BCCDC Non-certified Practice Decision Support Tool:
Pelvic Inflammatory Disease (PID)

Scope

RNs (including certified practice RNs) must refer to a physician (MD) or nurse practitioners (NP) for ***all*** clients who present with suspected PID as defined by pelvic tenderness and lower abdominal pain during the bimanual exam.

Etiology

Pelvic inflammatory disease (PID) is an infection of the upper genital tract that involves any combination of the uterus, endometrium, ovaries, fallopian tubes, pelvic peritoneum and adjacent tissues. PID consists of ascending infection from the lower-to-upper genital tract. Prompt diagnosis and treatment is essential to prevent long-term sequelae.

Most cases of PID can be categorized as sexually transmitted and are associated with more than one organism or condition, including:

Bacterial:

- *Chlamydia trachomatis* (CT)
- *Neisseria gonorrhoeae* (GC)
- *Trichomonas vaginalis*
- *Mycoplasma genitalium*
- Bacterial vaginosis (BV) -related organisms (e.g., *G. vaginalis*)
- Enteric bacteria (e.g., *E. coli*) (rare; more common in post-menopausal people)

PID may be associated with no specific identifiable pathogen.

Epidemiology

PID is a significant public health problem. Up to 2/3 of cases go unrecognized, and under reporting is common. There are approximately 100,000 cases of symptomatic PID annually in Canada; however, PID is not a reportable infection so, exact numbers are unknown. Approximately 10-15% of individuals of reproductive age have had one episode of PID.

Risk Factors

- Condomless sexual contact
- Age less than 25 years
- Recent change in sexual partner(s)
- Partner with STI or STI-related symptoms
- Recent or history of STI (e.g., GC, CT)
- History of PID
    - Dilatation & curettage (D&C)
    - Recent intrauterine device (IUD) insertion (within the past 4-6 weeks, risk is probably highest in women with pre-existing gonorrhoea or C. trachomatis.)
    - Surgical abortion

Clinical Presentation

Clinical presentation varies widely both in severity and symptomology, with some clients presenting asymptomatically. Key cardinal client-reported signs and symptoms include:

- Lower abdominal pain – typically bilateral (may present as unilateral), can range from subtle to severe
- Abnormal bimanual pelvic examination that includes one or a combination of the following findings:
    - Cervical motion tenderness (CMT)
    - Adnexal tenderness
    - Fundal tenderness

Additional Signs & Symptoms

- Fever >38 ºC
- Dyspareunia (deep)
- Abnormal vaginal bleeding or spotting (post-coital, intermenstrual or menorrhagia)
- Abnormal vaginal discharge
- Mucopurulent cervical discharge and/or cervical friability
- Urinary frequency
- Dysuria
- Nausea and/or vomiting
- Pelvic pain and/or dysmenorrhea (painful periods)
- Abdominal pain, guarding, rigidity, and/or right upper quadrant abdominal pain (sign of perihepatitis, or Fitz-Hugh-Curtis syndrome)

Physical Assessment

- Assess vulva, introitus, and vagina
- Assess vaginal discharge (amount, colour, consistency and odour)
- Assess vaginal pH
- Assess vaginal walls and cervix during speculum examination
- Complete bimanual exam, assessing for:
    - Cervical motion tenderness (CMT)
    - Adnexal tenderness
    - Fundal tenderness
- Palpate all four abdominal quadrants for pain, guarding, rigidity, and right upper quadrant pain
- Assess temperature

Special Consideration

It is important to rule-out other potential causes of lower abdominal pain including, ectopic pregnancy, ovarian cysts, and gastrointestinal causes, including appendicitis. Cardinal signs and symptoms that require immediate consultation include: severe abdominal pain, including peritoneal sings (e.g., guarding, rigidity, rebound or shake tenderness), fever, and in cases with no response to oral medications

Diagnostic and Screening Tests

Specimen	Tests
Cervical or vaginal swab	Nucleic acid amplification test (NAAT) for GC, CT, and *Trichomonas vaginalis*
	GC culture & sensitivity (C&S)
Vaginal swab (client- or clinician-collected)	Vaginal swab or smear on slide for yeast and BV
	Vaginal pH
	KOH whiff test
Urine	Pregnancy test
AND bimanual exam for tenderness	

If a client presents with symptoms suggestive of a urinary tract infection (UTI), consider assessing for lower UTI as outline in the BCCDC Certified Practice DST: Uncomplicated Lower UTI.

