Assessment and Diagnostic Guideline: Gastrointestinal and Genitourinary System

Registered Nurses with **Remote Nursing** Certified Practice (RN(C)) designation are authorized to manage, diagnose, and/or treat the following genitourinary conditions:

- Urinary tract infection (Adults & **2 years of age and older**)

Registered Nurses with **RN First Call** Certified Practice (RN(C)) designation are authorized to manage, diagnose, and/or treat the following genitourinary conditions:

- Uncomplicated Urinary tract infection (Adult only)

This Guideline provides guidance to RN(C)s when conducting assessments and diagnostic tests related to genitourinary conditions that can be managed and/or treated under the Certified Practice framework. RN(C)s maintain an RN scope of practice which is expanded in particular circumstances wherein the RN(C) is able to diagnose and treat conditions listed above.

RN(C)s must ensure that they complete and document their assessments according to regulatory practice standards and their practice setting requirements. Upon arriving at a diagnosis, RN(C)s should consult the relevant *Care and Treatment Plans* to inform the management and treatment of the condition.

Visual Summary of Guideline

1

GI/GU: Physical Assessment and Review of Systems (pages 2-7)

- Symptoms requiring urgent referral
- General appearance and vital signs
- Physical genitourinary assessment
  - Inspection
  - Auscultation
  - Percussion
  - PalpationAssociated system assessments

2

Typical Findings of Urinary Tract Infection (pages 7-10)

- Potential causes
- Predisposing risk factors
- History
- Physical assessment
- Diagnostic tests

3

Refer to the appropriate *Care and Treatment Plan* based on findings from the assessment and diagnostic tests:

- *Care and Treatment Plan: Lower Urinary Tract Infection*

1) Gastrointestinal and Genitourinary: Physical Assessment and Review of Systems

*Refer to the Assessment and Diagnostic Guideline: General as needed.

In addition to the health history and review of system questions outlined in the *Assessment and Diagnostic Guideline: General*, for a client who has symptoms affecting their genitourinary or gastrointestinal system, review this list to ask about additional signs and symptoms to aid your clinical reasoning process in ruling conditions in or out that can be treated by one of the DSTs.

Note: The *Assessment and Diagnostic Guideline: General* does not include the physical assessments.

Symptoms Requiring Urgent Referral

The first step is to identify those presentations that require urgent referral.

The following signs and symptoms require referral to a physician or nurse practitioner:

- Severe dehydration
- Recurrent fever
- Uncontrolled vomiting
- Hematemesis
- Frank rectal bleeding or perianal fissures or ulcers
- Melena
- Hematochezia
- Immunocompromised clients (HIV, diabetes, client taking steroids)
- Jaundice
- Ascites
- Distended abdomen
- Rigid painful abdomen (also consider PID, ectopic pregnancy)
- Abdominal bruit or pulsating masses
- Organomegaly
- Tachycardia and lung crackles along with abdominal pain (may be referred from the lungs in pneumonia)
- Localized abdominal pain
- Altered peripheral pulse
- Unequal BP left to right (difference of approximately 30 mm Hg is indicator of aortic aneurysm)
- Joint edema, erythema, warmth

The following GU signs and symptoms require immediate referral to a physician or nurse practitioner:

- Bleeding from the urethra, male or female
- Urinary retention
- Urethral discharge
- Severe GU pain (consider PID or ectopic pregnancy)
- Scrotal swelling
- Erectile dysfunction (priapism)
- Systemic symptoms (sepsis)
- Incontinence (new onset)
- Recent urologic/renal surgery
- Treatment failure after 3 days

- Known anatomical abnormality

All children suspected of sexual assault must be referred to a physician or nurse practitioner.

