Provincial Female Lower Urinary Tract Symptoms (FLUTS) Primary Care Clinical Pathway

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Female Lower Urinary Tract Symptoms (FLUTS) is an overarching term for a variety of symptoms that can be classified into categories:

- **Storage symptoms:** frequency, nocturia, painful lower abdomen or bladder, incontinence
- **Voiding symptoms:** hesitancy, weak or intermittent stream, straining to urinate, burning or pain while voiding
- **Post-micturition symptoms:** dribble or leakage after voiding, feeling of incomplete bladder emptying

This pathway applies to people with female genitourinary tract, ≥18 years who present with any of the above bothersome symptoms.

1. History

- Symptom history: storage, voiding, post-micturition
- Medical history: Obesity, (peri)menopause, UTI's, pelvic floor dysfunction, constipation, smoking, diabetes, OSA, CHF, neurological disease, sexual function
- Family history: bladder or gynecological cancer
- Obstetrical/gynecological history: Prior pelvic surgery and/or radiation, childbirth(s), pregnancies
- Medication: anticholinergics, antihistamines, topical estrogen, diuretics, bronchodilators, antidepressants. SGLT-2 inhibitors, β-3 agonist
- Trauma: a history of mechanical or interpersonal trauma (e.g., sexual assault, intimate partner violence, psychological). These experiences may be associated with LUTS.

2. Assessment

- Assess symptom severity (consider using a questionnaire such as UDI-6, ICIQ-FLUTS)
- Physical Exam: abdomen (masses, full bladder); pelvis (atrophy, prolapse, masses, pelvic floor strength/tone); neurological (perineal sensation, lower limb strength, rectal tone)
- Full bladder cough stress test

3. Investigations

- Urinalysis +/- Urine Culture
- Serum Creatinine
- Renal & Bladder Ultrasound with PVR within last 6 months
- 3-day patient bladder diary

Note: PVR measurements <100cc are normal; PVR >200cc are likely to be abnormal

4. Red Flags

- Obstructive renal failure and/or acute urinary retention → Send to ER +/- for catheterization
- Pelvic organ prolapse extending beyond the opening of vagina
- Suspicion of fistula of female urinary tract
- History of pelvic surgery or radiation
- Elevated post void residual (>250cc) with bothersome symptoms
- Neurologic diagnosis

→ Urology or Urogynecology referral - zone specific

- Hematuria - gross or microhematuria → Follow Hematuria Evaluation Pathway
- Mass found on exam or diagnostic imaging → Urology or Gynecology referral based on mass type

No red flags present

FLUTS encompasses several conditions, each requiring tailored management. **Follow to page 2 of this algorithm** **for differentiation and management recommendations.**

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The following information should be used to help diagnosis and select appropriate management

5. Common LUTS conditions and management:

a) Genitourinary syndrome of menopause

Declining estrogen causing symptoms like vaginal dryness, itching, painful sex (dyspareunia), and urinary issues (urgency, frequency, UTIs).

Management: follow Menopause and Perimenopause Pathway

b) Female Urinary Incontinence or Overactive Bladder

Sudden, strong urges to urinate, often multiple times a day and night, even when the bladder isn't full, sometimes leading to accidental urine leakage (urge incontinence)

Management: follow Female Urinary Incontinence Pathway

c) Urinary Tract Infection (UTI)

acute dysuria, urinary frequency, urgency, incontinence, gross hematuria, suprapubic pain or tenderness

Management:
For **Acute UTI,** follow Urinary Testing Guidelines as needed.
For treatment guidance, see Bugs & Drugs Urinary Tract

For **Recurrent UTI** (≥2 episodes in last 6 months or ≥3 in last 12 months), follow Prevention of Recurrent Lower UTI Pathway

d) Chronic Urinary Retention

Inability to fully empty bladder over time, often caused by a neurological problem, or bladder muscle dysfunction.
Symptoms can include weak or slow urine stream, difficulty starting urination, frequent or urgent need to urinate, & leakage.

Management:

- Address reversible causes:
  - Obstructive
  - Medication-induced retention
  - Functional causes (e.g. due to neurologic condition, pelvic floor dysfunction, diabetes)
- Medications:
  - Alpha-blockers
  - Avoid anticholinergics where possible
  - Consider vaginal estrogen. See Appendix B.
- Education & monitoring:
  - Bladder diary

When to refer
Any of the following:

- Persistent high residuals (>250-300cc) despite conservative measures.
- Recurrent UTIs, hydronephrosis, or renal dysfunction.
- Suspected neurogenic bladder or complex obstruction requiring urodynamic evaluation.

e) Dysfunctional voiding or Mix of sensory, storage, and/or voiding symptoms

Dysfunctional Voiding involves inconsistent coordination within the urinary tract between the bladder muscle and the urethra resulting in incomplete relaxation or overactivity of the pelvic floor muscles during voiding.
Symptoms: painful sex, frequency, incomplete emptying, lack of nocturnal symptoms, usually affects younger women.

