Suprapubic Catheter:
Replacement of an Established Suprapubic Catheter in Adults

Site Applicability

VCH: Acute, Community and Residential Care sites

PHC: Acute and Residential Care sites
Urgent and Primary Care Centers (UPCC)

Practice Level

Basic Skills for the following professions (within their respective scope of practice):

- Nurse Continence Advisors
- Enterostomal Therapist/Wound, Ostomy Continence (ET/WOC) Nurses

Advanced Skills:

- RN, RPN, NP, LPN
  - **Competency Guidance:**
    - determine that the suprapubic tract is established (stoma and visible upper tract have epithelized/healed, usually 4 to 6 weeks post-procedure)
    - review practice document,
    - observe a suprapubic catheter change,
    - complete competency checklist (Appendix A) and quiz (Appendix B) and
    - perform first change with supervision.
  - A **LPN** may perform a Suprapubic Catheter change:
    - when the practice is supported on his/her unit/site
    - when a Physician/Nurse Practitioner (NP) order is in place
    - when the above competency guidance is met,
    - after a RN has assessed and determined that this is an established catheter and
    - when an individualized care plan in place.

Policy Statement

- The first post-procedure suprapubic catheter change must be done by a physician/NP.
- Until the track is established, subsequent changes must be done by the physician/NP (e.g. if the catheter becomes blocked).
- After the track is established, subsequent changes may be done by the RN/RPN without an order.
- After the track is established, subsequent changes may be done by the LPN with a client-specific order from a Physician/NP.

Quick Links

- Equipment and Supplies
- Procedure
- Patient/Client/Resident Education
- Documentation
- Competency Checklist
- Quiz
- VCH-PHC: Long Term Indwelling Urinary Catheters (Urethral and Suprapubic) - Care and Management
- VCH: Indwelling Urinary Catheter: Guideline to prevent catheter associated urinary tract infection (CAUTI) - Adult
- PHC: Urinary Catheters: Management for the Prevention of UTI

Need to Know

- A suprapubic catheter involves the insertion of a urinary catheter through the abdominal wall into the bladder under local or general anesthetic. Within 4 to 6 weeks of the procedure a tract and stoma form. It is used to relieve urinary retention in clients where catheter insertion through the urethra is not possible. Suprapubic catheters can be used for both short term and long term urinary drainage (i.e. greater than 30 days).
- Reasons for suprapubic catheter use:
    - Difficulty inserting urethral catheter due to obstruction (urethral strictures, benign prostatic hypertrophy-BPH).
    - Urethral re-catheterization is difficult in particular clients (anatomy).
    - Urethral catheters may be expelled due to weak pelvic floor.
    - Urethral trauma.
    - Following complex urethral surgery (urethroplasty).
    - Suprapubic catheter may be better suited for client's need (e.g. clients in wheelchair).
    - Easier to maintain hygiene around suprapubic site.
    - Client is sexually active.
- Disadvantages of suprapubic catheter:
    - Hypersensitivity around suprapubic catheter site, this often reduces with time.
    - If client is overweight or obese, it may be difficult for the catheter to be sited properly.
    - Discharge from the catheter site that may become persistent.
    - Spasms may increase for a few weeks after the procedure.
    - Like urethral catheters, suprapubic catheters can also contribute to the development of urinary tract infections and have problems such as bypassing and blockage.
- Suprapubic catheters are changed as needed. Assessment of the old suprapubic catheter can guide frequency of changes – see page 12 Long Term Indwelling Urinary Catheters (Urethral and Suprapubic) – Care & Management Guideline.
- Caution is needed for clients on anticoagulation/antiplatelet therapies, with anticoagulation/antiplatelet conditions or vitamins/natural supplements which can cause blood-thinning as these clients are at increased risk for bleeding with any invasive procedure. For clients on anticoagulation/antiplatelet therapy, prior to a catheter change, current INR/PTT is to be noted and discussed with Physician/NP to determine if it is safe to proceed with the change. If procedure is urgently needed, e.g. catheter blocked; be aware that bleeding may occur.
- Caution is needed for clients with a spinal cord injury T6 or higher due to the possibility of the suprapubic catheter change causing an autonomic dysreflexia event.
- The stoma can close very quickly once the catheter is removed; to avoid this, it is necessary to have the new catheter prepared in order for it to be inserted as soon as the old one is removed. If needed, a second nurse can assist. Should the stoma close, immediately call Physician/NP if in Acute Care or, if in the community/residential care, send client/resident to the Emergency.
- A second catheter should be kept on hand in case of accidental dislodgement of the catheter.
- Suprapubic Catheters should be a minimum of 16Fr up to 20Fr with the usual size being 18-20Fr.
- Urine leakage can occur at the stoma site itself, if bypassing occurs, it is often seen as urethral leakage. If urine leakage occurs, suprapubic catheter size should be increased.
- If bypassing is not resolved after all factors have been considered (see Step 21), then consult with Physician/NP regarding increasing the size of the catheter greater than 20FR and obtain a client specific order for same, if needed.
- Bladder spasms are common with suprapubic catheters; see Step 20 for troubleshooting tips.
- Various types of catheters can be used as a suprapubic catheter see Table 1 (page 4) Long Term Indwelling Urinary Catheters (Urethral and Suprapubic) - Care and Management Guideline.

