BCCDC Non-certified Practice Decision Support Tool: Epididymitis

Testicular torsion is a surgical emergency and requires immediate consultation. It can mimic epididymitis and must be considered in all people presenting with sudden onset, severe testicular pain. Males less than 20 years are more likely to be diagnosed with testicular torsion, but it can occur at any age. **Viability of the testis can be compromised as soon as 6-12 hours after the onset of sudden and severe testicular pain.**

Scope

RNs must consult with or refer ***all*** suspect cases of epididymitis to a physician (MD) or a nurse practitioner (NP) for clinical evaluation and a client-specific order for empiric treatment.

Etiology

Epididymitis is inflammation of the epididymis and is the leading cause of scrotal pain in adults. It has both bacterial and non-bacterial causes:

Bacterial:

- *Chlamydia trachomatis* (CT)
- *Neisseria gonorrhoeae* (GC)
- *Coliforms (e.g., E. coli)*

Non-bacterial

- Urologic conditions
- Trauma (e.g., surgery)
- Autoimmune conditions, mumps and cancer (not as common)

Epidemiology

Risk Factors

STI-related (most likely cause for individuals under age 35):

- Condomless insertive anal sex
- Recent CT/GC infection or UTI

Other considerations:

- Recent urinary tract instrumentation or surgery
- Obstructive anatomic abnormalities (e.g., benign prostatic hyperplasia (BPH))

The following risk factors are more commonly seen in chronic epididymitis:

- Trauma or strenuous physical activity
- Sitting for prolonged periods of time (e.g., riding a bicycle or motorcycle)
- Prior scrotal or inguinal hernia
- Immunosuppression
- History of recent instrumentation, vasectomy, Bechet's disease, travel to areas endemic for Brucellosis or viral illness (e.g., mumps)
- Medications that can cause epididymitis (e.g., amiodarone)

Clinical Presentation

- Often gradual onset of epididymal and/or testicular pain, but can sometimes be sudden (if onset is sudden and pain is severe, consider testicular torsion and consult immediately for urgent surgical intervention)
- Tenderness and swelling of epididymis, testis and/or scrotum (usually unilateral)
- Symptoms of urinary tract infection (dysuria, increased frequency, urgency)
- Symptoms of urethritis (dysuria, urethral itch, irritation or awareness, meatal erythema or urethral discharge)
- Fever is occasionally present

Physical Assessment

Physical assessment specific to epididymitis may include the following:

- Assess the epididymis, testis and scrotum for pain and swelling
- Assess the scrotum for erythema
- Note any urethral discharge (can ask the client to "milk" the penis)
- Note the anatomic position of testis
- Palpate inguinal area for hernias

- Assess for Fournier's gangrene (necrotizing fasciitis of the perineum; can see acute scrotal swelling, severe pain in anterior abdominal wall spreading to gluteal muscles, scrotum and penis)
- Assess temperature

Practitioner Alert!

Testicular torsion is a surgical emergency and requires immediate consultation. Symptoms include acute onset of moderate to severe testicular pain with profound diffuse tenderness and swelling.

Diagnostic and Screening Tests

If urethral discharge is present, collect swab(s) for:

- GC culture and sensitivity (C&S)
- GT/GC NAAT swab

If urethral discharge is not present, collect a urine specimen for CT/GC NAAT.

If enteric infection(s) or genitourinary bacteriuria suspected:

