



Complications of urinary catheterisation

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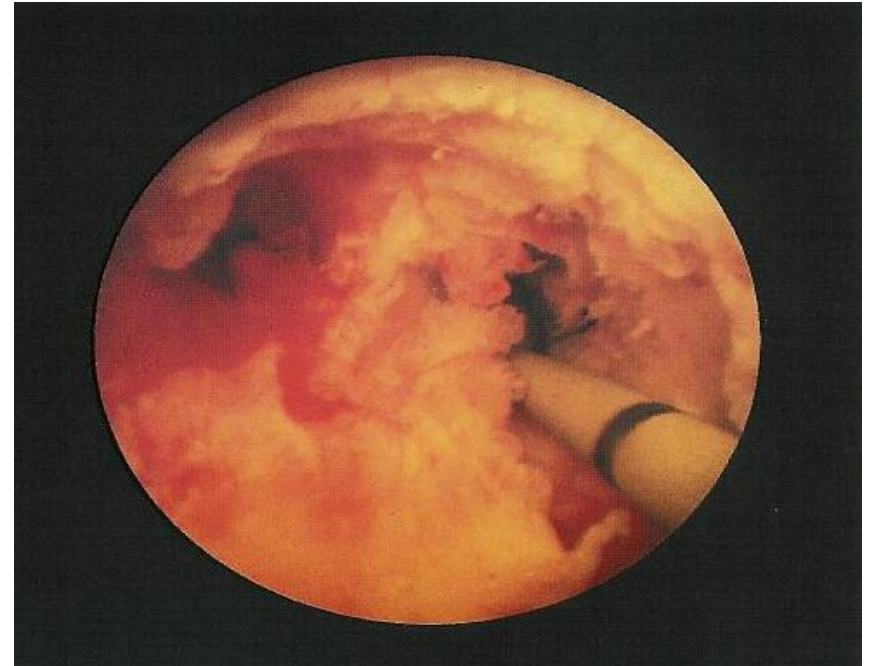
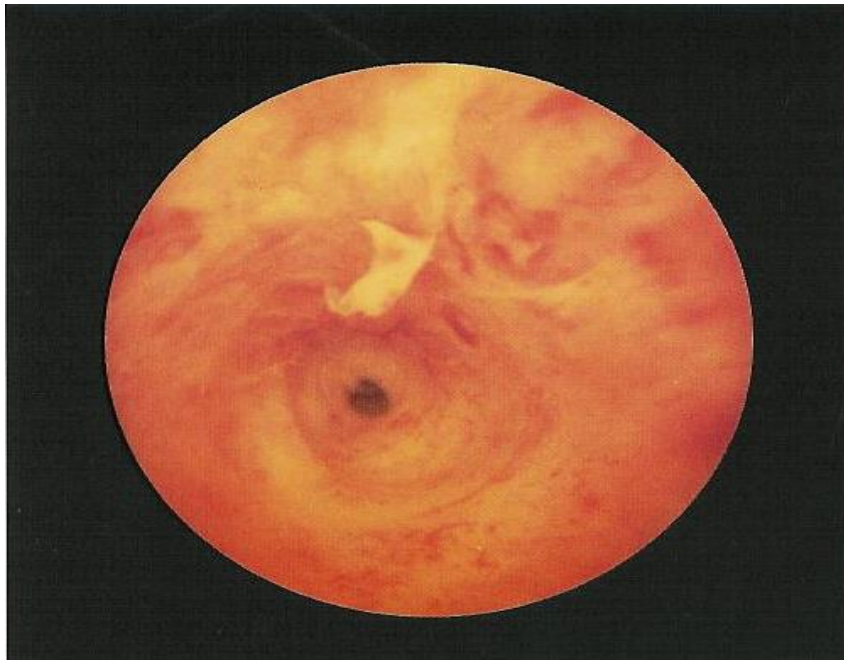
CNS Continence

Barts Health NHS Trust

POSSIBLE COMPLICATIONS

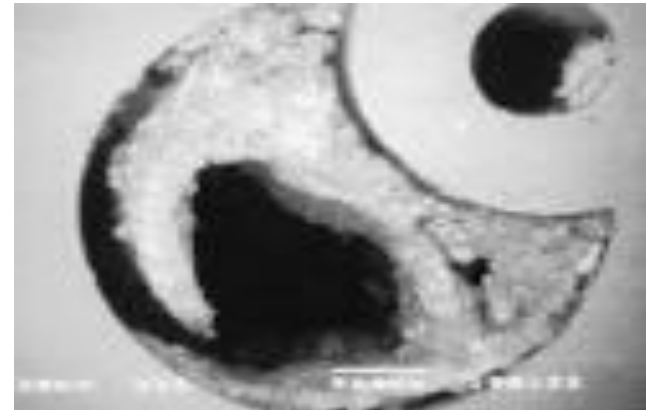
- Urethral trauma (Instillagel, cathejel, Optilube active)
- Haematuria (Micro/Macroscopic)
- Stricture formation
- Increased risk of bladder carcinoma 2^o chronic inflammation and mechanical stimuli from the catheter
- Bladder spasm → expulsion, bypassing
- Bladder calculi – *DVD*

