Cheshire and Wirral Partnership
NHS Foundation Trust

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Clinical guideline for the use of a catheter maintenance solution and education of a patient/carer to perform procedure

Lead executive	Lead Clinical Director
Authors details	Community Continence Lead – Community Urology Lead Nurse

Type of document	Guidance
Target audience	All clinical staff in CCWC
Document purpose	This guideline is intended to serve as an evidence based guide for Competent Practitioners employed by Cheshire and Wirral Partnership NHS Foundation Trust (CWP), in the aseptic insertion and the removal of an intermittent urethral catheter for both male and female patients. It also provides guidance on the education of a patient or carer to perform the clean insertion of an intermittent urethral catheter. Please note this guideline is intended for adult patients only.

Approving meeting	Neighbourhood Care Governance Meeting	Date Sep 2020
Implementation date	September 2020	

CWP documents to be read in conjunction with	
HR6	Mandatory Employee Learning (MEL) policy
IC2	Hand decontamination policy and procedure
HS1	Waste management policy
IC3	Standard (universal) infection control precautions policy
CP3	Health records policy
CC7	Clinical guidelines for urethral indwelling catheterisation
CC6	Clinical guidelines for supra-pubic catheterisation
CC5	Clinical guidelines for intermittent catheterisation
MP16	Non-medical prescribing policy
GR26	Safe manual handling of people and loads policy
MH1	Mental Health Law policy suite

Document change history	
What is different?	Additional catheter related procedures & updated research based evidence New Guidance regarding Personal Protection Equipment (PPE)
Appendices / electronic forms	Additional catheter related procedures & updated research based evidence Additional Guidance related to procedures & equipment
What is the impact of change?	Additional catheter related procedures & updated research based evidence Additional Guidance related to procedures, equipment & PPE

Training requirements	Yes - Training requirements for this policy are in accordance with the CWP Training Needs Analysis (TNA) with Education CWP.

Document consultation	
Clinical Services	Who within this service have you spoken to
Corporate services	Who within this service have you spoken to
External agencies	Who within this service have you spoken to

Financial resource implications	None

External references

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Equality Impact Assessment (EIA) - Initial assessment	**Yes/No**	**Comments**
Does this document affect one group less or more favourably than another on the basis of:		
- Race	No	
- Ethnic origins (including gypsies and travellers)	No	
- Nationality	No	
- Gender	No	
- Culture	No	
- Religion or belief	No	
- Sexual orientation including lesbian, gay and bisexual people	No	
- Age	No	
- Disability - learning disabilities, physical disability, sensory	No	

Equality Impact Assessment (EIA) - Initial assessment	Yes/No	Comments
impairment and mental health problems		
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If you have identified potential discrimination, are there any exceptions valid, legal and/or justifiable?		
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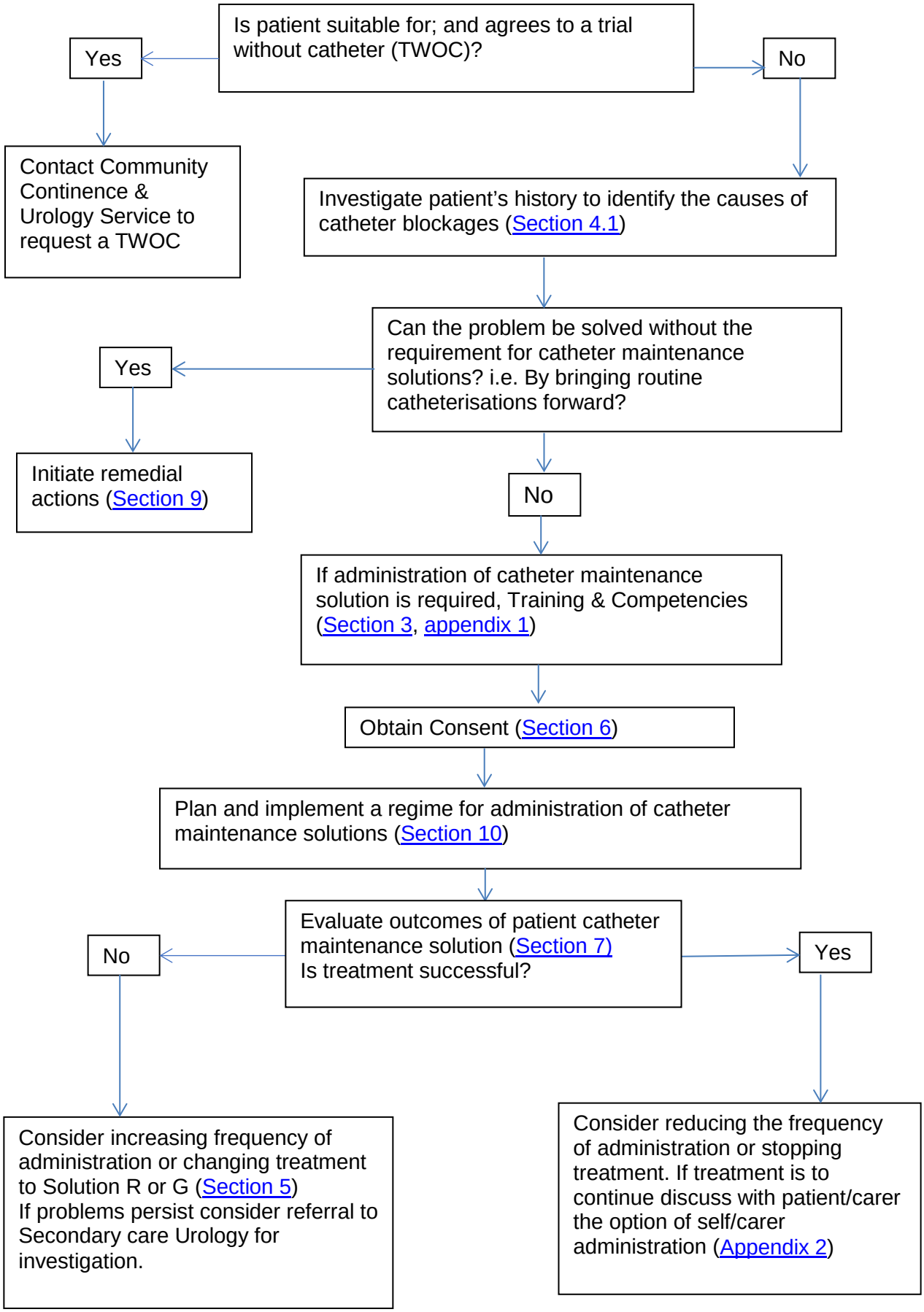
Was a full impact assessment required?	No	
What is the level of impact?	Low	