General Appearance and Vital Signs

- Apparent state of health
  - Acutely or chronically ill
- Match between appearance and stated age
  - Appearance of comfort or distress
- Position of comfort (e.g., tripod, guarding)
  - Diaphoresis
  - Ability to speak in full sentences without stopping to take a breath
  - Skin color
- Colour
- Nutritional status
- Hydration status (older adults at risk)
- Hygiene
- Gait and mobility status
- Piercings and tattoos
- Vital Signs
  - Temperature
  - Pulse
  - Respiration
  - SpO_2
  - Blood pressure (BP)
  - Pain

Additional Pediatric Considerations

- Weigh all children under 12 years of age for medication calculations

Physical Assessment of the Gastrointestinal and Genitourinary Systems

Abdominal Inspection

- Abdominal contour, symmetry, scars, dilatation of veins
- Movement of abdominal wall with respiration
- Visible masses, hernias, pulsations, peristalsis
- Guarding and positioning for comfort

Additional Pediatric Considerations

- Abdominal size, shape, & contour
- Any distension or asymmetry (in infancy, abdomen is typically protuberant; in early childhood the abdomen is still protuberant, but flattens when the child is lying down)
- Umbilical hernia of up to 2.5cm may be present up to one year
- Diastasis recti may cause midline bulge (separation of rectus muscles) and usually disappears by early childhood

- Guarding and positioning for comfort (child's behavior can also give very good clues as to the severity of any abdominal pain)
- Ability to mobilize and gait

Auscultation

- Auscultation should be performed *before* percussion and palpation so as not to alter bowel sounds
- Presence, character, and frequency of bowel sounds

Additional Pediatric Considerations

- Presence of bruits (renal, iliac, or abdominal aortic)

Percussion

- Percuss: resonance, tympany, dull, flat
- Liver: define upper and lower borders, measure span
- Spleen: confirm presence of normal resonance over lowest rib interspace in anterior axillary line
- Bladder: identify distension and fullness
- Costovertebral angle (CVA) percussion for tenderness

Additional Pediatric Considerations

- Delineate outline of liver; upper border is in the mid-clavicular line, between the fourth and sixth intercostal spaces; upper limit of liver span ranges from 8cm at 5 years of age to 13cm at puberty

Palpation

- Palpation is performed with the client lying supine, with hands by the sides and relaxed
- The client's abdomen must be completely exposed
- Examine all four quadrants in succession
- Start with the painless areas, and palpate the painful area last

Additional Pediatric Considerations

- Ideally, palpation is performed with the child lying supine, with hands by the sides and relaxed
- For some children, having them in their parents lap may be an acceptable alternate
- In reality, it must sometimes be done on the run
- Be sure your hands are warm
- The child's abdomen must be completely exposed

Light Palpation (perform first)

- Tenderness, muscle guarding, rigidity
- Superficial organs or masses

Additional Pediatric Considerations

- Watch child's facial expressions

Deep Palpation

Note: Deep palpation can be conducted by nurses who hold a Remote Nursing Certified Practice designation, demonstrating current certification in this practice.

- Assess for abdominal guarding, tenderness, or rigid abdomen
- Feel for organs:
  - Liver: assess size, tenderness, smooth or irregular border, firmness or hardness
  - Spleen: assess for enlargement, tenderness, consistency
  - Kidney: assess for tenderness, enlargement
  - Bladder: assess for distension, tenderness
- Masses: location, size, shape, mobility, tenderness, movement with respiration, pulsation, hernias (midline, incisional groin)
- Assess for rebound tenderness (pain that occurs upon suddenly releasing the hand after deep palpation), which indicates peritoneal irritation
- Assess for referred tenderness (pain that is felt in an area distant to the area being palpated), which can be a clue to the location of the underlying disease
- Inguinal and femoral lymph nodes: enlargement, tenderness
- Femoral pulses

Abdominal Examination, Peripheral areas

- Spider nevi on face, neck or upper trunk, palmar erythema, Dupuytren's contracture, clubbing of fingers

GU System – Male

Inspection

- Penis, scrotum, and pubic area: inflammation, discharge, lesions, swelling, asymmetrical changes in hair distribution, nits, warts, position of urethral opening
- Rectum: lesions, discharge, swelling, haemorrhoids
- Inguinal and femoral areas for hernia

