



# PREVENTING AND MANAGING URINARY TRACT

## INFECTIONS IN SENIORS

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CWOCN of Capital Nursing Education



Celebrating  
Caregiving

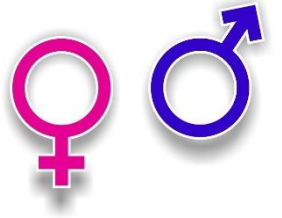


# BIG PICTURE ISSUES FOR

URINARY TRACT INFECTIONS (“UTI’S”)

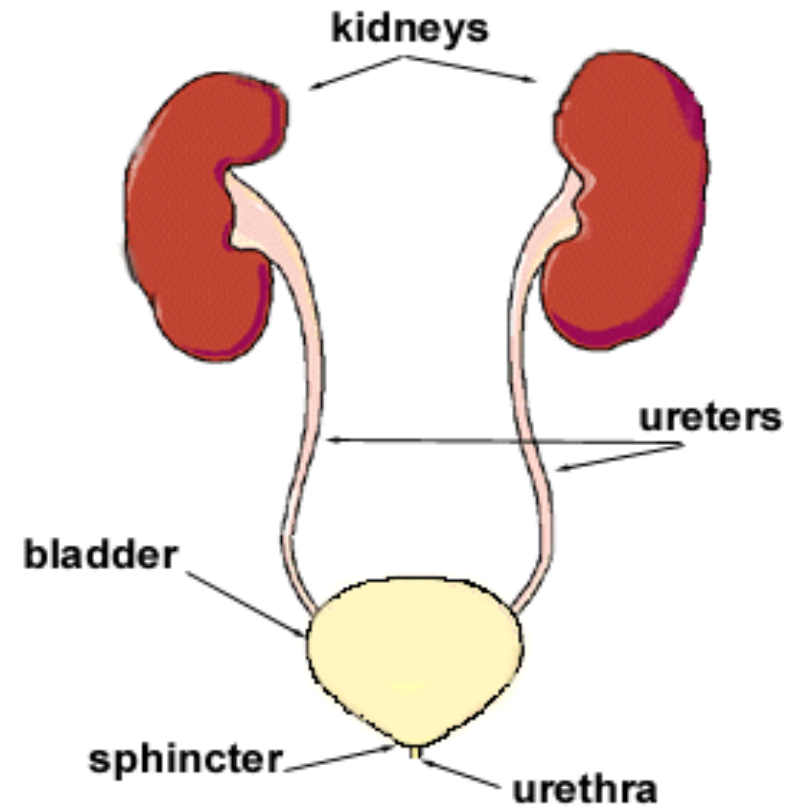
- Discomfort
- Incontinence
- Mental/Functional Status Changes
- Safety
  - infections
  - treatments
  - falls

# DIFFERENCES BETWEEN MEN AND WOMEN



- Men have longer urethra
  - Bladder more protected from contamination
  - Higher risk for retention
- Women have shorter urethra
  - Meatus is closer to anus
- 50-60% of women experience a UTI in their lifetime
- 12% of men
- Women over 85 have a 30% chance of UTI per year

# FRONT VIEW OF URINARY TRACT





UPPER VS.

## LOWER URINARY TRACT

- Lower Urinary Tract Infections are the most common
  - Usually what “UTI” means
  - Produce typical symptoms in younger populations
    - Burning with urination
    - Urgency
    - Frequency
    - Decreased volume per void
    - Cloudy and/or malodorous urine
    - Mental status changes





# UPPER VS. LOWER URINARY TRACT (CONT'D)

UPPER URINARY TRACT INFECTION MUCH LESS COMMON, BUT CAN BE LIFE-THREATENING

- Pyelonephritis
- Large blood in urine, especially if clots seen
- Costovertebral angle tenderness (“flank pain”)
- Fever, Nausea, Vomiting
- Feeling very sick
- This is the only remaining portion for urostomy patients
- Urosepsis, shock, death

## SINGLE-EPISODE VS. RECURRENT UTI's

- General prevention strategies for everyone
  - Avoid cross-contamination with stool
  - Drink plenty of water
  - Don't ignore a full bladder (School teacher's bladder)
    - NAFC recommends voiding every 2-3 hours
- For folks with frequently recurring UTI's the above strategies may not work
  - 3 or more within a year = recurrent





A background image showing a person's hands being washed under a stream of water, with a focus on the hands and the water spray.