Contents

Quick reference flowchart for administration of catheter maintenance solutions



1. Introduction

This guideline is intended to serve as an evidence based guide for Registered Nurses and Nursing Associate/Assistant Practitioners employed by CWP, in the appropriate use of catheter maintenance solutions. This guideline will enable registered nurses to decide on best evidence based practice when a catheter leaks or blocks. This document will also provide Registered Nurses Nursing Associates / Assistant Practitioners with guidance on how to administer a catheter maintenance solution using an aseptic technique.

Please note this guideline is intended for use in **adult** patients who have a long-term urethral or supra-pubic indwelling catheter in situ.

2. Definitions

To provide guidance for Registered Nurses in:

- Carrying out a catheter assessment and review;
- The identification of the clinical need for administering a catheter maintenance solution;
- The administration of a catheter maintenance solution using an aseptic technique;
- The training, teaching and support of the Registered Nurse, Associate Nurse, Assistant Practitioner or patient/carer in the administration of catheter maintenance solutions;
- The delegation and supervision of administering catheter maintenance solutions to the patient, by Associate Nurse Assistant Practitioner, patient or carer.

To provide guidance for Associate Nurses /Assistant Practitioners in:

- The administration of a catheter maintenance solution using an aseptic technique.
- Supporting the patient/carer in administering catheter maintenance solutions.

Carer definition – A “carer” is someone who helps another person, usually a relative or friend, in their day-to-day life. The “Care Act” of 2014 relates mostly to adult “carers”- people over 18 who are caring for another adult. A carer who provides care professionally, or through a voluntary organization must produce evidence to the Registered Nurse before teaching takes place that the carer is covered by their employers’ indemnity insurance. This should be documented in the patients care records.

3. Qualification and training

This guidance applies to all clinical staff employed by CWP:

- Registered Nurses who are currently registered with the Nursing and Midwifery Council (NMC);
- Associate Nurses who are currently registered with the Nursing and Midwifery Council (NMC);
- Assistant Practitioners who have completed a recognised Assistant Practitioners course.

Following completion of the CWP catheterisation training, it is recommended that the Registered Nurse, Associate Nurse or Assistant Practitioner should complete a minimum of 3 supervised practices or until they feel confident and competent.

- If the Registered Nurse, Nursing Associate or Assistant Practitioner was competent and confident in use of a catheter maintenance solution and education of a patient/carer to perform procedure female and male urethral catheterisations prior to joining CWP, if they can provide evidence of having urinary catheter training with completed competencies and

evidence of keeping skills and knowledge up to date they will be deemed competent for the purposes of performing this procedure within CWP.

The supervision of these practical procedures can only be undertaken by a Registered Nurse who has:

- Completed the CWP catheterisation training and competencies with evidence of keeping skills and knowledge up to date or; prior to joining CWP, if they can provide evidence of having urinary catheter training and competencies with evidence of keeping skills and knowledge up to date;
- Is confident and experienced in inserting and removing a urethral indwelling catheter in male and female adult patients;
- Completed the Competency document (Appendix 2).

In order to maintain knowledge and skills the Registered Nurse, Nursing Associate and Assistant Practitioner should be able to provide evidence of such if requested.