Equipment & Supplies

Catheter insertion kit (check contents of kit and add further supplies as necessary) or a Catheter tray (gather supplies as needed)

- Sterile suprapubic catheters (in Community, client to supply)
  - One catheter to be the same FR size as the currently inserted catheter
  - The second catheter to be one FR size smaller
- Tape for marking the insertion depth – see Step 8
- 2 - 10 mL needleless syringe (one to deflate and one to inflate balloon)
- 18 or 19-gauge needle (to draw up sterile water)
- Sterile water (to inflate balloon)
- Approved cleanser e.g. Chlorhexidine 0.05% or pH balanced soap and water or Normal Saline
- Water soluble lubricant. **Do not** use petroleum jelly (Vaseline)
- 1 pair clean gloves
- 1 pair sterile gloves
- 1 sterile 4x4 gauze
- Skin prep or skin barrier, if indicated
- If needed, a cover dressing e.g. tube/drain gauze dressing & paper tape for securement
- **In Acute Care** a new drainage bag; **in Community**, client to supply a new bag or may use a drainage bag appropriately cleansed; **in Residential Care**, resident to be supplied with a new bag or may use a drainage bag appropriately cleansed (see Step 23)
- Catheter securement device (**in Community**, client to supply)

If checking the old catheter for encrustation, then bring:

- Personal Protective Equipment (PPE) to cut catheter: eye wear (goggles or visor), apron, gloves, hard container (e.g. plastic Tupperware container with lid)
- Blunt nosed scissors for cutting old catheter

Procedure

Procedure	Rationale and Expected Outcome
1. Obtain verbal consent for procedure.	
2. Obtain history for patient/client/resident: • If bladder spams have been of a concern on previous suprapubic catheter changes, if so, then see Step 20. • If stoma is known to close quickly on previous suprapubic catheter changes. • If pain was an issue during/post previous suprapubic catheter change procedures; if so, then provide pain medication/local anesthesia, allow time for the pain medication to become effective before initiating the procedure. • For clients on anticoagulation/antiplatelet therapy, prior to a change, the current INR/PTT is noted and discussed with Physician/NP to determine if it is safe to proceed with the change. If procedure is urgently needed e.g. catheter blocked; be aware that bleeding may occur.	Clients on anticoagulation/antiplatelet therapy, with anticoagulation/antiplatelet conditions or vitamins/natural supplements have an increased risk of bleeding with any invasive procedure.
3. Perform hand hygiene and establish a clean working area.	