## AVOIDING

## CROSS-CONTAMINATION (GENERAL)

- Wipe “front to back”
- Thorough cleansing after BM’s
- Change incontinence products frequently
- Avoid very tight or “thong” underwear



## AVOIDING

# CROSS-CONTAMINATION WITH CATHETERIZATION

- Foley catheters
  - Insertion technique
  - Preventing traction on tubing
    - Various types of support devices
  - Frequent cleansing of urethral meatus and tubing
    - Soap and water or no-rinse products
    - Cleansing wipes
    - Start at meatus and cleanse in outward direction
    - Alcohol wipe for tubing
    - Remove crusts/mucous



## DRINK

# “PLENTY” OF WATER

- How much is “plenty”?
  - NAFC: increase by one or two glasses/day
  - Voiding every 2-3 hours
  - Light yellow urine
    - Less urine odor
- What about other liquids?
  - Sugar contributes to risk of infection
  - Bladder irritants
    - Caffeine
    - Alcohol
    - Artificial sweeteners





# HOW CAN I ENCOURAGE MORE WATER?

- Encouraging yourself vs encouraging others
- Herbal teas (hot or iced)
- Dilute juice
- Sippy cup
- Straw
- Sport bottle

YOU CAN LEAD A HORSE TO WATER



# CRANBERRY PRODUCTS

may make it harder for bacteria to stick to lining of bladder/urethra

- Juice
  - Usually cranberry juice “cocktail”
    - Very little cranberry
    - High fructose corn syrup or sugar
  - “Just Cranberry” juice
    - May be hard to swallow
    - Very acidic
    - Can caused increased frequency and even mild burning with urination
- Extract
  - Pills
  - Capsules
- More recent studies do not support use

## RISK FACTORS FOR UTI'S (1 of 2)

- Need for catheterization
  - Indwelling (“Foley Cathether”)
  - Intermittent (“straight cath”)
- Previous UTI
- Retention (including high post-void residual)
- Age
- Women

## RISK FACTORS FOR UTI'S (CONT'D)

- Diabetes - more likely to be asymptomatic
- Immune suppression
- Low estrogen
- MS
- Paralysis
- Neurogenic bladder
- Medications
- Sexual activity/infections