A Registered Nurse who can demonstrate competence to this professional level may delegate these procedures to patients or carers as appropriate. However it is the Registered Nurse's responsibility to ensure that the patient / carer, Nursing Associate and Assistant Practitioner's competencies are assessed and reviewed.

4. Catheter Leakage and Blockage

Long-term catheterisation is rarely completely free of complications. The most common problems are catheter associated urinary tract infections (CAUTI) (Newman 2007), discomfort, trauma, bypassing and blockage (Yarde, 2015; Loveday et al, 2014), with the risk of such complications increasing, the longer the catheter remains in situ. Feneley et al, (2015) suggest this can be as little as 30 days.

Each patient should have an individual care regimen designed to minimise the problems and risks of blockage. Nurses must document all catheter changes to include whether there was any encrustation, including a description of any blockage and the state of the catheter tip. NICE (2017) advocates that to minimise the risk of catheter blockage, encrustations, and catheter related associated infections, the following is advised:

- Develop a patient specific care regime.
- Consider approaches such as reviewing the frequency of planned catheter changes and increase fluid intake.
- Document catheter blockage occurrences to inform assessment and management.

4.1. Causes of Catheter Blockage/Leakage.

- Mucosal occlusion – this occurs when the bladder mucosa blocks the eyes of the catheter. It is very important to identify this cause as the treatment is very different from encrustation. The best way to determine the cause of the blockage is to examine the catheter visually on removal both internally and externally. If there is no visible evidence of encrustation, and the catheter, when rolled between fingers does not feel gritty, then it is safe to assume that mucosal occlusion has taken place.
  It may be beneficial where appropriate to use a catheter valve for patients suffering from repeated mucosal occlusion. The presence of the urine may prevent the mucosa from entering the eyes of the catheter.
- Hydrostatic suction - results from the vacuum effect of urine in the drainage tubing. There is suction of the mucous into the eyes of the catheter and prevents drainage. This is most often

found in drainage bags that are positioned more than 30 cm below the bladder and a slight temporary elevation of the drainage bag will often help.

- Bypassing - leakage of urine around the catheter may be caused by blocked catheter or bladder spasm. The sensitive trigone area of the bladder may be stimulated by the balloon, which in turn increases the spasm. A smaller Charrier catheter can overcome this problem. Ensure not to over inflate the balloon and follow manufacturers' guidelines. N.B – A larger catheter or over inflated balloon will exacerbate the problem. Urinary antispasmodics may also be used to treat bladder spasm.
- The catheter may have become displaced and this will inhibit the ability to drain.
- The catheter may be of the wrong length.
- Constipation is a common cause of blocked catheters. The presence of faeces in the rectum may press against the catheter, occluding it (Evans, 2001).
- The tubing of the catheter may be kinked or flattened, particularly if the patient is obese.
- Overfull drainage bag;
- Low fluid intake;
- Blood / debris;
- Urinary Tract Infection (CAUTI);
- Bladder stones are formed by the same process that leads to catheter encrustation and many people who have encrusted catheters, also have bladder stones (Nazarko, 2008). It is these 'crystals' that fall into the bladder causing bladder stones, giving symptoms of catheter blockage and bypassing;
- Encrustation.

Nearly half of all individuals with an indwelling catheter will experience problems with catheter blockage due to encrustation. Encrustation is caused by micro-organisms in the urine which produce an enzyme. This enzyme breaks down urea to form ammonia, which results in the urine becoming alkaline. Under these conditions, mineral salts such as calcium phosphate and magnesium ammonium phosphate (struvite) are deposited onto the catheter surface causing encrustation (Rew, 2005) (Mathur, 2006) resulting in the development of a biofilm.

There is strong evidence that aggressive antibiotic therapy or the introduction of antiseptic solutions such as chlorhexidine is ineffective (Pratt et al., 2007; Maki & Tambyah, 2001; Getliffe, 2000).

Several studies identified an association between high urinary pH (alkaline), encrustation and blocking but there is no evidence that monitoring urinary pH can be used to predict blocking (Rigby, 2004).

If it is suspected that a catheter is encrusted, on removal, rub with thumb and forefinger across the catheter. If it feels gritty, it is encrusted. On removal, encrustation can often be seen around the balloon and tip of an encrusted catheter. To see the extent of encrustation on the inside of the removed catheter, the catheter can be cut longitudinally (Nazarko, 2008).

5. Management of catheter blockage & catheter maintenance solutions

When a catheter blocks a full assessment of the client's catheter history must be completed (NICE, 2017) to include:

- Fluid intake;
- Suspected bladder spasms or stones;
- Constipation;
- Kinked tube;

- Urinary tract infection;
- How often have the catheters been changed;
- Type and size of catheter, balloon size and length;
- Colour, smell, appearance of urine;
- Encrustation on the outside and / or inside of the catheter tip.

Record the cause of at least 3 catheter blockages in order to establish the reason for the blockage (Wilson, 2009). This will enable the Registered Nurse to develop an individualised programme of catheter management (NICE, 2017).

