# GYNAECOLOGY – Investigation and Management of Pelvic Inflammatory Disease (PID) (over 16years old)

University Hospitals of Leicester NHS
NHS Trust

**Trust ref: B50/2006**

**These guidelines related specifically to females over 16 years old presenting with PID. If under this age group seek further advice from Gynaecology and Microbiology.**

## Contents



## 1. Introduction

Pelvic Inflammatory Disease (PID) is a complication of genital infection ascending from the endocervix causing endometritis, salpingitis, parametritis, oophoritis, tuboovarian abscess and/or pelvic peritonitis. Common organisms that are associated with PID include *Chlamydia trachomatis, Neisseria gonorrhoea*, *Mycoplasma genitalium, Gardnerella vaginalis* and anaerobes.

Sexually transmitted infections (*Neisseria gonorrhoeae*, *Chlamydia trachomatis)* account for a quarter of UK cases. PID may also be caused by a number of less common infections that may, or may not, be sexually transmitted. Occasionally, PID can develop after a miscarriage or termination of pregnancy, after a child birth or after insertion of an intrauterine device (IUD).

PID may be symptomatic or asymptomatic. Clinical signs and symptoms, when present, lack sensitivity and specificity, which can lead to a delay in initiating appropriate treatment contributing to further complications. A high index of suspicion is therefore required to establish a diagnosis of PID particularly among young sexually active women/people with lower abdominal pain.

A diagnosis of PID, and empirical antibiotic treatment, should be considered and usually offered in any young (under 25 years old) sexually active woman/people who have recent onset, bilateral

lower abdominal pain associated with local tenderness on bimanual vaginal examination, in whom pregnancy has been excluded.

**Related documents;**

- Genitourinary Tract Infection in Adults UHL Guideline
- Sepsis and Septic Shock (Includes UHL and Kettering Sepsis Pathway) UHL Guideline
- Tuberculosis UHL Policy

## 2. Guideline Standards and Procedures

### 2.1. Clinical Features

- Lower abdominal pain (of recent onset, i.e. less than 6 months)
- Deep dyspareunia (painful intercourse especially of recent onset)
- Abnormal vaginal bleeding (of recent onset), +/-intermenstrual bleeding+/- post-coital bleeding
- Abnormal cervical/vaginal discharge
- Secondary dysmenorrhoea
- Fever, vomiting (may not be present)
- Physical signs:
  - Adnexal/Pelvic tenderness (usually bilateral)
  - Cervical motion (excitation) tenderness
  - Muco-purulent cervical discharge
  - Pelvic/Adnexal mass

### 2.2. Suggested Indications for admission to hospital

- When surgical emergency (e.g. appendicitis, ectopic pregnancy) cannot be excluded
- PID in pregnancy
- Poor response to antibiotics after 72 hours of **adequate** treatment
- Patient is unable to comply with or tolerate the out-patient oral antibiotic regimen
- Severely ill patient with nausea and vomiting
- Presence of tubo-ovarian abscess
- Clinically severe disease with fever >38 °C

### 2.3. Investigations

- Pregnancy test – if positive consider normal or ectopic pregnancy. (NB Pregnancy does not exclude concomitant PID)
- Collect 2 high vaginal swabs from the posterior vaginal fornix
  - High vaginal swab (charcoal swab) for evidence of bacterial vaginosis/trichomonas vaginalis/candida – send in BLUE MICROBIOLOGY REQUEST FORM
  - Single vaginal swab for *Neisseria gonorrhorea*, *Chlamydia trachomatis and Mycoplasma genitalium.* Testing for all three organisms is recommended. Send in BLACK VIROLOGY REQUEST FORM
- Exclude urinary tract infection – refer to Genitourinary Tract Infection in Adults UHL Guideline (B20/2019)
- Imaging (USS or CT as indicated in severe cases)
- Consider FBC and CRP
- Blood cultures especially if signs of sepsis or systemically unwell
  - If concerns of sepsis: Follow Sepsis and Septic Shock (Includes UHL and Kettering Sepsis Pathway) UHL Guideline (B11/2014)
  - Do not give Meropenem to patients with likely pelvic inflammatory disease – follow the treatment regimens given below.
- Offer HIV testing to all women/people presenting with clinical suspicion of PID
- Offer HIV, Hep B & C and Syphilis screening for women/people with confirmed tubo-ovarian abscess or patients who are clinically unwell with suspected PID

