Pelvic Inflammatory Disease (PID)

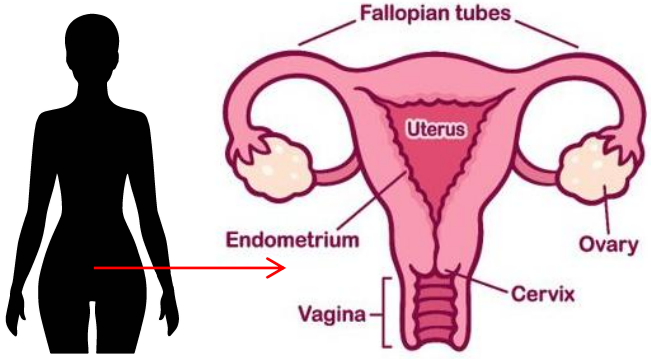
Case Definition

PID refers to infections that spread from the vagina to the upper female genital tract such as the uterus, fallopian tubes, ovaries or the pelvic cavity. If left untreated it can have serious consequences including pain, discomfort and menstrual disturbance in the short term, and chronic pain, ectopic pregnancy and infertility in the longer term.

A definitive PID diagnosis can only be made by laparoscopy. A probable PID diagnosis is made by taking a history together with examination and investigation findings.

List of Abbreviations & terms

Cervix	*See image*
CT	*Chlamydia trachomatis* (Chlamydia)
CST	Cervical Screening Test
Dysuria	Pain on urinating
Ectopic pregnancy	A pregnancy growing outside the uterus
Endocervical	The area on the cervix where there is a change in cell types
Fallopian Tubes	*See image*
HVS	High Vaginal Swab
Infertility	Unable to get pregnant
IUD	Intrauterine device (use image)
MC&S	Microscopy, culture and sensitivity
Micro-organisms	small bugs
NG	*Neisseria gonorrhoeae* (gonorrhea)
Normal commensals	Bugs that live in the body and do not cause infection
NSAID	Non-steroidal anti-inflammatory drugs
Ovary	*See image*
Pathogenic	cause disease
PCR	Polymerase chain reaction is a test that identifies the bug by their DNA or RNA
Perihepatitis	Inflammation of the coating of the liver
SARC	Sexual Assault Resource Centre
SOLVS	Self-obtained lower vaginal swab
STI	Sexually transmitted infections
Uterus	*See image*
UTI	Urinary tract infection
Vagina	*See image*
ZAP Pack	aZithromycin 1g, Amoxicillin 3g and Probenecid 1g



History

- Lower abdominal pain
  - Can be worse with movement, intercourse or periods
  - Usually bilateral, but may localise to one side Pain may be in right upper quadrant due to perihepatitis from infection spread (this is called Fitz-Hugh-Curtis Syndrome)

- Other symptoms
  - Dysuria
  - Abnormal vaginal bleeding - Heavy periods or inter-menstrual/post-coital bleeding
  - Uncomfortable or unusual vaginal discharge
  - Generally feeling unwell, nausea, vomiting, fevers (may indicate severe infection)

- Assess possibility of pregnancy
  - Ask the client
  - Take a menstrual history, last unprotected sexual intercourse and ask about contraception use

Alert Box

Abdominal pain and positive pregnancy test requires an urgent medical consult

- Assess STI risk:
  - Under 35 years of age
  - New partner
  - Frequent change of partners
  - Previous STI or PID
  - Sex without condoms

- Check past medical and surgical history for:
  - Previous treatment for STI or PID
  - Surgery for appendectomy or pelvic surgery or laparoscopy.
  - Presence of IUD or recent IUD insertion (within last 3 weeks)

- Consider non-consensual sex and potential SARC referral

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- If under 14 years, need to be seen by doctor. Consider mandatory reporting requirements

Alert Box

Severe symptoms such as:

- Vomiting, unwell, fever >38.5C
- Significant one sided pain
- Rebound tenderness or guarding on abdominal examination.
- Recurrent or persistent symptoms despite recent treatment

Requires urgent doctor consult and further examination such as pelvic ultrasound or a laparoscopy

Examination

- Check temperature, pulse, BP, respiratory rate
- Abdominal examination
  - Localized tenderness, guarding and rebound tenderness
- Pelvic examination (only perform if skilled)
  - Check for cervical excitation, adnexal tenderness
    Pelvic mass
- Speculum exam
  - Check for mucopurulent discharge

Investigations

- Urine:
  - Urine pregnancy test (BHCG). If positive urgent investigations are required to exclude ectopic pregnancy
  - Perform a urinalysis. If nitrites positive and or there are urinary symptoms such as dysuria or frequency send urine for MC&S for possible UTI
- If speculum examination is **performed** by a skilled clinician, the following tests are required:
  - HVS swab and slide for MC&S
  - Endocervical swab & slide for MC&S and PCR for CT, NG & trichomoniasis
  - CST if due
- If speculum examination **not performed** or an exam is not appropriate, declined or the clinician is not trained in speculum exam the following tests are required:
  - SOLVS swab for PCR CT/NG/TV and MC+S
  - Urine first void sample for PCR CT/NG/TV
- Blood tests:
  - HIV / Hepatitis B & C / Syphilis serology
  - Consider FBC, ESR/CRP (discuss with doctor)
  - Check if any other blood tests are due

Alert Box

Hepatitis B testing is not necessary if:

- Client immune due to resolved hepatitis B infection
- Client immune due to immunisation

Principles of Management

There is a high rate of STIs in the Kimberley compared to the rest of the state. Untreated CT and NG have a 1 in 5 (20%) risk of progressing to PID. Therefore, it is important to maintain a high level of suspicion for PID and low threshold for treatment in a young woman with lower abdominal pain.

