Management Guideline: Acute Pelvic Inflammatory Disease (PID)

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Document Authors:	Miss S Naeem Consultant in Obstetrics and Gynaecology Dr C Tremlett, Consultant Microbiologist Dr Hannah Pintilie Consultant in Genito-urinary Medicine Ms Caroline Hallam, Specialist Pharmacist		
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Version History:

Version	Date	Author	Reason/Change
V1.0	11/11/2014		To originate document
V2.0	24/05/2017		
V3.0	27/12/2019		Addition of size of pelvic abscess as a criteria for surgical management
V4.0	2023	S. Naeem	Mycoplasma is now labelled as a "very likely" cause of PID The European Medicines Agency has released new guidance highlighting the potential for disabling and permanent side effects following the use of fluoroquinolone antibiotics. The guidance recommends that fluoroquinolones should not be used for mild to moderate bacterial

			infections when alternative antibiotic therapy is available. The PID guideline has therefore been updated to move fluoroquinolones from first to second-line use, except for women with M genitalium associated PID. The UK national treatment guideline for gonorrhoea has been updated to recommend the use of an increased dose of 1g ceftriaxone. The PID guideline has been updated to also recommend this increased dose. Advice on the use of antibiotics in very early pregnancy (before a pregnancy test becomes positive) has been updated following advice from the UK TeratologyInformation Service. The benefits of therapy would outweigh the risks in this situation.Metronidazole twice daily Refer to ICASH clinic directly.

Previous Titles for this Document:

Previous Title/Amalgamated Titles	Date Revised
None	Not applicable

Distribution Control

Printed copies of this document should be considered out of date. The most up to date version is available from the Trust Intranet.

Consultation

The following were consulted during the development of this document:
Dr C. Tremlett – Consultant Microbiologist
Dr Hannah Pintilie – Consultant in Genito-urinary Medicine
Ms Caroline Hallam, Specialist Pharmacist
Dr Kieran Golding, FY2; Helped with transferring the doc. To new Guideline template

Monitoring and Review of Procedural Document

The document owner is responsible for monitoring and reviewing the effectiveness of this Procedural Document. This review is continuous however as a minimum will be achieved at the point this procedural document requires a review e.g. changes in legislation, findings from incidents or document expiry.

Relationship of this document to other procedural documents

This document is a clinical guideline applicable to Norfolk and Norwich University Hospital; please refer to local Trust's procedural documents for further guidance, as noted in Section 5.

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Contents Page

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1. Introduction

1.1. Rationale

Pelvic inflammatory disease (PID) is usually the result of infection ascending from the endocervix causing endometritis, salpingitis, parametritis, oophoritis, tubo-ovarian abscess and/or pelvic peritonitis. The exact incidence is not known because the disease cannot be reliably diagnosed from clinical signs and symptoms. Risk factors mirror those for sexually transmitted infections – young age, reduced socio-economic status, low educational status and recent new sexual partner.

While sexually transmitted infections (STIs) such as *Chlamydia trachomatis* and *Neisseria gonorrhoea* have been identified as causative agents, additional STIs including *Mycoplasma genitalium*, anaerobes and other organisms may also be implicated.

PID carries a high morbidity; about 20% of affected women become infertile, 20% develop chronic pain, and 10% of those who conceive have an ectopic pregnancy. It is therefore important that patients with suspected PID receive the appropriate investigations and treatment in the hope of reducing the long-term morbidity.

1.2. Objective

The objective of the clinical guideline is to:

- Provide a uniform and evidence-based approach to identification and management of Pelvic Inflammatory Disease
- To achieve a proportion of women receiving treatment with a recommended regimen at 95%

1.3. Scope

This guideline is relevant to all female patients with pelvic pain as a presentation and a history or risk of STIs. It for use by all clinicians in the diagnosis and management of Pelvic Inflammatory Disease

1.4. Glossary

The following terms and abbreviations have been used within this document:

Term	Definition
BD	Twice Daily
IV	Intravenous
MSU	Mid-Stream Urine – specifically for microscopy and sensitivties
OD	Once Daily
PID	Pelvic Inflammatory Disease
PO	Orally
STAT	To Be Administered Immediately
STIs	Sexually Transmitted Infections

2. Responsibilities

Dr C. Tremlett – Consultant Microbiologist

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3. Policy Principles

3.1. Initial assessment

A thorough history should be taken including a contraceptive and sexual history.