4. Position client lying supine.	
5. Set up catheter tray and all needed supplies. Prepare the new catheter: • Maintaining sterility, lubricate tip of new catheter. • Fill one of the syringes with 10 mL of sterile water (may have pre-filled one if using the kit).	**Catheter tray, needed supplies and the new catheter must be prepared before removing the old catheter.** The new catheter must be prepared prior to the removal of the old so that it can be quickly inserted into the stoma. Stoma sites can close quickly. Do not pre-test the balloon of any type of catheter (latex, silicone, etc.) as inflating/deflating can cause cuffing of the balloon which can lead to pain and trauma when the catheter is being inserted.
6. Put on clean gloves. If present, remove old dressing and discard. Inspect the insertion site for signs of trauma, and/or hypergranulation. Assess the surrounding skin for moisture associated skin damage (redness, maceration, denuded/ excoriated areas) and/or signs of skin infection. Assess for signs of a urine infection: **VCH:** Indwelling Urinary Catheter: Guideline to prevent catheter associated urinary tract infection (CAUTI) - Adult **PHC:** Urinary Catheters: Management for the Prevention of UTI	Insertion site should be free of signs of trauma and hypergranulation. If hypergranulation is present, consider treatment to reduce/remove the hypergranulation tissue. Consult with ET/ WOC Nurse as needed. Skin should be intact and healthy. Scant amount of serous drainage is normal for some clients.
7. Cleanse around the insertion site with cleaning solution in circular motion from the insertion site out.	
8. Place a small piece of tape around the catheter at the point of exit from skin.	Marking the catheter assists in gauging depth of insertion into the tract for new catheter.
9. Add 0.5 mL of air to the empty 10 mL needleless syringe and attach it to the balloon port. Allow the sterile water to passively drain into the syringe; note that all 10 mL has been removed. If not, slowly withdraw all of fluid to fully deflate balloon. **Note:** Do not cut catheter prior to removal. **Do not remove the catheter.**	Allowing the balloon to passively drain may help prevent the "cuffing effect" (where the deflated balloon "sticks" to bladder wall) which can cause discomfort/difficulty with removal. For silicone catheters, self-deflation may take several minutes. Cutting the catheter can cause parts of catheter to be lodged in the bladder and would require an urologist to surgically remove it.
10. Remove gloves, do hand hygiene and don sterile gloves.	
11. Use a sterile 4x4 gauze to grasp the catheter just above skin level. Remove the catheter using a gentle but steady traction, in an upward direction with a slight rotation. Some *mild resistance* with removal may be experienced. Observe the tape marking on the old catheter as this will be used to guide the depth that the new catheter is to be inserted. Set catheter aside for assessment of encrustation.	Using the sterile 4x4 gauze will keep the sterile gloved hand as sterile. If too much resistance is felt, then stop as the client may be having a muscle spasm (see Step 20).

12. Using a sterile gloved hand, insert the lubricated catheter into the stoma the same distance judged by the old catheter **PLUS 2 cm more**. **Note:** If unable to insert the new catheter due to the stoma opening contracting then try inserting the smaller FR sized catheter. If still unable to insert the catheter then, **in Acute Care**, notify the Physician/NP immediately; **in Community/Residential Care**, send the client/resident to Emergency. **Note:** There may not be any immediate urine returns.	To ensure correct placement inside bladder.
13. Attach the pre-filled 10mL needleless syringe to the balloon port and instill manufacturer's recommended volume of sterile water into balloon. The balloon can be inflated without obvious urine return. Pull back gently on the catheter until slight resistance is felt.	Do not use normal saline as this will leak from the balloon. This will assist with positioning the catheter correctly.
14. Observe urine drainage.	It may take several minutes for urine drainage to be noted; encourage the client to drink e.g. 250mL in 1 hour (consider amount of fluid in light of any fluid restrictions) in order to produce urine. Some bleeding may be noted in the tube after insertion but it should be minimal. If noted, encourage client to drink e.g. 250mL in 1 hour (consider amount of fluid in light of any fluid restrictions) and monitor to ensure that the bleeding subsides. If frank bleeding is noted, consult MRP if in hospital, or have client go to Emergency.
15. Site may be left open to air if there is no drainage. If drainage present, use a skin barrier or protectant if needed, and then cover with 4x4" tube/drain gauze dressing, tape to secure.	Scant amount of serous drainage is normal for some clients.
16. Attach drainage bag. **In Acute Care**: a new drainage bag is mandatory. **For Community and Residential Care**: reusing a bag is acceptable given that the bag has been cleaned. The drainage bag should be above floor level, but below the bladder.	This prevents contamination or reflux of urine into the bladder.
17. Secure catheter with a catheter securement device to client's lateral abdomen and ensure urine is free flowing.	Securing catheter prevents kinking, friction or dislodgement and growth of hypergranulation tissue which can result due to friction of the catheter along the stoma edge.
18. Discard supplies, remove gloves and perform hand hygiene.	
19. Assess client for pain, urine flow, presence of blood or clots in urine. Document assessment findings and the procedure in client's chart (see Documentation).	