Management:

- Treat most bothersome symptom first
- Lifestyle modifications:
  - Pelvic floor physio
  - Avoid constipation
  - Timed voiding & bladder training
- Medications:
  - Alpha blockers
  - Vaginal estrogen. See **Appendix B.**
  - Trial of anticholinergics or beta agonists, if predominantly storage symptoms

When to refer
Any of the following:

- Persistent symptoms despite 3 months of conservative management.
- Recurrent UTIs, high post-void residual, or suspicion of upper tract involvement.
- Consider referral to Urology for urodynamic studies & multidisciplinary care.

f) Pelvic organ prolapse

Feeling of pressure or a bulge in the vagina. Sexual discomfort or pain during sex, frequency, incontinence, or difficulty emptying the bladder, constipation or difficulty with bowel movements.

Management:

- Lifestyle modifications:
- Weight management, smoking cessation
  - Pelvic floor physio
- Assess for pessary
- Education & support
- Medications:
  - Topical vaginal estrogen may help. See **Appendix B.**

When to refer
Any of the following:

- Severe or complicated prolapse (e.g. extending beyond vagina, hydronephrosis, ureteral obstruction).
- Failure of conservative management.
- Patient preference for surgical correction.

6. If diagnosis remains unclear, consider Urology Advice

This primary care pathway was co-designed provincially by Primary Care Providers, Specialist Physicians (Urology, Urogynecology), Patient and Family Advisors, and the Provincial Pathways Unit. It is intended to be used in conjunction with specialty advice services, when required, to support care within the medical home.

EXPANDED DETAILS

Pathway Primer

Lower urinary tract symptoms (LUTS) are common in women. They often cause significant distress, embarrassment, and economic burden, ultimately having a negative impact on quality of life. The purpose of this pathway is to provide primary care providers with the information needed to diagnose and treat patients age 18 and above, with a female genitourinary tract and LUTS, in the medical home. It is meant to provide first steps to treat common LUTS syndromes and provide clear indications for when urgent care or specialty care is required. [1]

Female Lower Urinary Tract Symptoms (FLUTS) is an overarching term for a variety of symptoms that can be classified into categories:

- **Storage symptoms:** frequency, nocturia, urgency, painful lower abdomen or bladder, incontinence (Stress, Urgency, and Mixed).
- **Voiding Symptoms:** hesitancy, weak or intermittent stream, straining to urinate, burning or pain while voiding.
- **Post-micturition symptoms:** dribble or leakage after voiding, feeling of incomplete bladder emptying.

The prevalence of LUTS differs across populations and is influenced by factors such as age, anatomy, symptom type, and cultural characteristics. Epidemiological studies report that LUTS affects approximately 40% to 70% of individuals with a female genitourinary tract [2, 3, 4, 5]. Many patients present with mixed symptomatology, encompassing both storage and voiding complaints, and in some cases, all three FLUTS categories [6]. The common clinical syndromes associated with FLUTS are:

- Overactive bladder (OAB)
- Underactive bladder (UAB)
- Urinary incontinence (UI)
- Nocturia
- Dysfunctional voiding
- Genitourinary fistula [1]

FLUTS can arise from multiple factors. These include obstruction at any point within the urinary tract, inflammatory conditions, urinary tract infections (UTIs), diabetes, childbirth, menopause, uterine fibroids, or genitourinary cancers. Additionally, lifestyle factors such as smoking, alcohol consumption, and high caffeine intake, along with certain medications, can exacerbate or trigger symptoms.

1. History

This section includes discussion of the characteristics of FLUTS and collecting relevant medical history.

- **Symptom history:**
    - What symptoms has the patient been experiencing? How long have these been bothering them? These symptoms may include:
        - **Storage symptoms:** frequency, nocturia, urgency, painful lower abdomen or bladder, incontinence (stress, urgency, and mixed).
        - **Voiding Symptoms:** hesitancy, weak or intermittent stream, straining to urinate, burning or pain while voiding.
        - **Post-micturition symptoms:** dribble or leakage after voiding, feeling of incomplete bladder emptying.
    - Ask patient if there are foods or drinks that make their symptoms worse. Evidence has found caffeinated and carbonated beverages, alcohol, and smoking can impact bladder functioning. There is also weaker evidence from non-randomized control trials suggesting that certain patient populations may benefit from avoiding other foods/drinks (e.g. citrus fruit, chocolate, tomatoes, vinegars, dairy products, artificial sweetener, and spicy foods).