Symptoms

The following features are suggestive of a diagnosis of PID [2,3,10,11]
• lower abdominal pain which is typically bilateral (but can be unilateral)
• abnormal vaginal or cervical discharge which is often purulent
• deep dyspareunia
• abnormal vaginal bleeding, including post coital bleeding, inter-menstrual bleeding and menorrhagia
• secondary dysmenorrhoea

Signs

• lower abdominal tenderness which is usually bilateral
• adnexal tenderness on bimanual vaginal examination – a tender mass is sometimes present
• cervical motion tenderness on bimanual vaginal examination
• fever (>38°C) in moderate to severe disease

Clinical symptoms and signs lack sensitivity and specificity (the positive predictive value of a clinical diagnosis is 65–90% compared with laparoscopic diagnosis, but laparoscopy may also lack sensitivity).

3.2. Investigations

Women with suspected PID should be tested for Mycoplasma genitalium, gonorrhoea and Chlamydia. A positive result gives support to the clinical diagnosis of PID and reinforces the need to treat sexual partners. The absence of confirmed infection in the lower genital tract site does not exclude PID.

All patients should undergo:
- Ward urinalysis +/- MSU
- Urine pregnancy test
- Swab for chlamydia (+ gonococcus)

N.B. Testing for chlamydia & gonorrhoea should be ideally with an endocervical specimen for optimum sensitivity (white label, blue aptima swab). If cervix is not visualised a vaginal swab (orange label) is the alternative. It is however of lesser sensitivity for gonococci.
- FBC and CRP
- HVS should be taken if a non-physiological discharge is present.
- HIV

3.3. Treatment

Empirical treatment is now recommended for suspected PID due to the low sensitivity and specificity of clinical diagnosis and the associated high morbidity.

Note: a negative lower genital tract swab does not exclude infection in the upper genital tract.

Systemically well patients may be managed as outpatients if there is no conflicting diagnosis.

3.3.1. Management of systemically well patients

Outpatient antibiotic treatment should be commenced as soon as the diagnosis is suspected. Interactions between antibiotic therapy and hormonal contraception and other patient medications should be assessed and appropriate action taken.

- **First line:**
  Doxycycline PO 100mg BD 14 days AND Metronidazole PO 400mg BD for 14 days AND a STAT dose of Ceftriaxone 1g IM
- **Second line:**
  Ofloxacin PO 400mg BD for 14 days with Metronidazole PO 400mg BD for 14 days

Note: Regimens containing ofloxacin are not recommended in women at high risk of gonococcal pelvic inflammatory disease (PID) Ofloxacin is effective for the treatment of *C. trachomatis.*

Note: Quinolones including ofloxacin can cause disabling and potentially permanent side-effects involving tendons, muscles, joints and the nervous system, and are therefore only recommended as second line therapy, except for the treatment of *M. genitalium* associated PID where no alternative therapy is available.

In the outpatient setting, review at 72 hours is recommended, particularly for those with a moderate or severe clinical presentation.

- **Third Line:**
  Intramuscular ceftriaxone 1g single dose, followed by 1g Azithromycin/week for 2 weeks (not recommended for gonococcal PID).

Note: 3rd line to be used only if 1st or 2nd line not appropriate due to allergy or intolerance.

Note: If possible this regimen should be restricted to women who are known to be M.genitalium negative due to the potential to induce macrolide resistance.

3.3.2. Management of systemically unwell patients

Criteria for admission to Hospital:

- Surgical emergency cannot be excluded.

