



INFECTION MANAGEMENT AND antibiotic stewardship

Hot Topic Session 7:

**Role of prophylaxis in residents with
recurrent UTIs**

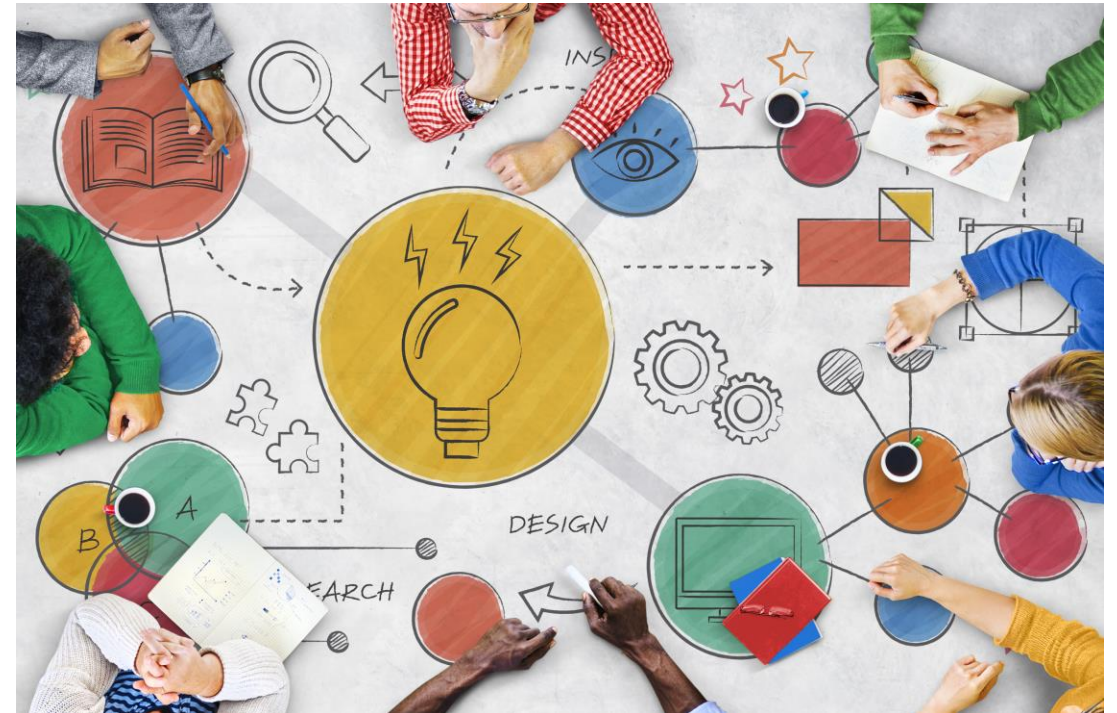
01/10/2024

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- ▶ These slides contain materials from a variety of colleagues including CDC, WHO, AHRQ, etc.

Outline of today's session

- Nursing home case
- Indications for prophylactic antibiotics and red flags
- Caveats of culturing
- Non-pharmacologic interventions to prevent UTIs
- Poll



Mrs. Smith, who has some mild dementia and mobility issues is admitted to the nursing home. Her daughter tells everyone that her mom “gets UTIs all the time and has been on an antibiotic for years.” When you review the signs of a UTI with her, she says, “She doesn’t get any of those, she just gets confused.”

Clinical case- from event to outcome

Clinical Event



Resident reports being on prophylactic antibiotics for at least a year.

WHAT WOULD YOU DO?

Evaluation by R.N. or M.D.



RN evaluates resident who currently has no signs or symptoms of a UTI. She informs the MD that resident in on long-term prophylaxis.

WHAT WOULD YOU DO?

Decision To Prescribe Antibiotic



MD talks to nursing staff and resident and family and discusses a trial of cessation of antibiotics, while starting aggressive preventive measures.

WHAT WOULD YOU DO?

Outcome



WHAT DO YOU WANT TO HAPPEN? WHAT DO YOU DO?

Discuss contingency plans; discuss timed toileting, continue to reassess the need

Prescriptive

POST-Prescriptive

Definition and red flags

▶ Population:

- ▶ Prophylaxis is discussed for NH residents with recurrent UTIs
 - ▶ 2 or more episodes of a UTI (symptoms and culture +) in 6 months or
 - ▶ 3 or more episodes in the last 12 months

▶ Red Flags for Urology Referrals

- ▶ All men
- ▶ Frank hematuria (worried about cancer!)
- ▶ Residents with neurologic disease
- ▶ Suspected stone
- ▶ Obstructive uropathy

References:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9790742/>

Red flags: <https://pubmed.ncbi.nlm.nih.gov/31888862/>

hematuria: <https://pubmed.ncbi.nlm.nih.gov/29169843/>; up-to-date: https://www.uptodate.com/contents/recurrent-simple-cystitis-in-women?search=prophylactic%20antibiotics%20uti&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1

Also: https://www.uptodate.com/contents/evaluation-of-the-adult-with-nontraumatic-abdominal-or-flank-pain-in-the-emergency-department?search=emergent%20urologic%20referrals&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1