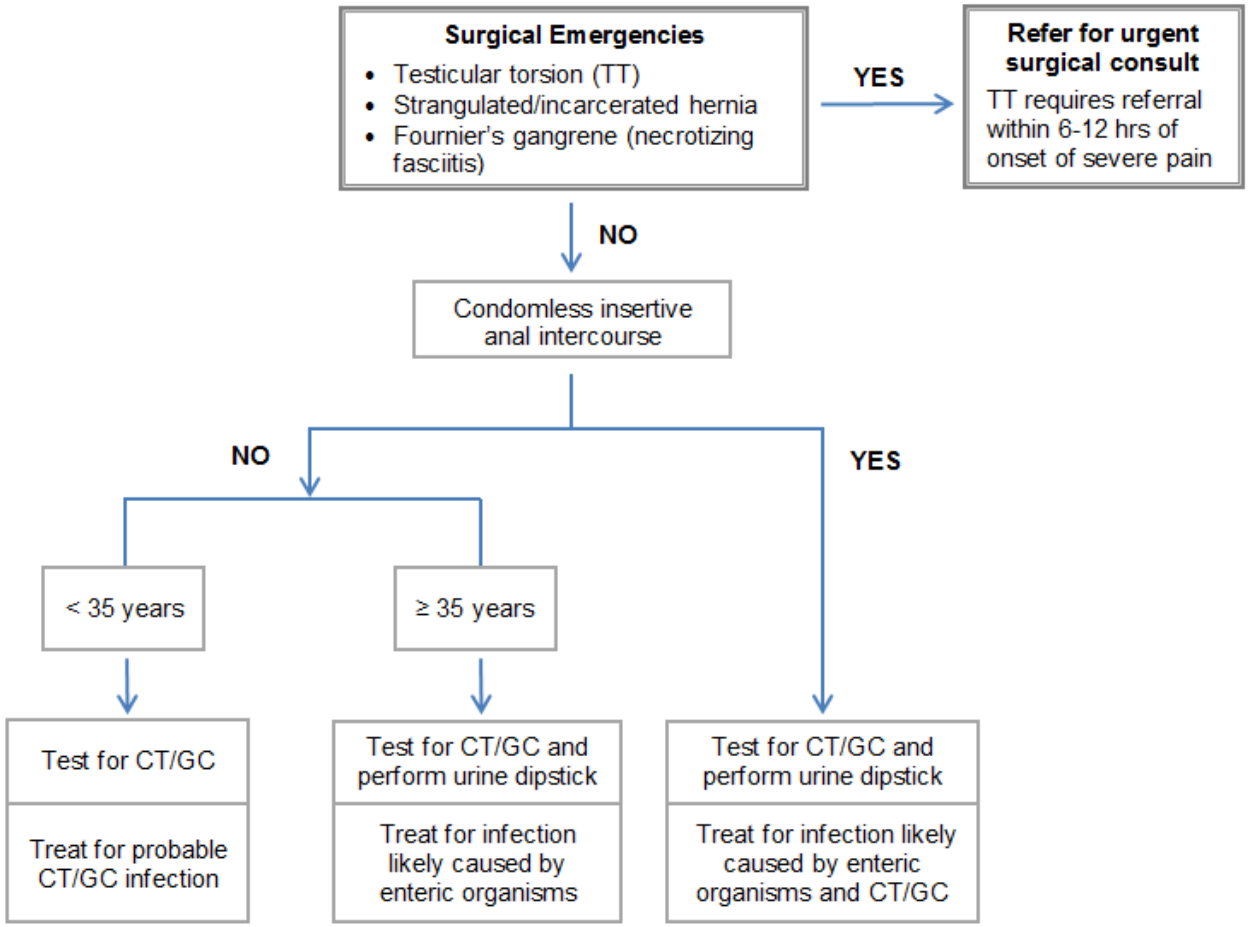
- collect urine specimen for dipstick
    - order urine culture if:
        - dipstick positive for leukocytes, nitrites and/or blood
        - dipstick negative, but symptomatic with urethral symptoms

A MD or NP may order an ultrasound (U/S) or do a digital rectal examination to help clarify a diagnosis. Arranging to get an U/S should not delay an urgent surgical consult if testicular torsion is suspected.

Management

Diagnosis and Clinical Evaluation

RNs must consult or refer ***all*** suspect cases of epididymitis to a MD or NP for clinical evaluation.



Consultation and Referral

All suspect cases of epididymitis must be referred to a MD or NP for evaluation and a client-specific order for empiric treatment.

Treatment

Recommended treatment options for gonorrhea reflect both current local antimicrobial resistance trends (see BCCDC Laboratory Trends Newsletters) and national STI guidelines.

<table>
<tr><td colspan="2">RNs must consult or refer all suspect cases of epididymitis to a MD or NP for clinical evaluation and a client-specific order for empiric treatment.</td></tr>
<tr><th>Treatment</th><th>Notes</th></tr>
<tr><td>If condomless insertive anal sex, treat for enteric pathogens and provide CT/GC coverage</td><td rowspan="6">1. Treatment for epididymitis CT/GC infections
2. Review information on the BCCDC Medication Handouts and your agency’s drug reference database, including:
• Allergies, interactions and side effects
• How to take the medication
• After-care information
3. Ceftriaxone
• DO NOT USE if allergy to cephalosporins
• To minimize discomfort, use 0.9ml lidocaine 1% (without epinephrine) as the diluent for ceftriaxone IM
• Ventrogluteal site is preferred
• Review potential for side effects: pain, redness and swelling at the injection site, or diarrhea. If these persist or worsen, advise to contact a health care provider
4. Lidocaine
• DO NOT USE if allergy to local anaesthetics
5. Cefixime
• DO NOT USE if allergy to cephalosporins
• Consult with or refer to MD or NP if history of anaphylaxis or immediate reaction to penicillins
6. Doxycycline
• DO NOT USE if allergy to doxycycline or other tetracyclines
• Take with food/water to avoid potential adverse gastrointestinal effects
• RE-TREAT if 2 consecutive doses are missed within the first 5 days of treatment, or if 5 days of treatment is not completed.</td></tr>
<tr><td>Ceftriaxone 500mg IM in a single dose
AND
Doxycycline 100mg Orally Twice a day for 14 days
AND
Fluoroquinolone (e.g., levofloxacin)</td></tr>
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AND
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<tr><td>If < 35 years and no condomless insertive anal sex, treat for CT/GC infection</td></tr>
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</table>

