Doncaster and Bassetlaw Teaching Hospitals
NHS Foundation Trust

GUIDELINE FOR PELVIC INFLAMMATORY DISEASE

This procedural document supersedes: GUIDELINE FOR PELVIC INFLAMMATORY DISEASEGSG 2 Version 5

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Date written/revised:	Written June 2013 Revised June 2026
Approved by:	Guideline Group Maternity & Gynaecology Clinical Governance Group
Date of approval:	19th May 2026
Date issued:	May 2026
Next review date:	April 2029
Target audience:	All Maternity, Gynaecology and GUM Staff

Amendment Form

Version	Date	Brief Summary of Changes	Author
6	July2026	• Amendment to antibiotics section Gentamicin prescription to align with Trust guidance • Clarity around IVOS and treatment durations for PID antibiotics • Addition of fluoroquinolone PIL	Miss Ngadze
5	April 2026	Minor amendment on fluroquinolone side effects	Miss R Ngadze
4	August 2023	• Updated evidence base and reviewed. No changes required	Alex Merriman Miss R Ngadze
3	July 2020	• Updated based on British Association for Sexual Health and HIV guideline 2019 Interim Update) • Side effects of quinolones • Role of ultrasound guided drainage of tubo-ovarian abscess • PID in pregnancy • Follow up section created	Dr R Ngadze (ST6) Dr T Yin
2	December 2016	• Updated based on new RCOG GTG No. 69 June 2016 • Treatment advice updated including introduction of PUQE score • Drug dose/duration updated	Dr H Sheehan (ST5) Dr T Yin
1	June 2013	• This is a new document please read in full	Mr Gergis

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Within this document the terms woman and women are used however, it is important to acknowledge that it is not only people who identify as women for whom it is necessary to access women's health and reproductive services in order to maintain their gynaecological health and reproductive wellbeing. As a gynaecological and obstetric service, we must be inclusive and sensitive to the needs of those individuals whose gender identity does not align with the sex they were assigned at birth

1 INTRODUCTION

Pelvic Inflammatory Disease (PID) is a common presentation to Gynaecology departments and Sexual Health clinics. Delay in receiving appropriate treatment markedly increases the risk of complications and has significant healthcare costs.

1.2 AETIOLOGY

PID is frequently the result of infection ascending from the endocervix. It may also be as a result of intra-abdominal infection such as appendicitis and pyelonephritis.

30-40% of PID cases are caused by multiple organisms (Munro 2018). Chlamydia trachomatis is the commonest cause of PID in the UK accounting for 14-35% of the cases (BASHH 2019). Organisms in normal vaginal flora such as anaerobes, Gardnerella vaginalis, Haemophilus influenza, enteric Gram-negative rods, and Streptococcus agalactiae have also been implicated, however pathogen negative PID is common (BASHH 2019).

Insertion of an intrauterine device increases the risk of PID however the risk is for only up to 4 to 6 weeks after insertion. The risk of infections is highest in women with pre-existing gonorrhoeae and chlamydia hence the importance of obtaining swabs prior to intra-uterine device insertion (BASHH 2019).

2 PURPOSE

This guideline applies to all women treated at Doncaster and Bassetlaw Hospitals NHS Foundation Trust for Acute Pelvic Inflammatory Disease.

3 DUTIES AND RESPONSIBILITIES

All medical and nursing staff have a responsibility to work within this guideline. Any deviations from the guideline, by a senior clinician, to meet individual patient need must be documented within the Integrated Pathway of Care.

4 GUIDELINE FOR PELVIC INFLAMMATORY DISEASE

4.1 DIAGNOSIS

A diagnosis of PID is made on clinical grounds. A patient may present with some of the signs and symptoms below (Table 1). Note however that signs and symptoms of PID lack sensitivity and specificity and a patient may be asymptomatic (BASHH 2019).

Symptoms	Signs
Lower abdominal pain (usually bilateral)	Lower abdominal tenderness (usually bilateral)
Deep dyspareunia	Adnexal tenderness
Abnormal vaginal bleeding (intermenstrual, post coital, heavy)	Cervical motion tenderness
Abnormal vaginal or cervical discharge (often purulent)	Fever greater than 38 C (moderate to severe disease)
Secondary dysmenorrhoea	

Table 1. Signs and symptoms of PID

Diagnose and commence treatment in any woman under the age of 25 with:

- Acute bilateral lower abdominal pain
- Local tenderness on bimanual examination
- Negative pregnancy test
- And no other cause for the pain (BASHH 2019).

