

Pelvic inflammatory diseases (PID)

Overview

- A syndrome comprising a spectrum of inflammatory disorders of the upper genital tract, including any combination of endometritis, salpingitis, tubo-ovarian abscess and pelvic peritonitis.
- Clinical presentation varies widely in both severity and symptomatology.
- Long term sequelae include tubal infertility, ectopic pregnancy, chronic pelvic pain.
- Prompt treatment is essential to minimise long-term sequelae.

Possible Causes

Possible causes

- May be acquired sexually or non-sexually.
- Polymicrobial.
- Sexually transmitted infections ([STIs](#)) (e.g. [Neisseria gonorrhoeae](#), [Chlamydia trachomatis](#), [Mycoplasma genitalium](#) implicated)
- Vaginal facultative bacteria and other vaginal bacteria have also been implicated including those associated with [bacterial vaginosis](#).
- Disruption of the cervical epithelium facilitates change in cervicovaginal environment allowing vaginal bacteria to ascend to the upper genital tract, for example during gynecological instrumentation including intrauterine device (IUD) insertion, dilation and curettage (D&C), or termination of pregnancy.

Clinical presentation

Signs and Symptoms	Considerations
Abdominal and Pelvic pain	Typically bilateral, may worsen with movement and may localise to one side Pain may refer to right upper quadrant Peritonism may be present
Dyspareunia	Deep
Vaginal/cervical discharge	Blood stained or mucopurulent discharge
Cervicitis	Inflammation, bleeding or mucopurulent discharge seen on speculum examination
Abnormal Bimanual examination	Cervical motion tenderness on cervical movement
Vaginal bleeding	Intermenstrual, postcoital and heavy menstrual bleeding
Fever, nausea, vomiting	Indicate severe infection. Absence of these symptoms does not exclude a diagnosis of PID

Diagnosis

Diagnosis is clinical and a low threshold of suspicion is necessary due to wide clinical spectrum (asymptomatic to severe).

- Examination is important to make an accurate diagnosis and assess severity.
- New onset of pelvic pain among sexually active people < 30 years is highly predictive of PID (with exclusion of surgical emergencies).
- Risks include: new sexual partner, partner with [STI](#) or symptoms of an [STI](#), recent uterine instrumentation (e.g. IUD insertion, surgical abortion).
- Exclude other causes of acute pelvic and abdominal pain e.g. ectopic pregnancy, appendicitis.
- The presence of an [STI](#) supports the diagnosis; however in 70% of cases no organism is detected.
- Bimanual examination is necessary to elicit cervical motion tenderness and adnexal or uterine tenderness. However, although a bimanual is ideal, the inability to perform this should not alter making a provisional diagnosis and commencing treatment.
- Eliciting pain on bimanual examination is a poor predictor of the presence of PID however the absence of pain makes the diagnosis of PID unlikely.
- Speculum examination allows for visualisation of the cervix. The presence of cervicitis and mucopurulent discharge supports the diagnosis of PID.

Investigations

Infection	Site/specimen	Test
Gonorrhoea	Endocervical swab	NAAT plus culture
Chlamydia	Endocervical swab	NAAT
Mycoplasma genitalium	Endocervical swab	NAAT

Infection	Site/specimen	Test
Bacterial Vaginosis	High vaginal swab	NAAT

NAAT – Nucleic acid amplification test

Specimen collection guidance

[Clinician collected](#) | [Self-collection](#)

Clinician collected specimens are recommended. However self-collection can be used if patient declines speculum and bimanual examination.

- All people with a uterus of reproductive age with new onset pelvic or lower abdominal pain should have the following investigations:
 - Urine pregnancy test and, if positive, arrange urgent pelvic ultrasound (exclude ectopic pregnancy)
 - Testing for [STIs](#) with endocervical swab
 - Urinalysis – the presence of nitrites, blood or leucocytes plus prominent symptoms of dysuria and frequency makes a urinary tract infection (UTI) a possible differential diagnosis.
- Pelvic ultrasound is useful to detect alternative causes of pain, if the diagnosis is uncertain. In PID, the pelvic ultrasound may be normal or may show indicators of pelvic inflammation with thickened and dilated fallopian tubes +/- free fluid. Transvaginal ultrasound is preferred.

Management

Principal treatment options

Infection	Recommended

Mild – moderate Outpatient treatment	Ceftriaxone 500 mg in 2 mL of 1% lignocaine IMI, or 500 mg IV, stat PLUS Metronidazole 400 mg PO, BD for 14 days PLUS Doxycycline 100 mg PO, BD for 14 days
Severe Inpatient treatment	Ceftriaxone 2 g IV, daily OR Cefotaxime 2 g IV, TDS PLUS Azithromycin 500 mg IV, daily PLUS Metronidazole 500 mg IV, <i>BD</i>

* If [M. genitalium](#) confirmed see guidelines for treatment or seek specialist advice.

Treatment advice

- Rapid response to appropriate antibiotic treatment is highly predictive of PID.
- Begin treatment immediately with provisional diagnosis, without waiting for test results.
- For patients who may be breast feeding or non-adherent to doxycycline, consider replacing with Azithromycin 1g PO stat plus a further dose 1 week later
- Consider removal of IUD if no response to treatment within 48-72 hours. Balance decision with risk of pregnancy and consider oral emergency contraception.
- Consider admission if:
 - clinically unwell including unstable vital signs, or pain not able to be managed in an outpatient setting
 - diagnosis uncertain
 - a surgical emergency cannot be excluded
 - suspicion or definitive diagnosis of a pelvic abscess
 - severe illness or a lack of response to outpatient management in 48 – 72 hours
 - intolerance to oral therapy
 - [pregnancy](#).

- homeless or unstable accommodation.

Other immediate management

- Patient to avoid sexual intercourse for a week following treatment or until symptomatically better
- Rest and simple analgesia where required if mild pain (non-steroidal anti-inflammatory medications, paracetamol). If pain severe consider if stronger analgesia and if admission is required
- Contact tracing
- Provide patient with [factsheet](#).

Special Treatment Situations

Situation	Recommended
Complicated infection such as People with immunosuppression due to human immunodeficiency virus (HIV)	Seek specialist advice

Situation	Recommended
Pregnancy	If pregnant or breastfeeding, avoid doxycycline and use azithromycin regimen i.e. for mild-to-moderate infection: Ceftriaxone 500 mg in 2 mL of 1% lignocaine IMI, or 500 mg IV, stat. PLUS Metronidazole 400 mg PO, BD for 14 days PLUS Azithromycin 1 g PO, stat PLUS Azithromycin 1 g PO, stat, 1 week later
Allergy to principal treatment choice	Seek specialist advice

Contact Tracing

Counselling, clinical examination, test for [C. trachomatis](#), [N. gonorrhoeae](#) and [M. Genitalium](#)

- Where organism is isolated, refer to relevant STI guideline for contact tracing recommendations:
- [Gonorrhoea](#)
- [Chlamydia](#)
- [M. genitalium](#).

See [Australasian Contact Tracing Manual – PID](#) for more information.

Follow Up

Follow-up provides an opportunity to:

- Review at 48-72 hours to assess adherence and response to treatment
- If no clinical improvement has occurred <72 hours, then consider admission
- Further review at 1-2 weeks to ensure adequate clinical response to treatment, adherence and treatment of sexual contacts; repeat pregnancy test, if clinically indicated.

For **test of cure** and **testing for reinfection** see:

- [Gonorrhoea](#)
- [Chlamydia](#)
- [M. genitalium](#)

Auditable Outcomes

100% of people diagnosed with PID have had investigations for [gonorrhoea](#) and [chlamydia](#).