




<b>NURSING PRACTICE GUIDELINES ON CLEAN INTERMITTENT CATHERISATION</b>	
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## GUIDELINES ON CLEAN INTERMITTENT CATHETERISATION

### 1.0 Introduction

Urinary catheters are a common and vital intervention in the acute clinical setting. However, catheter associated urinary tract infection is one of the most common healthcare associated infections (SARI 2011). Healthcare professionals can play a key role in reducing and preventing the risk of catheter related infections.

Clean intermittent catheterisation (CIC) involves the periodic insertion and removal of a catheter into the bladder via the urethra or a continent urinary channel, e.g. Mitrofanoff stoma, for the purpose of draining urine and/or instilling intravesical medication (Dougherty and Lister 2011). CIC is clinically indicated in patients post bladder reconstruction or who have incomplete bladder emptying due to idiopathic or neurogenic bladder dysfunction, and can be used to manage incontinence, urgency and recurrent urinary tract infections arising from residual urine in the bladder (SARI 2011).

The frequency of CIC depends on the child's condition, but must be often enough to prevent the bladder becoming over distended and to keep the patient dry. While urinary catheters have been used for centuries, it was Lapides *et al.* (1972) who pioneered CIC, and found that using a clean catheterisation technique rather than a sterile technique did not increase the rate of Urinary Tract Infection (UTI). More recently, SARI (2011) advise that CIC is associated with lower rates of catheter associated infection.

### 2.0 Definition of Guidelines

These guidelines represent the written instructions about how to ensure high quality care is provided in relation to CIC. Guidelines must be accurate, up to date, evidence-based, easy to understand, non-ambiguous and emphasise safety. When followed they should lead to the required standards of performance.

### 3.0 Applicable to

These guidelines are applicable to nursing staff involved in the clean intermittent catheterisation of children.

### 4.0 Objectives of the Guidelines

The purpose of the guideline is to promote safe, effective and consistent practice in relation to CIC

### 5.0 Definitions / Terms

**Catheter associated urinary tract infection (CAUTI):** UTI associated with a urinary catheter


**Clean intermittent catheterisation (CIC):** insertion and removal of a catheter several times a day to promote urinary continence. This is done by the parent, guardian or healthcare professional.

**Note: Clean Intermittent Self Catheterisation (CISC)** is performed by the child themselves

**Mitrofanoff** (Appendico-vesicostomy continent catheterisable channel) - A Mitrofanoff is a tubular structure, whereby either the appendix or the ureter is tunnelled submucosally into the bladder and brought out onto the abdominal wall. Its purpose is to create a continent catheterisable channel with which to empty the bladder. During surgery the appendix is tunnelled into the bladder in such a way as to create an anti-reflux valve. This prevents urine leaking from the stoma. (Sumfest *et al.* 1993)

**Urinary catheter:** a soft hollow tube which is inserted into the bladder for the purpose of draining urine or instilling fluid. The catheter may be introduced via the urethral or suprapubic route (via abdominal wall), or via a surgically constructed channel (Mitrofanoff).

**Urinary catheterisation:** an intervention to enable emptying of the bladder by insertion of a catheter.

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**Urinary tract infection (UTI):** an infection involving any part of the urinary system, including urethra, bladder, ureters, and kidney.

## 6.0 Guidelines on clean intermittent catheterisation

The decision to commence a child on CIC is made following collaboration between the parents, the child (if able), the Urology Nurse Specialists and the Consultant Urologist. When a child is commenced on a CIC regime, an education and training programme will be devised and delivered by the Urology Nurse Specialists. The child will be admitted to or remain in hospital until he/she and/or the parents are confident and competent at performing CIC. Ideally the child will be able to catheterise him/herself. If not, the parents or guardians as appropriate are educated to perform this procedure for the child.

### 6.1 Indications for CIC

- To empty the bladder, thereby preventing deterioration of the upper renal tracts and improving renal function
  - To empty the bladder, thereby preventing urinary tract infection
  - To promote social continence and independence, thereby promoting the child's self-esteem
- Note:** CIC should not be used as a routine means of obtaining a urine sample.

