

- Catheterisation follows an assessment of clinical need which includes considering alternative options.

4. Clean the urethral meatus

- Prior to insertion of catheter.
- With sterile normal saline or sterile water
 - use correct wiping technique (front to back)
 - use sterile single use lubricant.

5. Sterile, closed drainage system

- Choice of urinary catheters based on individual patient assessment and local policy.
- Correct size of catheter is selected, smallest size that will allow drainage.

6. Hand hygiene

- Hands are decontaminated immediately before and after each episode of patient contact using the correct hand hygiene technique. *Use of the World Health Organisations '5 moments of hand hygiene' or the NPSA 'Clean you hands campaign' is recommended.*

7. Documentation

- Document Date, reason for insertion, catheter size, operator undertaking insertion and if insertion was high risk with signature.

DH High Impact Intervention

Ongoing care

1. Hand hygiene

- Hands are decontaminated immediately before and after each episode of patient contact using the correct hand hygiene technique. *Use of the World Health Organisations '5 moments of hand hygiene' or the NPSA 'Clean your hands campaign' is recommended.*

2. Catheter hygiene

- Catheter site cleaned regularly as stated in local policy.
- Catheter is emptied a minimum of twice daily into clean container

3. Sampling

- All samples obtained using aseptic technique, via the catheter sampling port.

4. Drainage bag position

- Above floor but below bladder level to prevent reflux or contamination.
- Closed urinary drainage system intact or only disconnected as per manufacturers instructions

5. Catheter manipulation

- Examination gloves worn to manipulate a catheter, manipulation should be preceded and followed by hand decontamination.

6. Catheter needed?

- Review need for catheter daily
- Document Date and time of removal of catheter, operator undertaking removal and with signature

Care Bundles – Do they improve care?

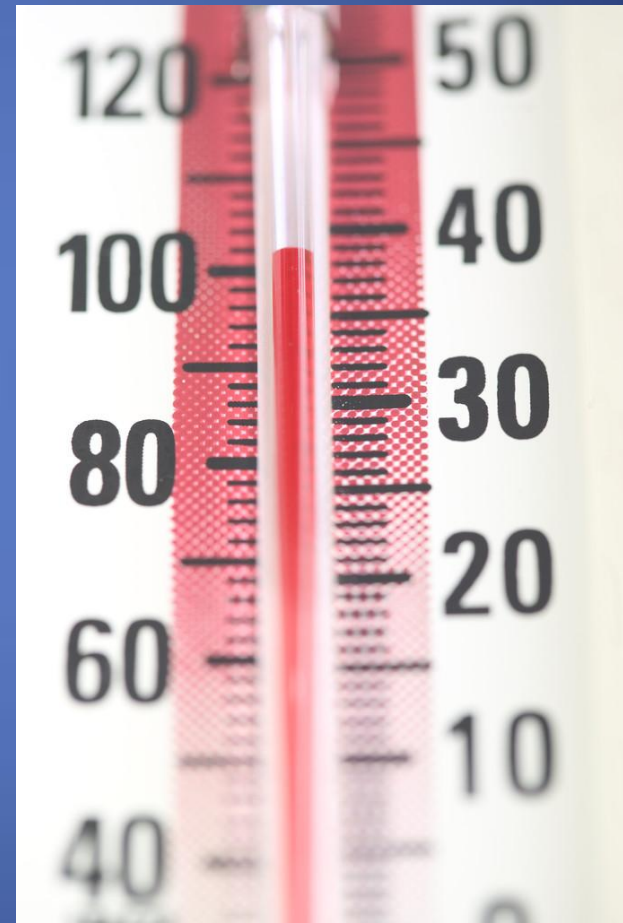
- BSI decreased by up to 66% in ICU's in Michigan
 - Pronovost et al 2006 N E Jnl Med 355:26
- CAUTI decreased from 3.8 to 2.4/100 catheter days in the ICU, (VAP & BSI also decreased)
 - Miller et al 2006 Qual Saf Health Care 15:235-239

Care Bundles – Do they improve care?

- Complicated by ethos of continuous quality improvement and introduction of bundle, changes in local leadership and parallel initiatives
- Every patient every time
- Adherence to core ‘bundle’ principles
 - Marwick, C., Davey, P., 2009; Current Opinion in Infectious Diseases 22:364-369

Care bundles – Possible outcome measures

- Is the focus on the implementation of the process or the outcome for the patient?
- Number of adverse incidents
- Number of patients with a CA-UTI
- Number of catheter related A&E admissions
- Mortality associated with CA-UTI



Reducing CAUTI Multiple benefits

- QIPP: Safety Express/Safety Thermometer
- High Impact Action
- Healthcare associated bacteraemia
 - E.Coli bacteraemia
 - MRSA bacteraemia
- Reduce length of stay/repeat admissions
- Reduce morbidity & mortality
- **Improve quality & safety**

Summary

- The bundle approach to prevention of CAUTI is possible however:
- The process behind implementation requires rigor with clear monitored outcomes
- Organisational buy in and support is key.