

Clinical Intervention Overview: Preventing Infections to Enhance Resident Safety

Cohort 5

Learning Session #1

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Objectives

1. Identify how to enhance resident safety by preventing infections.
2. State the common healthcare-associated infections (HAI) that occur in LTC facilities.
3. Define catheter associated urinary tract infection (CAUTI).
4. Summarize the five components of the “C.A.U.T.I.” intervention.



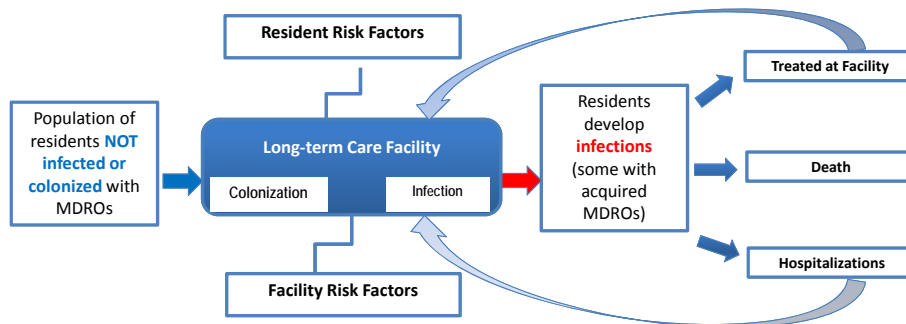
The AHRQ Safety Program for Long-Term Care: CAUTI
Presented by the Agency for Healthcare Research and Quality

Common Resident Safety Concerns in LTC Facilities

- Physical restraints
- Pressure ulcers
- Pain
- Pharmacologic errors (adverse drug events)
- Psychiatric
- Poor mobility and falls
- **Preventable infections**
 - Includes healthcare-associated infections (HAIs)

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Pathway to LTC Facility Infections



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Risk Factors

Resident Risk Factors

- Age
- Multiple morbidities
- Impaired immunity/vaccination declination
- Functional impairment
- Indwelling devices
- Antibiotic use

Facility Level Factors

- Prolonged exposure to health care
- Frequent care transitions
- Exposure to recently hospitalized/sick residents
- Diagnosis and therapy delays
- Staff and resident vaccine compliance
- Rapid staff turnover, understaffing, presenteeism
- Poor hand hygiene
- No resident hand hygiene program
- Lack of antibiotic stewardship
- Clean environmental and equipment challenges
- Compliance with isolation precautions

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Annual Impact of HAIs in LTC Setting

1.6-3.8 million HAIs¹

- Leading cause of mortality, morbidity, resulting in 388,000 deaths

150,000-300,000 hospital admissions

- 26-50% due to infections
- \$673 million-\$2 billion for hospitalizations²

Up to 70% of residents receive an antibiotic⁴

- UTI's most commonly treated infection (32%)³
- Up to 75% of antibiotics prescribed incorrectly⁴
- \$38-137 million on antimicrobial therapy²

7-10% of all LTC residents have a urinary catheter⁶

- 88% placed in LTC or non-acute care settings⁵
- 99% of catheterized residents have asymptomatic bacteriuria within 30 days⁷

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How can we prevent CAUTIs?

PREVENTION

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What is a CAUTI?

An infection occurs when a resident with an indwelling urinary catheter:

- Manifests one or more symptoms localized to the urinary tract

AND

- Symptoms have no alternative source

AND

- Clinical signs and symptoms are combined with laboratory verification of an infection



Core CAUTI Prevention Strategies

Catheter Use

- Insert catheters for only appropriate indications
- Leave catheters in place only as long as needed

Resident Considerations

- Maintenance of hydration
- Bathing: clean to dirty

Hand Hygiene

Insertion

- Ensure that only properly trained persons insert and maintain catheters
- Insert catheters using aseptic technique and sterile equipment

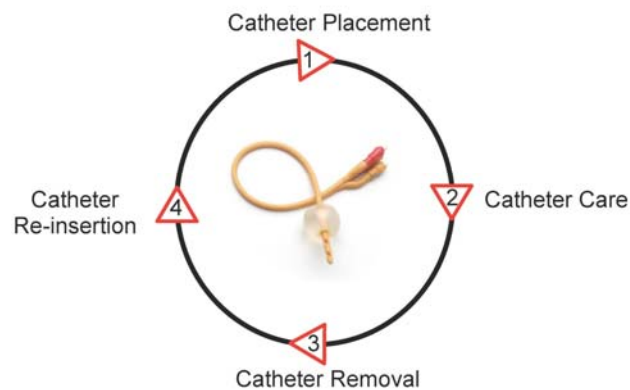
Maintenance

- Maintain a closed drainage system and unobstructed urine flow
- Keep the urine collection bag below the bladder and use a securement device
- Routine catheter changes and urinalysis not required