- **Medical history:**
    - **Obesity:** causes increased pressure on the pelvic floor.
    - **(Peri)menopause:** Patients who are advancing in age are more likely to notice an increase in bladder issues, although LUTS is not to be an expected result of aging.
    - **UTI's**: a patient presenting with recurrent UTIs and LUTS may indicate structural or anatomical abnormality such as upper tract abnormality, stones, masses, or ineffective emptying.
    - **Pelvic Floor Dysfunction:** a common contributor to lower urinary tract symptoms, including stress and urgency incontinence, urination difficulties, and dyspareunia [7].
    - **Constipation:** stool impaction can be an aggravating factor for LUTS symptoms.
    - **Smoking**: Smoking is a known risk factor for bladder cancer and may also contribute to chronic cough, and vascular disease which can exacerbate LUTS.
    - **Diabetes**: Diabetes can affect bladder function through neuropathy, leading to storage and post-micturition symptoms such as urgency, frequency, and incomplete emptying.
    - **Obstructive Sleep Apnea (OSA)**: OSA is associated with increased sympathetic tone, which may contribute to bladder dysfunction and nocturnal polyuria.
    - **Congestive Heart Failure (CHF)**: CHF may lead to fluid retention, which can worsen nocturia and frequency, particularly when the patient is lying flat at night.
    - **Neurological Diseases**: Conditions like multiple sclerosis, Parkinson's disease, and spinal cord injury can lead to neurogenic bladder, which presents with LUTS such as incontinence, retention, and frequency. This pathway does not address these conditions, and additional consultation may be needed if present.
    - **Sexual Function:** Pain with sex would be concern for muscle dysfunction and referral to pelvic floor physiotherapy could be of benefit.

- **Family history:** bladder or gynecological cancer
    - **Bladder Cancer:** A family history of bladder cancer may increase the patient's risk of urological cancer and should prompt consideration of urological evaluation for other possible causes of LUTS.
    - **Gynecological Cancer:** Patients with a history of gynecological cancer often undergo radical pelvic surgery or radiation therapy. These interventions significantly increase the risk of urinary tract injury, vesicovaginal fistula, and radiation cystitis, which can present as symptoms of LUTS (persistent urinary leakage, incontinence, urgency, frequency, and incomplete emptying) [8].

- **Obstetrical/gynecological history:** It is important to review if there are prior pelvic surgery, pelvic cancer and/ or radiation, number of pregnancies, types of obstetric delivery, menstrual history and to determine if the patient is in perimenopause or menopause and if they are using any Menopause Hormone Therapy (MHT).

- **Medication history:**
    - A thorough review of current medications is essential, as several drugs can contribute to or worsen LUTS, such as medications for diabetes, hypertension, or sleep disorders. Discuss with patient the advantages and disadvantages of the medication in question and where possible, offer alternative medications that do not impact LUTS.
    - In some cases, systemic medications, such as anticholinergics, antihistamines, diuretics, bronchodilators, and anti-depressants can influence or exacerbate LUTS in female patients. It is recommended that providers review medications and modify where able/appropriate. [9]
    - Please reference **Appendix A** for further information on medications that contribute to urinary incontinence.

- **Traumatic events history:**
    - Birth trauma, interpersonal trauma (sexual assault, intimate partner violence [10, 11]), and childhood traumas (death of a family member, severe illness, sexual trauma, parental separation [12, 13, 14]) have all been linked to increased risk of lower urinary tract symptoms.
    - The Trauma-informed physical examinations and STBBI testing guide may be a helpful resource

SPECIAL CONSIDERATIONS IN OLDER ADULTS

- The cause of urinary symptoms in older adults is usually multifactorial.
- Older adults taking five or more medications are almost five times more likely to be taking a medication that contributes to urinary symptoms (when adjusting for age, sex, and comorbidity) [15].
- If mobility is a concern, physiotherapy through homecare should be considered.

2. Assessment

- **Assess severity:** consider using UDI-6 or ICIQ-FLUTS to help access severity and discussions with patient. Questionnaire results are not mandatory to utilize this pathway or to refer to specialty care if needed.

- **Physical Exam** [1]**:**
    - **Abdomen:** Palpate for an enlarged bladder or other abdominal mass
    - **Pelvic:** All patients who present with LUTS as primary complaint require a comprehensive pelvic exam. The exam should begin with the patient having a comfortably full bladder. This will permit a simple assessment for stress incontinence and the cough stress test. If unable to complete the pelvic exam due to physical limitations (mobility concerns, body habitus), consider referral to specialized continence service.

      During the **pelvic exam**, assess for:
        - Pelvic floor muscle strength and tone and pelvic organ prolapse (This video covers types of prolapse, assessment, risk factors, urinary incontinence symptoms, and how to perform a cough stress test).
        - Masses
        - Vaginal atrophy/lack of estrogenization: This condition can effectively be treated with vaginal estrogen. See **Appendix B** for pharmacological options and dosing.
        - Evidence of fistula: Risk factors for fistula include obstetrical trauma, previous pelvic surgery, radiation, pelvic inflammatory disease (PID), diverticulitis, and inflammatory bowel disease.
        - For rectal concerns: consider digital rectal exam to assess for fecal impaction/constipation, rectal tone and strength, priori anal sphincter tears, rectovaginal fistula, tumor, hemorrhoids, or fissure. The Chronic Constipation Primary Care Pathway and Perianal Disease Primary Care Pathway are available as resources.
    - **Neurological**: Conduct a limited neurological exam if appropriate. Lower extremity weakness, decreased rectal tone, fecal incontinence, and decreased sensation of the perineum may flag that there is a neurogenic component to LUTS.