#### Children who may require CIC

- Children with a neurogenic bladder due to e.g. Neural Tube Defects, Sacrococcygeal Teratoma, Spinal injury
- Post reconstructive bladder surgery
- Children with incomplete bladder emptying due to various causes

**IMPORTANT:** CIC should only be performed in the presence of a residual volume **AND** symptoms or complications (EAUN 2013). Due to the risk of CAUTI, the decision to catheterise should only be taken after there is full consideration of the implications of the procedure, and when there is no alternative (Gould et al. 2009, SARI 2011).

### 6.2 Contraindications to CIC

There are no absolute contraindications to CIC. However some children may be unable to tolerate urethral catheterisation. Children who are faecally incontinent should be established on an effective bowel programme and socially clean before commencing a CIC programme.

Each child is assessed individually to determine the suitability of CIC per urethra.


### 6.3 Complications of CIC

Infection	Creation of a false urethral passage
Bladder spasm	Urethral stricture
Trauma	Haematuria
Bypassing, i.e. urine leaking around catheter	Urethral perforation (rare)

(EAUN 2013)

### 6.4 Difficulty inserting the catheter

Occasionally, resistance may be felt when inserting the catheter. This can occur as a result of contraction of the external urinary sphincter. Encourage the child to cough or bear down which relaxes the sphincter and will facilitate passage of the catheter. Alternatively, it is advised to wait for 30-60 minutes and to try again. If concerned, please contact the Urology Nurse Specialists (Bleep 8686/8687).

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### 6.5 Meatal cleansing before catheter insertion

There is some debate in the literature and in practice about the use of antiseptic solution versus sterile saline for meatal cleansing before insertion of a catheter. While some guidelines recommend that there is no clinical advantage to using antiseptic solutions to prepare the meatus (Loveday et al. 2014, McQueen et al. 2012), the issue remains unresolved (SARI 2011).


In OLCHC, if a child who normally undergoes CIC requires catheterisation for Micturating CystoUrethrogram, an antiseptic solution should be used to clean the urethral orifice before catheterising. Discuss with the Urology or Nephrology Team if in doubt.

- The child undergoing CIC requires daily social cleaning, i.e. daily bath or shower.
- At the time of CIC, if there is visible soiling, the genital area should be cleaned with soap and water.
- At all other times, immediately prior to CIC, cleaning with gauze and warm water or a wet wipe is sufficient.

Standard precautions must be used by all healthcare professionals when caring for a child with a urinary catheter (OLCHC 2011, SARI 2011). Aseptic Non-Touch Technique Level 3 is used when performing CIC (OLCHC 2013).

### 6.6 Choosing a catheter for CIC

<b>Types of Intermittent catheters in OLHSC</b>			
Type of catheter		Description & Uses	Order from
Non-lubricated catheters	Vygon Vesical catheters	Single use Available from Size 6 upwards	HSSD
Pre gelled catheters	Braun Actreen Glys Intermittent Catheter/Set	Single use Male length 45cm (Size 8-18) Female length 20cm (size6-16) Size 6 upwards	Urology Nurse Specialists Bleep 8686/8687
	Hollister Advance/ Advance Plus Intermittent catheter	Single use Male length 40cm (size 8-18) Female length 20cm (size 6-14)	Urology Nurse Specialists Bleep 8686/8687
Hydrophilic catheters	Coloplast Easicath	Single use Gel is freeze dried onto catheter & requires activation before use. To activate the gel, fill catheter packet with water and leave catheter immersed for 30 seconds to activate the gel. Ordinary tap water is recommended by the manufacturer	Urology Nurse Specialists Bleep 8686/8687
	Coloplast Speedicath Nelaton catheter	Single use Comes supplied in physiological saline, ready for use.	Urology Nurse Specialists Bleep 8686/8687
	Coloplast speedicath compact	Single use - specifically designed for females only Size 6-14 Used for CISC in a sitting position (on the toilet)	Urology Nurse Specialists Bleep 8686/8687
	Actreen Mini Lite	Single use - specifically designed for females only Size 10-14 Used for CISC in a sitting position (on the toilet)	Urology Nurse Specialists Bleep 8686/8687

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## 6.7 Scope of Nursing Practice

When a child who is already established on an intermittent catheterisation programme is admitted to hospital, he/she or the parents are encouraged to attend to own catheterisation. However, the nurse may need to assist the child during the procedure. In the event that the parents are not present or that the child is unable to perform CIC, this guideline provides direction for nurses or medical staff to perform clean intermittent catheterisation on the child. The nurse must have acquired the necessary knowledge and skill prior to performing CIC. Each nurse must assess if the skill is within her/his scope of practice.