To minimise the risk of blockages, encrustations and catheter-associated infections for patients with a long-term indwelling urinary catheter NICE (2017) recommends:

- Document catheter blockages;
- Develop a patient-specific care regime;
- Increasing fluid intake unless clinically contraindicated;
- Consider approaches such as changing the catheter more frequently to avert a future clinical crisis;
- Consider an alternate type of catheter, as expert opinion All Silicone catheters are the least susceptible to encrustation due to a wider internal lumen, while plain latex and Teflon coated versions are the most susceptible, (Yates, 2018). Additionally, Vaidyanathan et al. (2009) reported positive results with the use of a catheter with an open ended tip in cases of severe encrustation.

The need for frequent catheter changes to avoid catheter blockage may be unacceptable to some patients and carers (Getliffe, 2002). In these circumstances the use of catheter maintenance solutions could be considered in order to try to extend the life of the catheter.

However it is important to recognise, the regular use of catheter maintenance solutions can lead to an increased risk if the sterile closed drainage system is repeatedly broken, which can lead to infection, sepsis and death, (NICE, 2017, RCN,2019).
If a catheter maintenance solution is administered twice or more a week, consider using an irrigation connection device such as Linc Bladder Infusion Kit (BIK), inserted into the needle-free sample port of the catheter bag, to minimise the risk of infection caused by breaking the closed drainage system. Follow manufacturer's instructions.

Note: Catheter maintenance solutions must NOT be used to unblock a blocked catheter. A blocked catheter should be replaced.

Catheter maintenance solutions were originally introduced to prevent or reduce the occurrence of catheter associated infections. In recent years the usage has been primarily aimed at minimising the effects of the recurrent encrustation and blockage. (Hagen, 2010). When patients are taught to administer Catheter Maintenance the following factors need to be taken into consideration:

- Cognitive ability;
- Dexterity;
- Home / social environment;
- Compliance with catheter care.

It is the Registered Nurse's responsibility to assess, and teach the patient and / or their carer hand decontamination (see hand decontamination policy and procedure) (IC2)

There are four main catheter maintenance solutions available. These are on a prescription only basis.

Normal Saline	Can be used to irrigate catheters that contain pus, blood clots or debris. It is effective for patients with reconstructed bladders that produce a large amount of mucus. It is ineffective against encrustation. Continued blood and mucus should be investigated.
Solution G (3.23% citric acid)	Works by dissolving the crystals that form within the lumen of the catheter. There is conflicting evidence as to the efficacy of the solution.
Solution R (6% solution of citric acid)	Increased efficacy dissolving severe encrustation due to its acidic nature. Should only be used after solution G has been tried and been found to be not effective. A review of the requirement for Solution R must be performed every 3 months. Solution R is not recommended for usage longer than 6 months. Getliffe (2002) and Rew (2005) cite Elliott et al (1989) who claim that there is evidence that acidic solutions can cause chemical irritation to the bladder mucosa.
Chlorhexidine 0.02%	Previously used as an antiseptic washout, it is no longer considered effective. Current literature suggests its use may be detrimental. Therefore, it should not be used.

Catheter maintenance solutions must be administered according to manufacturer's guidelines. The bladder mucosa plays an important role in the defence against urinary tract infections. During the instillation minimal physical force should be used as this will reduce the risk of damage to the bladder mucosa. Both neutral and acidic solutions can cause chemical irritation to the bladder wall (Getliffe, 2002).
There is currently minimal evidence or consensus on how much catheter maintenance solution is required to be effective but there is some evidence that two sequential 50ml rinses are more effective than either one 50ml or one 100ml rinse (Yates, 2012).

Catheter maintenance solutions come in volumes of 50 or 100 ml or 2 x 30mls. Studies using a model of the catheterised bladder have shown that an instillation of 50 mls of solution G is as effective as 100 ml at reducing encrustation. Other studies have shown that using 2 subsequent instillations can be more effective in reducing encrustation however; using 2 subsequent instillations might increase the risk for introducing infection by the necessity of disconnecting the catheter twice in order to give them (Getliffe, 2002) (Rew, 2005).
There is no clear evidence of how often a catheter maintenance solution should be administered for it to be effective in keeping the catheter patent. The frequency of the instillation of the catheter maintenance solutions will depend on the clinical judgement of the Registered Nurse, taking into consideration how often the catheter blocks and the extra risk of introducing infection.

Catheter maintenance solutions should be used with caution and only be used based on clinical need, only for short term use and not as 'routine'. Catheter maintenance instillations do not prevent catheter-associated infections (NICE, 2017). The mucosa plays an important part in host defence against urinary tract infections and several studies have shown that there can be increased shedding of the urothelial cells from the bladder following instillations of both acidic and neutral pH solutions.

A Cochrane review (Hagen, 2010) and NICE guidelines (2017) concluded there is insufficient evidence to guide clinical practice regarding all aspects of using catheter maintenance solutions for long-term indwelling catheters. Therefore, we do not know whether catheter maintenance solutions convey any benefit or harm to patients. Neither do we know, therefore, whether the associated costs are justified.

