

REDUCING CATHETER ASSOCIATED URINARY TRACT INFECTIONS

QUICK GUIDE ON APPROPRIATE URINARY CATHETER INSERTION

Indwelling urinary catheters (IDC) are commonly used to relieve urinary retention and obstruction and to assist in the management of injury or surgery. There are a number of other reasons why a patient may need a catheter. Having an IDC may increase the risk of acquiring a healthcare associated infection (HAI). Catheter associated urinary tract infections (CAUTIs) account for at least 25% of all HAIs¹.

CAUTIs have a significant burden on the health system. Compared to an average length of stay, a separation affected by CAUTIs is at least twice as long^{2,3} and costs twice as much as a separation that is not affected by a CAUTI⁴. A patient with a CAUTI also is more likely to acquire a drug-resistant infection which may require treatment with more complex antimicrobial therapy⁵.

One of the main causes of CAUTIs is due to inappropriate indications for insertion⁶.

The CEC has designed a decision support tool to guide clinicians who are considering acute urinary catheterisation as a treatment or management option for their patient. This tool may be used as:

- as a reference tool at the point of care
- as a training tool for existing or new clinicians
- reference material for all clinicians

This tool can be used in emergency, surgical and maternity settings as well as in other acute patient settings where acute urinary catheterisations are performed (e.g. ICU/HDU, medical wards). This tool is not designed to provide advice for chronic catheterisations or for specialist urology settings

If using this tool at the point of care, refer to the tool prior to catheter insertion.

Using the Decision Support Tool

STEP 1: Check for an appropriate indication for catheterisation

- First, always identify and confirm the reason for catheterisation. Seek advice from local support for clinical indications not listed in the tool.
- **Categories A-H** represents the main reasons for catheter insertion.
- A bladder scan should be undertaken to confirm any **Category A** indication.
- For **Category D indications**, consider if patient is ambulant, ability to self-urinate comfortably and whether there is a falls risk before confirming the need for catheterisation.

A. Urinary retention or obstruction <i>Neurogenic or mechanical retention</i> <i>Medication associated retention</i> <i>Urinary obstruction</i> <i>Failed trial of void</i>
B. Clot retention
C. Monitoring for: <i>Sepsis</i> <i>Trauma</i> <i>Electrolytes</i> <i>Renal function</i>
D. Acute injury or surgery management <i>Localised injury or surgery</i> <i>Non-localised injury or surgery</i> <i>Pre or perioperative bladder emptying</i>
E. Treatment & investigation <i>Diagnostic investigations</i> <i>Instillation of intravesical medications</i> <i>Urine specimen collection for culture</i> <i>Post-void residual urine volume assessment</i>
F. Management of urinary incontinence <i>Perineal, sacral or inguinal wound care</i> <i>End-of-life comfort</i> <i>If patient is also receiving chemotherapy</i>
G. Urogenital or bladder management <i>Fistula</i> <i>Haematuria</i>
H. Labour and delivery management <i>Forcep or vacuum assisted delivery</i> <i>Epidural block</i> <i>Labour/post labour retention or obstruction</i> <i>Caesarean delivery</i> <i>Management and prevention of post-partum haemorrhage</i> <i>Delivery-related injury</i>



STEP 2: Choose the most appropriate catheter option

- At least one catheterisation option has been identified for each category of indications.
- Sterile intermittent 'in/out' catheterisation refers to a urethral catheter with an expected dwell time of <1 hour.
- Sterile short term indwelling 'IDC' catheterisation refers to a non-permanent urethral catheter with an expected dwell time of >1 hour. The patient may require acute catheterisation for up to 4 weeks.
- Suprapubic 'SPC' catheterisation drains directly from the bladder. This is a **surgical procedure** and the patient may require acute catheterisation for up to for 4 weeks.
- First consider the suitability of the 'first option'.
- To ensure the suitability of the first option:
 - review the additional guidance listed (right column)
 - ensure that the patient does not meet any of the contraindications for the catheterisation option (bottom row).
- The additional guidance may influence whether a different catheter option should be considered.

STEP 3: Confirm choice using additional guidance

- If the first option is deemed unsuitable, the clinician should consider the suitability of the 'second option' (if available).
- Again, the clinician should review the additional guidance and ensure that the patient does not meet any of the contraindications listed for the catheterisation option.
- If the second option is unsuitable, the clinician should consider the suitability of the 'third option' (if available). Again, the clinician should consider the additional guidance and ensure that the patient does not meet any of the contraindications listed for catheterisation option.
- Where no suitable option has been identified and there is a valid clinical indication for catheterisation, seek advice from senior clinicians.

STEP 4: Return to Step 1 if contraindicated

- Check that the patient is not presenting with any clinical contraindications for the selected catheter option.
- If a catheter option is found to be contraindicated, repeat the cycle to select the next best catheter option.

Thinking through indications....

✘ *Mrs Jones needs a catheter because she has had surgery.*

✔ *Mrs Jones needs a catheter because she had an operation on her fractured neck of femur and needs to remain immobile.*

✘ *Mr Smith needs a catheter because he is unconscious.*

✔ *Mr Smith needs a catheter because accurate measurement of urine output for trauma monitoring.*

References

1. Loveday, H. P., J. A. Wilson, R. J. Pratt, et al. (2014). epic3: National evidence-based guidelines for preventing healthcare-associated infections in NHS hospitals in England. *Journal of Hospital Infection* 86 (1): s1-s70.
2. Daniels, K.R., G.C. Lee, and C.R. Frei, *Trends in catheter-associated urinary tract infections among a national cohort of hospitalized adults, 2001-2010*. American Journal of Infection Control, 2014. 42: 17-22.
3. Graves, N., K. Halton, and L. Robertus, *Costs of health care associated infection*, in *Reducing Harm to Patients from Health Care Associated Infection: the Role of Surveillance*, M. Cruikshank and J. Ferguson, Editors. 2008, Australian Commission on Safety and Quality in Health Care: Canberra.
4. Jackson, T.J., et al., *Marginal costs of hospital acquired conditions: information for priority setting for patient safety programs and research*. Journal of Health Services Research and Policy, 2011. 16(3): 141-146.
5. Chenoweth, C.E., C.V. Gould, and S. Saint, *Diagnosis, management, and prevention of catheter-associated urinary tract infections*. Infectious Diseases Clinics of North America, 2014. 28(1): 105-119.
6. Tambyah, P. A. and J. Oon (2012). Catheter-associated urinary tract infection. *Current Opinion in Infectious Diseases* 25 (4): 365-370.

About this Project

This project is being undertaken by the CEC's HAI program. The HAI program aims to assist local health districts and speciality health networks to improve systems to manage and monitor the prevention and control of HAIs. For further information on the HAI program, please visit

<http://www.cec.health.nsw.gov.au/programs/hai> .

© Clinical Excellence Commission 2015 SHPN: (CEC) 150613