Preventing catheter-associated urinary tract infection (CAUTI)

Safer Healthcare and Biosafety Network

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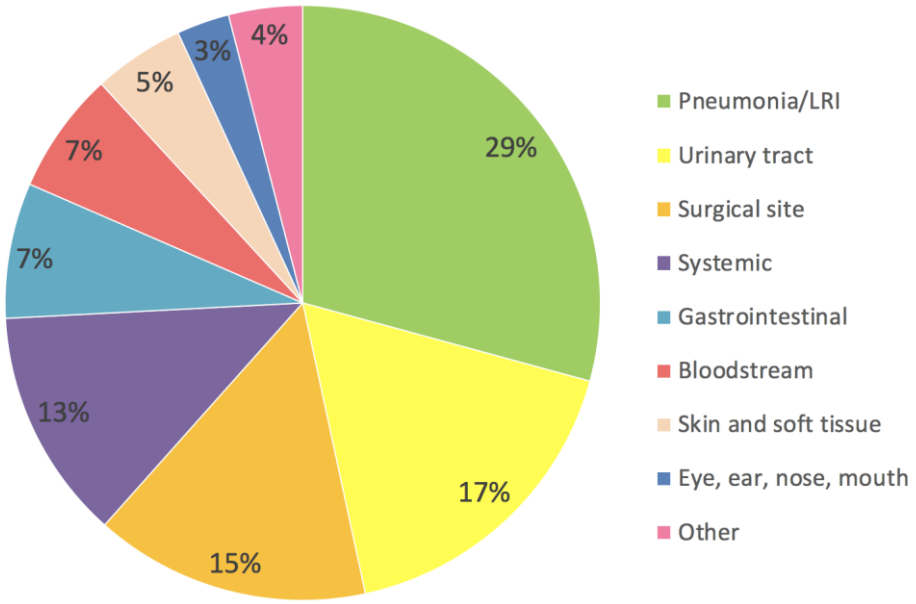
Session aims:

- Provide a brief overview of CAUTI as a clinical problem
- Summarise evidence for key infection prevention practices to reduce CAUTI
- Consider how to implement improvements to support best practice and promote safer care

Prevalence of healthcare-associated infections in England

Point prevalence survey in acute care hospitals in England, 2016
ESPAUR Report 2017, Public Health England
Part of the European-wide (ECDC) point prevalence survey in 2016



CAUTI as a clinical priority:

- UTI - second most common infection
- 37% secondary bloodstream infections originated from UTI (most common source)
- 45% UTI found in patients with a urinary catheter (within 7 days of infection)
- CAUTI accounted for 47% of all device-related infections

Urinary catheter complications

Meddings *et al.* BMJ Quality & Safety 2019; 28:56-66

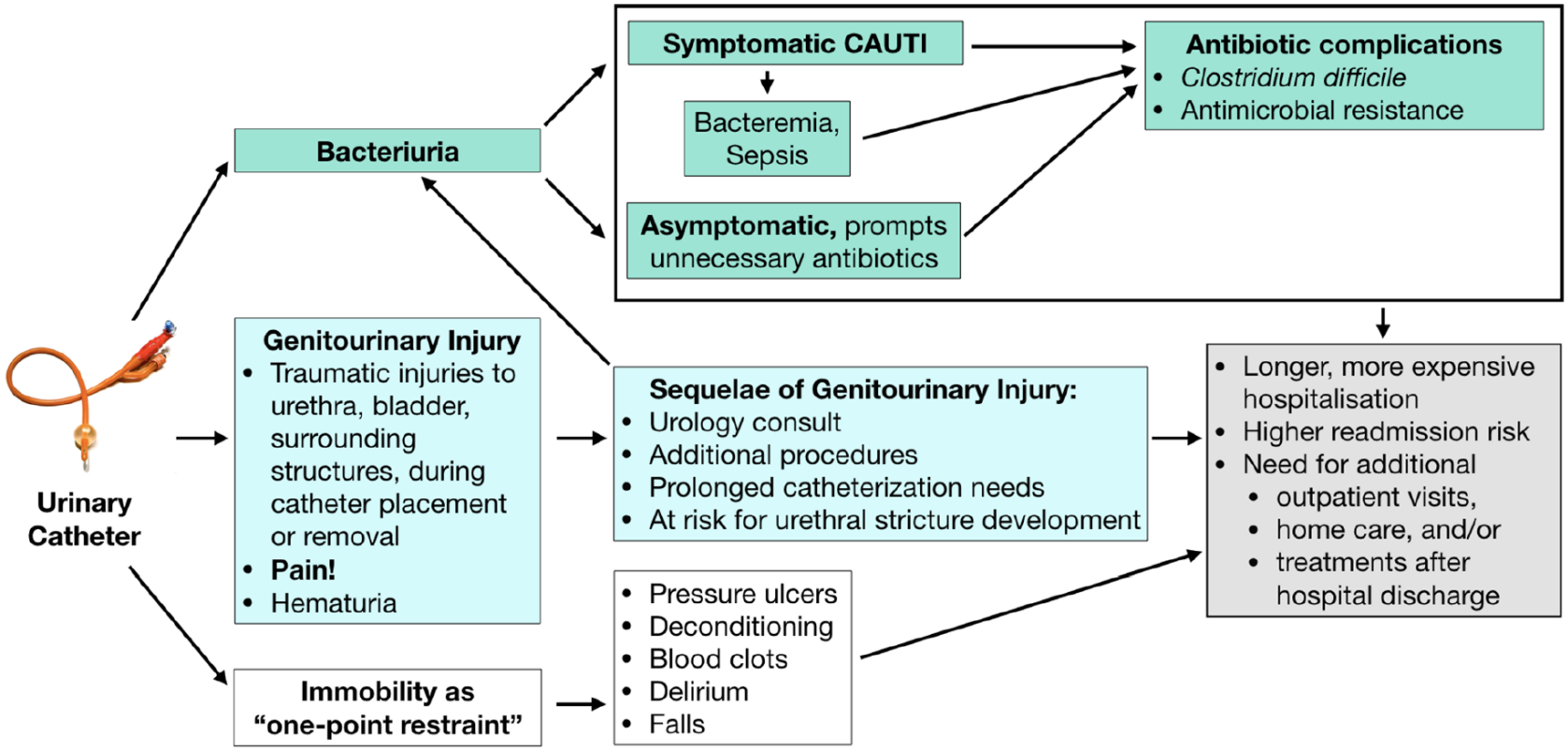
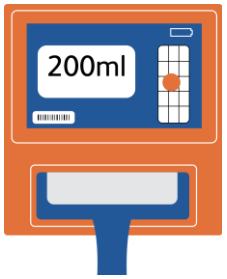