The insertion of urinary catheters must be carried out in accordance with the 'Guidelines for Prevention of Abuse of Children in Hospital' (OLCHC 2007). It is advised to have a second member of staff or a parent / guardian present during the procedure.


**NOTE:** In OLCHC, if a boy is already established on a CIC regime, the nurse may catheterise him, proving she has the necessary skill and knowledge.

## 6.8 Procedure for performing CIC

### Equipment

- Catheter (the type of catheter will depend on the child's needs – see table)
- Lubricant (if required)
- Toileting facilities or a receptacle to hold urine, if not using a catheter set
- Wet wipe or Gauze and water

Action	Rationale & Reference
Assess the child in relation to need for catheterisation, and the type, length and size of catheter to be used.	Only catheterise when clinically indicated. Using the smallest gauge catheter will help prevent urethral trauma <i>Loveday et al. 2014, Gould et al. 2009, McQueen et al. 2012</i>
Explain the procedure to the child and parents	To help prepare and support them for the procedure <i>Hockenberry and Wilson 2011</i>
All efforts must be made to protect the privacy and dignity of the child during the procedure	To protect the child's best interests <i>OLCHC 2007</i>
Clean meatal area daily as outlined in <b>Section 6.5</b> . This may be done during a bath / shower.	To prevent contamination of the urethra <i>Loveday et al. 2014, SARI 2011</i>
Position child comfortably. Some children prefer to be seated during CIC, e.g. seated on a toilet.	To facilitate insertion of the catheter and maintain child's comfort <i>McQueen et al. 2012</i>
<b>To prevent incomplete emptying</b>	
If a child is lying during the procedure, there is a risk of a residual volume remaining in the bladder. Therefore, if possible the child should sit upright towards the end of the procedure.	Incomplete emptying of the bladder may result in infection or incontinence (EUAN 2013).
If this is not possible, facilitate complete bladder emptying by:	
a) massaging the bladder between the umbilicus and the pubic bone	
b) Encouraging the child to cough or bear down to increase intra-abdominal	

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pressure

Use Aseptic Non-Touch Technique (ANTT) Level 3 when performing this procedure. Perform antiseptic hand hygiene before applying gloves.

Hand hygiene and ANTT Technique are essential to prevent infection *OLCHC 2013, Gould et al. 2009, SARI 2011*

**Note:** While the use of gloves is not indicated when parents or children are performing CIC, some parents may prefer to use gloves.

The CIC catheter is single use, self-contained and packaged in a sterile pack. Therefore, a trolley or 'sterile field' is not required.

If using a catheter which does not have a bag attached, ensure that it is possible to drain the catheter into a receptacle or directly into the toilet

**Prepare catheter:**

Dry catheter - apply lubricant to the end.

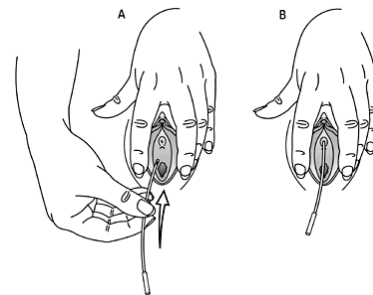
Lubricant facilitates insertion of the catheter *Dougherty & Lister 2011*

Pre-lubricated catheter – ready for use

Hydrophilic catheter - requires activation of the lubricant. Fill the catheter packet with water. Wait 30 seconds to allow the lubricant to be activated.

**To catheterise a female**

- Spread the labia and apply gentle upward with non-dominant hand traction to visualise the urethra (Fig A).
- Insert the catheter gently into the urethral orifice (Fig B).
- When urine starts to flow, advance the catheter a further 2.5cms.
- When urine flow ceases, remove the catheter slowly in centimetre increments.
- If urine flow recommences, leave catheter in place until flow is finished



**To catheterise a male**

- Straighten the penis, holding it up gently with non-dominant hand (Fig C). Retract the foreskin if present.
- Gently insert the catheter into the urethral orifice. Advance the catheter gently until urine flows.
- When urine flow ceases, remove the catheter slowly in centimetre increments.
- If urine flow recommences, leave catheter in place until flow is finished
- At the end of the procedure, return the foreskin, if present, to its usual position