- **Full bladder cough stress test**
    - **Cough Stress Test:** As cited by Lukacz et al. (2017), leakage during the cough stress test has a positive predictive value of 78-97% for stress incontinence [16].
    - **How to perform a cough stress test:** Patient needs a comfortably full bladder. Examine urethra in dorsal lithotomy position. Ask patient to cough as forcefully as they can and observe for urine. If no leakage is observed, coughing can be repeated three more times (total of four coughs) before the test is considered to be negative [17]. Alternatively, place a folded paper towel in underwear and have patient stand with legs apart and cough (standing pad test). Inspect paper towel for urine loss. After the completion of the cough stress test, the patient may empty their bladder.

3. Investigations

The comprehensive investigation of LUTS in women should include:

- **Urinalysis:**
  - Routine urinalysis is recommended to rule out proteinuria, hematuria, leukocytes, nitrates, and glucosuria.

- **Serum Creatinine:** to evaluate renal function.

- **Renal & bladder ultrasound with Post Void Residual (PVR) within the last 6 months:**
  - Ultrasonography of the lower urinary tract plays a role in evaluating LUTS [1], especially when there are concerns about obstruction, infection, or anatomical issues that might influence the management plan.
  - Unexplained or worsening LUTS: In cases where symptoms are worsening or unexplained despite standard treatments, ultrasound can be useful in ruling out any anatomical causes.
  - Measuring PVR
    - The most common reason for high post void residuals in women is prolapse.
    - Interpretation of PVR results must be considered in relation to patient symptoms. Generally:
      - PVR measurements less than 100cc are normal and PVR measurements over 200cc are likely to be abnormal.
      - For PVR results between 100-250cc, consider specialty advice.
      - For PVR >250cc, refer to Urology **or** Urogynecology (not both, follow zone-specific process), and include results of the PVR in the referral to aid with triage. Catheterization may provide immediate relief for these patients: Support for catheterization may be available through urgent care, ER, or home care.
    - If symptoms and PVR (> 250 ml) results indicate specialty referral, include results of the PVR in the referral as this aids with triage.
    - Further need for investigations such as cystoscopy, uroflowmetry, and urodynamic testing will be determined by specialty care.

- **3-day patient bladder diary:** A bladder diary completed by the patient is very helpful to measure the frequency and severity of LUTS [1]. Although a 3-day bladder diary is ideal, useful information can still be obtained with a 1- or 2-day bladder diary.

4. Red Flags

Red Flag	Description	Action Required
Obstructive Renal Failure / Acute Urinary Retention	• Obstructive renal failure, with signs of a full bladder, acute kidney injury, and bilateral hydronephrosis • Acute urinary retention - inability to void	Requires immediate intervention to relieve retention and prevent further renal damage. Send patient to Urgent Care or Emergency Department for treatment.
Pelvic organ prolapse extending beyond the opening of vagina		Refer to Urogynecology **or** Urology following zone-specific process. **Avoid referral duplication.**
Suspicion of fistula of female urinary tract	Can be difficult to see during exam. Common findings: • constant urinary leakage and incontinence both day and night • urine pooling in the vagina • often painless Risk factors: • radiation • difficult or prolonged labours or use of forceps • post pelvic floor surgery (hysterectomy most common).	Voiding cystourethrogram (with post-void images) and/or CT urogram can aid diagnosis. If confirmed, order a CT cystogram and refer to Urology.
History of pelvic surgery or radiation	Significantly increases the risk of complications such as urinary tract injury, fistula, radiation cystitis, mesh erosion, and complex pelvic organ prolapse.	Refer to Urology **or** Urogynecology. Avoid referral duplication.
Elevated post void residual (>250cc) with bothersome symptoms		Refer to Urology.
Neurologic diagnosis (e.g., MS, Parkinson's disease, spinal cord injury, history of stroke)	These patients often require lifelong Urology surveillance and management for symptoms of LUTS.	Refer to Urology for a comprehensive evaluation for Neurogenic Lower Urinary Tract Dysfunction (Neurogenic Bladder).

Gross or microscopic hematuria	Hematuria detected on urinalysis (**not** dipstick)	Follow the Alberta Clinical Pathway for Hematuria Evaluation.
Mass found upon examination or diagnostic imaging		• For a bladder, adrenal, or renal mass, refer to Urology • For a pelvic mass, refer to Gynecology • For all masses, you may call for Advice for clarification on next steps or referral.

If there are no red flags, then focus on the severity and type of symptoms for continued management.