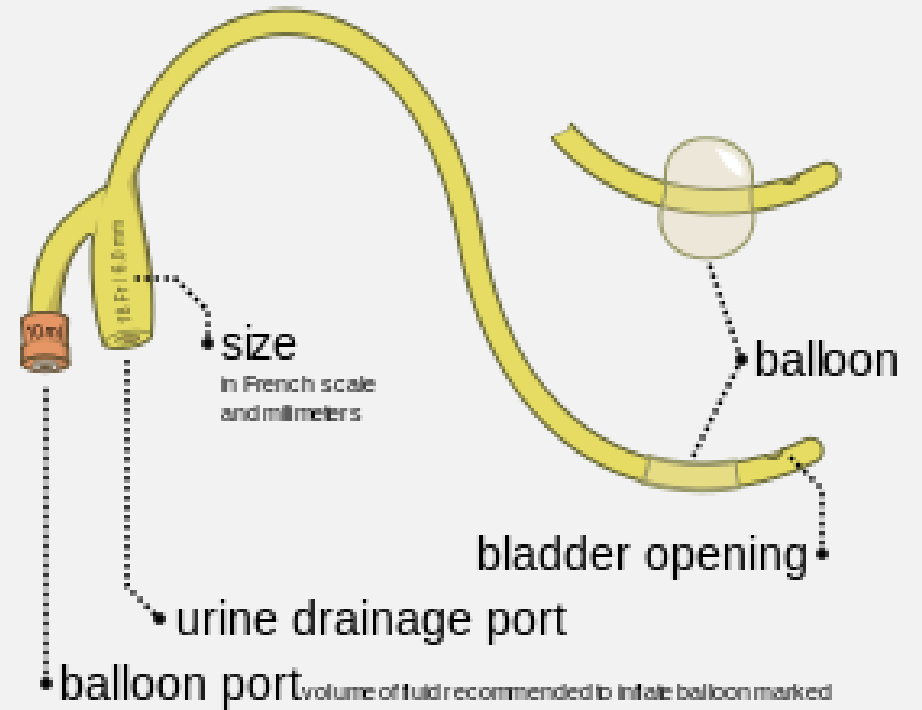
# INDWELLING CATHETER

## BENEFITS:

Controls incontinence  
May be only option for urinary retention

## RISKS:

Infection  
Odor





## ALTERNATIVES TO INDWELLING CATHETERS

- External (condom) catheter
- Absorptive products
- Increased caregiver help
- Prompted voiding schedule

# ENVIRONMENTAL MODIFICATIONS

- Bedside Commode
- Room closer to toilet
- Bell or baby monitor
- Eliminating barriers
- Urinals
  - Portable
  - Installed
- Bidet or “Washlet” toilet seat
- Raised or “lift” toilet seat







## SITUATIONAL RISKS VS BENEFITS OF INDWELLING CATHETERS

- Retention (non-negotiable)
- Pelvic area wound (may be non-negotiable)
- Incontinence
- Difficulty getting up to void
  - Pain
  - Fatigue
  - Care-giver limitations
  - End-of-life care



## REDUCING RISK

# FROM INDWELLING CATHETERS (1 to 2)

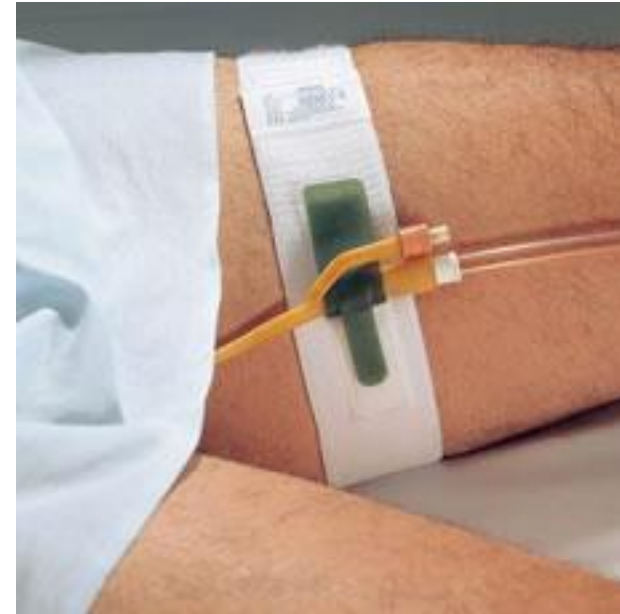
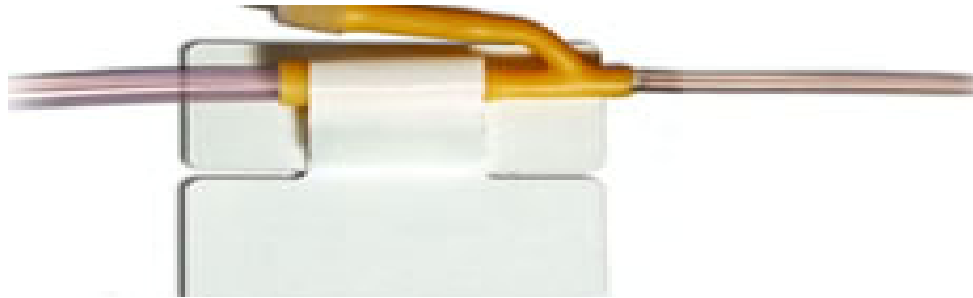
- Keep collection bag lower than bladder
  - Leg bags
  - Night bags
  - Wheelchair positioning
- Meticulous care of spout/outlet
- Maintain closed system or meticulous cleaning of interchangeable tubing/bags:
  - 1 -2 parts vinegar / 3 parts water. Soak 20 min. Rinse the bag with warm water and hang to dry.
  - Replace monthly