Figure 1 Infectious and non-infectious urinary catheter complications. CAUTI, catheter-associated urinary tract infection.

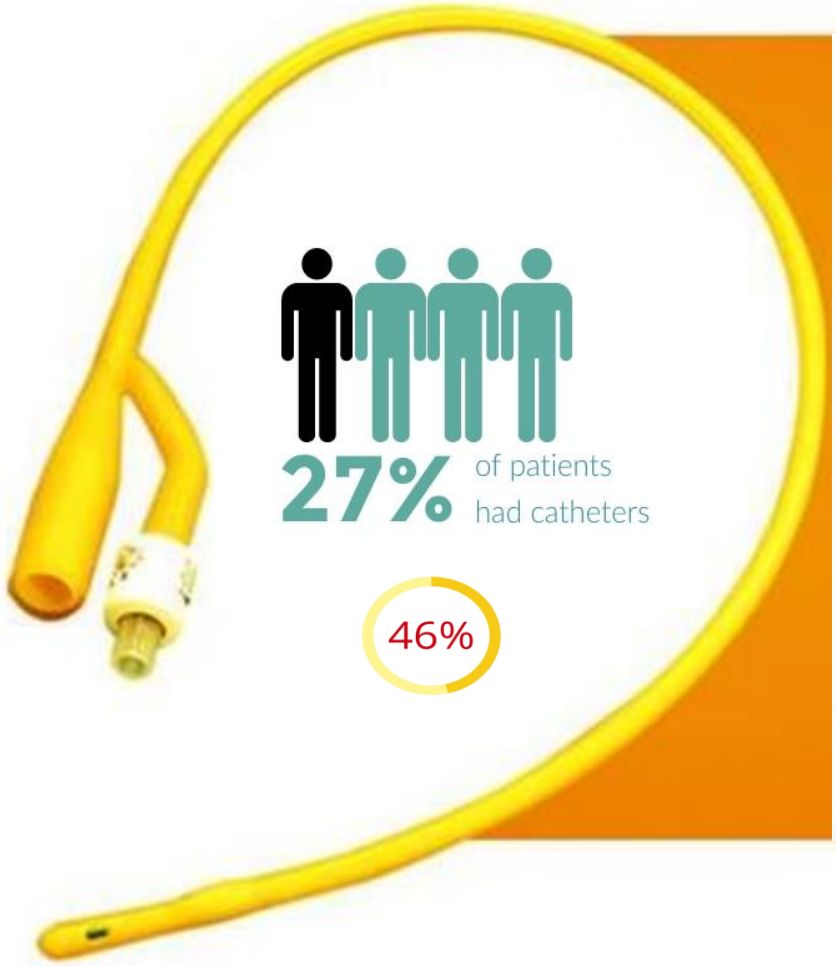
Summary of best evidence-based practice to prevent CAUTI