A positive test for gonorrhoea, chlamydia or *M. genitalium* supports the diagnosis but the absence of these organisms does not exclude PID.

**All patients attending GAU with non-specific symptoms who are treated as PID, should be offered HIV testing. This should be documented in the patient notes.**

**All patients admitted with suspected PID/TOA (tubo-ovarian abscess) should be offered HIV, HBV and HCV, Syphilis testing in addition to vaginal swabs for Chlamydia, GC and TV.**

- **No specific consenting process is required for HIV testing other than offering the patient the tests.**
- All positive HIV, Hepatitis B and Syphilis serology results go directly to GAU mailbox who will contact the patient and arrange confirmatory testing, follow up with the respective team and contact tracing.

### 2.4. Treatment

Delaying treatment is likely to increase the risk of long-term sequelae such as ectopic pregnancy, infertility and pelvic pain. Because of this, and the lack of definitive diagnostic criteria, a low threshold for empirical treatment for PID is recommended.
Broad spectrum antibiotic therapy is required to cover a wide variety of aerobic and anaerobic bacteria.
Small tubo-ovarian abscesses often resolve spontaneously with parenteral therapy. Larger abscess may require surgical intervention (drainage or salpingo-oophorectomy) as well as parenteral therapy if not responding to parenteral therapy alone.

In patients undergoing surgical drainage of TOA/washout consider sending sample collected from the pelvis for TB culture if obtained during surgery if genitourinary TB suspected. (Tuberculosis UHL Policy)

**CA125 is not reliable in this scenario. Do not delay surgical treatment for MRI/MDT referral e.g. where radiology reports state "malignancy cannot be excluded" where TOA is the most likely diagnosis as this will cause unnecessary delay in treatment.**
Dose reductions may be required for patients with renal impairment, discuss with a pharmacist if advice needed. Refer to a pharmacist or microbiologist for advice on treatment in patients with liver impairment.

**Table 1: Empiric antimicrobials for women/people who are not pregnant/using effective contraception**

| ***Empiric antimicrobials for women/people who are NOT pregnant/using effective contraception*** | |
|---|---|
| **Mild to severe Uncomplicated PID**<br><br>Can be managed as an outpatient<br><br>No indications for hospitalisation | **1st Line**<br>IM Ceftriaxone 1g single STAT dose<br><br>**AND** oral Doxycycline 100mg BD and oral Metronidazole 400mg BD for 14 days |
| | **2nd Line (if first line treatment not appropriate)**<br>Oral Moxifloxacin 400mg OD for 14 days<br><br>*Avoid in severe liver impairment or at risk of cardiac arrhythmias. Avoid in history of tendon rupture secondary to quinolones. Caution with increased risk of aortic aneurism or dissection.*<br><br>*Discuss with microbiology or GUM if high risk of N. gonorrhoea infection (e.g. partner with confirmed gonorrhoea or sexual contact abroad in past 6-months)* |
| | **Review microbiology when results available**<br>If *M. genitalium* isolated from swabs, ensure treatment is oral Moxifloxacin 400mg OD for 14 days |
| **Complicated PID**<br>e.g. tubo-ovarian abscess/complex, signs of pelvic peritonitis<br><br>Need for hospitalisation<br><br>Admit and treat as an inpatient initially<br><br>Intravenous therapy should be continued until 24 hours after clinical improvement of symptoms /resolution of pyrexia and then switch to oral regime to complete 14 days treatment minimum. | **For patients with sepsis:**<br>**Do NOT give Meropenem 1g IV, use the treatment options listed here.**<br>**Follow the sepsis guideline for other supportive treatment.** |
| | **1st Line**<br>IV Ceftriaxone 2g OD, continued until clinically improving for 24-hours<br><br>**AND** oral Doxycycline 100mg BD and oral Metronidazole 400mg BD to complete 14 days treatment |
| | **2nd Line (if first line treatment not appropriate)**<br>IV Clindamycin 900mg TDS and IV Gentamicin, continued until clinically improving for 24-hours<br><br>**THEN** oral Clindamycin 450mg QDS to complete 14 days treatment<br>**OR** oral Doxycycline 100mg BD and Metronidazole 400mg BD to complete 14 days treatment.<br><br>*For Gentamicin: Use UHL guidelines for prescribing once-daily gentamicin in adults - contact pharmacist prior to prescribing* |
| | **If symptoms not improving**: discuss with consultant gynaecologist or microbiologist, consider surgical intervention. |