## REDUCING RISK FROM INDWELLING CATHETERS (2 to 2)

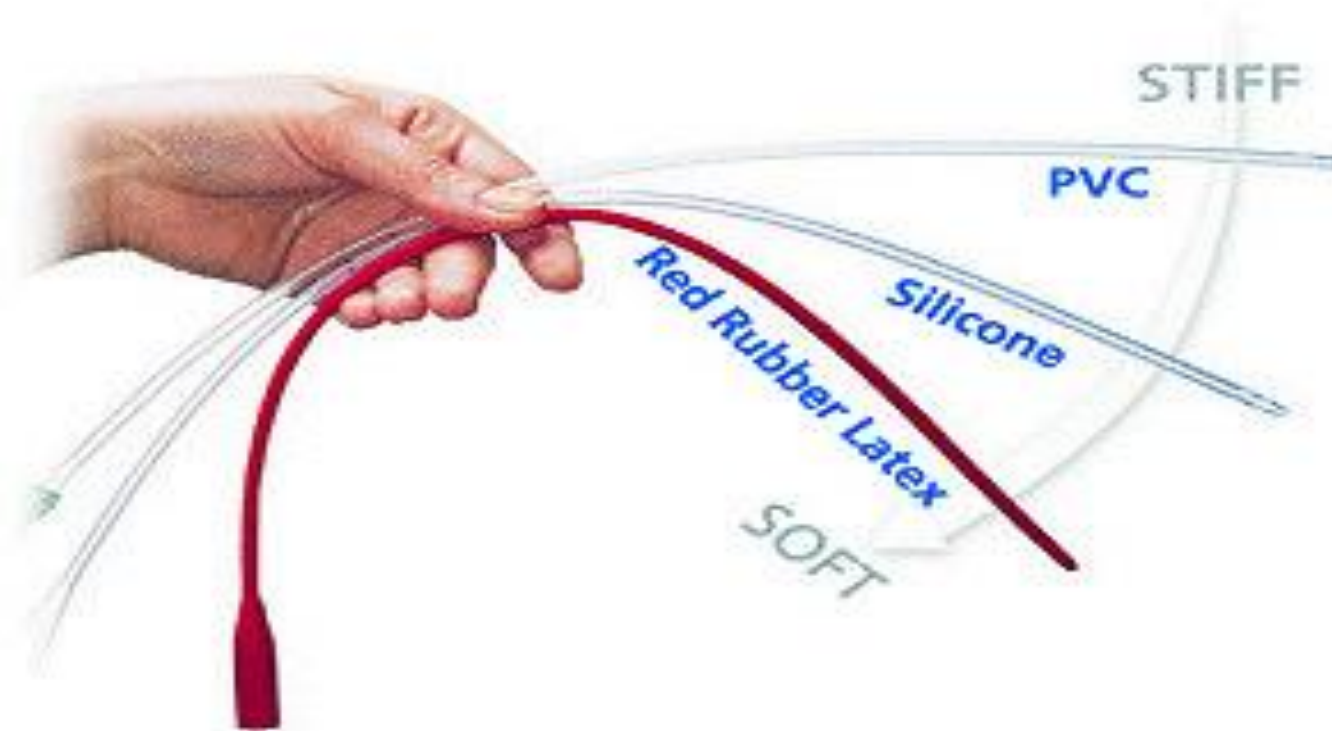
- Free flow of urine
  - Prevent kinks or loops in tubing
  - Empty bag when 1/3 to 1/2 full
- Catheter Stabilization device - reduces traction/manipulation
- Perineal care
- Insertion technique
- Biofilm prevention - “smooth” surface and antimicrobial coatings
- Smaller balloon, thinner catheter

