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Principles of Urinary Catheterisation

FACT NM2714

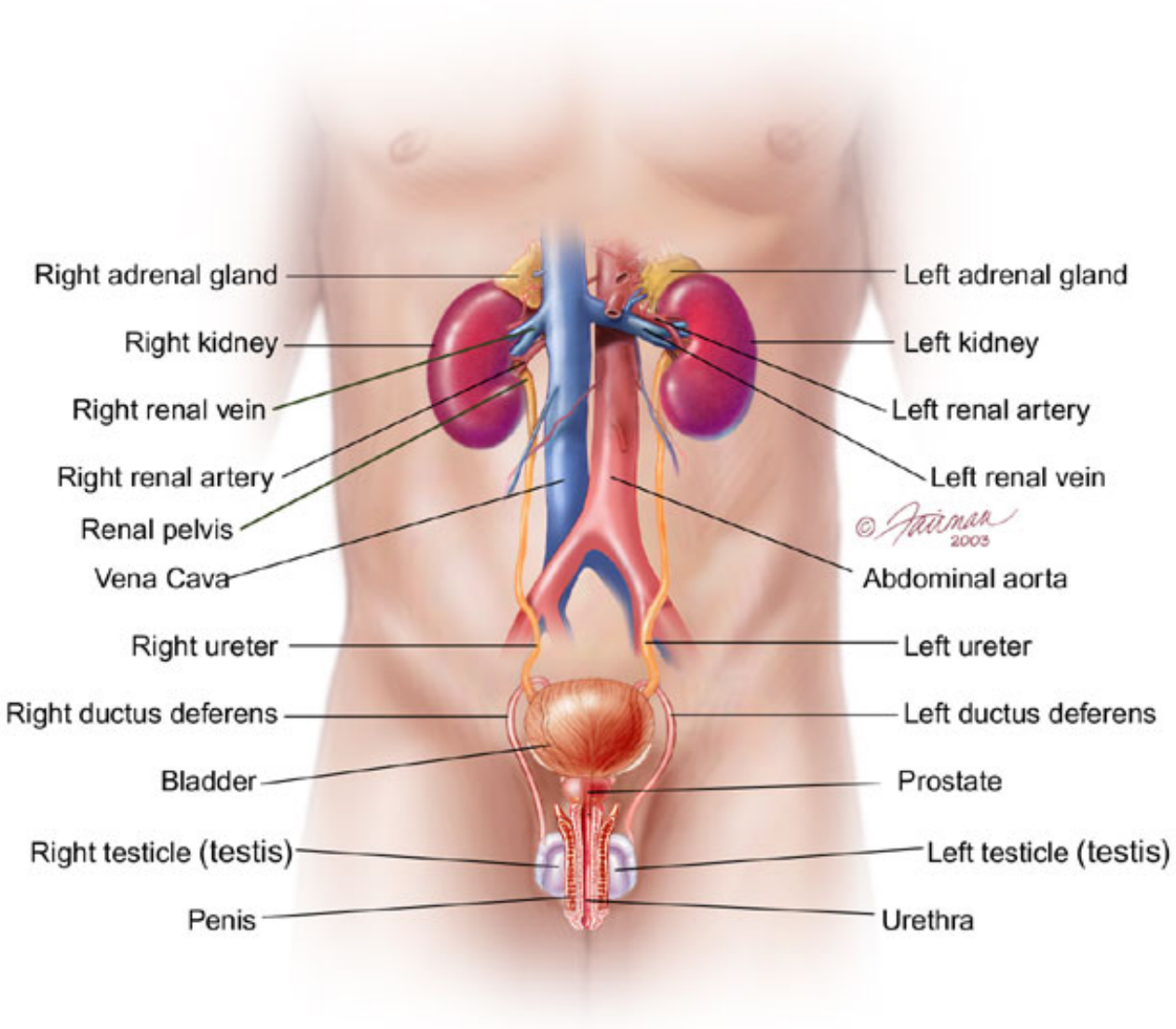
Good Practice

- Consent – gain informed consent
- Who can catheterise?
  - Men: any Registered Nurse who feels both confident and competent in this clinical procedure
  - Women: any competent practitioner (supervised student)
    - Competence is usually measured by attendance at an educational workshop followed by observation and supervision in practice. Refer to local guidelines.