Avoid unnecessary use	• Assess patient using non-invasive methods (e.g. bladder scan) • Assess alternatives to indwelling catheter and discuss with patient • Insert indwelling catheter only when clinically indicated	Recommendations from best practice guidelines based on systematic review of evidence: • Epic3 (Loveday et al., 2014) • EAUN (Geng et al., 2012) • NICE CG139 (2017) • SHEA/IDSA (Lo et al., 2014) • CDC HICPAC (Gould et al., 2019)
Aseptic insertion	• Ensure person undertaking procedure is trained/competent • Use aseptic technique and sterile equipment • Use appropriate antiseptic or sterile solution for periurethral cleaning and sterile lubricant for insertion • Use smallest gauge catheter to minimise trauma • Document date/reason for catheter insertion, type of catheter/ drainage system, expected duration/planned date of removal	
Catheter maintenance and documentation	• Maintain closed drainage system • Routine hygiene (cleansing of meatal surface) • Maintain unobstructed urine flow - position drainage system correctly and empty bag regularly using clean container • Use standard precautions when handling catheter/drainage system • Secure catheter to prevent movement and urethral traction • Maintain accurate documentation	
Daily review and timely removal	• Review reason for catheter use daily and plan for catheter removal • Undertake pre-removal checks (e.g. bowels, hydration) • Assess bladder function following catheter removal	
Clear plan on patient transfer or discharge	• Provide active management plan with reason for catheter and date for review or removal • Ensure appropriate referrals (e.g. urology, continence advisor) • Provide information and education for patients and carers	• Epic3 (Loveday et al., 2014) • NICE CG139 (2017)

Assessing the need for catheterisation: practical strategies for prevention



- Protocols to restrict use of catheters
- Facilitating use of alternatives to urethral catheterisation
- Use of bladder ultrasound scanners to assess urinary retention
- Use of intermittent (straight) catheterisation to manage urinary retention



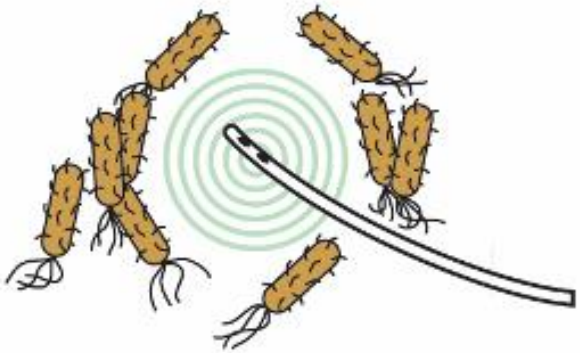
Urine output: how and why is it monitored in acute medical environments?