# CATHETER STABILIZATION DEVICES



INTERMITTENT

# CATHETERIZATION



CLOSED-SYSTEM

# INTERMITTENT CATHETER





CLOSED-SYSTEM

# INTERMITTENT CATHETER





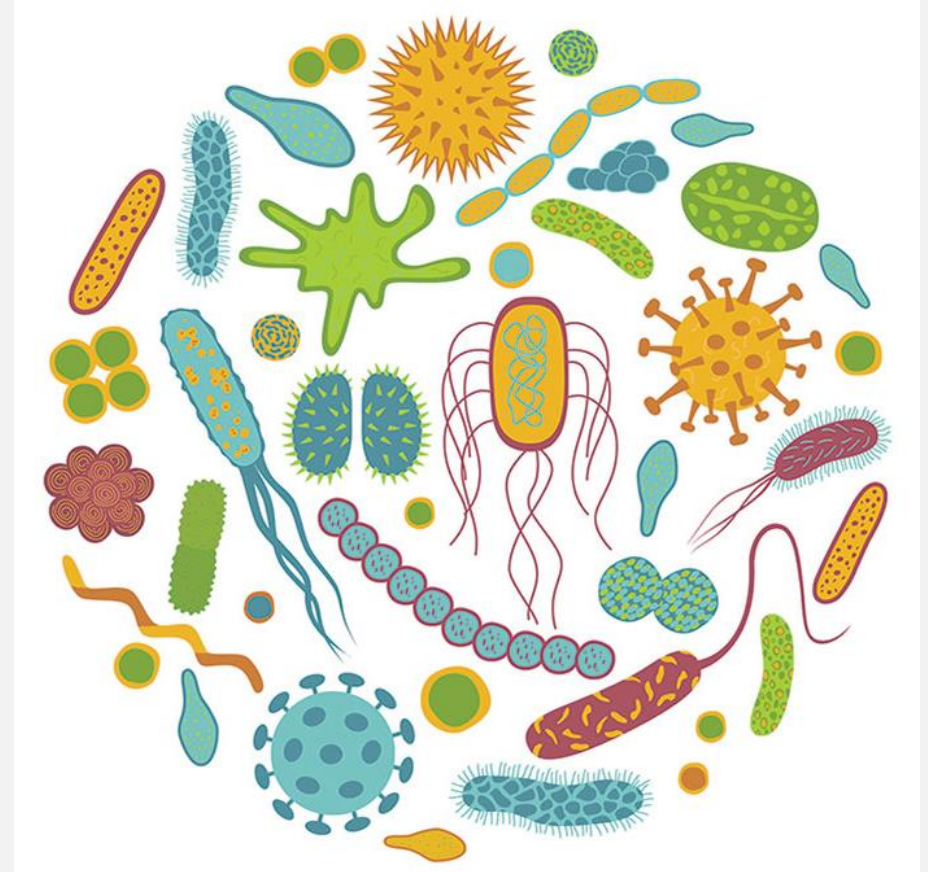
AVOID

## URETHAL/BLADDER IRRITANTS

- Scented products
  - Soaps / Bubble bath
  - Laundry products
  - Douches, Feminine hygiene sprays
- Caffeine
- Alcohol
- Artificial sweeteners
- Spicy food
- Notice patterns

# PROBIOTICS

- Fermented foods
  - Sauerkraut
  - Miso
- Yogurt, kefir
- Probiotic supplements



# DETECTION IN THE ELDERLY (1 OF 2)

- Incontinence, especially sudden onset
- Confusion/disorientation
- Changes in behavior / Delirium
  - Agitation/restlessness/combativeness
  - Hallucinations
  - Social withdrawal
  - Mistaken for dementia
- Loss of appetite
- Inability to do normal tasks
- Fatigue / weakness
- Change in gait / fall
- Fever -- low grade or absent

# DETECTION IN THE ELDERLY (CONT'D)

- Suprapubic pain
- Feelings of general discomfort
- Gross hematuria (large blood in urine)
- Swelling or tenderness of testes or prostate
- Purulent drainage from around the catheter
- Change in character of urine
- Positive urine culture alone is not sufficient
- Elders may not be able to communicate