**Table 2: Empiric antimicrobials for pregnant women/people or not using effective contraception**

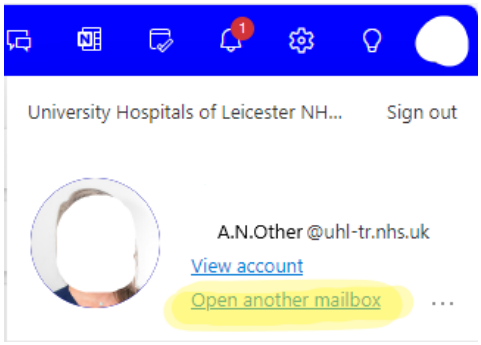
| *Empiric antimicrobials for pregnant people or not using effective contraception* | |
|---|---|
| **Complicated PID**<br>**<u>All pregnant people</u>** should be managed as having complicated PID<br><br>Admit and treat as an inpatient initially<br><br>Intravenous therapy should be continued until 24 hours after clinical improvement of symptoms /resolution of pyrexia and then switch to oral regime to complete 14 days treatment minimum. | **For patients with sepsis:**<br>Do NOT give Meropenem 1g IV, use the treatment options listed here.<br>Follow the sepsis guideline for other supportive treatment. |
| | **1st Line**<br>IV Ceftriaxone 2g OD and IV Erythromycin 500mg QDS and IV metronidazole 500 mg BD, continued until clinically improving for 24-hours<br><br>**THEN** Oral Erythromycin 500mg QDS and oral Metronidazole 400mg BD to complete 14 days treatment |
| | **2nd Line (if first line treatment not appropriate)**<br>IV Clindamycin 900mg TDS and IV Gentamicin, continued until clinically improving for 24-hours<br><br>**THEN** Oral clindamycin 450mg QDS to complete 14 days treatment<br><br>*For Gentamicin: Use UHL guidelines for prescribing gentamicin in obstetric patients - contact pharmacist prior to prescribing* |
| | **If symptoms not improving**: discuss with Obstetrician/Gynaecologist or microbiologist |

**Table 3: Advice to be given to all patients**

| *Advice to be given to all patients* |
|---|
| • Explain condition, treatment (possible side effects) and complications.<br>• Avoid unprotected intercourse until both partners have completed treatment<br>• Give PID patient information leaflet which includes information on partner notification/ treatment. https://www.bashhguidelines.org/media/1034/pid-pil-2015-screen-friendly.pdf (Leicester Sexual Health contact details below in additional information)<br>• For patients treated as an outpatient: if there is no significant improvement within 72-hours (3 days) then the patient should return for assessment at hospital.<br>• Partner notification should occur for all patients with confirmed sexually transmitted infection as per 2012 BASHH statement on partner notification for sexually transmissible infections 2012 BASHH statement on partner notification for sexually transmissible infections (sagepub.com) |