It is important to note that positive results are helpful, but negative STI test results do not exclude the diagnosis of PID.

Organisms involved:

- The most common in women under 35 years are NG and CT
- Normal commensals can spread and become pathogenic especially if there is underlying trauma or pregnancy or IUD
- There are often multiple organisms involved such as Mycoplasma, Ureaplasma, E. coli, klebsiella, actinomyces, bacteroides, coliforms
- In up to 70% of cases there is an unidentified cause

Therapeutic Protocols

- Check for drug allergy before administration
- Do not use ZAP pack because this in only for uncomplicated STI
- Earlier treatment results in better patient outcomes

<u>Mild to Moderate Disease</u>

- Azithromycin 1g PO stat dose PLUS
- Ceftriaxone 500mg IM in 2ml 1% lignocaine stat dose

FOLLOWED BY

- Azithromycin 1g PO stat and 7 days after the first dose

PLUS

- Metronidazole 400mg PO 12 hourly for 2 weeks

If concerned about compliance to 2 weeks metronidazole: use 2g Metronidazole PO stat dose (local Kimberley guideline only)

Alert Box

Patient advice:
Advise client to avoid alcohol during treatment with metronidazole

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MEDICATION SUBSTITUTES

- Penicillin allergy
  - Discuss with doctor first.
  - If **not** pregnant or breastfeeding, substitute ceftriaxone for 500mg ciprofloxacin single dose
  - If pregnant or breastfeeding, a stat dose of azithromycin 1g PO then repeat 7 days after the first dose

Alert Box

Pregnant or breastfeeding:

- Do not use ciprofloxacin
- Substitute Doxycycline with a stat dose of azithromycin 1g PO then repeat 7 days after the first dose (category B1)

- If azithromycin contraindicated, doxycycline 100mg PO 12 hourly for 2 weeks can be used. Doxycycline is considered more effective but there can be less medication adherence

Severe Disease

Alert Box

The following symptoms constitutes severe disease:

- Vomiting, unwell, fever >38.5C
- Significant one sided pain
- Rebound tenderness or guarding on abdominal examination.
- Recurrent or persistent symptoms despite recent treatment

- Consult with doctor urgently.
- The patient needs to be managed as an in-patient
- The following medication may be initiated under doctor's instruction, while waiting for transfer to hospital
  - Metronidazole 500mg IV 12 hourly
    PLUS
  - Azithromycin 500mg IV daily (OR Doxycycline 100mg PO 12 hourly)

PLUS EITHER

Cefotaxime 1g IV 8 hourly OR Ceftriaxone 1g IV daily

Contact tracing

Treatment of regular partners with suspected or proven STI is required to prevent further episodes of PID. See Kimberley Contact Tracing Guideline

Contact trace up to 6 months depending on sexual history

Client education

Provide information and education to clients in relation to

- PID +/- organism causing and implications of not treating
- No sexual intercourse until treatment is completed, symptomatically better and 7 days after contacts have been treated
- Increased risk of further PID episodes

Alert Box

Discuss with client:
Contraception, planned pregnancy and safe sex

Other considerations

- If unable to tolerate oral therapy consider transfer to inpatient care
- Rest
- Analgesia – NSAID regularly (if not contraindicated), paracetamol as required
- Consider providing vaginal antifungal pessary in case candida develops as a result of antibiotic treatment
- Re-infection with chlamydia or gonorrhea is common in women with PID if their contact(s) were not treated or they have a new partner
- Women with re-infection will commonly represent with a history of rapid response to initial PID treatment, followed by a recurrence of low abdominal pain 3-6 months later
- Re-infection or recurrent PID is unlikely if there was no or limited response of pain to appropriate treatment, contact(s) were treated and no new partners

Follow Up

- Clinical review at 3 days to check symptoms are improving (and earlier review if symptoms are worsening)
- Then weekly review until symptoms resolved
- If pain persists, refer to doctor
- Retest at 3 months and repeat full STI and BBV check
- Ensure recall is in place as per organizational guidelines
- A quick response to treatment is highly predictive of PID
- If no or a limited response to treatment, consider antibiotic resistance or an alternative diagnosis
- Ensure CST is up to date
- Discuss contraception, planned pregnancy and safer sex

Resources

- Kimberley Contact Tracing Guidelines
- Silver Book
- Sexual Assault Resource Centre (SARC)

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