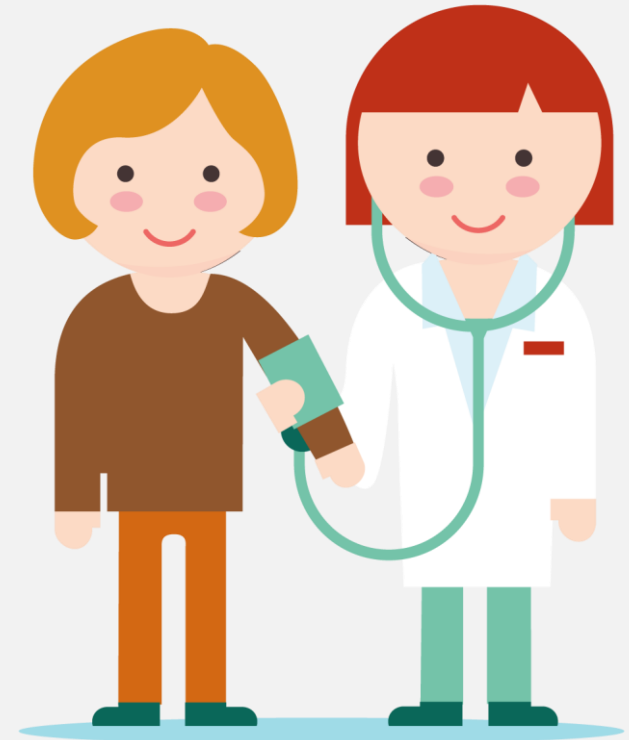
## DETECTION IN PRESENCE OF INDWELLING CATHETER

- Increased leakage
- Bladder spasm
- Urgency
- Pelvic pain, burning sensation in bladder
- Change in character of urine
  - Color
  - Odor
  - Clarity
  - Increased sediment
- Gross hematuria (large blood in urine)



# TREATMENT

- Antibiotics
  - Keep a record of ones previously taken
  - Must complete full course of treatment
  - Get culture prior to starting therapy
- Anesthetic agents
  - Less needed in elderly since dysuria (painful urination) less common, less severe
  - May mask severity
  - Discolors urine



# RISK OF ANTIBIOTICS

- May be poorly tolerated
  - GI upset
  - Loss of appetite
  - Increased risk for
    - C. Diff
    - Fungal/yeast infections of skin
    - Fungal infections of urinary tract (Candidal UTI)
- Allergic reaction
  - Rash
  - Itching
  - Difficulty breathing
- Development of multidrug-resistant organisms