Palpation

- Penis: tenderness, induration, nodules, lesions
- Testes and scrotal contents: size, position, atrophy of testes, tenderness, swelling, warmth, masses, hydrocele
- Superficial inguinal ring for hernia
- Cremasteric reflex

Additional Pediatric Considerations

- Foreskin (retractable by 3 years of age)
- Testes are usually descended by one year

GU System – Female

Inspection

- External genitalia: labia majora and labia minora: lesions, ulcerations, masses, induration, and areas of different colour, hair distribution
- Perineum: lesions, ulcerations, masses, induration, scars
- Clitoris: size, lesions, ulcerations

- Urethra: discharge, lesions, ulcerations
- Vagina: speculum exam – inflammation, atrophy, discharge, lesions, ulcerations, masses, induration, nodularity, relaxation of perineum
- Cervix: speculum exam – position, color, shape, size, consistency of discharge, erosions, ulcerations
- Os: multipara or nullipara

Additional Pediatric Considerations

- Child should be in supine frog-leg position for examination
- Spread labia by applying gentle traction toward the examiner and slightly literally to visualize introitus
- If 14 years or older and sexually active, consider a vaginal internal exam

Note: *Do not* perform an internal vaginal examination in a child less than 14 years, prepubescent child or an adolescent who is not sexually active.

Palpation

- Skene's and Bartholin's glands: masses, discharge, tenderness
- Cervix: cervical tenderness, bleeding after contact, consistency of cervical tissue
- Uterus: position, size, contour, consistency of uterine tissue, mobility on movement
- Adnexa: ovaries for tenderness, masses, consistency, contour, mobility, pain on movement (Chandelier sign)

Rectal Examination

- For occult blood
- For referred pain
- For masses, haemorrhoids, anal fissures, sphincter tone and others
- Prostate exam in males

Additional Pediatric Considerations

- Anal patency (check this feature only in newborns)

Associated Systems

Cardiovascular and Pulmonary Examination

- Cardiovascular and pulmonary exam should also be performed

Eyes, Ears, Nose, Throat

- Assess for pharyngitis and conjunctivitis (chlamydial infection, gonorrhea)
- Lymph nodes (auricular, tonsillar, submandibular, supraclavicular, infraclavicular)

Integumentary

- Assess for skin lesions, rashes, polyarthralgias of disseminated gonorrhea, and hydration status

Other Associated Symptoms

- Change in appetite
- Fever
- Malaise
- Headache

- Dehydration
- Recent weight loss or gain that is not deliberate
- Enlarged, painful nodes (axilla, groin)
- Skin: dry, rash, itchy

Additional Pediatric Considerations

- Usual nutrition and food habits: type of foods eaten, variety of foods in diet, quantity of food eaten, dietary balance, fiber content of diet
- Food and fluid intake since onset of illness
- Check bottle for content (sour milk)
- Breast feeding mothers (consider diet)
- Skin (e.g., dry, pruritus, rash)
- Unexplained crying, holding of genitals
- Enlarged, painful nodes (axilla, groin)
- Plus the following symptoms associated with *nephritic syndrome* and *glomerulonephritis:*
  - Swelling of ankles and orbits
  - Nosebleeds
  - Haematuria
  - Decreased urinary output

2) Typical Findings

Lower Urinary Tract Infection (UTI)

Potential Causes

- Escherichia coli is the most common organism, found in 80-90% of cases
- Staphylococcus saprophyticus
- Other enterobacteria

Additional Pediatric Considerations

- Klebsiella
- Group B Streptococcus
- Proteus
- *Staphylococcus epidermis*
- Pseudomonas
- *H. influenza*
- Enterococcus

Predisposing Risk Factors

- Female gender
- Sexual activity
- Previous UTIs
- Pregnancy

- Use of spermicides, diaphragm
- Infrequent voiding
- Dehydration
- Urinary instrumentation (catheterization)
- Renal calculi
- Immunocompromised (human immunodeficiency virus infection)
- Diabetes mellitus
- GU tract anomalies (congenital, urethral stricture, neurogenic bladder, tumour)
- Male specific factors are anal intercourse, intercourse with a female with a UTI, lack of circumcision, and prostatic hypertrophy.