## 2.5. Follow-up

- **Patients should show significant improvement within 72-hours** (diminishing abdominal tenderness, diminished pelvic tenderness, adnexal tenderness and cervical excitation tenderness), resolving pyrexia and improving blood inflammatory markers.
- **In outpatients, failure to show improvement necessitates re-evaluation** of diagnosis and hospital admission for further investigations, parenteral therapy and/or surgical intervention
- **Empirical PID treatment must be reviewed in line with swab/culture results.**
  - If cultures are positive for *Neisseria gonorrhoea*, *Chlamydia trachomatis* or *Mycoplasma genitalium,* treatment should be reviewed and given as per specific positive organism isolated and patient advised of the need for test of cure 4-weeks after treatment with GP or sexual health clinic (self-referral by patient).
  - If *M. genitalium* isolated from swabs in non-pregnant women with uncomplicated PID, ensure treatment is oral moxifloxacin 400mg OD for 14 days
  - If Neisseria Gonorrhoea is isolated needs sending endocervical charcoal swab for culture and sensitivity
  - If resistance suspected or proven on microbiology, treatment should be discussed with a microbiologist.
- **All positive STI results including HIV, HBV, Syphilis results from GAU will be communicated by the microbiology laboratory to the GAU Mailbox -** gynaeassessmentunitresults@uhl-tr.nhs.uk**. In addition the following fail-safes are in place:**
  - HIV – positive results are also emailed to the requesting clinician (phoned to ward if inpatient) and copied to LRI HIV team.
  - HBV - acute hepatitis B is notifiable and so is registered with UKHSA by the virology lab, and emailed to the requesting clinician (phoned to ward if inpatient). Chronic hepatitis B however is just authorised out with a comment recommending referral to hepatitis clinic (ie no emails)
  - HCV – Requesting clinician to refer to the Hep C team (who chase clinicians who haven't referred their patients in a reasonable timeframe).
  - Syphilis - positive results are emailed to the requesting clinician if new RPR result.
- **The GAU mailbox will be monitored by senior nursing team on GAU who will highlight results requiring action to the Gynaecology Emergency Medical Team to action.**
- **GAU Mailbox is accessed from your trust outlook account by selecting "open another mailbox" and typing gynaeassessmentunitresults@uhl-tr.nhs.uk.**




- **In cases of TOA – offer GAU review with USS after 4-6 weeks** to ensure abscess is resolving, cross check test results and ensure patient has been compliant with contact tracing. This will pick up where the mass is in fact other pathology or patient is at high risk of recurrent symptoms.

## 2.6 Additional Information

### 2.6.1 Pregnancy

This may be associated with a high risk of both foetal and maternal morbidity and pre-term delivery. All cases should be treated initially in hospital with parenteral antibiotics. Doxycycline use should be avoided in pregnancy or where a person is at risk of pregnancy i.e. not using effective contraception.

### 2.6.2 HIV Infection

No change in treatment of PID is needed. For patients who are HIV positive, ensure the responsible HIV physician has been informed.

### 2.6.3 Intra-uterine Device

Removal of an intra-uterine device should be considered if symptoms fail to resolve after 48-72 hours on appropriate therapy, with consideration for the need for emergency contraception.

### 2.6.4 Partner notification (PN)

PN (also known as contact tracing) is the process of providing access to specific forms of health care to sexual contacts who may have been at risk of infection from an index case. This includes supportively providing advice to contacts about possible infection, and providing treatments for infection. The PN process includes identifying a look-back interval in which infection of contacts may have occurred, agreeing and recording contact actions with the index case, and following up and recording the outcomes of PN. See Appendix 1
Support with Partner Notification can be obtained via the Sexual Health Clinic where necessary.

**Leicester Sexual Health:** Contact Details and address

Tel: 0300124 0102

Leicester Sexual Health

Haymarket Health

1st Floor

Haymarket Shopping Centre

Leicester LE1 3YT

http://leicestersexualhealth.nhs.uk

### 2.6.5 Discharge Information

PID is often a diagnosis of exclusion following admission to a Gynaecology ward. If there is a high clinical suspicion of PID please code ‘PID’ or ‘treated as PID’.