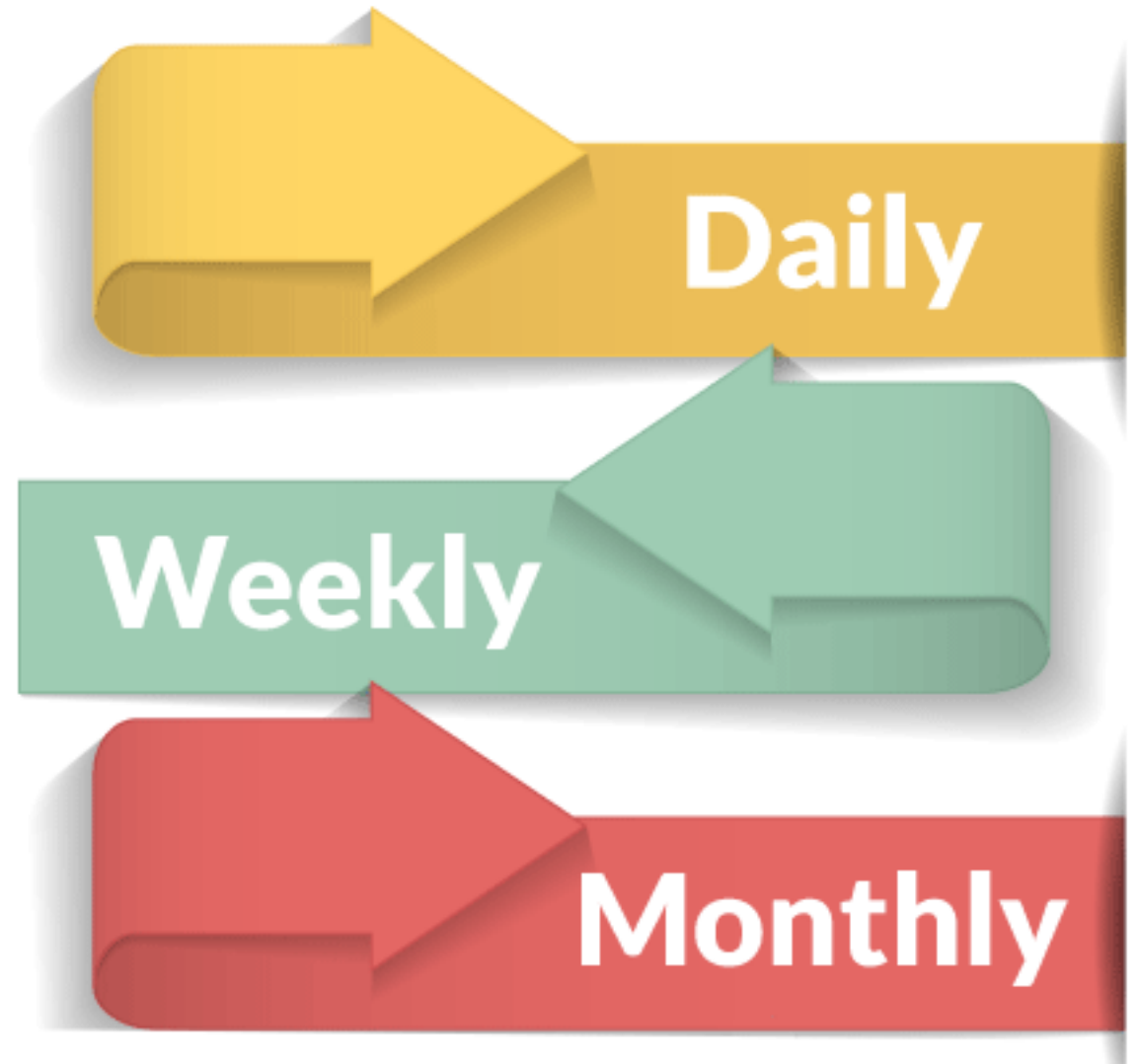
# RISKS OF ANTIBIOTICS - OVERUSE IS COMMON

- Overtreatment of asymptomatic bacteriuria
  - Drug-resistant organisms
  - Risk without benefit
- Rate of asymptomatic bacteriuria increases over time with indwelling catheter use (3-10% per day), reaching 100% with long-term use.
- Pyuria also common in elderly with & without catheters
  - White blood cells or “pus” in urine
  - Up to 90%

## CONTINUOUS

## ANTIBIOTICS PROPHYAXIS

- Daily
- Several times/week
- Weekly
- Monthly







## ACUTE SELF-TREATMENT - “SELF-START” THERAPY

- For patients/caregivers who are knowledgeable, reliable, experienced
- Allows for reduced dose of antibiotics compared to prophylaxis
- Requires collaboration with provider

TOPICAL

# ESTROGEN THERAPY

- Correlation with reduced UTI's (unlike oral estrogen)
- Increases healthy vaginal bacteria
  - Takes at least 3 months
- Reduces pH
- Increased lubrication, blood flow
- Available in creams and time-release rings

## IMMUNOTHERAPY - ORAL “VACCINE” DESIGNED TO PREVENT E-COLI INDUCED UTI’S



## ALTERNATIVE **THERAPIES**

- Acupuncture
- Probiotics
- Herbs
- Diet
  - Literature for urostomates reports changes in pH prevent UTI's