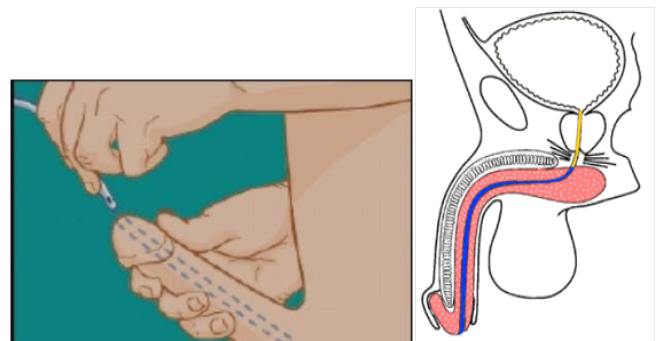



Fig C



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### To catheterise a Mitrofanoff stoma

- Insert the catheter into the Mitrofanoff stoma (Fig D).
- You will feel a slight resistance. This occurs as the catheter enters the bladder through the anti-reflux valve.
- Gently advance the catheter until urine starts to drain.
- When urine flow ceases, remove the catheter slowly in centimetre increments.
- If urine flow recommences, leave catheter in place until flow is finished

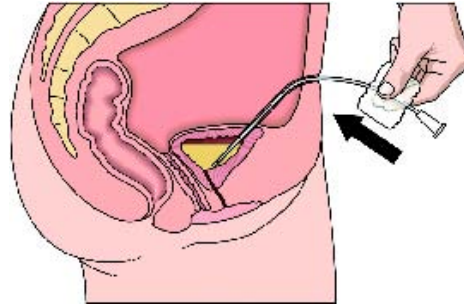


Fig D

Discard catheter appropriately in Healthcare Non-risk waste (Household Waste) unless contaminated with blood.

*OLCHC 2010*

Praise and thank the child

To maintain the trusting relationship with the child *Hockenberry and Wilson 2011*

Record the intervention in child's healthcare record:

To ensure all staff are aware of the catheter care needs of the child *Gould et al. 2009, SARI 2011, McQueen et al. 2012*

- time and date of catheterisation
- any difficulties experienced during procedure,
- number of attempts to catheterise
- if urine specimen was obtained,
- volume of urine drained

To ensure effective communication through accurate recording of care. *An Bord Altranais 2002*

## 7.0 Special Considerations

**Latex Allergy:** Ensure latex free products and catheters are used if a patient has a known or suspected latex allergy.

## 8.0 Companion Documents

OLCHC (2013) Aseptic Non-Touch Technique Reference Guide

## 9.0 Implementation Plan


### Communication and Dissemination

- Guidelines will be posted on hospital Intranet
- Hard copies of the guidelines will be placed in the Nurse Practice Guideline Folder in each clinical area
- Email will be circulated to all staff informing them of issue of guideline
- Information will be circulated in NPDU Newsletter

### Training


- Education and training will be delivered at departmental level using existing educational resources, e.g. Clinical Nurse Facilitators, Urology Nurse Specialists
- Advice and expertise is available from the Urology Nurse Specialists
- Education is included in induction packages for relevant clinical areas / staff



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## 12.0 Appendices

### Appendix 1: Clean Intermittent Catheterisation Troubleshooting Guide

If at any time the healthcare professional is concerned about the child or CIC, contact the child's medical / surgical team.

Catheter problem	Possible reason	Possible solutions
Urine not draining via catheter	Catheter may be kinked. Catheter may be blocked by debris. Incorrectly sited catheter; it may be in the urethra and not fully into the bladder. Bladder may be empty	Check the catheter position (below level of the bladder) Monitor fluid intake – is it adequate May need to remove the catheter and restart
Haematuria	Trauma post-catheterisation  Infection	Review documentation re: insertion of catheter Observe output and document severity of haematuria. Encourage fluid intake. Report to medical team  Send sample of urine to laboratory for microbiological analysis
Pain or discomfort	Catheter may be blocked May be indication of infection. Look for external causes / signs of excoriation or irritation	Manage as outlined above Send sample of urine to laboratory for microbiological analysis

*(NHS QIS 2004, Loveday et al. 2014, Gould et al. 2009, SARI 2011, McQueen et al. 2012, RCN 2012)*

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