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Disrupt the Catheter Lifecycle

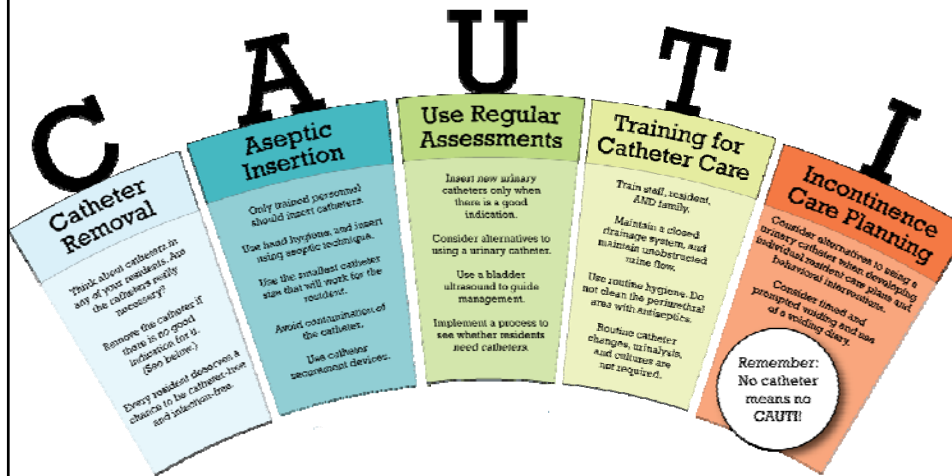
Lifecycle of the Urinary Catheter



Clin Infect Dis. 2011;52(11):1291-1293

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What is the C.A.U.T.I. Intervention?



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Case Studies

APPLYING WHAT WE KNOW

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Case Study #1: Mrs. Jones

Mrs. Jones is a 68-year-old woman who is admitted from acute care after hip replacement. She still has an indwelling urinary catheter. Every day she gets stronger and is approaching her pre-surgical baseline. However, her family notes that the urine in the drainage tube is cloudy. UA shows 120 WBC. Urine culture shows >100,000 *E. coli*.

How could this situation with Mrs. Jones have been avoided?

Identify which elements of the CAUTI mnemonic could have been implemented.

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Case Study #2: Mr. Peters

Mr. Peters' daughter visited him today and was upset that his room smelled of urine. She requests that he have a catheter inserted so he doesn't smell because he's embarrassed.

How could this situation have been avoided?

Identify which elements of the CAUTI mnemonic could have been implemented.

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Case Study #3: Ms. Lemur

Ms. Lemur is an alert 75-year-old female with degenerative arthritis in her legs and s/p CVA. She has marked right-sided weakness and weighs 210 pounds. Mary was admitted on Friday at 5 p.m. with a urinary catheter and was afebrile. The hospital transfer report does not include an indication for a urinary catheter and Mary doesn't know why the catheter is still in. The admitting nurse calls the hospital to find out why Mary still has a catheter in place, but is unable to locate a nurse who is familiar with Mary. The physician will not be in the facility to see Mary until Monday.

Identify which elements of the CAUTI mnemonic can be used to guide next steps in Ms. Lemurs' care.

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Addressing the Common Challenges

- CAUTI Definition - Onboarding 2
- Data Collection and Surveillance – Onboarding 3-4, Tools
- Training Module Series on Infection Prevention
- Monthly Content Webinars
- Antibiotic Stewardship Brochure
- Catheter Insertion and Maintenance Checklists
- Clinical FAQs
- CAUTI Criteria – NHSN Definitions Pocket Card
- Hospital Transfer/Admission Evaluations

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How Do We Implement the C.A.U.T.I. Intervention?

Engage in project activities!

- Needs Assessment
 - Health care worker awareness of harmful and useful catheter care practices
- Education
 - Basic infection prevention skills
 - Appropriate use and maintenance of urinary catheters
 - When to initiate antibiotics in suspected CAUTIs
- Evaluation
 - # catheters, # CAUTIs, # urine cultures collected
 - Baseline and Final assessments of knowledge

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Bonus Outcomes!

Reducing CAUTI will:

- Reduce infection related complications such as transfers to acute care hospitals, urosepsis and antibiotic use
- Help reduce *C. diff*, non-catheter associated UTI, MDROs
 - Improve hand hygiene
 - Promote antibiotic stewardship
 - Promote catheter stewardship
 - Reduce re-hospitalizations
- Enhance resident safety and improve resident and staff experience



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