5. Management

The management of LUTS requires an individualized approach based on the categorization and severity of symptoms. Each category below has specific therapies. However, lifestyle and behavioral modifications should be front of mind and considered for all patients where appropriate.

a) Genitourinary Syndrome of Menopause (GSM)

Presentation	Management
Declining estrogen causing: • vaginal dryness, • itching, • painful sex (dyspareunia), • urinary issues (urgency, frequency, UTIs)	Follow Menopause & Perimenopause Pathway

b) Female Urinary Incontinence and Overactive Bladder

Presentation	Management
• sudden, strong urges to urinate • urinating multiple times a day and night • need to urinate even when the bladder isn't full • sometimes leads to accidental urine leakage (urge incontinence)	Follow Female Urinary Incontinence Pathway

c) Urinary Tract Infection

Presentation	Management
Acute UTI - possible symptoms: • acute dysuria • urinary frequency • urgency • incontinence • gross hematuria • suprapubic pain or tenderness	**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
Recurrent UTI: • Defined as ≥2 episodes of acute UTI in 6 months or ≥3 in a year	**Recurrent UTI:** • Follow Prevention of Recurrent Lower Urinary Tract Infection Pathway

d) Chronic Urinary Retention

Presentation	Management	When to Refer
Inability to fully empty bladder over time, often caused by a neurological problem, or bladder muscle dysfunction. Patients may present with: • weak or slow urine stream • difficulty starting urination • frequent or urgent need to urinate • leakage	• Address reversible causes (see below) • Medication considerations: o Alpha-blockers relax bladder neck/urethral smooth muscles & reduce outflow obstruction [18]. o Avoid anticholinergics because they inhibit the contraction of the detrusor muscle of the bladder [19]. o Vaginal estrogen therapy in postmenopausal women helps improve pelvic tissue quality. See **Appendix B** for guidance. • Pelvic floor physical therapy to learn techniques to release tension in pelvic floor muscles and the striated urethral sphincter when urinating. This relaxation is crucial for effective and complete bladder emptying. [1] • Education & monitoring o Bladder diary	**Symptoms** [1]**:** • Persistent high residuals (>250-300cc) despite conservative measures. • Recurrent UTIs • Hydronephrosis • Renal dysfunction • Suspected neurogenic bladder or complex obstruction requiring urodynamic evaluation **Process:** • Ensure patient has catheter or urinary drainage to relieve obstruction • Referral appropriate after 3 months of trialing conservative management • Refer to Urology **or** Urogynecology

Address reversible causes [20] [21] [22]

- Obstructive
    - Pelvic organ prolapse, such as cystocele or uterine descent, may obstruct the urethra or bladder outlet, leading to urinary retention. This condition can often be corrected through pessary placement or surgical repair to restore normal flow.
    - Urethral blockage, benign strictures, or bladder neck contractures can lead to retention. These conditions are typically managed by performing dilation or surgical release to restore normal urine flow. Refer to urology.
- Medication-induced retention
    - Certain medications, such as anticholinergics, opioids, and alpha-adrenergic agonists, can impair bladder emptying by reducing detrusor contractility or increasing urethral resistance.
    - Adjusting the regimen by either discontinuing or substituting these drugs, often resolves the retention.
- Functional causes
    - Typically involves situations where the bladder outlet does not relax enough during urination, though there is no physical blockage.
    - Common causes are due to neurological conditions, pelvic floor dysfunction, and diabetes
    - Recommend conservative behavioural management to all patients (e.g. timed voiding, adequate hydration, biofeedback, avoiding food or beverages that exacerbate symptoms)
    - For patients with diabetes, focus on normalization of blood sugars
    - For neurological causes:
        - Neurological conditions such as diabetic neuropathy or temporary bladder atony following surgery or childbirth can weaken detrusor muscle contractions, leading to incomplete emptying.
        - Management typically involves clean intermittent catheterization, short-term indwelling catheter use, or evaluation of medications that may adversely affect bladder emptying (see medication-induced retention above). This requires referral and management from urology.
    - Pelvic floor dysfunction:
        - Conservative behavioural management (see above)
        - Pelvic floor physiotherapy

e) Dysfunctional Voiding or Mix of sensory, storage, and/or voiding symptoms

Presentation	Management	When to Refer
Dysfunctional Voiding is a very specific clinical diagnosis. Symptoms include: • painful sex • frequency • incomplete emptying • lack of nocturnal symptoms • Usually affects younger women. • Common with occupations where voiding may be delayed (e.g. nurses, doctors, teachers). • Can also be seen in young children being toilet trained. Due to inconsistent coordination within the urinary tract between the bladder muscle and the urethra, results in incomplete relaxation or overactivity of the pelvic floor muscles during voiding. Patients with a **mix of sensory, storage, and/or voiding symptoms** may have any combination of symptoms. Management and referral recommendations are the same as for Dysfunctional Voiding.	• Lifestyle Modifications and Education [1]: o Address the most bothersome symptom first. o Offering bladder training as initial treatment option. o Supervised, intensive pelvic floor muscle training for at least three months as a first-line therapy, including older and postpartum patients. o Inform patients that a single treatment may not fully resolve symptoms; multiple components of the condition may need to be treated alongside the most troublesome symptom. o Avoid constipation. • Medications: o Consider alpha-blockers to relax bladder neck/urethral smooth muscles & reduce outflow obstruction [18]. o Consider vaginal estrogen therapy in peri- or postmenopausal women, as it helps improve pelvic tissue quality. See **Appendix B** for further guidance. o DHEA receptors (prasterone) may also be recommended for dyspareunia.	**Symptoms:** • Persistent symptoms despite 3 months of conservative management. • Recurrent UTIs • High post-void residual • Suspicion of upper tract involvement. **Process:** • Refer to Urology for urodynamic studies and multidisciplinary care.

