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UNCOMPLICATED LOWER URINARY TRACT INFECTION

DEFINITION

Bacterial infection of the bladder, also known as cystitis, is caused by bacteria multiplying in urine. A lower urinary tract infection (UTI) occurs in the urethra and the bladder and is a common infection in young sexually active people.

Uncomplicated lower UTI is an acute infection of the bladder in an otherwise healthy person. RN(C)s¹ are limited to the treatment of uncomplicated lower UTI in sexually active people with vaginas.

See *Consultation and/or Referral* section for specific information regarding consultation with and referral to a physician or nurse practitioner (NP).

POTENTIAL CAUSES

Bacterial:

- *Escherichia coli* (*E. coli*)
- *Enterococcus Faecalis*
- *Staphylococcus saprophyticus*
- *Staphylococcus aureus*
- other enterobacteriaceae (e.g., *Proteus mirabilis*, *Klebsiella pneumoniae*)

PREDISPOSING RISK FACTORS

- anatomical (e.g., shorter urethra)

¹ Note: RN(C) is an [authorized title](#) recommended by BCCNP that refers to BCCNP-certified RNs, and is used throughout this Decision Support Tool (DST).

The DSTs are not intended to replace the RN(C)'s professional responsibility to exercise independent clinical judgment and use evidence to support competent, ethical care. The RN(C) must consult with or refer to a physician or nurse practitioner as appropriate, or whenever a course of action deviates from the DST.

- foreign body (e.g., catheterization)
- previous UTI
- sexual activity, especially recent new sexual partner
- genito-urinary tract anomalies – congenital, urethral stricture, neurogenic bladder, tumor
- diaphragm or spermicide use
- urinary instrumentation (e.g., catheterization) – refer to physician or NP
- diabetes mellitus
- renal or urethral calculi
- immunocompromised (e.g., HIV infection)
- pregnancy
- trauma
- strictures

TYPICAL FINDINGS

Sexual Health History

- urinary frequency or urgency
- vaginal irritation
- dysuria
- suprapubic pain or discomfort
- hematuria
- mild dehydration

Physical Assessment

- suprapubic tenderness – may be mild to moderate
- flank pain – if present consult or refer – suggests upper UTI
- fever, rigor, chills – if present consult or refer – suggests upper UTI
- hydration status

DIAGNOSTIC TESTS

- urinalysis:
 - dipstick test for:
 - nitrites, leukocytes (most predictive of lower UTI)
 - blood, protein
 - consider microscopic urinalysis: WBC, RBC, bacteria

Note: While positive dipstick test for nitrites and leukocytes are the most predictive of lower UTI; positive findings for blood and protein, in the absence of positive results for nitrites and leukocytes, may also indicate lower UTI. Consult with a physician or NP for clients with symptoms of lower UTI with negative results for nitrites and leukocytes.

- urine culture & sensitivity (C&S) is generally not a required test when managing uncomplicated lower UTI – consider a urine C&S if:
 - this is the second presentation of a UTI within a one-year time-frame
 - evidence of an upper UTI; i.e., the client presents with fever, chills, rigor, or flank pain (refer or consult)
 - dipstick test is negative and symptoms are indicative of a likely UTI
- offer full STI screening
- consider pregnancy test if indicated

CLINICAL EVALUATION/CLINICAL JUDGMENT

May treat as lower urinary tract infection if:

- frequency, urgency or dysuria are present

AND

- urine dipstick test is positive for leukocytes and/or nitrites

MANAGEMENT AND INTERVENTIONS

Goals of Treatment

- alleviate symptoms

- prevent complications and ascending infection
- treat infection

TREATMENT OF CHOICE

Treatment	Notes
First Choice	<p>General:</p> <ol style="list-style-type: none"> 1. Nitrofurantoin demonstrates less resistance to <i>E. coli</i> and <i>E. Faecalis</i> than trimethoprim/sulphamethoxazole, and is recommended as first choice for treatment of Lower UTI. 2. See BCCDC STI Medication Handouts for further medication reconciliation and client information. <p>Allergy and Administration:</p> <ol style="list-style-type: none"> 3. DO NOT USE nitrofurantoin if there is a history of renal impairment or allergy to nitrofurantoin or dantrolene. 4. DO NOT USE trimethoprim or sulphamethoxazole if there is a history of allergy to sulpha drugs. 5. Consult physician or NP if the client is unable to use first or second choice treatment recommendations. 6. If serious allergic reaction develops including difficulty breathing and/or severe itchiness, have the client inform clinic staff immediately. If symptoms develop after leaving the clinic, advise the client to seek immediate emergency care.
nitrofurantoin 100 mg PO BID for 5 days	
Second Choice	
trimethoprim 160 mg/sulphamethoxazole 800 mg tab PO BID for 3 days	

PREGNANT OR BREAST-/CHEST-FEEDING CLIENTS

Refer all pregnant or breast-/chest-feeding clients to a physician or NP for treatment.

PARTNER COUNSELLING AND REFERRAL

Partner follow-up is not required.

MONITORING AND FOLLOW-UP

If symptoms do not begin to resolve in 48-72 hours or if symptoms persist despite treatment, the client should return to be re-assessed by a physician or NP.

POTENTIAL COMPLICATIONS

- ascending infection - pyelonephritis
- chronic UTI
- interstitial cystitis

CLIENT EDUCATION

Counsel client regarding:

- the appropriate use of medications (dosage, side effects, and need for re-treatment if dosage not completed, or symptoms do not resolve).
- returning to the clinic if fever develops or symptoms do not improve in 48-72 hours.
- the potential causes of lower UTI; having a new sexual partner and/or recent intercourse, and the use of spermicides.
- behavioral measures that may help to reduce uropathogens or irritants from entering the urethra including:
 - routine cleaning with warm water
 - using mild and non-irritant bath products, especially for bubble baths
 - voiding before and after intercourse
 - condom use during intercourse
 - changing barrier methods (e.g., gloves, condoms, dental dams) or cleaning hands/toys/genitals between anal and vaginal play
 - cleaning sex toys between use and using condoms if sharing sex toys
 - maintaining fluid intake at 8-10 glasses per day
 - avoiding douching and commercial ‘vaginal cleaning products’
 - wiping from front-to-back after voiding

CONSULTATION AND/OR REFERRAL

Consult with or refer to a physician or NP in the following situations:

- who are pregnant or breast-/chest-feeding
- under the age of 14 years

- for clients with symptoms of lower UTI with negative results for nitrites and leukocytes
- who have symptoms suggestive of an upper urinary tract infection, including some or all of the following:
 - flank pain, severe back or abdominal pain
 - chills, fever >38°C, rigor
 - nausea or vomiting
- with recurrent lower UTI; the second episode of lower UTI within one month or more than 3 episodes in one year
- recent urinary tract instrumentation or the presence of indwelling catheter, stents or nephrostomy tubes
- with a history of urologic or renal anomaly, impairment, surgery, transplant, or kidney stones
- with chronic health concerns – uncontrolled diabetes, neurogenic bladder, renal disease, long-term catheterization, spinal cord injury, immunocompromised
- who have had symptoms of lower UTI for 7 days or longer
- with hospital-acquired infection

DOCUMENTATION

- uncomplicated lower UTI is not reportable
- as per agency policy

REFERENCES

More recent editions of any of the items in the reference list may have been published since this DST was published. If you have a newer version, please use it.

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