If **≥ 35 years** and ***no*** condomless insertive anal sex, cover enteric pathogens	7. **Fluroquinolones:** provide CT coverage (e.g., levofloxacin). MD/NPs can check local antibiograms (e.g., BCCDC, Lifelabs).
Fluoroquinolone (e.g., levofloxacin)	

Monitoring and Follow-up

- **Repeat testing:** No
- **Follow-up:** if test results are positive for CT/GC, review MD/NP treatment and follow-up plan, and confirm client received adequate treatment for the infection(s)

Partner Counselling and Referral

- **Reportable:** No. If test results are positive, refer to corresponding DST for reporting and follow-up.

Potential Complications

- Chronic epididymitis
- Infertility
- Testicular abscess
- Testicular infarction

Additional Education

- Pain and erythema should resolve within 3 to 7 days
- It could take a few weeks after the completion of antibiotics for symptoms to completely resolve, although should see improvement during first week of therapy
- Complete all treatment as directed even if symptoms improve or resolve
- Avoid sexual contact until the client and their partner(s) have completed screening and treatment, and symptoms have resolved
- Use analgesics (e.g., NSAIDs), rest and scrotal elevation to help alleviate pain
- Standard Client Education for Sexually Transmitted Infections and Blood-Borne Infections (STBBI)

References

Australasian Society for HIV, Viral Hepatitis and Sexual Health Medicine (ASHM). (2021, December). *Australian STI management guidelines for use in primary care: Epididymo-orchitis*. Retrieved July 20, 2023, from https://sti.guidelines.org.au/syndromes/epididymo-orchitis/

Centers for Disease Control and Prevention. (2021, July 22). *Sexually Transmitted Infections Treatment Guidelines, 2021:Epididymitis.* Retrieved July 22, 2023 from https://www.cdc.gov/std/treatment-guidelines/epididymitis.htm

Chirwa, M., Davies, O., Castelino, S., Mpenge, M., Nyatsanza, F., Sethi, G., Shabbir, M., & Rayment, M. (2021). United Kingdom British association for sexual health and HIV national guideline for the management of epididymo-orchitis, 2020. *International Journal of STD & AIDS, 32*(10), 884-895. https://doi.org/10.1177/09564624211003761

Eyre, R. C., & O'Leary, M. & Law, K. (2020). D Acute scrotal pain in adults. *UpToDate.* Retrieved July 22, 2023 from https://www.uptodate.com/contents/acute-scrotal-pain-in adults?search=testicular%20torsion&sectionRank=1&usage_type=default&anchor=H587977&source=machineLearning&selectedTitle=1~41&display_rank=1#H587977

Hussein, A., Cohen, M., Gross, M., Zlitschinko, G., Lavi, A., Ibrahim, B., Leil, R.A., Taha, T., Anna, Y., & Bibiana, C. (2022). MP37-10 Etiology of Acute Epidimyitis (AE) in young patients under 35 year. *The Journal of Urology*, *207*(Supplement 5), e612. https://doi.org/10.1097/JU.0000000000002591.10

Khastgir, J. (2022). Advances in the antibiotic management of epididymitis. *Expert Opinion on Pharmacotherapy*, *23*(9), 1103-1113.

Public Health Agency of Canada (PHAC). (2021, December 9). *Canadian Guidelines on Sexually Transmitted Infections. STI-associated syndromes guide: Epididymitis.* Retrieved July 21, 2023 from https://www.canada.ca/en/public-health/services/infectious-diseases/sexual-health-sexually-transmitted-infections/canadian-guidelines/sti-associated-syndromes/epididymitis.html

Rupp, T.J, & Leslie, S.W. (2023, May 30). Epididymitis. In *StatPearls*. StatPearls Publishing. Retrieved July 28, 2023 from https://www.ncbi.nlm.nih.gov/books/NBK430814/