20. **Troubleshooting: Muscle Spasm with removal of suprapubic catheter:** Resistance is felt on attempted removal. Stop removal and put the catheter back to original position. Wait 5 to 10 minutes for spasms to subside and try again using the following tips: a. Have the client take deep slow breaths in order to relax the abdominal muscles. b. Lubricate the tract along the catheter. Apply lubricant to the external surface of the old catheter, advance suprapubic catheter slightly into tract. c. Rotate the catheter 360 degrees to ensure that catheter is not adhering to surrounding tissue. d. Give a muscle relaxant or analgesic prior to removing the catheter (request order from physician/NP as needed). e. If still unable to remove suprapubic catheter, stop removal, return catheter to original position and refill the balloon with recommended amount of sterile water; contact MRP.	To disperse lubricant into tract before removal. Muscle relaxant or analgesic can relax smooth muscle and make removal easier.
21. **Troubleshooting: Bypassing of Urine** See page 11 Long Term Indwelling Urinary Catheters (Urethral and Suprapubic) – Care & Management Guideline	
22. **Trouble Shooting: Encrustation** See page 12 Long Term Indwelling Urinary Catheters (Urethral and Suprapubic) – Care & Management Guideline	
23. **Care of Drainage Bags:** See page 9 Long Term Indwelling Urinary Catheters (Urethral and Suprapubic) – Care & Management Guideline	

Expected Patient/Client/Resident Outcomes

- Patient/client/resident does not experience on-going pain/trauma following catheter change. Mild discomfort or spasm may be experienced.
- Client and/or family will be able to maintain and care for a suprapubic catheter.

Patient/Client/Resident Education

- For initial visit provide client with patient brochure: 'How to Care for a Urinary Catheter' (Cat # FP.157.C38). Order through the Patient Health Education Materials Catalogue: VCH or PHC
- Provide education for client/caregiver regarding self-care: cleansing the suprapubic site, applying dressing if discharge present and securing the catheter, ensuring that the tubing is free from kinks.
- Provide education to the client/caregiver to report any abdominal pain, bloody or cloudy urine, or urine leakage from the insertion site and to whom these findings should be reported.

Documentation

Document in accordance with VCH/PHC documentation standards. Include information on:

- informed consent
- reason for catheter change (e.g. scheduled, blockage, damaged catheter)
- patient's/client's/resident's tolerance of the procedure (e.g. pain response, bladder spasms)
- type and size of suprapubic catheter, volume of balloon
- observation of suprapubic site for skin integrity (intact, maceration, denuded/excoriation), drainage or blood, edema, tenderness, type of dressing)
- characteristics of urine (colour, odour, clarity, amount, sediment)
- type of securement/securement device used
- degree of catheter encrustation and nature of encrustation (e.g. complete/partial catheter tube or catheter eye occlusion, colour, hard, soft, moist)
- if urine specimen was sent to lab
- estimated date of next catheter change
- client/family/caregiver education provided

Communication to be done at time of care transition: provide receiving unit/site with the estimated date of the next catheter change.

Related Documents

VCH-PHC:

- BD-00-07-40069: Long Term Indwelling Urinary Catheters (Urethral and Suprapubic) - Care and Management

VCH:

- D-00-07-30110: Indwelling Urinary Catheter: Guideline to prevent catheter associated urinary tract infection (CAUTI) - Adult
- D-00-07-30108: Indwelling Urethral Catheter, Care and Management (short term) - Adult (Acute)
- Vancouver Community: Indwelling Urinary Catheter Care

PHC: see Urinary Catheters

References

1. ACI NSW Agency for Clinical Innovation. (2014). Supra Pubic Catheter (SPC) – Adult. Clinical Guideline, Competencies & Patient Information Leaflet. https://www.suna.org/download/suprapubicCatheter.pdf
2. Doughty, D.B. (2006). *Urinary & fecal incontinence: Current management concepts*, 3rd Ed., Atlanta, Georgia, Mosby, 292-297.
3. Elsevier Clinical Skills Procedure video.
   First go to website (best viewed in Google Chrome – copy and paste the following link)
   http://mns.elsevierperformancemanager.com/NursingSkills/Home.aspx?VirtualName=VancouverCoastalHealth
   Once you are in the website, then copy and paste this video link:
   http://mns.elsevierperformancemanager.com/NursingSkills/AnimationPlayer/Player.aspx?path=EN_109a/EN_109a_B/EN_109_B_20160725&animationID=EN_109_B_20160725&mediaType=4
4. Perry, A.G, & Potter, P.A. (2012). Clinical nursing skills & techniques, 8th Ed. St. Louis, Missouri, Mosby Elsevier, 890-892.
5. Society of Urological Nurses and Associates. (2016). Clinical Practice Guidelines Suprapubic Catheter Replacement https://www.suna.org/download/suprapubicCatheter.pdf.
6. WOCN Society (2015). Care and Management of Patients with Urinary Catheters: A Clinical Resource Guide.