f) Pelvic Organ Prolapse

Presentation	**Management** [23]	**When to Refer**
Patients commonly present with: • A feeling of pressure or a vaginal bulge • Pelvic pain or sexual discomfort • Lower urinary tract symptoms (frequency, incontinence, difficulty emptying) • Bowel issues, including constipation or straining	• **Lifestyle Modifications** o Encourage weight management & smoking cessation if appropriate. See Provincial Tobacco and Nicotine Dependence Primary Care Clinical Pathway for guidance. o Patients should avoid heavy lifting or straining, which can exacerbate prolapse. o Recommend regular bowel habits by increasing dietary fiber and adequate hydration. Consider guidance in Chronic Constipation Primary Care Pathway where appropriate. • **Pelvic Floor Physiotherapy** o Refer for pelvic floor physiotherapy, including pelvic muscle exercises (such as Kegels), ideally under professional guidance, to support pelvic structures and alleviate symptoms. • **Medication** o Consider vaginal estrogen therapy in postmenopausal women, as it helps improve pelvic tissue quality and may alleviate prolapse-related discomfort. See for further **Appendix B** guidance. • **Pessary Fitting** o A well-established non-invasive option that provides symptomatic relief and supports pelvic organs. Assessment for a pessary may be a non-surgical treatment option; however this is usually performed by trained pelvic floor physiotherapists or nurses at AHS clinics or private clinics. Patients should be made aware that AHS does not cover the cost of a pessary, although extended health insurance plans may.	• **Severe or Complicated Prolapse** o Prolapse extending beyond the opening of the vagina o Evidence of hydronephrosis, ureteral obstruction, or other complications on imaging or clinical assessment. o Associated urinary retention, recurrent urinary tract infections, or significant bowel dysfunction. • **Failure of Conservative Management** o Persistent or worsening symptoms despite appropriate lifestyle modifications, pelvic floor physiotherapy, and/or pessary use. o Lack of improvement after a reasonable trial period (typically 3–6 months). • **Patient Preference for Surgical Correction** o Informed patient decision after discussion of risks, benefits, and alternatives. o Consider early referral if the patient expresses strong preference for definitive surgical management. **Process:** Refer to Urogynecology **or** Urology. Avoid duplicate referrals.

6. Advice Options

In addition to where specified in the clinical pathway algorithm, you can request Non-Urgent Advice at any point when uncertain about medications, next steps in treatment, investigations, or resources available. Many specialties play a role in the various symptoms encompassed within LUTS, including Obstetrics & Gynecology, Gyne-Oncology, Urology, and Urogynecology. For a complete list of eConsult Referral Reasons, see *eReferral - Advice and Consult Requests - Reasons for Referral (albertanetcare.ca)*

Of note: Fees may apply for services available through Urogynecology and Urology (clinic dependent).

Zone	Program	Online Request	Phone Number
Urgent Telephone			
All Zones	RAAPID	N/A	**North:** 1-800-282-9911 or 780-735-0811 **South:** 1-800-661-1700 or 403-944-4486
Non-Urgent Electronic			
All Zones	Netcare eReferral		N/A
Non-Urgent Telephone			
Calgary	Specialist Link	Online Request	403-910-2551
Edmonton, North	ConnectMD	Online Request	1-844-633-2263

7. Referral Process

Referral pathways are guidelines to help referring providers know what information, labs, and diagnostic imaging are required with their referral to a specialty. These pathways are co-designed with Primary and Specialty Care, Primary Care Alberta Operations, and patients to ensure the right amount of information is included throughout the referral process to triage the patient as quickly as possible.

To ensure referring providers have referral information at their fingertips, referral pathways may link to clinical pathways when available. Primary Care Alberta manages referral pathways and extensive work is ongoing as part of the Alberta Surgical Initiative. If you have questions or want to know more about the referral pathway development process, please email access.ereferral@primarycarealberta.ca.

- Urgent Referral – Call surgeon on call via RAAPID or call 911.
- Provincial Referral Pathways are available on Alberta's Pathway Hub:
    - Provincial Urology, Adult Referral Pathway
    - Provincial Gynecology, Adult Referral Pathway
- Alberta Referral Directory is also a helpful resource for all referral information.

Skilled community physicians for referral for advanced medical management: Local women's health clinics may be available in your area. Consider contacting your local PCN for possible names of physicians in your area accepting referrals for pelvic floor conditions.

Pelvic floor clinics and physiotherapy

Alberta Referral Directory is also a helpful resource for all referral information. There are multiple private clinics that provide pelvic floor physiotherapy. Patients can contact the Rehab Advice Line for support with wayfinding.