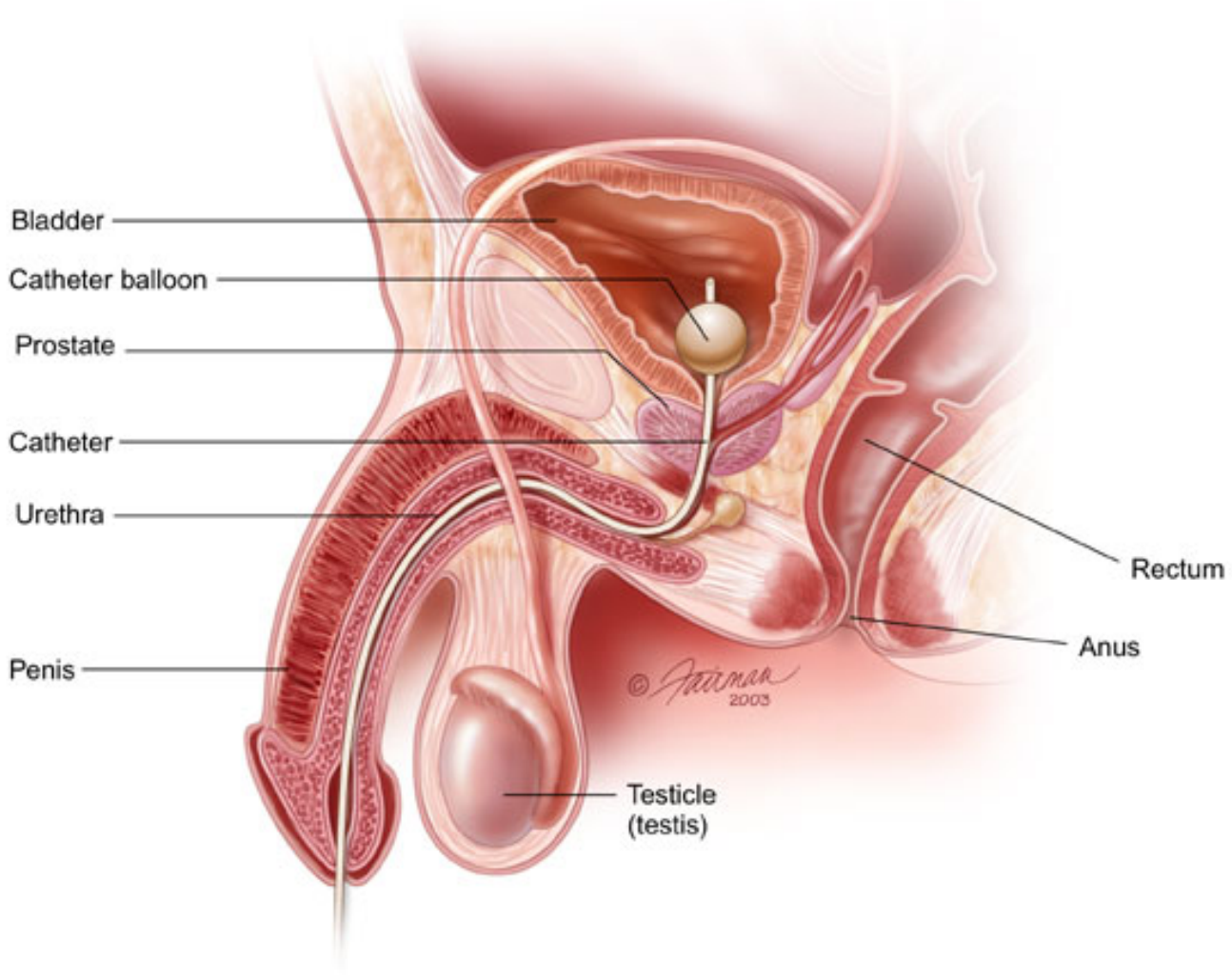
Urinary Catheterisation

- A urethral catheter is a hollow tube inserted into the urinary bladder for the purpose of draining urine or instilling fluids as part of medical treatment.