Negative lab results do not rule-out PID.

Management

Diagnosis and Clinical Evaluation

Diagnosis is based on clinical findings with a low threshold of suspicion as PID can vary wildly in presentation and severity.

Consultation and Referral

Immediately refer ***all*** clients who present with suspected PID to a MD or NP for assessment and treatment to avoid potential complications.

Note: When indicated, IUD removal is managed by an MD or NP. For mild-to-moderate PID, IUD removal during treatment is not necessary unless there is no clinical improvement within 72 hours after the onset of recommended antibiotic 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 refer all suspect cases of PID to a MD or NP for clinical evaluation and a client-specific order for empiric treatment</td></tr>
<tr><td>Treatment</td><td>Notes</td></tr>
<tr><td>First Choice</td><td rowspan="2">1. Treatment for PID covers both GC/CT infections.
2. PID-related symptoms should begin to resolve within 48 to 72 hours of initiating antibiotics.
3. 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</td></tr>
<tr><td>Ceftriaxone 500 mg IM in a single dose
AND
Doxycycline 100mg Orally Twice a day for 14 days
AND</td></tr>
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<tr><td colspan="2">RNs must refer all suspect cases of PID to a MD or NP for clinical evaluation and a client-specific order for empiric treatment</td></tr>
<tr><td>Metronidazole 500 mg orally twice a day for 14 days

Alternate

Cefixime 800 mg orally in a single dose
AND
Doxycycline 100 mg orally twice a day for 14 days
AND
Metronidazole 500 mg orally twice a day for 14 days</td><td>4. Cefixime:
• DO NOT USE if allergy to cephalosporins.
• If history of penicillin reaction, refer to Beta-Lactam Cross Reactivity Chart, consult physician or NP if needed.
5. Ceftriaxone:
• DO NOT USE if allergy to cephalosporins.
• If history of penicillin reaction, refer to Beta-Lactam Cross Reactivity Chart, consult physician or NP if needed.
• 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.
6. Lidocaine:
• DO NOT USE if allergy to local anaesthetics.
7. Doxycycline:
• DO NOT USE if allergy to doxycycline or other tetracyclines, or if pregnant.
• 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.
• Use of doxycycline as the first choice is preferable in the treatment of PID due to its increased effectiveness for the co-treatment of chlamydia.
8. Metronidazole:
• Ingestion of alcohol is not contraindicated during metronidazole therapy, however individuals may wish to avoid alcohol during treatment as a means to limit the risk of possible adverse side effects.</td></tr>
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Monitoring and Follow-up

- **Repeat testing:** No
- **Test-of-cure (TOC):** No
- **Follow-up:**
    - If test results are positive for CT/GC, review MD or NP treatment and follow-up plan, and confirm client received adequate treatment for the infection(s)
    - Advise to seek urgent medical care if symptoms worsen (e.g., severe pain, signs of systemic infection)
    - Return for re-assessment by MD or NP if symptoms have not improved in 3 days
    - Refer to a MD or NP at reassessment if the client's symptoms are unresolved

Partner Notification

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

Potential Complications

Treatment of PID may not precent long-term sequelae due to scarring and adhesion formation during the healing of the damaged tissues. The risk of potential complications increases with the number and severity of PID episodes.

Potential complications include:

- Fitz-Hugh-Curtis syndrome
- Tubo-ovarian abscess
- Ectopic pregnancy
- Chronic pelvic pain
- Tubal factor infertility
- Recurrent PID

Additional Education

- Seek urgent medical care if symptoms worsen
- Return for re-assessment by MD or NP if symptoms have not improved in 3 days
- Avoid sexual contact until the client and their partner(s) have completed screening, treatment, and symptoms have resolved
- Complete all treatment as directed even if symptoms improve or resolve
- Rest and use simple analgesia (e.g., acetaminophen, ibuprofen) for pain.
- Sexually Transmitted & Blood-Borne Infections: Standard Education

References

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