# Provincial Primary Care Clinical Pathway: Prevention of Female Recurrent Lower Urinary Tract Infection (rLUTI)

Recurrent Lower Urinary Tract Infection (rLUTI) is symptomatic and culture-confirmed UTI at a frequency of ≥2 episodes in the last 6 months or ≥3 episodes in the last 12 months. This pathway is for adult patients (18+) with female genitourinary tract anatomy who meet these criteria and may benefit from preventative strategies.

This pathway does not focus on the treatment of acute Urinary Tract Infections (UTIs). For acute UTI:

- Follow Urinary Testing Guidelines as needed
- For treatment guidance, see Bugs & Drugs Urinary Tract
- **Do not** screen or treat asymptomatic bacteriuria except in pregnancy or before invasive urologic procedures

See Acute UTI link above for details.

Special Considerations:

- Pregnancy: treat positive culture regardless of symptoms and follow Bugs & Drugs Pregnancy
- Patient undergoing urologic surgery: follow Bugs & Drugs Urinary Procedure
- Older Adults: follow urinary testing guidelines
- Older adults in Continuing Care Facilities: for non-specific behavioural or status changes, assess for non-infectious causes before testing or treating for UTI.

See Special Considerations link above for details.

## 1. History

- Culture-confirmed prior UTI diagnoses
- Medical History (diabetes, stones, pregnancy, (peri)menopause, immune compromise, bowel habits, pelvic floor symptoms, cancer, neurological disease, prior pelvic/urinary surgery/radiation, STI risk)
- Current medications/allergies
- History of trauma: mechanical or interpersonal trauma (e.g., sexual assault, intimate partner violence, psychological – Provider Trauma Training)

## 2. Assessment

- Identify any symptom triggers (e.g. intercourse)
- Method of contraception
- Pelvic exam
- Rule out any other mimics

- Does patient present with other associated urinary symptoms (e.g. retention, incontinence, prolapse, vaginal dryness, dysfunctional voiding)?

Female LUTS Pathway for acute treatment

## 3. Investigations

- Complete lab urinalysis with urine culture for every recurrent episode
- Documented evidence of pyuria (> 5-10 WBC's per High Power Field (HPF) on microscopy) and growth of >10e7/L of a single urinary pathogen on culture
- Further investigation is not routinely required for most rLUTI

## 4. Red Flags

- Persistent hematuria outside infection → Follow Hematuria Evaluation Pathway
- Sepsis and/or infected kidney stone → Send patient to ED. Urgent **Urology referral** for infected kidney stone. See referral guideline tab for details.
- Suspicion of structural or functional abnormalities of genitourinary tract → Order renal/bladder ultrasound; Consider CT scan if ultrasound shows possible abnormality or high suspicion of stone
- Pyelonephritis → Treat per Bugs & Drugs Pyelonephritis
- Relapse: Recurrent LUTI with same organism within 2 weeks (occasionally up to 4 weeks) after completing therapy → Ensure urinalysis with urine culture complete with recurrent episode; Confirm antibiotic susceptibility of chosen agent; Treat per Bugs & Drugs Pyelonephritis; Consider ultrasound or CT for renal abscess

Any abnormal imaging, **Urology Referral.**

See referral guideline tab for details.

No red flags

**Follow the Algorithm on page 2** for preventative & therapeutic treatment strategies

# Provincial Primary Care Clinical Pathway: Prevention of Female Recurrent Lower Urinary Tract Infection (rLUTI)

## 5. Preventative & Therapeutic Strategies

**Non-antibiotic options** should be offered **first** as part of shared-decision making

**A. Initial Preventative Strategies:**
- Hydration 2-3L/day
- Vaginal estrogen for perimenopausal or post-menopausal patients (see table 1 for options and dosing)
- Provide education on myths: there is no clear association between rLUTI and pre- and post-coital voiding habits, wiping patterns, douching, use of hot tubs, pantyhose or tights, or BMI
- Pelvic floor exercise therapy (for patients with functional urogynecologic conditions)

**B. Secondary Preventative Strategies:**
- Cranberry (target daily dose: Proanthocyanidins (PAC) content 36-72 mg; 8oz cranberry juice or 500-1000mg concentrated cranberry tablets daily)
- Methenamine hippurate **(only available in Canada if compounded)**
  - 1g PO 2x daily
  - Do not combine with antibiotic prophylaxis)

**C. Low-risk approaches without clear supporting evidence:**
- Consider avoiding spermicides or spermicide-coated condoms
- Adjunctive probiotics
- D-Mannose

Does the patient have frequent and highly bothersome recurrence?

Yes

**Consider Antibiotic Options:**

**Antibiotic Prophylaxis**
(Do **not** combine with methenamine)
- Continue non-antibiotic preventative strategies
- Confirm acute UTI eradication before initiating antibiotic prophylaxis
- With clear trigger (e.g. intercourse), trial single-dose at time of trigger: see Bugs & Drugs

**Therapeutic Options**
- Consider patient-initiated therapy in reliable patients with clear return to care instructions
- If persistent bothersome recurrences despite single-dose trial, consider continuous antibiotic prophylaxis.
- For acute UTI episode while on Antibiotic Prophylaxis, perform urinalysis and urine culture and treat per Bugs & Drugs Uncomplicated UTI with different antibiotic than used for prophylaxis

If no improvement

No

Re-evaluate in 6-12 months. Any of the following:
- Poor tolerance to chosen strategy?
- Multiple breakthrough episodes of cystitis?

No

Continue strategy. **If applicable, a trial off antimicrobial prophylaxis is reasonable after 6-12 months.**

Yes

Trial different approach or stop chosen strategy without replacement.

**6. Advice, if available** - for unusual, atypical, or difficult-to-treat organisms, or failure to respond to treatment, consult **Infectious Disease.** For suspicion of structural issues, or other persistent urinary symptoms, consult **Urology.** See referral guideline tab for details.

No improvement or ongoing challenges

**7. Refer to Infectious Disease or Urology as appropriate.**
See referral guideline tab for details.