CAVEATS

▶ CAVEATS:

- ▶ Urinary cultures in the absence of lower urinary tract signs/symptoms are not helpful
- ▶ Lower urinary tract signs/symptoms with a negative culture need evaluation for cause
 - ▶ Yeast v STDs v contact dermatitis v vaginitis
- ▶ DO NOT CHECK FOR CURE (no reculture after abx)
- ▶ Do not screen or treat for asymptomatic bacteriuria



Non-pharmacologic interventions for recurrent UTI

- ▶ Drink plenty of fluids
- ▶ Perineal hygiene i.e., wiping front to back, consider using non-scented wipes
- ▶ Vaseline or other barrier cream post-void
- ▶ Reduce constipation
- ▶ Timed toileting- ideally every 2 hours (consider 2 x a shift)



<https://www.auanet.org/guidelines-and-quality/guidelines/recurrent-uti#x14424>

<https://www.nottsapc.nhs.uk/media/1815/uti-prophylaxis.pdf>

<https://d56bochluxqnz.cloudfront.net/documents/full-guideline/EAU-Guidelines-on-Urological-infections-2023.pdf>

Non-pharmacologic interventions for recurrent UTI

- ▶ Over-the-counter products – limited evidence but may be useful
 - ▶ D-mannose (1g twice daily. No benefit per Cochrane)
 - ▶ Cranberry tablets (Follow individual product instructions. Contraindicated in patients on Warfarin. No benefit per Cochrane)
 - ▶ Methanamine hippurate (1 gm twice daily)
- ▶ Non-antibiotic prescriptions
 - ▶ Vaginal estrogens



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<https://d56bochluxqnz.cloudfront.net/documents/full-guideline/EAU-Guidelines-on-Urological-infections-2023.pdf>

Alternatives To prophylactic Antibiotics for the treatment of Recurrent urinary tract infection in women (ALTAR) Trial

► Population:

- Women 18+ (average age 50 ± 18.6)
- Recurrent UTIs (2 in 6 mo or 3 in 1 yr)

► Intervention:

- Prophylactic antibiotic (Nitrofurantoin, Trimethoprim, or Cefalexin)
- Methenamine 1 g BID

► Study duration: 12-months

► Randomized but not blinded

► Outcome: Incidence of UTIs



Alternatives To prophylactic Antibiotics for the treatment of Recurrent urinary tract infection in women (ALTAR) Trial

- ▶ RESULTS from 102 abx v 103 methenamine participants
 - ▶ Abx treatment: 0.89 episodes per person year (95% CI, 0.65 to 1.12)
 - ▶ Methenamine hippurate: 1.38 episodes per person year (95% CI, 1.05 to 1.72)
 - ▶ 52% of cultures during symptomatic UTIs grew bacteria.
 - ▶ More participants taking daily antibiotics (46/64; 72%) demonstrated antibiotic resistance to *Escherichia coli* than in the methenamine hippurate arm (39/70; 56%) (p-value = 0.05)
- ▶ TAKE HOME: Methenamine was non-inferior in this SMALL trial of non-NH women

Alternatives To Antibiotics – IMPRESU TRIAL

▶ Population:

- ▶ Frail older adults 70 or older

▶ Intervention:

- ▶ Multifaceted antibiotic stewardship program – decision tool for antibiotic use and educational material
- ▶ Usual care

▶ Study duration: Sept 2019 – June 2021

▶ Outcome: Number of antibiotic prescriptions for suspected UTIs



Alternatives To Antibiotics – Impresu Trial

- ▶ RESULTS 1041 participants
 - ▶ Abx prescription: Intervention group 54 in 202 person years vs Usual care 121 in 209 person years.
 - ▶ No difference between intervention and control group in the following:
 - ▶ Incidence of complications (<0.01 v <0.05 per person years)
 - ▶ Hospital referrals (<0.01 v 0.05)
 - ▶ Hospital admission (<0.01 v 0.05)
 - ▶ Mortality within 21 days after suspected UTI (0 v 0.01)
 - ▶ All-cause mortality (0.26 v 0.26)
- ▶ TAKE HOME: A multifaceted antibiotic stewardship intervention reduced antibiotic prescribing for suspected UTIs in older adults

POLL EVERYWHERE

▶ Does your community have policies around a trial of antibiotic cessation?

Yes

No

Does your community have a UTI prevention order set?

Yes

No

Upcoming Learning Sessions

- **Pharmacy Expertise + Outcome Assessment: CDC's Core Elements for Nursing Homes**

January 17, 2024 | 11:30-12:30 PM

- **Hot Topics in Stewardship: Treatment of Viral Infections**

January 24, 2024 | 11:30-12:30 PM

Note: Hot topic sessions are not eligible for CME

- Register at <https://spice.unc.edu/nc-clasp-registration/>

► **Coming in February**

- *CDC's Core Elements of Nursing Home Stewardship: Debrief*
- *Nonspecific symptoms in persons with cognitive impairment*
- *Challenges around equivocal chest x-rays*

Questions and Discussion



- ▶ Find session slides at <https://spice.unc.edu> → ncclasp
→ nursing homes