50%-70% of CAUTIs are thought to be preventable



IMPROVE

PATIENT SAFETY
PATIENT EXPERIENCE

REDUCE

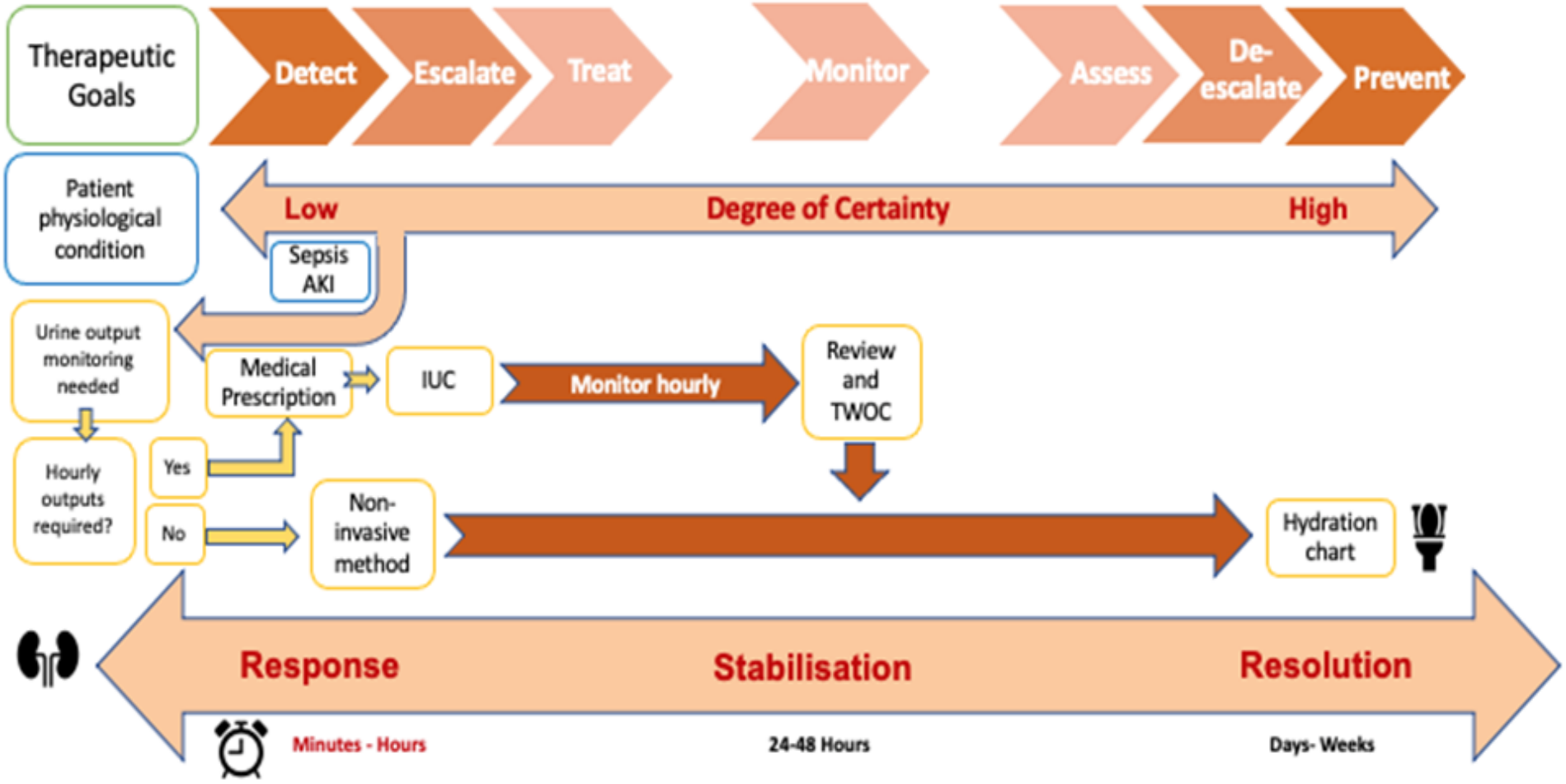
HOSPITAL ACQUIRED INFECTIONS
LENGTH OF STAY

INCREASE

BED AVAILABILITY WITHIN HOSPITALS

→ Catheter Stewardship

The Urine Output Monitoring Continuum

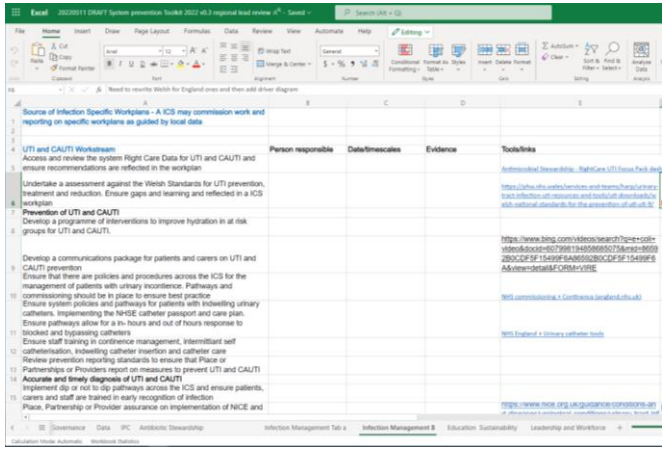


System complexity – barriers

- Continence provision – Excellence in continence care and pathways of care / commissioning for continence care across providers
- Communication between providers and across pathways of care
- Pathways of care for provision of trial without catheter and catheter review
- Commissioning of consumables between providers
- Training and behaviour change in health care workers regarding hydration, catheter care, bowel care and continence management. Including training and education in the use of catheter alternatives
- Barriers perceived or in place between health, social care and public health messaging
- Silo working – medicines management, Infection Prevention and Control, continence, urology and public health
- Small change programmes have worked using QI approaches – difficult to scale up due to system complexity

System opportunities

- Integrated care systems – est. July 2022 NHS England » What are integrated care systems?
- Integrated care partnership (ICP) -bringing together health, social care and public health to meet the needs of the population. Focus on prevention and population based healthcare management.
- Integrated care board (ICB) – statutory NHS organisation, replaces CCGs – has to have a plan for meeting health needs of the population
- The Long Term Plan (Prevention – Antimicrobial resistance)
- Strategic planning must include UTI and CAUTI reduction at system and at place
- Subsidiarity – principle that decisions are best made at the closest to the patient to get engagement and get people on board.
- Myron Rodgers – change in complex systems Myron Rogers | Leadership (leadershipcentre.org.uk)



Summary

- Digital opportunities – record keeping and surveillance. Use of QR codes to scan products into records
- The design of the catheter
- Accurate alternatives for measuring urine output
- Working collaboratively as a system
- Supporting and developing continence pathways and access to continence advice and products
- Education – public, carer and healthcare worker

Thank you for listening

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