5.1. Farco Fil Protect

Farco-fill Protect is a sterile solution that comes in a ready-to-use syringe. It is used to inflate urethral and suprapubic foley catheter balloons. Farco-fill Protect differs from catheter balloon solutions (often simply sterile water) in that it contains an antimicrobial agent, 0.3% triclosan. This is designed to protect the outer surface of the catheter from bacterial colonisation and subsequent encrustation when in place over a long time. The volume of solution needed depends on the type of catheter and balloon, but is normally between 5 ml and 10 ml

Farco Fil protect is licensed for 28 days therefore the indwelling catheter has to be replaced every 28 days. This should be taken into consideration prior to introducing this product to the patient's regime

6. Patient consent

Prior to instillation of a Catheter Maintenance Solution the permission of the General Practitioner must be obtained and a prescription obtained. This must be documented in the patient's records. The drug administration record must be signed by the GP and kept within the patient's records.

The consent of the patient must be verbally obtained and documented following a full explanation of the procedure, potential complications and alternative options. If the patient is deemed not to have capacity to consent to this procedure, the Mental Capacity Act provides nurses with a statutory framework to empower and protect those patients who are unable to make their own decisions (See MH1 – Mental Health Law Policy Suite).

7. Review

It is the Registered Nurse's responsibility to review the indication for indwelling catheterisation and the need for catheter maintenance solutions on a continuous basis.

It is the responsibility of the Registered Nurse to review the need for catheterisation when

- the patient is referred to the service;
- the catheter is due to be changed;
- identified problems occur, e.g. blockage, CAUTI.

This review may include assessment for the following:

- Symptoms of a symptomatic urinary tract infection (cloudy or bloody urine, which may have a foul or strong odour, low fever, pain or burning with urination, pressure or cramping in the lower abdomen (usually middle) or back, strong need to urinate, often after the bladder has been emptied);
- Previous evidence of an urethral false passage;
- The need for on-going catheterisation;
- If a trial without catheter be contemplated;
- How often is the catheter being changed;
- Problems with catheter leakage or blockage;
- Observation of meatal cleaning;
- Ensure male patients are aware to ensure they place the foreskin over the glans;
- Checking that the patient / carer is maintaining the closed drainage system, using a clean technique when emptying or changing the drainage bags/valves (NICE, 2017);
- Checking the patient / carer is using correct hand decontamination before and after manipulation of the catheter (NICE, 2017).

8. Personal Protective equipment (PPE) Transmission of infection risk

CWP Practitioners must check for the latest Trust guidelines on PPE requirements.
COVID-19: Personal Protective Equipment (PPE) as required by Cheshire and Wirral Partnership NHS Foundation Trust http://nww.cwp.nhs.uk/TeamCentre/EmergencyPlanning/Pages/CoronavirusInfo.aspx

To become an infection risk a microorganism has to get from the source into the host by some means. Most micro-organisms usually have a particular route of entry. Infection at work can occur via:

- breathing in infectious aerosols/droplets from the air, eg respiratory discharges such as coughs and sneezes;
- splashes of blood and other body fluids into the eye and other mucous membranes, such as the nose and the mouth (HSE, 2003).

Components must include:

- Gloves (Sterile gloves if aseptic technique);
- Apron;
- Mouth/Nose mask;
- Goggles or face shield (Godoy et al, 2020).

Expert opinion recommends that face and eye protection reduce the risk of occupational exposure of healthcare practitioners. Face masks and eye protection must be worn where there is a risk of blood, body fluids, secretions or excretions splashing into the face and eyes (NGCG 2003). To be effective, face masks and eye protection must be worn correctly, changed frequently, removed properly, disposed of safely and used in combination with good universal hygiene behaviour (Public Health England, 2020)

9. Common catheter problems and possible solutions

Long-term catheterisation is rarely completely free of complications. The following table gives an overview of the most common catheter related issues and possible solutions.

Catheter Problem	Possible Reasons	Possible Solution
Urine not draining into bag.	Incorrectly sited catheter; it may be in the urethra and not fully into the bladder.	May require re-catheterising
	Incorrect positioning of the drainage bag above the level of the bladder can prevent flow of urine.	Check tubing and ensure drainage bag is below level of bladder.
	Drainage tubing may be kinked.	Assess position of tubing to ensure free drainage
	Blockage (due to debris?)	Re-catheterise Cut the removed catheter vertically at the tip to establish the cause of blockage and implement appropriate regime of catheter maintenance solutions
Haematuria.	Trauma post-catheterisation.	Observe output and document severity of haematuria. Encourage fluid intake. Seek medical advice if haematuria persists or frank haematuria with clots is seen.
	Catheter associated urinary tract Infection	Encourage fluid intake. Obtain catheter specimen of urine using the sample port and send to laboratory. Recatheterise if catheter has been in situ > 7 days. Refer to CWP CAUTI guidelines