- Clinically severe disease
- Tubo-ovarian abscess
- PID in pregnancy
- Lack of response to oral therapy
- Intolerance to oral therapy

Early consultant involvement is essential. Inpatient antibiotic treatment should be based on intravenous therapy which should be continued until 24 hours after clinical improvement and followed by oral therapy.

Recommended regimens are:

- **First Line:**
  Ceftriaxone 2 g IV OD **AND** Doxycycline PO 100 mg BD
  Continue for 24 hours after clinical improvement then switch to

  Oral Doxycycline 100 mg PO BD **AND** Metronidazole 400 mg PO BD
  (Total course length 14 days including IV treatment)

- **Second Line:**
  Clindamycin 900 mg IV TDS **AND** Gentamicin IV,*****
  Continue for 24 hours after clinical improvement then switch to

  Oral Doxycycline 100 mg PO BD **AND** Metronidazole 400 mg PO BD **OR**

  Clindamycin PO 450 mg QDS

  (Total course length 14 days including IV treatment)

***** Dose gentamicin according to Trust policy. If gentamicin is used, then serum drug levels and renal function should be monitored as per the trust guideline for the use of gentamicin in adults (Guideline Reg. no CA4048).

3.3.3. Other Considerations

Consideration should be given to removing an intrauterine contraceptive device (IUD) in women presenting with PID, especially if symptoms have not resolved within 72 hours.

Surgical treatment should be considered in severe cases or where there is clear evidence of a pelvic abscess. Surgery is especially recommended if the abscess is equal to or greater than 70 mm in any diameter.

Consideration should be given to ultrasound evidence of disease regression before discharge, based on clinical discretion.

Women living with HIV who develop PID should be treated with the same antibiotic regimens as women who are HIV negative. Women with HIV should be managed in conjunction with their GUM physician.

3.3.4 Pregnancy and PID

- PID in pregnancy is uncommon but associated with an increase in both maternal and fetal morbidity, therefore parenteral therapy is advised although none of the suggested evidence based regimens are of proven safety in this situation.
- There are insufficient data from clinical trials to recommend a specific regimen and empirical therapy with agents effective against gonorrhoea, C. trachomatis and anaerobic infections should be considered taking into account local antibiotic sensitivity patterns (e.g. i.v. ceftriaxone, i.v. erythromycin and i.v. metronidazole switching to oral therapy following clinical response and completing 2 weeks of treatment) (Grade 2D).
- Use of the recommended antibiotic regimens (listed above for non-pregnant women) in very early pregnancy (prior to a pregnancy test becoming positive) is justified by the benefits of treatment of PID at any stage of pregnancy being likely to outweigh any possible risks (personal communication, UK National Teratology Information Service – 15th October 2018).
- Once pregnancy test is positive it becomes very unclear and there is no specific recommendation.
- As an outpatient (gonorrhoea cultures prior to treatment)
    - Intramuscular ceftriaxone 1000 mg immediately plus
    - Oral azithromycin 1 g/week for 2 weeks [Grade 2B]
- As an inpatient
    - IV ceftriaxone, erythromycin and metronidazole as stated above.

PID in pregnancy that is treated as an outpatient is referred to ICASH as a matter of urgency for full screening and partner notification.

3.4. Follow-up

- Follow-up is important to ensure symptoms have resolved, to review investigation results and to carry out contact screening if necessary.
- All patients should have some form of follow-up arranged prior to discharge.
- A letter or text with results should be sent in 1 week with advice to re-contact if they are not improving on antibiotics.

3.4.1. GUM Clinic

The following should prompt a referral to the GUM clinic:

- Strong suspicion of PID
- > 1 sexual partner in the last 12 months or a new partner in the last 3 months
- Age < 25yr

This group of patients should be advised not to have sexual intercourse until reviewed in the clinic and partners have been treated.

Referral to iCaSH: Requires patients details (including phone number) and symptoms or infection that they are being treated for and discharge summary.