Information to include with your referral to aid with triage:

- Detailed patient history of LUTS symptoms, past surgeries, medications prescribed.
- Results of all exams and investigations.
- Patient bladder diary: Bladder Diary.
- Overview of all management strategies trialed.

Nutrition Services

To refer your patient to a Registered Dietitian:

- Visit Alberta Referral Directory and search for nutrition counselling.
- To learn more about programs and services offered in your zone, visit ahs.ca/Nutrition.
- Health Link has Registered Dietitians available to answer nutrition questions. If a patient has a nutrition question, they can complete a self-referral at ahs.ca/811 or call 811 and ask to talk to a dietitian.

BACKGROUND

About this pathway

- This pathway was developed in collaboration with Urology, Urogynecology, Gerontology & General Medicine, primary care physicians, patient and family advisors, and the Provincial Pathways Unit.
- Condition-specific clinical pathways are intended to offer evidence-based guidance to support primary care providers in caring for patients with a range of clinical conditions.

Authors and conflict of interest declaration

The authors represent a multi-disciplinary team. Names of the content creators and their conflict-of-interest declarations are available on request by emailing albertapathways@primarycarealberta.ca.

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Pathway review process, timelines

Primary care pathways undergo scheduled review every three years or earlier if there is a clinically significant change in knowledge or practice. The next scheduled review is October 2029. However, we welcome feedback at any time. Please send us your feedback here.

PROVIDER RESOURCES

Resource	Link
Canadian Urological Association (CUA)	CUA Guideline on Adult Overactive Bladder (OAB) CUA Guideline on Female Stress Urinary Incontinence (SUI)
European Association of Urology (EAU)	EAU Guidelines on Management of Non-Neurogenic-Female LUTS 2026
How to conduct an assessment for pelvic prolapse	Pelvic Floor Clinic Video: Pessary Training Course for Pelvic Organ Prolapse and UI: www.youtube.com/watch?v=myaZRrv79Y0. This video provides an overview of types of prolapse, assessment, risk factors, urinary incontinence symptoms, and how to perform a cough stress test. For more information, please see: Pelvic organ prolapse | The BMJ

PATIENT RESOURCES

Resource	Link
Patient Pathways on MyHealth Alberta > A webpage and two PDF formats for this conditions, and other related conditions, are available to allow for easy printing, download, or scanning a QR code with the patient's smart phone for more information at their convenience.	Your Journey with Lower Urinary Tract Symptoms (LUTS) for those with Female Urinary Organs Your Journey with Female Urinary Incontinence Your Journey with Preventing Recurrent Urinary Tract Infections
Pelvic Health Physiotherapy Webinars on MyHealth Alberta -> Webinar about pelvic health and wellness	Pelvic health physiotherapy webinars (alberta.ca)
Pelvic Floor Clinic (Calgary Zone) Patient-facing video modules on: (1) Introduction to the pelvic floor (2) Pelvic Organ Prolapse (3) Urinary Incontinence (4) Bowel Management (5) The next step	Pelvic Floor Health | Alberta Health Services Helping Patients Choose Pelvic Floor Treatments is part of the online education video series and is covered in The Next Step video. Videos: Found in the Patient Education Section (bottom of page)
MyHealth Alberta Health topic: Urinary Incontinence – a comprehensive overview of causes, symptoms, treatments, and self-care options.	Urinary Incontinence Behavioural Methods for Urinary Incontinence including Kegel exercises
Pelvic Floor Therapy How to find a pelvic floor therapist	College of Physiotherapists of Alberta AHS Rehabilitation Advice Line: 1-833-379-0563 Monday to Friday

Your Pelvic Floor Additional information for patients on vaginal estrogen therapies.	International Urogynecological Association: Your Pelvic Floor International Urogynecological Association: Low-Dose Vaginal Estrogen Therapy - Your Pelvic Floor
Voices for Pelvic Floor Disorders Supported by the American Urogynecologic Society. Many patient-oriented resources that explain pelvic floor conditions.	Voices for PFD (Pelvic Floor Disorders) • Patient brochures on a range of topics: Pelvic Floor Muscle Exercises and Bladder Training, Overactive Bladder, Pelvic Organ Prolapse, Stress Urinary Incontinence, Surgery: What to Expect, Vaginal Pessaries • Other handouts: Voiding diaries, Kegel exercise instruction sheet
Canadian Continence Foundation Comprehensive overview of many bladder health conditions for female and male.	Public Information on Urinary Incontinence
Canadian Society for Pelvic Medicine	CSPM - For Patients (canadiansocietyforpelvicmedicine.org) Offers a vaginal pessary self-care guide (video) and other resources for patients.
Adult Community Rehabilitation Information for Albertans (Alberta Health Services)	ahs.ca/rehab/Page15329.aspx • Pelvic Health can be selected from the drop-down menu
Supports to quit smoking	albertaquits.ca Your journey with quitting tobacco or nicotine
Nutrition Services	Online Learning Module on Weight Management: myhealth.alberta.ca/learning/modules/Weight-Management Nutrition Handouts: ahs.ca/nutritionhandouts Ask a Dietitian a Nutrition Question: Complete a self-referral at ahs.ca/811 or call 811 and ask to talk to a dietitian.