Urethral perforation - False Passage



Catheter encrustation

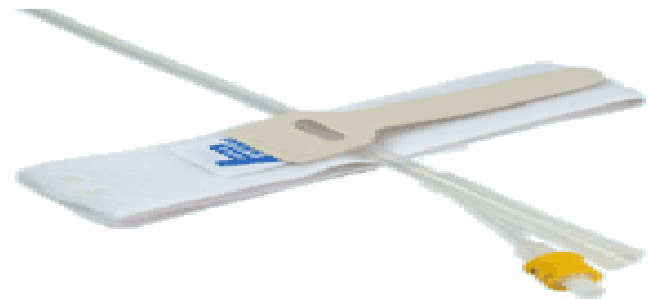
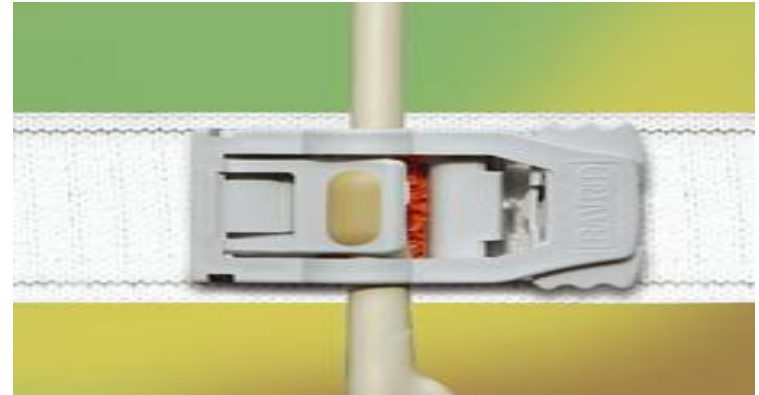
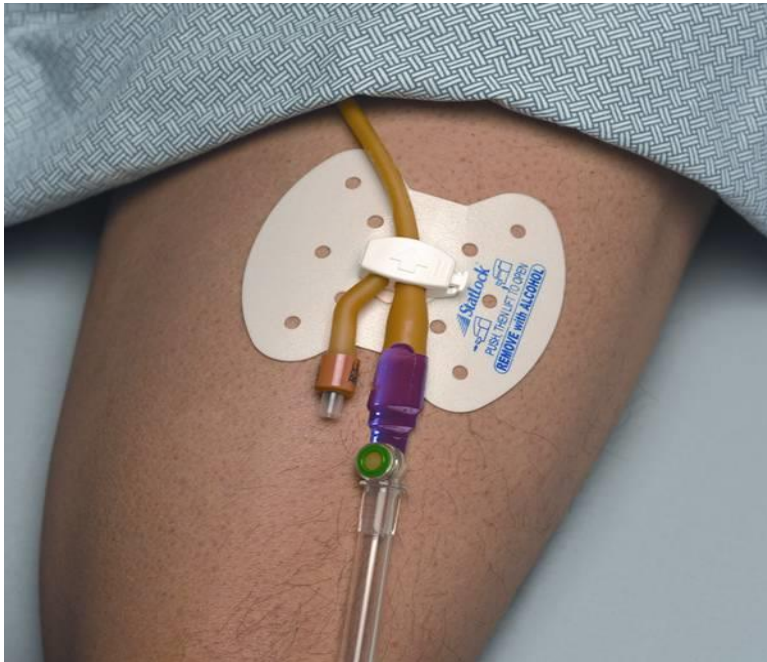
- Caused by urease-producing organism such as *Proteus mirabilis*, *Klebsiella* spp.
- Urease → ammonia → Ca + Mg crystals
- Intraluminal or extraluminal.
- It can result in blockage and may be autonomic dysreflexia in pts with SCI above T6.
- It can impair balloon deflation
- Can lead to damage to urethral wall → bleeding, scarring, stricture and infection



Catheter related injuries/ Meatal Erosion



Catheter Stabilisation Devices



Infection

80% of UTI are associated with catheter

1-4% of catheterised pts develop bacteraemia

Bacteraemia (Mortality Rate 13-30%, Bisset 2005)