Catheter Problem	Possible Reasons	Possible Solution
Bypassing of urine around catheter.	May indicate presence of infection	Obtain a catheter specimen of urine using the sampling port.
	Bladder spasm/instability.	Discuss drinking programme e.g. avoid caffeinated or alcoholic fluids Consider use of anti-cholinergic medication. Consider smaller Charrier catheter
	Constipation.	Increase fluid intake and dietary fibre intake.
	Incorrect positioning of drainage system.	Check drainage bag is in correct position, i.e. below level of the bladder.
	Overfull drainage bag	Drainage bag should be emptied when 2/3 full
	Kinked tubing / poorly supported drainage bag.	Assess position of tubing to ensure free drainage
	Blockage	See above
	Encrustation/Blood/Debris/Bladder stones	Patient might require urological investigations to establish the presence of bladder stones.
	Wrong length or Charrier of catheter	Change catheter
	Over / under inflated catheter balloon	Change catheter

Catheter Problem	Possible Reasons	Possible Solution
Pain or discomfort	The ‘eyelets’ of the catheter may be occluded by urothelium due to hydrostatic suction. Due to choice of catheter Bladder spasms May be indication of infection (CAUTI)	Gentle manipulation of the catheter position in the bladder – insert a further 2 to 3 cm and withdraw. Ensure appropriate material, Charrier and length of catheter Discuss drinking programme e.g. avoid caffeinated or alcoholic fluids Consider use of anti-cholinergic medication. Consider smaller Charrier catheter. Encourage fluid intake. Obtain catheter specimen of urine using the sample port and send to laboratory. Recatheterise if catheter has been in situ > 7 days. Refer to CWP CAUTI guidelines Obtain catheter specimen of urine.
Catheter retaining balloon will not deflate	Valve port and balloon inflation channel may be compressed Faulty valve mechanism.	Valve port should always be aspirated slowly. If done forcefully, the valve mechanism may collapse. If attempts fail, refer the patient to the Emergency Department.

For catheter changes that are known or suspected to be problematic, please contact the Community Continence & Urology Advisory Service 0151 488 8230 for advice and support.

10. Procedure – administering catheter maintenance solution

Catheter maintenance solutions can be used if patients require frequent recatheterisation due to blockage. They are often mistakenly named bladder washouts. There is conflicting data on the efficacy of catheter maintenance solutions. They are not recommended for routine use.

Equipment:
• Personal Protective Equipment (PPE) including eye protection (Section 8) • Disposable non-sterile gloves (2 pairs); • Disposable plastic apron; • Sterile, single use catheter maintenance solution at room temperature; • New sterile drainage system, i.e. leg / night bag, catheter valve; • Nursing procedure sheet or towel; • LINC Bladder installation Kit if frequency of administration is more than once weekly.

No.	Action	Rationale
1.	Explain the procedure to the patient (MH1) Obtain consent and document on care plan.	To ensure that the patient understands the procedure and gives informed consent.
2.	Wash hands as per hand hygiene policy (IC2) Put on apron and disposable non-sterile gloves	To minimise risk of cross infection. (NICE, 2017)
3.	Prepare working area.	To provide a clean working surface.
4.	Assist the patient into a suitable position (GR26) If the patient has a urethral catheter, place the disposable nursing procedure sheet or towel under the patient's buttock and thighs; cover genital area. If the patient has a supra-pubic catheter, place the disposable nursing procedure sheet or towel over the lower abdomen.	To maintain the patient's dignity and comfort. To ensure urine does not leak onto bed clothes.
5.	Empty leg / night bag/catheter valve	To minimise risk of spillage
6.	Remove gloves, wash hands and put on disposable non-sterile gloves as hand decontamination policy (IC2)	To minimise risk of cross infection (NICE, 2017)
7.	Remove the outer packaging from the catheter maintenance solution and the new leg / night bag or catheter valve.	
8.	Disconnect leg / night bag or catheter valve from catheter. Place leg / night bag or catheter valve in a receiver for disposal, while continuing to hold the catheter.	To prevent leakage of urine.

9.	Remove protective cap from the catheter maintenance solution, being careful not to touch the connecting end. Immediately insert into the end of the catheter.	To minimise risk of cross infection
10.	Instill the catheter maintenance solution *as per manufacturer's guidelines.* If LINC Bladder Instillation Kit is used follow manufacturers guidelines	To reduce the risk of damage to the bladder mucosa
11.	Disconnect the catheter maintenance solution from the catheter and dispose of the catheter maintenance solution, while continuing to hold the catheter. Repeat procedure if giving 2 sequential solutions i.e. 2 x 50mls	To minimise risk of cross infection
12.	Remove protective cap from the new sterile leg / night bag or catheter valve, without touching the connection. Then insert the leg / night bag or catheter valve into the end of the catheter.	To facilitate drainage of urine.
13.	Secure drainage system i.e. leg bag holder or straps if appropriate	To prevent tension on the catheter by weight or urine.
14.	Remove gloves, wash hands as per hand decontamination policy (IC2)	To minimise risk of cross infection. (NICE, 2012)
15.	Record procedure, including • Type of solution; • Rational for use of catheter maintenance solution; • Instilled amount of fluid; • Batch number; • Colour, odour, appearance of the urine; • Frequency and length of time of the catheter maintenance solution. (CP3 – Health records policy)	To record and evaluate procedure.