This can be emailed to: **CCS-TR.icashnorwich@nhs.net**.

Patients need to be informed that ICASH will contact them by phone to arrange an appointment.

For **urgent advice**, our secretaries can be contacted on **01603226600** who will pass on to ourselves or our health advisors.

3.4.2. GPs

All other patients should be advised to see their GP within 2/52 of discharge and should receive advice about 'safe sex'

3.4.3. Discharge Summaries

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 'probable PID'.

Otherwise, list the main presenting symptoms on the discharge summary e.g. 'non-specific abdominal pain and vaginal bleeding'. This will help clinical coding to code these patients correctly and provide accurate data for audit etc

4. References

1.Morcos R, Frost N, Hnat M et al. Laparoscopic vs clinical diagnosis of acute pelvic inflammatory disease. J Reprod Med 1993; 38: 53-56

2. Metters J S et al Chlamydia Trachomatis: Summary and Conclusions of CMO's expert advisory group. London: Department of Health, 1998.

3. 2018 United Kingdom National Guideline for the Management of Pelvic Inflammatory Disease

4. Sexually transmitted infections : UK National screening and testing guidelines. August 2006. http://www.bahh.org.uk

5. United Kingdom National Guideline for the Management of Pelvic Inflammatory Disease (2019 Interim Update)

6. CDC guidelines for treatment of PID, 2015.

7. Antibiotic therapy for pelvic inflammatory disease. Cochrane database of systematic reviews. Ricardo F Savaris, Daniele G Fuhrich, Rui V Duarte, Sebastian Franik, Jonathan Ross. April 2017.

8.Yuval Fouks, Aviad Cohen et al. Surgical Intervention in Patients with Tubo Ovarian Abscess: Clinical Predictors and a Simple Risk Score. The Journal of Minimally Invasive Gynecology; Vol 26, No 3, March/April 2019: 535-543.

5. Monitoring Compliance

Compliance with the process will be monitored through the following:

Key elements	Process for Monitoring	By Whom (Individual / group /committee)	Responsible Governance Committee /dept	Frequency of monitoring
Proportion of women receiving treatment with a recommended regimen – target 95%.	Audting Cycles		Gynaecology Guidelines Committee	

The audit results are to be discussed at relevant governance meetings to review the results and recommendations for further action. Then sent to the Gynaecology Guidelines Committee who will ensure that the actions and recommendations are suitable and sufficient.

6. Appendices

There are no appendices for this document.

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7. Equality Impact Assessment (EIA)

Type of function or policy	Existing

Division	Division 3 – Women and Children's	**Department**	Gynaecology
Name of person completing form	Miss S Naeem	**Date**	14/11/2023

Equality Area	**Potential Negative Impact**	**Impact Positive Impact**	**Which groups are affected**	**Full Impact Assessment Required YES/NO**
Race	Nil	Nil	Nil	NO
Pregnancy & Maternity	Nil	Correct Dx and Mx of disease	Females	NO
Disability	Nil	Nil	Nil	NO
Religion and beliefs	Nil	Nil	Nil	NO
Sex	Nil	Correct Dx and Mx of disease	Females	NO
Gender reassignment	Nil	Nil	Nil	NO
Sexual Orientation	Nil	Nil	Nil	NO
Age	Nil	Nil	Nil	NO
Marriage & Civil Partnership	Nil	Nil	Nil	NO
EDS2 – How does this change impact the Equality and Diversity Strategic plan (contact HR or see EDS2 plan)?	Nil impact			

- **A full assessment will only be required if: The impact is potentially discriminatory under the general equality duty**
- **Any groups of patients/staff/visitors or communities could be potentially disadvantaged by the policy or function/service**
- **The policy or function/service is assessed to be of high significance**

IF IN DOUBT A FULL IMPACT ASSESSMENT FORM IS REQUIRED

The review of the existing policy re-affirms the rights of all groups and clarifies the individual, managerial and organisational responsibilities in line with statutory and best practice guidance.