The following paragraph should be added to the discharge summary in the "information for patients" box.

*You have been found to be suffering from possible or proven Pelvic Inflammatory Disease which has been treated with a prolonged course of antibiotics. It is important that you complete these antibiotics to reduce the chance of the infection coming back.*
***If you have a positive test for a sexually transmitted infection, you have a moral duty to inform anyone you have had sex with in the last 6 months**, who should be tested for infection and also treated even if they are well. You should contact them yourself or the local genitourinary medicine (GUM) clinic or sexual health clinic will be able help you with this.*
*You should avoid having any sexual contact while on the antibiotics and **for 1 week after both you and your partner have both completed the courses of treatment**, to reduce the chance of reinfection.*
*If you have a moderate to severe infection, you may be given an appointment to return for a repeat scan after 4 to 6 weeks. It is important to attend this appointment so that your doctor can see that your symptoms are responding to the antibiotics and that the infection is improving. We will check*
*• that your treatment has been effective*
*• whether a repeat swab test is needed to confirm that the infection has been successfully treated; this is particularly important if you have ongoing symptoms*
*• whether another pregnancy test is needed*
*• that you have all the information you need about future contraceptive choices*
*• that your sexual partner(s) have been treated*
*• that you have all the information you need about the long-term effects of PID. You can find more information about PID at https://www.rcog.org.uk/media/2i1fjjs2/pi-acute-pid.pdf*

*If your symptoms are not improving after you have gone home, you should call GAU on 0116 258 6259 for further advice.*

## 3. Education and Training

Online learning around issues of partner notification is available on e-LFH produced by BASHH.

- Sexual Health & HIV (HIV-STI) > Module 01 Approach to patient > 01_14 Partner notification : when and how
- Sexual Health & HIV (HIV-STI) > Module 11 HIV testing and prophylaxis > 11_03 HIV Disclosure and Partner Notification
- Sexual Health & HIV (HIV-STI) > Module 16 Public health > 16_12 Notification and Voluntary Reporting in Sexual Health
- Sexual and Reproductive Health (e-SRH) > 9. STIs > 09_04 Partner Notification

## 4. Monitoring Compliance

| What will be measured to monitor compliance | How will compliance be monitored | Monitoring Lead | Frequency | Reporting arrangements |
|---|---|---|---|---|
| Adherence to recommended antimicrobial regimen (target 95%) | Annual Trust Wide Antimicrobial Prescribing Audit | Antimicrobial Pharmacists | Annual | AWP and TIPAC |
| Robust results review and referral process | Monitoring datix reporting missed positive results | | | |

## 5. Supporting References


- UK National Guideline for Management of Pelvic Inflammatory Disease (BASHH) (2019 Interim Update) J.Ross et al 2018. http://www.bashh.org/guidelines
- Drugs in pregnancy and lactation. 7th Ed. Briggs CG, Freeman RK, Yaffe SJ.

## 6. Key Words

- PID
- Pelvic Inflammatory Disease
- Pelvic
- Inflammatory
- Disease

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**The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.**
**As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.**

| CONTACT AND REVIEW DETAILS | |
|---|---|
| **Guideline Author**<br>Miss Manjula Kurni – Consultant Gynaecologist<br>**Guideline Lead –** Miss Olivia Barney | **Executive Lead**<br>Chief Medical Officer |
| **Guideline Reviewers**<br>Subashini Sivalingam – Consultant Gynaecologist<br>Olivia Barney – Consultant Gynaecologist | **Ratified by AWP: May 2024** |

**Details of Changes made during review:**

**2.3**

**All patients attending GAU with non-specific symptoms who are treated as PID should be offered HIV testing. This should be documented in the patient notes.**

**All patients admitted with suspected PID/TOA should be offered HIV, HBV and HCV, Syphilis testing in addition to vaginal swabs for Chlamydia, GC and TV. No specific consenting process is required for HIV testing other than offering the patient the tests.** All positive HIV, Hepatitis and Syphilis serology results go directly to ID team who will contact the patient and arrange confirmatory testing, follow up and contact tracing.