Appendix 1 – Competencies for administration of catheter maintenance solution by CWP Trained Staff

Prior to completing this document, the Registered Nurse, Nursing Associate and Assistant Practitioner must have completed the CWP catheterisation training. The practical procedure should be carried out as directed per "Clinical Guideline for the use of catheter maintenance solutions and education of of a patient/carer to perform procedure. In order to complete this document it is recommended that the practitioner undertakes a minimum of 3 supervised practices or until the practitioner feels confident and competent to carry out the procedure. Following completion of competencies it is the Registered Nurse, Nursing Associate or Assistant Practitioner's responsibility to keep skills and knowledge up to date.
The document should be kept in your professional portfolio as evidence.

Practitioners name		**Base**					
Designation							
The nurse should be able to demonstrate competency in the following elements and work within CWP guidelines and policies		**Date**	**Initial**	**Date**	**Initial**	**Date**	**Initial**
- Assess and review the need for catheter maintenance solutions							
- Identify medical/surgical history and any known allergies							
- Explain procedure and associate risks to the patient/carer							
- Gain informed consent as per (MH1)							
- Work within CWP's Infection Prevention & Control policies (IC2 IC3)							
- Check equipment and materials to ensure they are safe and fit for purpose before usage. Check prescription, expiry date.							
- Prepare patient for procedure							
- Prepare environment and equipment							
- Administer catheter maintenance solution as per (Section 10) - If LINC Bladder Instillation Kit is used follow manufacturers guidelines							
- Know when not to proceed or abandon administration of catheter maintenance solution							

and what actions to take						
- Dispose of clinical waste appropriately as per; (HS1)						
- Record information as per (CP3 – Health records policy) and supply contact numbers						

On completion of this competency document retain it in your professional portfolio as evidence.

Appendix 2 – Guideline and Competencies for administration of catheter maintenance solution by named carer – named patient agreement

Only carers employed in an official capacity (paid or voluntary) are required to complete this competency document.
It is however, good practice to use this competency document as a guide when a Registered Nurse or Nursing Associate/Assistant Practitioner is teaching a patient/carer to perform the procedure.

Prior to the administration of prescribed urinary catheter maintenance solutions an initial assessment must be completed by a Registered Nurse competent in the administration of urinary catheter maintenance solutions. Once an assessment has been completed and the urinary catheter maintenance solutions are prescribed as part of urinary catheter management the task can be delegated to a carer.
It is the Registered nurse's responsibility to ensure a review of the carer's skills is undertaken.

A competency assessment is required to ensure carers who are delegated the task are competent to administer urinary catheter maintenance solutions to a named patient:

- Training must have been undertaken on a named patient – named carer basis as part of the individual patient's urinary catheter management. Therefore, this skill is not transferable to any other client who might require the same procedure;
- All named carers must receive the appropriate training and be deemed confident and competent under supervised practice before undertaking this procedure;
- Contact details of the relevant Community Care Team must be given to the patient and carer;
- If the carer is employed by an organisation a certificate of indemnity insurance must be produced and uploaded to patients EMIS Records.

In order to complete this document the carer will need to undertake between 2 – 3 supervised practices until the carer feels confident and competent to carry out the procedure. It is the carer's responsibility to maintain skills and knowledge and to report any limitations in knowledge or reduction in skills to the patients Community Care Team for further training & support.

Patient name		**D.O.B & NHS Number**	
Address			

Name of carer & employing agency (If employed)	
Name & Designation of Assessor/Assessors	

The carer must demonstrate competencies in the following procedures:	**Date**	**Initial**	**Date**	**Initial**	**Date**	**Initial**
Prior to undertaking the procedure, the carer should ask the patient if they have are experiencing any of the following; • Discomfort or burning sensation in or around the urinary catheter insertion site or has symptoms of UTI; • Has symptoms of constipation; • Has concerns about the procedure being performed; • Has visible blood in the urine drainage bag or drained from the bladder if a catheter valve in situ. If the answer to any of these is **YES** the procedure **SHOULD NOT** be undertaken & discussion with Community Care Team required.						
Explains procedure to patient and gains verbal consent from the patient						
Ensures working area is free of clutter or obstruction						
Ensures patient is lying down on their back and comfortable Covers the patient to maintain dignity						
Washes hands with soap and water or decontaminate hands using alcohol based hand gel, put on an apron and non-sterile gloves as per infection control guidelines						
Empties leg or night bag or drains bladder if catheter valve in situ						