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Endorsed by

VCH: *(Regional SharePoint 2nd Reading)*
Health Authority Professional Specific Advisory Council Chairs (HAPSAC)
Health Authority Interprofessional Advisory Council Chairs (HAIAC)
VCH Operations Directors
VCH Professional Practice Directors

PHC:
Residential Practice Council
Professional Practice Standards Committee

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Date of Creation/Review/Revision

Posted: December 4, 2014
Revised: January 15, 2015
January 11, 2018
November 12, 2020

Appendix A: Competency Checklist

Replacement of Established Suprapubic Catheter in Adults

	Met	Partially Met	Unmet	Initials of assessor
Assesses that the stoma tract is established.				
Considers safety aspects of performing change e.g. if site infected, client on anticoagulant/antiplatelet therapy or medication/supplements which cause blooding thinning.				
Obtains informed consent to perform procedure.				
Selects two suprapubic catheters of the correct type and size.				
Observes hand hygiene principles throughout procedure.				
Demonstrates how to establish depth new catheter needs to be inserted to ensure correct placement (i.e. 2 cm beyond depth of old catheter.				
Cleanses the site appropriately.				
Demonstrates good removal technique i.e. deflates balloon, gently removes catheter in an upward direction with a slight rotation using steady traction.				
Applies lubrication prior to new catheter insertion.				
Inserts catheter 2 cm beyond identified required depth.				
Inflates balloon to correct volume with water.				
Pulls gently on catheter until slight resistance and secures with catheter securement device to lateral abdominal wall.				
Observes for free flowing urine drainage. Troubleshoots if not free flowing.				
Assesses clients for pain, site bleeding, urine flow, colour, odour, presence of blood or clots.				
Advises client regarding signs and symptoms of blockage, urinary tract infection and how to troubleshoot.				
Discards all supplies.				
Documents procedure as per VCH/PHC documentation standards.				
Identifies methods to assess frequency of catheter changes.				
Completes Quiz; must obtain 100%. If less must re-review CPD and repeat.				

Date: _____

Registered Nurse / Registered Psychiatric Nurse / Licensed Practical Nurse

Print Name _____ Signed _____

Assessor (Experienced doing suprapubic catheter changes and uses CPD to guide staff assessment)

Print Name _____ Signed _____

(One copy for nurse; one for file)

Appendix B: Suprapubic Catheter Change Quiz

This quiz will test your knowledge of the suprapubic catheter change procedure as well as the troubleshooting sections.

1. **Your client has a new suprapubic catheter that was inserted 3 weeks ago and the tract is healing well. You have received a physician's order to change the catheter next week. Please indicate which statements are true regarding who can change the suprapubic catheter:**
   - ☐ RN and LPN can both change the catheter as there is a physician's order and the tract will be 4 weeks old at the time of removal
   - ☐ Physician/NP must do the change
   - ☐ LPNs must not change as this is the first change

2. **When changing a suprapubic catheter you need to gauge the length of the new catheter to by marking the old catheter at the point of exit from the skin. Why must the catheter only be inserted just beyond the depth of the old one?**

   _____

   _____

3. **When removing old catheters some clients experience spasms. Which of the following techniques can be used to minimize risk of spasms? Check all that apply**
   - ☐ Rotate catheter 360 degrees prior to removal
   - ☐ Have client take a deep breath and remove catheter with one swift pull in an upward direction and slight rotation
   - ☐ Lubricate tract prior to removal
   - ☐ All of the above

4. **You have inserted a new suprapubic catheter to 2 cm beyond the correct depth as measured prior to old catheter removal and you are about to inflate the balloon, you notice that there is no urine draining, what should you do?**
   - ☐ Remove catheter and re-attempt insertion as catheter is in the wrong place
   - ☐ Inflate the balloon anyway and wait for urine to flow
   - ☐ Leave catheter in place without inflating the balloon and contact physician/NP

5. **Following suprapubic catheter insertion you notice some blood in the urine bag. What should you do? Check all that apply**
   - ☐ Advise client to flush suprapubic catheter with water using a catheter tip syringe every 4 hours to prevent blockage with blood clots
   - ☐ Advise client to drink plenty of fluids if not on fluid restriction
   - ☐ Advise client to observe urine drainage for evidence of blood and blockage over the next few hours
   - ☐ All of the above