Additional Pediatric Considerations

- Gender: as or more common in boys as neonates
  - after neonatal period, incidence higher in females
- Bowel and/or bladder dysfunction, such as infrequent voiding, constipation

History

- Urinary frequency
- Urinary urgency
- Dysuria
- Mild dehydration
- Afebrile
- Suprapubic discomfort
- Bladder spasm
- Foul smelling urine
- Hematuria

Additional Pediatric Considerations

History for Neonates and Infants

- Non-specific, non-urinary symptoms
- May present with sepsis
- Fever
- Irritability
- Poor feeding
- Vomiting
- Diarrhea or constipation
- Jaundice
- Hypothermia
- Failure to thrive
- Decreased activity, lethargy

History for children less than 3 years old

- Abdominal pain

- Fever
- Vomiting
- New onset enuresis
- Strong smelling urine
- Urinary retention

History for children 3 years of age or older

- Enuresis
- Flank or back pain (upper UTI)
- Vomiting
- Fever

Physical Assessment

- Suprapubic tenderness may be mild to moderate
- If flank pain presents refer or consult with physician or nurse practitioner as suggests ascending infection
- If costovertebral angle (CVA) tenderness presents on percussion refer or consult with physician or nurse practitioner as suggests ascending infection

Additional Pediatric Considerations

- May or may not look ill
- Tender abdomen (may need to include reproductive assessment in adolescents)
- Stat of circumcision - male

Note: In the elderly, symptoms do not always follow the classic triad of urgency, frequency, and dysuria. Look for subtle cognitive changes and predisposing factors.

Sexually Active Female

- If appropriate, perform a pelvic exam and full STI screening if abnormal vaginal discharge or symptoms suggestive of vaginitis or STI are present
- If appropriate, offer STI screening (see diagnostic tests section below)

Reminder: a referral to a physician or nurse practitioner is required for a pelvic exam for any female who has not been sexually active or any female less than 14 years of age.

Sexually Active Male

- Assess for urethral symptoms, discharge, or genital lesions
- If present, offer full STI screening (see diagnostic tests section below)

Note: The RN(C) must be certified in STI management in order to carry out activities in the NNPBC STI DSTs. If STI testing is warranted and the RN(C) is not STI certified, refer to physician or nurse practitioner. If appropriate, offer STI screening (see diagnostic tests section below).

Diagnostic Tests

- Urinalysis
  - Dipstick test: blood, protein, nitrites, leukocytes
  - Consider microscopic urinalysis: white blood cells, red blood cells, bacteria

- Consider labs for renal function: creatinine, BUN, glomerular filtration rate
- Urine culture and sensitivity is generally not required for an uncomplicated UTI
- Collect a urine sample for culture and sensitivity prior to starting antibiotics if:
  - This is a complicated UTI
  - This is the second presentation of a UTI within a one-year time frame
  - Patient presents with treatment failure (persistent UTI symptoms up to 10 days post-treatment)
  - Patient presents with fever, chills, rigor, or flank pain (refer or consult physician or nurse practitioner)
  - Dipstick urine test is negative, but symptoms are indicative of an UTI
- For complicated UTIs, ensure urine culture and sensitivity is tested 1-2 weeks after antibiotics are completed
- If symptoms or history indicate, offer full STI screening as per the appropriate STI DST, if STI certified
- If full STI screening declined, obtain a urine specimen for CT/GC NAAT
- If STI signs or symptoms are also present ensure follow-up as there may be more than one condition present (e.g., UTI and STI)
- Consider urine pregnancy test if indicated

Note: If urinary frequency, urgency or dysuria and dipstick is positive for leukocytes and/or nitrites, may treat as lower UTI

Note: If STI symptoms are also present ensure follow-up as there may be more than one condition present (e.g., UTI and STI).

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