It is associated with

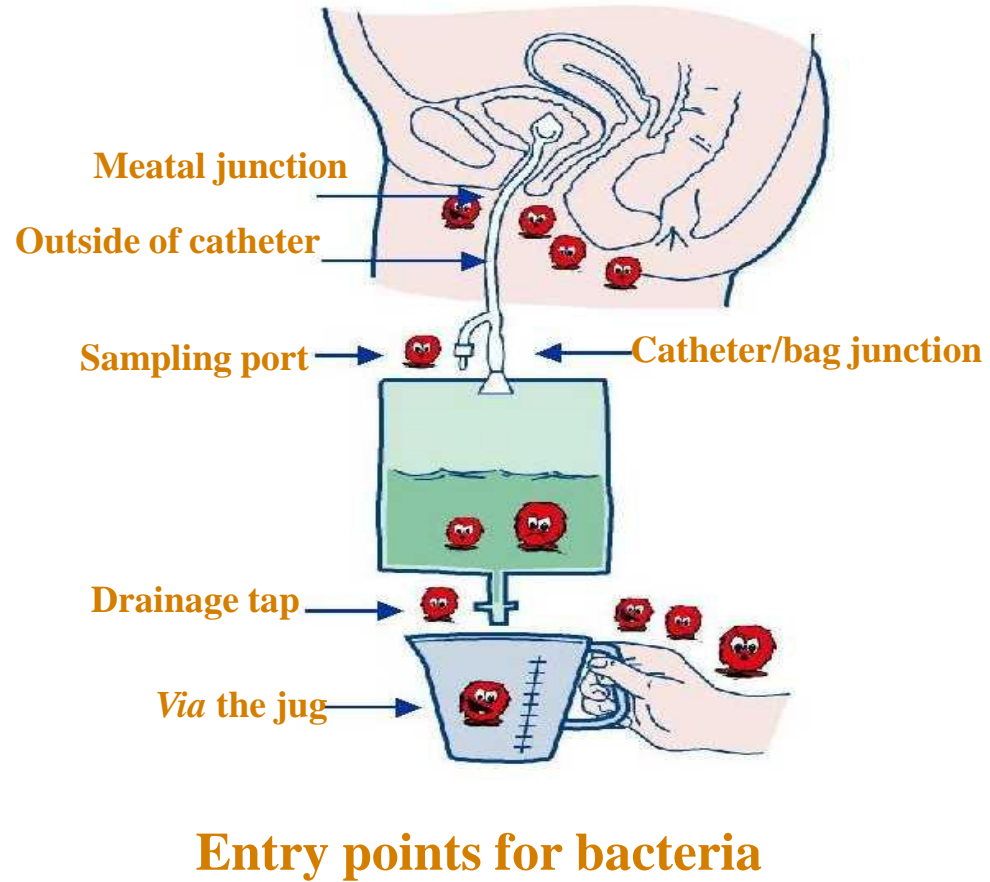
- The method and duration of catheter
- The quality of the catheter care
- Susceptibility of the host (patient)

Note:

- Routine catheterisation: 1 -2% per procedure
- Per- day- risk: 5%

Why do catheters cause infection?

- Normal micturition eliminates bacteria from the bladder, urethra and urethral orifice
- Catheters interfere with the above and also form a bridge between a naturally sterile site and the external environment
- Increased risk of perineal pathogens entering the urethra and ascending
- Residual volumes in bladder
- Support biofilms which interfere with antibiotic therapy



Signs of CAUTI

- Changes in character of urine (colour, smell, debris or pus)
- New flank or suprapubic pain or tenderness
- Nausea and vomiting
- Haematuria
- Fever > 38 degrees or chills/rigor
- Deteriorating mental function
- Spasticity in patients with neurological conditions

COST OF CAUTI

A) For the patient

- Morbidity - pyrexia, bacteraemia, septicaemia
- Delayed discharge
- Impact on patient experience
- Mortality

B) Hospital

- Bed-blocking in acute hospital
- Extension of hospital stays by up to 6 days
- Rx - £124m each year (NHS Institute for Innovation and Improvement, 2009)

Conclusion

- Only use catheters in situations where benefits outweigh the risks
- Consider alternatives to indwelling urinary catheters
- Use of aseptic technique and sterile equipment during insertion.
- Appropriate fixation of the catheter is of the utmost clinical importance.
- Catheters should be removed as soon as clinically possible.
- Patient safety, clinical effectiveness and positive patient experience make a quality service; **if you do not get it right, it is risky.**