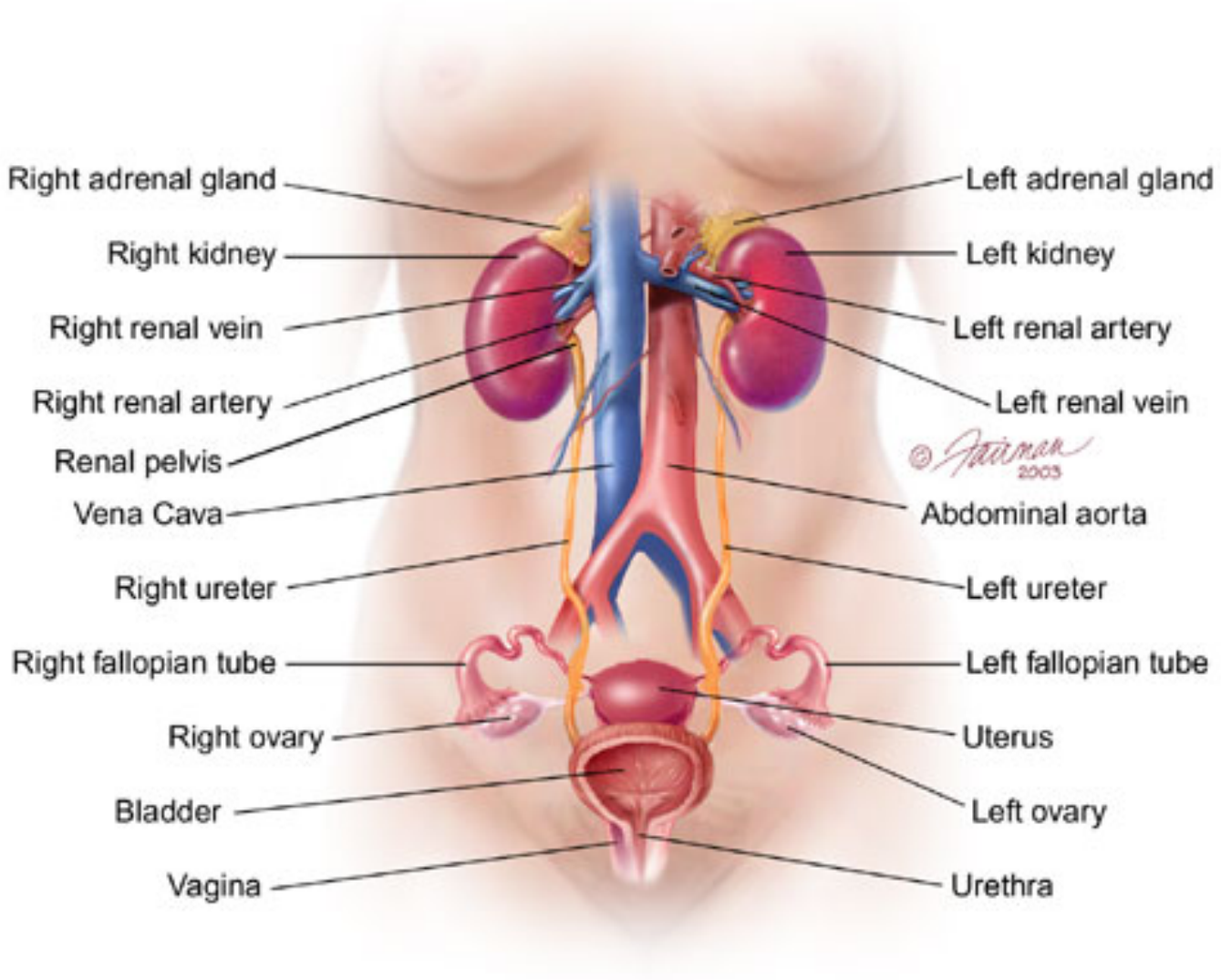
Male Urinary System



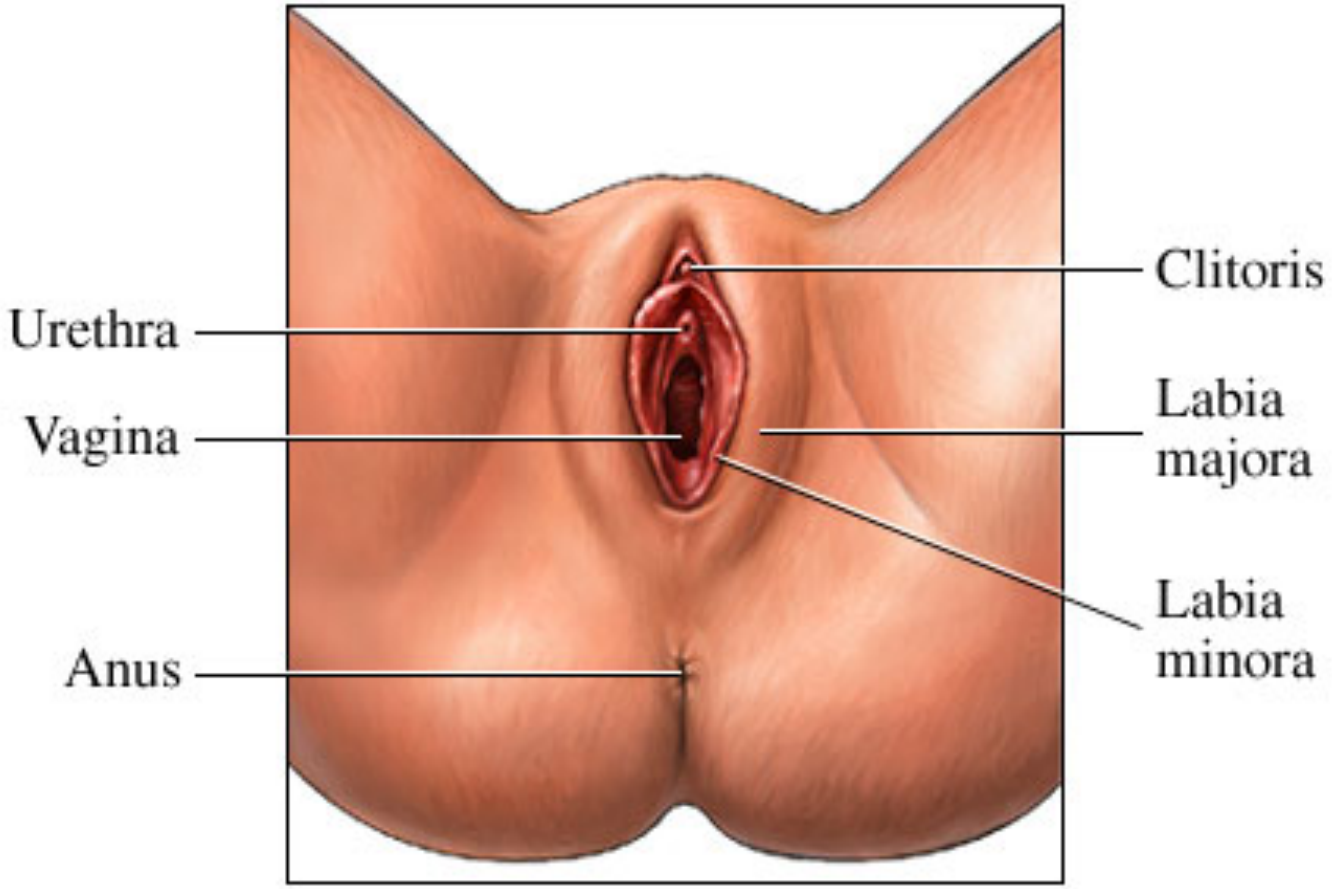
Male Catheterisation



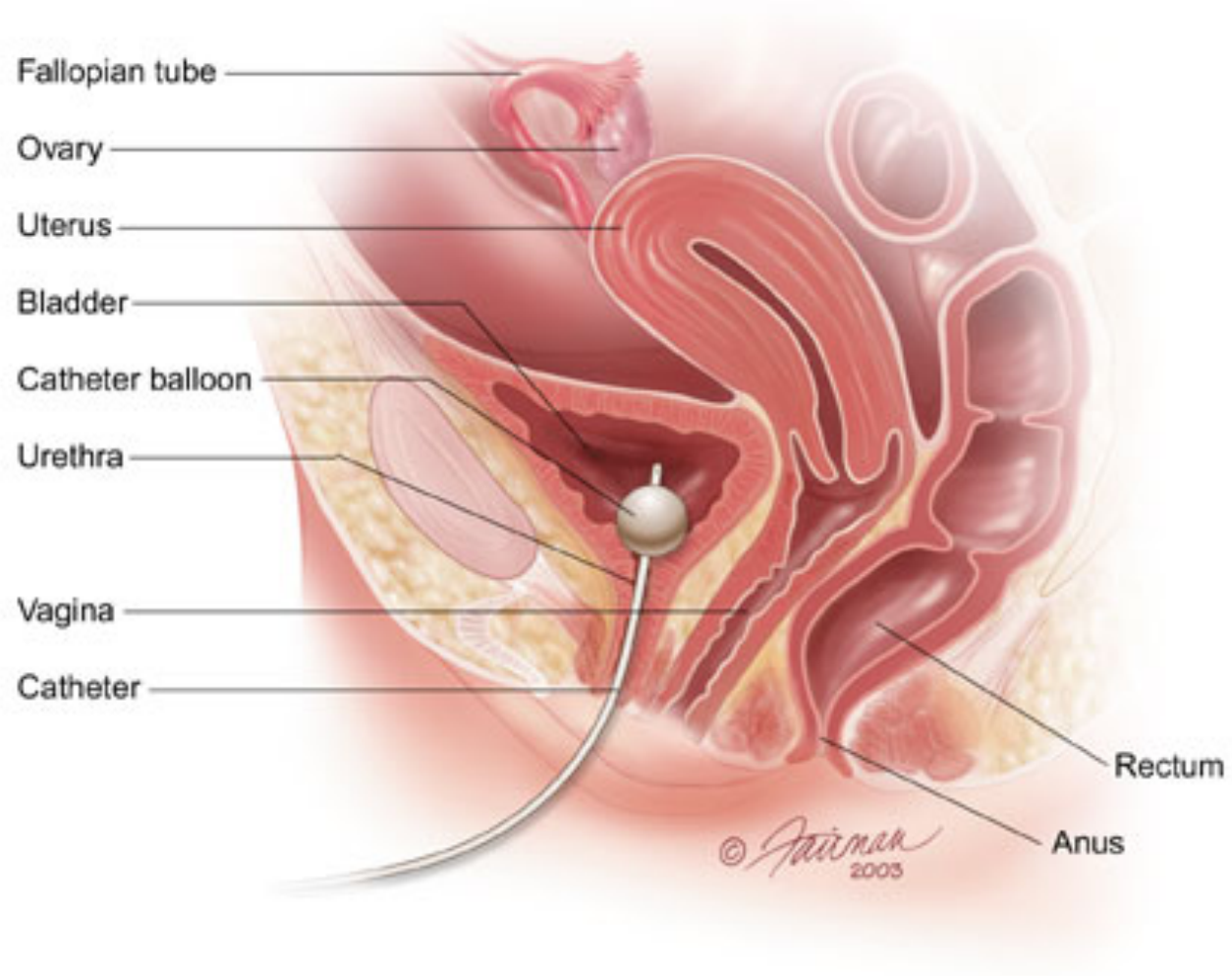
Female Urinary System



Female Genitalia



Female Urinary Catheterisation



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Indications for Urethral Catheterisation

Drainage	• Prostatic hyperplasia (men) • Acute or chronic retention • Hypotonic bladder • Pre & post pelvic surgery • Measurement of urine output • To empty the bladder during labour
Investigations	• To obtain an uncontaminated urine specimen • In Urodynamic investigations • X-ray investigations
Instillation	• To irrigate the bladder • Chemotherapy
Management of intractable incontinence	To be used **ONLY** when all other methods have been tried

Catheter Selection

- It is important to choose the correct catheter for the individual patient

- Considerations include:
  - Material, size, length and balloon infill volume

- The make, type, length, Ch/Fg size and balloon size should be specified on the prescription

Catheter Selection

- The Foley catheter is an indwelling catheter that is retained by inflating an integral balloon
- Catheters without the inflating balloon are usually used for intermittent catheterisation
- The material determines the length of time a catheter can remain in situ
- However, the nurse must always refer to the manufacturer's guidelines

Catheter Selection - Material

- Short Term (7 to 28 days)
  - Plastic/PVC should not be left in for more than 7 days
  - Uncoated latex/silicone treated should not be left in situ for more than 7 days
  - Polytetrafluroethylene (PTFE) bonded latex (Teflon) should not be left in situ for more than 28 days

Catheter Selection - Material

- Long Term (up to 12 weeks)
  - Silicone elastomer coated latex (combines advantages of silicone and latex)
  - Hydrogel coated latex (combines advantages of hydrogel and silicone) – these are the only catheters suitable for patients with a latex allergy

Catheter Selection – Size and length

- The internal diameter of a catheter is measured in Charriere (Ch) – one Ch equals 1/3 mm, therefore 12 Ch equals 4 mm

- Usual sizes for men are between 12Ch & 16Ch
- Usual sizes for women are between 8Ch & 12Ch

- **The smallest size should be chosen to provide adequate drainage**

- Male catheter length 43cms, female catheter 26cms

Catheter Selection – Balloon Size

- The balloon should always be filled with sterile water
- Catheter balloons should be filled as specified by the manufacturer - routinely 10mls
- The heavier weight and larger balloon may cause bladder spasm and irritation of the Trigone
- Over or under filling may interfere with drainage

