Guidance for the prevention and early recognition of urinary tract infection (UTI) in care home residents

Key:
- Care Home
- SPA/District Nurse/Community Nurse/GP
- GP/Nurse Prescriber
- Secondary care

UTI PREVENTATIVE TOOLS
- Dehydration urine colour charts
- Fluid matrix/weight chart
- Fluid balance chart
- Bristol Stool Chart
- Top-tips chart

ESTABLISH WHAT'S NORMAL FOR THE RESIDENTS
Good communication with the resident and/or family to enable the carers to recognise a change early
- Bowel habit
- Continence / incontinence
- Behaviour
- Know your residents:
  - who wears a hearing aid
  - who wears dentures
  - who has swallowing difficulties and may take longer to eat and drink
  - who will need assistance to eat and drink
  - who needs help to the toilet

HIGH STANDARDS OF CARE
- Nutrition
- Hydration
- Hygiene
- Toilet habits
- Sleeping pattern
- Mobilisation

RESIDENT COMPLAINS OF OR CARERS RECOGNISE ANY OF THE FOLLOWING:
- Feeling hot
- Look flushed or starts shaking
- Burning/ pain while passing urine
- Passing urine more often
- New onset of incontinence
- Smelly urine
- Visible blood in the urine
- Vomiting
- Drop in blood sugar if diabetic
- Discomfort in the upper back or abdomen and sides

Other signs and symptoms to look out for (UTIs can cause a sudden change in behaviour)
- Exited, restless or aggressive
- Repeat a particular action over and over
- Not eating or drinking
- Difficulty paying attention
- Not able to make decisions
- Not recognising people
- Not able to have a conversation
- Appear removed from the situation and withdrawn
- Sleepy

IF CAREERS ARE TRAINED
Record and document
- Temperature
- Pulse
- Respiratory rate
- Blood pressure
- Oxygen saturations (NEWS Score)

DO NOT DOUCUMENT or CONTACT the SPA for clinical advice

DO NOT DIPSTICK
- Dipstick testing of urine is unreliable and a poor indicator of infection in many older care home residents because they already have background bacteria in their urine.

IF ANY SIGNS OF SEPSIS OR RED FLAGS, DIAL 999 IMMEDIATELY
Red flag symptoms include:
- Resident has collapsed or can’t wake resident
- Unable to feel a pulse at the wrist
- Breathing very fast (more than one breath every 2 seconds)
- Has blue lips
- Has new red or purple rash all over, or mottled skin
- Hasn’t passed urine in last 18 hours
- Recent chemotherapy (within last 6 weeks)

Consider individual resident advanced plans where applicable.

Hartlepool and Stockton:
Contact the Single Point of Access (SPA) Mon-Fri 8-22:00 & WE & BH 8-20.00

South Tees:
Contact 111 or CHESS 01642 939512 8am -6pm

Clinic triage conducted, referring the resident to appropriate clinician (Community Matron/ District Nurse/ Rapid Response Nurse/ OOH)

Clinician makes diagnosis based on clinical assessment

DO NOT DIAGNOSE BASED ON DIPSTICK ALONE
Up to 50% of nursing home population and 90% of patients with long term catheters have a positive dipstick with NO UTI present due to asymptomatic bacteria.

Adults aged 65 years and over must have a full clinical assessment before a diagnosis of a UTI is made
A full clinical assessment should be a face-to-face review of the person’s medical history, physical examination, assessment of pulse, blood pressure, temperature and recording of symptoms (NICE)

Referral to secondary care
Community Matron/ GP arranges admission for the resident to hospital

Suspected UTI – management in primary care
Clinicians refer to UTI treatment guideline for information on primary care management and prescribing recommendations

Clinician does no further investigation/ treatment necessary
Continued promotion of preventative measures by Care Home
Guidance for the diagnosis and management of urinary tract infections (UTI) in care home residents for healthcare professionals

**Antibiotic treatment of UTIs**

*from North East and Cumbria antimicrobial prescribing guidelines for primary care April 2017*

**All patients first line antibiotic:**
- **Nitrofurantoin** 50mg QDS or 100mg BD (modified release) for 3 days in women/ 7 days in men*
  *Nitrofurantoin is contra-indicated in patients with eGFR <45ml/min. If no alternative treatment is available short courses of nitrofurantoin may be used in caution in patients with eGFR 30-44ml/min.

**Alternative treatments if nitrofurantoin contra-indicated:**
- If low risk of resistance**: Trimethoprim 200mg BD for 3 days in women/ 7 days in men
- If high risk of resistance** or GFR <45mls/min: Pipemidicinam 400mg stat, then 200mg TDS for 3 days in women/ 7 days in men
  **Low risk of resistance**: younger women with acute UTI and no resistance risks.

**Risk factors for increased resistance include:** care home resident, recurrent UTI (2 in 6 months; 3 in 12 months), hospitalisation for >7 days in last 6 months, unresolving urinary symptoms, recent travel to a country with increased resistance, previous UTI resistant to trimethoprim, cephalexin or amoxicillin.

If risk of resistance: send urine for culture and susceptibilities and always safety net

**If first line options unsuitable:**
- If high risk of resistance, poor renal function and penicillin allergy: Fosfomycin 3g stat in women; in men follow up with second dose 3 days later (unlicensed)
- If organism susceptible: Amoxicillin 500mg TDS for 3 days in women/ 7 days in men
  *N.B. If sensitivities known then use the lowest risk options; nitrofurantoin, trimethoprim or amoxicillin etc. in preference to cefalexin or ciprofloxacin

**Good practice points**

**Urine culture**
- Older people often have asymptomatic bacteriuria (no symptoms but bacteria in urine) which does not indicate infection.
- Do not send catheter specimens of urine (CSU) unless patient has signs and symptoms of infection as CSU samples will almost always have bacteriuria
- Review urine culture results to check organism is sensitive to antibiotic prescribed and change to an alternative antibiotic if necessary
- Interpretation of urine culture results – high epithelial cell count or heavy mixed growth may indicate contamination. Ensure correct sampling process is followed and take repeat urine sample if clinically indicated.
- Be alert to UTI due to resistant organisms such as Extended Spectrum Beta Lactamase E.coli (ESBL). Microbiology will provide advice on treatment options. In patients with a previous ESBL UTI discuss with Microbiology the potential treatment options should the patient become asymptomatic again.
- Do not send urine samples for post-antibiotic checks or clearance of infection.

**Antibiotic therapy**
- Older people are vulnerable to infection, particularly C.diff infection, therefore use of broad spectrum antibiotics should be avoided if possible.
- First choice antibiotics for uncomplicated lower UTI in non-catheterised patients is nitrofurantoin, as indicated above.
- In men, if there is a suspicion of acute prostatitis (suggested by fever and pain at the base of the penis, around the anus, just above the pubic bone and/or in the lower back) a 28 day course of ciprofloxacin or ofloxacin is recommended. Trimethoprim may be used if the organism is sensitive.
- In catheterised patients with symptoms of UTI, a seven day course of antibiotics is recommended in both men and women. The catheter should be removed then replaced if necessary.
- Second choice antibiotics should always be guided by urine culture and history of antibiotic use.