4.2 COMPLICATIONS

Fitz-Hugh-Curtis syndrome

- Comprises of right upper quadrant pain and PID. The pain is due to peri-hepatitis.
- It is common in C. trachomatis (BASHH 2019).

Tubo-ovarian abscess

- Occurs in 15 to 35% women treated for PID (Munro 2018)
- It should be suspected if:
  - The patient is unwell
  - Women with severe pelvic pain
  - A mass is palpable
  - Poor response to treatment
  - Fever and raised WCC (Sordia-Hernandez 2016)

- When associated with severe sepsis tubo-ovarian abscesses have a 5 to 10% morbidity therefore prompt and effective treatment is required (Munro 2018)

4.3 DIFFERENTIAL DIAGNOSES

Gynaecological

- Ectopic pregnancy.
- Threatened miscarriage
- Endometriosis.
- Ovarian cyst rupture, torsion, or haemorrhage.
- Mittelschmerz.

Non-gynaecological

- Acute appendicitis
  - Nausea and vomiting occurs in most women with appendicitis, but in only 50% of women with PID (BASHH 2019).
  - Cervical motion tenderness is seen in 25% of women with acute appendicitis.
- Gastrointestinal disorders (most commonly irritable bowel syndrome).
- Urinary tract infection.
- Functional pain.

4.4 INVESTIGATIONS

Urine pregnancy test

- Exclude pregnancy

Endocervical swabs to test for gonorrhoea and chlamydia

- Insert the Nucleic acid amplification test (NAAT) swab inside the cervical os and firmly rotate it against the endocervix.
- Swabbing a collection of discharge will result in an inadequate specimen

High vaginal swab to test for infections such as bacterial vaginosis and candidiasis

A positive swab result supports a diagnosis of PID however

A negative result <u>does not</u> exclude PID (BASHH 2019)

C reactive protein (CRP) and White Cell count

- Raised inflammatory markers are non-specific but can provide a useful measure of disease severity.
- CRP and white cell counts are usually only abnormal in moderate to severe PID (Sordia 2016, BASHH 2019, NICE 2023).

If septic investigations as per "sepsis six protocol" are to be carried out (Munro 2018)

- Blood cultures
- Serum lactate

- Urine output measurement

Ultrasound scan

- Useful when tubo-ovarian abscess is suspected however ultrasound scanning is of limited value in uncomplicated PID.
- May also be used to rule other differential diagnoses.

CT scan and MRI

- These investigations are reserved for cases where the diagnosis is uncertain and ultrasound inconclusive (BASHH 2019, NICE 2023 Munro 2018).
- MRI has a higher specificity and sensitivity than ultrasound and has the advantage of being non- radiating (BASHH 2019, Munro 2018)

Screening for other sexually transmitted infections

- All women with PID should be advised to attend a sexual health clinic with their partner(s) for contact tracing and full STI screen.

4.5 MANAGEMENT

A low threshold for treatment is required in order to reduce the effects of long-term sequelae such as ectopic pregnancy and chronic pelvic pain.

- Do not await swab results to commence treatment (BASHH 2019)

4.5.1 GENERAL ADVICE

- Advise rest if severe disease
- Avoid unprotected intercourse until the woman and their partner(s), have completed treatment and follow-up.
- Refer the patient and their partner(s) to Sexual HealthVenous thrombo-embolism prophylaxis is required for inpatients if there are no contra-indications and surgery is not imminent (Munro 2018)

4.5.2 OUTPATIENT MANAGEMENT

Start empirical antibiotics as soon as a clinical diagnosis of PID is made
Do not await swab results.

The following are recommended outpatient regimens for PID.

Antibiotics	Consideration
First line **Ceftriaxone 1g IM One dose** **Doxycycline 100mg PO BD for 14 days** **Metronidazole 400mg PO BD for 14 days**	Note: Ceftriaxone can be used if penicillin causes rash
Second line **Ofloxacin* 400mg PO BD for 14 days*** **Metronidazole 400mg PO BD for 14 days**	
Second line **Moxifloxacin* 400mg PO OD for 14 days**	Moxifloxacin is the most effective against treatment against *Mycoplasma genitalium*
Third line **Ceftriaxone 1g IM One dose** **Azithromycin 1 gram/ week PO for 2 weeks**	Limited research Recommended if other options are contra-indicated

*Quinolones (ofloxacin and moxifloxacin) have side effects which are sometimes irreversible and disabling e.g. peripheral neuropathy and aortic aneurysm.