APPENDIX A: Medications that contribute to urinary incontinence [24]

Medications	Effects on Continence
Alpha adrenergic agonists	Increase smooth muscle tone in urethra and prostatic capsule and may precipitate obstruction, urinary retention, and related symptoms
Alpha adrenergic antagonists (Alpha blockers)	Decrease smooth muscle tone in the urethra and may precipitate stress UI in women
Angiotensin converting enzyme inhibitors	Cause cough that can exacerbate UI
Anticholinergics	May cause impaired emptying, urinary retention, and constipation that can contribute to UI. May cause cognitive impairment and reduce effective toileting ability.
Calcium channel blockers	May cause impaired emptying, urinary retention, and constipation that can contribute to UI. May cause dependent oedema which can contribute to nocturnal polyuria
Cholinesterase inhibitors	Increase bladder contractility and may precipitate urgency UI
Diuretics	Cause diuresis and precipitate UI
Lithium	Polyuria due to diabetes insipidus
Opioid analgesics	May cause urinary retention, constipation, confusion, and immobility, all of which can contribute to UI
Psychotropic drugs Sedatives Hypnotics Antipsy-chotics Histamine (H1) receptor antagonists	May cause confusion and impaired mobility and precipitate UI Anticholinergic effects Confusion
Selective serotonin re-uptake inhibitors	Increase cholinergic transmission and may lead to urinary UI
Sodium-glucose cotransporter 2 (SGLT2) inhibitor	Glycosuria and polyuria, increased propensity to urinary tract infection
Others Gabapentin Glitazones Non-steroidal anti-inflammatory agents	Can cause oedema, which can lead to nocturnal polyuria and cause nocturia and night-time UI

Table used with permission from Dr. Adrian Wagg

Other medications to consider

Selective Estrogen Receptor Modulators (SERMs) drugs, like tamoxifen are anti-estrogenic and can cause pain and irritation to the urethral meatus.

APPENDIX B: Pharmacological Options for GSM [25]

Pharmacological Options for GSM			
Type	Trade Names	Strengths Available	Starting Doses
Vaginal Hormone Therapy			
Conjugated estrogen (CE)	Premarin® Vaginal Cream	0.625 mg/gram vaginal cream Refillable applicator	0.5 g vaginally daily for 14 days, then 0.5 g 2–3 times weekly
17 β estradiol	Vagifem® vaginal inserts	10 µg vaginal tablet with applicator	One tablet vaginally daily for 14 days, then one tablet twice weekly
17 β estradiol	Imvexxy® vaginal ovules	4 µg, 10 µg vaginal ovules	One ovule vaginally daily × 14 days, then twice weekly
17 β estradiol	Estring® vaginal ring	2 mg/vaginal ring	Inserted every 3 months. This is a good option for patients who may have challenges administering other medications independently.
Estrone	Estragyn® 0.1% vaginal cream	1 mg/gm vaginal cream Refillable applicator	0.5 g vaginally daily for 14 days, then 0.5 g 2–3 times weekly
Prasterone (DHEA)	Intrarosa® vaginal ovules	6.5 mg ovule	One ovule inserted vaginally daily. New treatment, non-estrogen option, but converts to estrogen and androgens inside the vagina.
Oral selective estrogen receptor modulator (SERM)			
Ospemifene	Osphena® oral tablets	60 mg tablet	One tablet daily by mouth. • This is a newer medication and is currently only approved in Canada for postmenopausal women. • Treatment for moderate to severe dyspareunia and/or vaginal dryness. • This medication is breast protective and may be more acceptable for those with significant history of breast cancer. • It is more expensive (not covered by Alberta Blue Cross). • A few side effects to consider include: Hot flashes, hyperhidrosis, muscle spasms and vaginal discharge. • Contraindications: Undiagnosed abnormal

			genital bleeding; history of, or active DVT, PE or arterial thromboembolic disease; known or suspected estrogen-dependent neoplasia; severe hepatic impairment; women who are or may become pregnant; and hypersensitivity to the medication. • Not recommended to combine with systemic MHT (different from other GSM products).

Additional information for patients on vaginal estrogen therapies from Your Pelvic Floor (International Urogynecological Association) website: Low-Dose Vaginal Estrogen Therapy.

A Note About Non-Pharmacological Therapies for GSM [26]
Non-pharmacological options may help women with mild GSM symptoms or those avoiding hormones, but they do not reverse atrophy. For patients who cannot or will not use vaginal estrogen, consider the use of vaginal moisturizers. Examples include: Good Clean Love, RepaGyn, Replens, Cleo, Zestica, Mae,and Gynatrof. For additional information on non-pharmacological therapies for patients with mild GSM symptoms or those avoiding hormones, see the Provincial Perimenopause and Menopause Primary Care Clinical Pathway.

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