6. **Following catheter changes client education should include:**
   - ☐ Reporting any increasing abdominal pain, blood, leakage of urine from the catheter site
   - ☐ To apply a new clean dressing to site every morning
   - ☐ Signs and symptoms of urinary tract infections
   - ☐ All of the above

7. **Your client is taking warfarin and is due for a suprapubic catheter change, who can change the catheter? Check all that apply**
   - ☐ RN
   - ☐ LPN
   - ☐ Nurse Practitioner
   - ☐ Physician
   - ☐ All of the above

8. **When performing the suprapubic catheter change it is important to prepare all materials prior to removal of the old catheter because:**
   - ☐ Demonstrates good organizational skills
   - ☐ It is the best way to maintain a sterility throughout the procedure
   - ☐ Insertion of the new catheter must be done quickly to prevent pain and spasm
   - ☐ Insertion of the new catheter must be done quickly to ensure the tract does not close
   - ☐ All of the above

9. **Which of the following reduces the risk of encrustation and catheter blockage?**
   - ☐ Use hydrogel catheters
   - ☐ Performing catheter changes every month
   - ☐ Clamping the catheter overnight to normalize bladder function

Date: _____

Name _____

Score _____/9

For Quiz Answers see Appendix C

Appendix C: Suprapubic Catheter Self-Assessment Quiz Answers

1. Your client has a new suprapubic catheter that was inserted 3 weeks ago and the tract is healing well. You have received a physician's order to change the catheter next week. Please indicate which statements are true regarding who can change the suprapubic catheter.

   Answer:
   - *Physician/NP must do this change as this is a first change*

2. When changing a suprapubic catheter you need to gauge the length of the new catheter to by marking the old catheter at the point of exit from the skin. Why must the catheter only be inserted just beyond the depth of the old one?

   Acceptable answers:
   - *This prevents the balloon being inflated inside the catheter tract*
   - *The catheter can migrate into the ureters and the urethra*
   - *Ensures correct placement of catheter*

3. When removing old catheters some clients experience spasms. Which of the following techniques can be used to minimize risk of spasms? Tick all that apply

   Answers:
   - *Rotate catheter 360 degrees prior to removal*
   - *Lubricate tract prior to removal*

   Suprapubic catheters should be removed with steady gentle traction in an upward direction with a slight rotation. Rotating the catheter 360 and lubricating the tract prior to removal will help minimize risk of spasm.

4. You have inserted a new suprapubic catheter to 2 cm beyond the correct depth as measured prior to old catheter removal and you are about to inflate the balloon, you notice that there is no urine draining, what should you do?

   Answer:
   - *Inflate the balloon and wait for urine to flow.*

   Urine doesn't always flow immediately on insertion, inflating the balloon will prevent the catheter dislodging while you wait for urine to flow. Placing the new catheter just beyond the measurement of the old catheter is enough to ensure correct placement.

5. Following suprapubic catheter insertion you notice some blood in the urine bag. What should you do?

   Answers:
   - *Advise client to drink plenty of fluids if not on fluid restriction.*
   - *Advise client to observe urine drainage for evidence of blood and blockage over the next few hours.*

   Note: *Flushing suprapubic catheters post insertion should not be necessary. If there is evidence of clots in the urine, this should be discussed with the client's physician/NP. Water is never used to flush.*

6. Following catheter changes client education should include:

   Answers:
   - *Report any increasing abdominal pain, blood, leakage of urine from the catheter site.*
   - *Signs and symptoms of urinary tract infections*
   - *It is not necessary to apply a dressing unless there is drainage at the insertion site*

7. Your client is taking warfarin and is due for a suprapubic catheter change, who can change the catheter?

   Answer:
   - *All clinicians can change the suprapubic catheter but must check the clients' INR first and forewarn clients that they will likely have evidence of blood in their urine following a change.*
     Note: *For LPNs to change the catheter safely, a clear care plan including information regarding INR checking and direction regarding increased risk must be in place.*

8. When performing the suprapubic catheter change it is important to prepare all materials prior to removal of the old catheter because:

   Answer:
   - *Insertion of the new catheter must be done quickly to ensure the tract does not close. The tract can close within 5 to 10 minutes.*

9. Which of the following reduces the risk of encrustation and catheter blockage?

   Answer:
   - *Use a hydrogel catheter. The frequency of changes can be determined by monitoring encrustation. Increasing fluid intake and cranberry juice has been shown to reduce encrustation in some clients. However, cranberry juice does affect medication metabolism and has a high sugar content discuss with a pharmacist/physician/NP if in doubt.*