Caution should be exercised prior to prescription.

Avoid quinolones if gonococcal PID is suspected (for example if sexual contact abroad) as there is increasing resistance to quinolones PID in the UK.

Provide patients receiving Fluoroquinolones with the MHRA patient information leaflet below:
https://assets.publishing.service.gov.uk/media/65aa9125c69eea0010883840/FQ_Patient_Information_Sheet_-_TO_PUBLISH.pdf

Quinolones are not licenced for people under the age of 18 (BASHH 2019)

4.3.2 INPATIENT MANAGEMENT

Inpatient treatment is recommended when:

- Severe PID suspected for example temperature > 38°C / abscess
- No response to oral treatment
- Oral treatment not tolerated
- The patient is pregnant

- Surgical emergency cannot be excluded (BASHH 2019)

Parenteral treatment should be continued until 24 hours after clinical improvement, and then the patient should be commenced on oral treatment.

The following are recommended inpatient regimens for PID.

Antibiotic Regimen
First line **Ceftriaxone 2g IV once daily AND Doxycycline 100mg BD** **Continue for 24 hours after clinical improvement, then switch to** **Doxycycline 100mg PO BD for 14 days AND Metronidazole 400mg PO BD** (Total course length 14 days including IV treatment) Note: Ceftriaxone can be used if penicillin causes rash
Second line: If severe allergy to penicillin **Clindamycin 900mg IV TDS AND Gentamicin IV*** **Continue for 24 hours after clinical improvement then switch to** **PO Doxycycline 100mg PO BD AND Metronidazole 400mg PO BD** **OR** **Clindamycin 450mg PO QDS** (Total course length 14 days including IV treatment) ***Please see Trust guideline on Extended-Interval Gentamicin Pathway for dosing and monitoring information** gentamicin-IPOC-WPR26165.pdf

4.5.4 TUBO-OVARIAN ABSCESS

- Treatment of tubo-ovarian abscess with antibiotics is effective in 70% of cases but is associated with high rates of recurrence (Munro 2018).
- The duration of antibiotic treatment may need to be extended beyond 14 days if large abscess (Munro 2018).
- If no clinical improvement after 24 to 48 hours of antibiotics, surgical or radiological intervention is required.

Surgical management

- Surgical intervention may help early resolution of disease
- The decision of whether to perform laparoscopy or laparotomy will depend on clinical situation and surgeon's preference (Munro 2018).
- Radical surgery such as salpingo-oopeherctomy is associated with higher risk of complications than conservative treatment such as irrigation (Munro 2018).
- The patient's fertility wishes should also be considered.
- Pus swabs should be obtained to guide antibiotic therapy

- If elective surgery is required, it is recommended 6 weeks after the acute episode when tissue quality is improved (Munro 2018)

Ultrasound or CT guided drainage

- Radiological guided drainage of collections is less invasive than surgery and is associated with success rate from 83 to 100% (Munro 2018).
- The drainage may be through aspiration or catheter insertion. The chosen method will depend on the abscess' characteristics.
- Antibiotic coverage is recommended for trans-vaginal approach (Munro 2018)

4.5.5 PELVIC INFLAMMATORY DISEASE IN WOMEN WITH INTRAUTERINE CONTRACEPTIVE DEVICE (IUD)

Limited randomised control studies have been carried out regarding the removal of the IUD in women with PID.

- If mild to moderate disease, IUD may be left in situ and review of clinical situation in 48 to 72 hours. If no improvement the IUD should be removed (BASHH 2019).
- Emergency hormonal contraception should be given if the woman had unprotected sexual intercourse in the preceding 7 days (BASHH 2019).
- After removal of coil, it is important to discuss with and arrange alternative contraception (BASHH 2019, NICE 2023).