NOT TREATING

## IS ALSO A CHOICE

- Like pneumonia, UTI can be “the old man’s friend”
- Hospice patients offered choice to treat or not
  - Pressuring to increase fluids may reduce quality of life
  - End of life patients may not tolerate fluids
- Anyone has right to refuse treatment
- Not treating may not result in overall decline



MANAGING

# URINARY INCONTINENCE

- Avoid alcohol, coffee, artificial sweeteners, other bladder irritants
- Avoid dehydration -- concentrated urine irritates
- Pelvic floor exercises / biofeedback
- General exercise program with core strengthening
- The “knack”
- “Freeze and squeeze”
- Quick flicks

## SKIN

# PROTECTANTS

- Barrier cream
- Zinc
- Xylex (Petrolatum)
- Crusting technique
- Cyanoacrylate (“Marathon”)



# INTERNET RESOURCES

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## Continence-specific resources:

National Association for Continence: <https://www.nafc.org/>

Find a pelvic health practitioner: <https://pelvicguru.com/2016/02/13/find-a-pelvic-health-professional/>

Herman & Wallace practitioner directory: <https://hermanwallace.com/practitioner-directory>. Herman & Wallace is a leading educator for pelvic health practitioners. They maintain a list of providers who have taken their classes.

Incontinence Support Resource Center: <http://www.incontinencesupport.info/>

# GENERAL INTERNET RESOURCES FOR CAREGIVERS

Eldercare Locator: [eldercare.gov](http://eldercare.gov) 800-677-1116. Links to local area agencies on aging that oversees local services.

Family Caregiver Alliance: [caregiver.org](http://caregiver.org) 800-445-8106. Provides information on topics for caregivers. Family Care Navigator helps find local resources in your area.

National Rehabilitation Information Center: <http://www.naric.com/> 800/346-2742 (V) 301/459-5984 (TTY)

Contact your local Area Agency on Aging!

## BIBLIOGRAPHY

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Morris, V. (2014). How to Care for Aging Parents: A One-Stop Resource for All Your Medical, Financial, Housing, and Emotional Issues, 3<sup>rd</sup> Ed. New York: Workman Publishing Co., Inc.

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# VISIT OUR SPINAL CORD INJURY COMMUNITY FOR HELPFUL ARTICLES, VIDEOS AND ASK AARON!



## Spinal Cord Injury – Helpful Links and Resources

Spinal cord injury resources for individuals with spinal cord injury and their family, friends and caregivers. Find tips, support groups and more.

Sarah Herrera



## Skin Care – Living with Paralysis

There is much more to know about the skin when living with a spinal cord injury. Read our Spinal Cord Injury Lifestyle Specialist's article about skin care.

Aaron Baker



## Video: Air Travel with a Spinal Cord Injury

Aaron Baker, Shield HealthCare's Spinal Cord Injury Lifestyle Specialist, takes on his trip. Learn how to travel with a disability.

Aaron Baker

## ASK AARON

**Q.** I have progressive MS and I find it hard sometimes to have a positive attitude. How do you reach out to others?

Mary

**A.** The psychological roller coaster of life can be dramatically amplified by a physical condition like MS or spinal cord injury - no doubt! ...

[View More](#)

*Aaron Baker*

[shieldhealthcare.com/SCI](https://shieldhealthcare.com/SCI)

[facebook.com/spinalcordinjurylifestyle](https://facebook.com/spinalcordinjurylifestyle)

The background of the entire image is a warm, orange-toned sunset or sunrise sky. In the center, a pair of hands is shown in silhouette, cupping a heart shape. Inside the heart, a bright sun is visible, creating a lens flare effect. The hands are positioned as if they are gently holding the heart.

# Shield HealthCare's Caregiver Contest

What advice would you give a fellow caregiver?

You could win one of three \$500 gift cards!

Submit your entry of 150 words or more to

[shieldhealthcare.com/caring](https://shieldhealthcare.com/caring)

Contest ends 1/31/18

The background of the image consists of several vertical wooden planks with a natural grain pattern and some knots. A solid blue rectangular box is positioned in the center of the image, containing the word "QUESTIONS?" in white, bold, sans-serif capital letters.

**QUESTIONS?**