2.4 Treatment -

Introduction Paragraph added and within the treatment table for complicated PID and Pregnant; "Intravenous therapy should be continued until 24 hours after clinical improvement and then switched to oral" has been added.

**CA125 is not reliable in this scenario. Do not delay surgical treatment for MRI/MDT referral e.g. where radiology reports state "malignancy cannot be excluded" where TOA is the most likely diagnosis as this will cause unnecessary delay in treatment.**

2.5 **In cases of Tubo-ovarian abscess – offer GAU review with USS after 4-6 weeks to ensure abscess is resolving, cross check test results and ensure patient has been compliant with contact tracing.** This will pick up where the mass is in fact other pathology or patient is at high risk of recurrent symptoms

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**2.6.4 Partner notification (PN)**

**2.6.5 Discharge Information for patients has been added**

**3 Education and Training on Partner notification**

**Appendix 1: Partner Notification (PN)**

- PN reduces reinfections in the patient by the current partner and transmission to others to reduce the burden of disease in the community and associated morbidity
- Healthcare professionals (HCPs) should have appropriate, documented competencies in carrying out PN discussions as per 2012 BASHH statement on partner notification for sexually transmissible infections (sagepub.com)
- PN should follow NHS England Policy HIV and Sexually Transmitted Infections (STIs) - NHS Transformation Directorate (england.nhs.uk) to ensure confidentiality of patients is protected.

| Infection | Approximate look-back intervals for partner notification plus any contacts since onset of symptoms or detection on screening | Is treatment started before confirmatory testing? | Counselling and PN to be carried out by: |
|---|---|---|---|
| Chancroid | 10 days before onset of symptoms | Yes | GAU medics |
| Chlamydia | contacts since onset of symptoms and prior 6 months | Yes | GAU medics |
| Gonorrhoea | contacts since onset of symptoms and prior 3 months | Yes | GAU medics |
| Viral Hepatitis A | With jaundice:2 weeks prior to & 1 week after<br><br>Without jaundice:2 weeks prior to & 1 week after most likely time of infection: Food or Water borne | No | UKHSA |
| Viral Hepatitis B/C | With jaundice:2 weeks prior to & 1 week after<br><br>Without jaundice:2 weeks prior to & 1 week after most likely time of infection – PN for any sexual contact (vaginal/anal/oro-anal sex) or partner sharing injection equipment | No | Hepatitis team |
| HIV 1 or 2 | All contacts since likely infection and 3 months prior | PEP where appropriate | HIV team |
| LGV | With symptoms: since onset of symptoms and 4 weeks prior to symptoms<br><br>Without symptoms: all contacts since LGV detection and prior 3 months | Yes | GAU medics |
| PID | As per pathogen detected or 6 months | Yes | GAU medics |
| Pubic lice | 3 months | Yes | GAU medics |
| Scabies | Contacts with prolonged skin-to-skin contact, bed and clothes sharing, and household contacts) since onset of symptoms and prior 2 months | Yes | GAU medics |
| Primary syphilis | contacts since onset of symptoms and prior 3 months | Yes | GAU medics<br>PN – Sexual Health clinic |
| Secondary/early latent syphilis | contacts since onset of symptoms and prior 2 years | Yes | GAU medics<br>PN – Sexual Health clinic |
| Late latent /late syphilis | PN for contacts back to the date of last negative syphilis serology/lifetime/mother if congenital syphilis is possible | No | GAU medics<br>PN – Sexual Health clinic |
| Trichomonas | contacts since onset of symptoms and prior 4 weeks | Yes | GAU medics |