4.5.6 PID IN PREGNANCY

- PID in pregnancy is uncommon. The thick cervical mucus produced in pregnancy is thought to act as a barrier for ascending infection (Alalade 2017)
- Tubo-ovarian abscess may occur after oocyte retrieval therefore PID should be considered as differential in these patients (Alalade 2017)
- Should PID occur in pregnancy it is associated with significant maternal and fetal morbidity. It is therefore important that patients receive parenteral treatment (BASHH 2019)
- The presentation is variable from swinging pyrexia if tubo-ovarian abscess to peritonitis if the abscess ruptures (Alalade 2017)
- If ultrasound scan findings are indeterminate, MRI is the imaging modality of choice due as it is non- radiating. The safety of gadolinium contrast in pregnancy is uncertain (Alalade 2017)
- There is insufficient data to recommend a specific antibiotic regimen in pregnacny. Discussion with Microbiology is advised (BASHH 2019)
- Doxycycline is contra-indicated in pregnancy due to its effects on teeth discolouration and skeletal development (Alalade 2017)

- The use of empirical treatment in very early pregnancy (before a positive test) is justifiable as the benefits outweigh the risk of increased morbidity (BASHH 2019).
- Surgical management is recommended if acute abdomen. The surgical approach is dependent on gestation. If laparotomy is planned in the third trimester consideration for delivery of the baby by Caesarean section (after steroid cover if under 39 weeks) is required. (Alalade 2017

4.5.7 PID IN HIV POSITIVE WOMEN

HIV positive women may present with severe disease however they respond well to empirical treatment (BASHH 2019). If severe disease they require parenteral treatment. Liaison with the HIV specialist is encouraged (NICE 2023).

4.5.8 FOLLOW UP

Women who have had PID require follow up 2 to 4 weeks in the after treatment to ensure:

- Adequate clinical response
- Treatment compliance of patient and partner(s)
- Counselling regarding sequelae (BASHH 2019, NICE 2023)

It is therefore imperative that this is documented in the discharge summary

5 MONITORING COMPLIANCE

Compliance with the guideline will be monitored in accordance with the approved Clinical Governance monitoring document.

6 REFERENCES

- Alalade Ao, Maraj H. Management of adnexal mass in pregnancy. The Obstetrician and Gynaecologist 2017; 19:317-25
- British Association for Sexual Health and HIV UK (2019) United Kingdom National Guideline for the Management of Pelvic Inflammatory Disease (2019 Interim Update) BASHHUK, London. [Online] Viewed 01/05/2020 https://www.bashh.org/guidelines
- Munro K, Gharaibeh A, Nagabushanam S, Martin C. Diagnosis and management of tubo-ovarian abscesses. The Obstetrician and Gynaecologist 2018:20 (1):11-9
- National Institute for Health and Clinical Excellence (NICE) Clinical Knowledge Summary Pelvic Inflammatory Disease. [Online]. Revised July 2023.
- https://cks.nice.org.uk/pelvic-inflammatory-disease
- Sordia-Hernandez LH et al. Comparative study of clinical features of patients with tubo-ovarian abscess and patients with severe PID. International journal of Gynaecology and Obstetrics 2016; 132:17-19

APPENDIX 1 - EQUALITY IMPACT ASSESSMENT PART 1 INITIAL SCREENING

Service/Function/Policy/Project/ Strategy	Division	Assessor (s)	New or Existing Service or Policy?	Date of Assessment
Guideline Group	Women & Children	A.Merriman	Existing	19.05.2026

1) Who is responsible for this policy? Name of Division/Directorate:

2) Describe the purpose of the service / function / policy / project/ strategy? Who is it intended to benefit? What are the intended outcomes?

3) Are there any associated objectives? Legislation, targets national expectation, standards:

4) What factors contribute or detract from achieving intended outcomes? –

5) Does the policy have an impact in terms of age, race, disability, gender, gender reassignment, sexual orientation, marriage/civil partnership, maternity/pregnancy and religion/belief? Details: [see Equality Impact Assessment Guidance] -

- **If yes, please describe current or planned activities to address the impact** [e.g. Monitoring, consultation] –

6) Is there any scope for new measures which would promote equality? [any actions to be taken]

7) Are any of the following groups adversely affected by the policy?

Protected Characteristics	Affected?	Impact
a) Age	No	
b) Disability	No	
c) Gender	No	
d) Gender Reassignment	No	
e) Marriage/Civil Partnership	No	
f) Maternity/Pregnancy	No	
g) Race	No	
h) Religion/Belief	No	
i) Sexual Orientation	No	

8) Provide the Equality Rating of the service / function /policy / project / strategy – tick (✓) outcome box

Outcome 1 ✓	Outcome 2	Outcome 3	Outcome 4

If you have rated the policy as having an outcome of 2, 3 or 4, it is necessary to carry out a detailed assessment and complete a* **Detailed Equality Analysis form – see CORP/EMP 27.

Date for next review: **May 2029**

Checked by: **A.Merriman** **Date:** **19/05/2026**