Removes gloves – Washes hands with soap and water or decontaminate hands using alcohol based hand gel and put on disposable non sterile gloves						
Checks product expiry date & removes the outer packaging from the catheter maintenance solution						
Correctly disconnects the drainage system from the catheter						
Correctly attaches and administers the catheter maintenance solution as per manufacturer's instructions						
If the LINC Bladder Infusion Kit is being used follow manufacturers guidelines The LINC Medical Bladder Infusion Kit is only recommended for patients who require 2 or more bladder instillations per week						
Identifies when to abandon procedure & report to District Nurses e.g. If patient complains of pain on administration of the catheter maintenance solution or if any difficulties administering the catheter maintenance solution						
Correctly attaches a new drainage bag to the catheter and observes for urine drainage						
Ensures drainage bag/catheter valve is secured with appropriate straps/leg bag holder						
Dispose of waste appropriately in a closed/sealed bag Ensure patient is comfortable						
Records the following information in the patient's appropriate records; Batch number and expiry date of catheter maintenance solution – amount of solution instilled into the bladder – reports the colour of urine drained and notes if there is any debris or blood seen in drainage bag.						

Is aware that If blood is seen in urine drained or if urine is not draining to contact the appropriate Community Care Team for advice.						

On completion of this competency document the carer should retain it as evidence

Appendix 3 – Information on Autonomic Dysreflexia

Patients with spinal cord injuries at T6 and above are particularly susceptible to autonomic dysreflexia. Spinal injury patients are usually aware of this condition and have experienced it prior to hospital discharge. However health care professionals need to be aware that a small proportion of patients who have severe forms of Parkinson's disease, Multiple Sclerosis, Cerebral Palsy or Spina Bifida or had a severe stroke may also develop Autonomic Dysreflexia (NHS, 2018).

Autonomic Dysreflexia is a sudden and potentially lethal surge of blood pressure often triggered without warning by acute pain or a harmful stimulus. This occurs because the body is unable to lower the blood pressure therefore the blood pressure will continue to rise until the offending stimulus is removed.

Factors that can trigger Autonomic Dysreflexia:

- Full bladder / blocked catheter;
- Constipation;
- Skin i.e. cuts, bites, burns;
- Sexual activity / menstruation;
- Labour;
- Medical tests including gynaecological examination, cystoscopy.

Symptoms of Autonomic Dysreflexia may be mild or severe. Patients can present with one or more of the following:

- Cool, clammy skin;
- Flushed face;
- Blotchiness;
- Sweating above level of injury;
- Pounding headache;
- Seeing spots or blurred vision;
- Nausea;
- Feeling Anxious;
- Increased blood pressure.

Treatment for Autonomic Dysreflexia:

- Sit the patient up;
- Identify and remove irritation (i.e. kinking of the tubing, recatheterise immediately if catheter is blocked) ;
- Do NOT administer a catheter maintenance solution as this will increase the distension and stimulus with potentially fatal consequence ;
- Give prescribed medication for Autonomic Dysreflexia;
- Monitor blood pressure;
- Contact 999 if the cause cannot be identified or the hypertension cannot be controlled.

If you suspect the symptoms of Autonomic Dysreflexia in a patient who has not been diagnosed with it previously, i.e. patients who have severe forms of Parkinson's Disease, Multiple Sclerosis, Cerebral Palsy or Spina Bifida or had a severe stroke:-

- Contact 999;
- Sit the patient up;
- Identify and remove the irritation;
- Monitor blood pressure.

Appendix 4 – Personal Protective Equipment (PPE) for Health Care Staff

Guide to donning and doffing standard Personal Protective Equipment (PPE) for health and social care

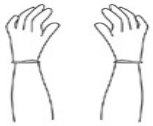
Before putting on the PPE, perform hand hygiene. Use alcohol hand rub or gel or soap and water. Make sure you are hydrated and are not wearing any jewellery, bracelets, watches or stoned rings.

1. **Put on your plastic apron, making sure it is tied securely at the back**

2. **Put on your surgical face mask, if tied, make sure securely tied at crown and nape of neck. Once it covers the nose make sure it is extended to cover your and chin.**

3. **Put on your eye protection if there is a risk of splashing**

4. **Put on non-sterile nitrile gloves.**



5. **You are now ready to enter the patient area.**

Doffing or taking off PPE

Surgical masks are single session use, gloves and apron should be changed between patients.

1. **Remove gloves, grasp the outside of the cuff of the glove and peel off, holding the glove in the gloved hand, insert the finger underneath and peel off second glove.**

2. **Perform hand hygiene using alcohol hand gel or rub, or soap and water.**

3. **Snap or unfasten apron ties the neck and allow to fall forward.**

Snap waste ties and fold apron in on itself, not handling the outside as it is contaminated, and put into clinical waste.

4. **Once outside the patient room. Remove eye protection**

5. **Perform hand hygiene using alcohol hand gel or rub, or soap and water.**

6. **Remove surgical mask.**

7. **Wash your hands with soap and water.**