Principles of Catheterisation

- Meatal /Labia cleansing to remove exudates or smegma in men
- Aseptic technique – to avoid introducing infection
- Anaesthetic gel (Instillagel)
  - Should be used for men and women
  - Reduces pain and discomfort
  - Provides lubrication
  - Has antibacterial properties (contains chlorhexidine)
  - Needs time to work (5 minutes)
- Documentation

Drainage Systems

- Based on an individual assessment and identified needs
  - Bag volume and tube length are specified on the prescription. Correct tube length prevents kinking or dragging of the catheter
- Bag position
  - Drainage bags must be positioned below the level of the bladder so that the urine does not drain backwards and cause infection

Drainage Systems

- Non-ambulatory patients normally have a bed bag attached directly to the catheter. This should then be well supported on a catheter stand
- Ambulant patients should be encouraged to have leg bags (available in 350, 500 & 750 ml bags)
- Leg bags should be secured with straps or a sleeve
- Care must be taken when moving and handling the patient so that the catheter does not get pulled

Catheter bag emptying

- The patient should be encouraged to empty their own bag whenever possible
  - Whenever a nurse empties a catheter bag gloves must be worn to prevent cross infection
  - It is important not to contaminate the tap by touch or the environment by spillage
  - Bags should be emptied when they are approximately three-quarters full to avoid traction due to the weight
  - It is important not to break the closed system more than is necessary

Catheter bag change

- This should be done in accordance with the manufacturer's recommendations, DoH guidelines and local policy
- Generally 5-7 days or earlier if the bag is damaged
- Too frequent and the closed system is open to the risk of infection

Drainage Systems – Link System

- For patients with a leg bag during the day a higher capacity bag can be used at night
- The leg bag is not disconnected from the catheter but the night bag is connected to the tap of the leg bag
- To prevent infection (in hospital, residential and nursing home environments) the night bag must be disposed of after each use
- For home use the patient can wash the night bag through with soap and water and left to dry. This bag can then be used for between 5-7 nights (remains controversial)

Principles of Catheter Management

- **Bathing**
  - A patient can take a bath or a shower
  - It is important to remove meatal / Labia secretions that can lead to infection. This should be done twice a day with soap and water but particularly following bowel action
- **Sexual Relationship**
  - Can use a spigot and then put a condom on to hold the catheter along the erect penis
  - A women may be able to maintain her usual sexual relationship but needs to be aware that the catheter is not stretched (also could spigot off)

Principles of Catheter Management

- **Fluids**
  - These should be encouraged – approx 1.5 litres in 24 hours unless restricted for medical reasons
  - This maintains a flow of urine through the bladder and also prevents constipation

Catheter Removal

- Planned procedure
- Based on patient assessment, circumstances and needs
- Documented in patient notes
  - No clear evidence if to use catheter maintenance solutions to improve patency or remove problem catheter
  - Solutions – may prolong catheter life but can cause trauma to the bladder mucosa
  - Removal – increase trauma but more effective use of nursing time
- **Deflate balloon before removing the catheter**

Catheter Maintenance

- Use of catheter solutions continues to be a contentious issue
- Catheter maintenance solutions are prescription only medication (POM)
- NMC (2004) states that nurses are accountable for their own actions. It is important that nurses follow accepted local and/or national guidelines to ensure safe practice
- Catheter maintenance solutions have been developed to assist nurses in managing persistently blocking catheters

Resources

- **Bardsley, A.** (2005) Use of lubricant gels in urinary catheterisation. *Nursing Standard* 20(8) 41-46.
- **Lauren, T., Pomfret, I. & King, D.** (2005) Infection risk associated with urinary catheters. *Nursing Standard* 20(7) 55-61.
- **Mangnall, J. & Watterson, L.** (2006) Principles of aseptic technique in urinary catheterisation. *Nursing Standard* 21(8) 49-56.
- **Nicol et al** (2008) Chapter 8 Elimination. In: *Essential Nursing Skills, 3rd ed*. Edinburgh: Mosby
- **Pellowe, C.** (2009) Reducing the risk of infection with indwelling urethral catheters. *Nursing Times;* 105: 36, 29–32.
- **Phipps, S., et al** (2007) Short term urinary catheter policies following urogenital surgery in adults. *The Cochrane Database of Systematic Reviews* Vol 1, 2007.