Women's Antimicrobial Guidelines Summary

Trust Ref: C4/2018

1. Introduction and Who Guideline applies to

This guideline has been developed to deliver safe and appropriate empirical use of antibiotics for patients at University Hospitals of Leicester NHS Trust. The guideline applies to adult inpatient and discharge prescriptions and should be used in conjunction with the Antimicrobial Prescribing Policy; it can also serve as a guide to prescribing in the outpatient setting.

The recommendations within this guideline provide targeted empirical regimens covering likely pathogenic organisms for defined infections and aim to promote the evidence based use of antibiotics, minimise the effect of antibiotics on the patient's normal bacterial flora and adverse effects.

General rules:

- Take appropriate specimens for microscopy, culture and sensitivity testing prior to starting antibiotics. The choice of antibiotic should be reviewed with the culture and antimicrobial sensitivity results
- Intravenous (IV) therapy should be reserved for those patients who are seriously ill with moderate to severe infections or are unable to take medications enterally.
- Review IV treatment within 2 days with a view to switching to oral therapy as soon as clinically appropriate.

The antibiotic doses recommended in this guidance are intended for adult patients with normal renal and liver function. Refer to a Pharmacist for further advice in these patients: advice for dose recommendations in renal impairment can be found on the Antimicrobial Website

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2. GYNAECOLOGY

2.1 Gynaecology (not pregnant) - Empiric Treatment Guidelines

Indication		Recommended antibiotics – total duration of antibiotics (IV+PO) is 5 days unless otherwise stated
Pelvic Inflammatory Disease (PID)		Refer to UHL PID guideline
Bacterial Vaginosis		Metronidazole PO 400mg BD for 7 days OR Metronidazole 0.75% vaginal gel 5g applicator full at night for 5 days Alternative: Clindamycin 2% cream 5g applicator full at night for 7 days.
Chlamydia trachomatis Genital Tract Infection		Doxycycline PO 100mg BD for 7 days available under PGD Alternative if intolerant to doxycycline: azithromycin PO 1g stat on Day 1 followed by 500mg OD on Day 2& 3. Refer to GUM clinic via email Leicester Sexual Health (LSHsecretaries@mpft.nhs.uk) with the patient name, hospital number/NHS number, DOB and telephone number, contact tracing and blood borne virus testing in order for GUM to contact the patient for follow up.
Gonococcal Infection		Do not treat. Treatment will be provided by the GUM clinic. Refer to GUM clinic via email (LSHsecretaries@mpft.nhs.uk) with the patient details above for treatment, follow up, contact tracing and blood borne virus testing.
Post-op infection	Wound infection	Flucloxacillin PO 1g QDS for 7 days If penicillin allergy: Doxycycline 200mg OD for 7 days
	Suspected intra-abdominal source (no peritoneal soiling)	Co-amoxiclav PO 625mg TDS & Amoxicillin PO 500mg TDS If NBM: Co-amoxiclav IV 1.2g TDS until enteral route available Add in Gentamicin IV 7mg/kg* OD (contact pharmacist prior to prescribing, max 640mg) for severe infections If penicillin allergy: Metronidazole PO 400mg TDS + Ciprofloxacin PO 500mg BD If NBM: Metronidazole IV 500mg TDS + IV Ciprofloxacin 400mg BD converting to enteral route when available
	Suspected intra - abdominal source (i.e. GI perforation) with peritoneal soiling	Co-amoxiclav IV 1.2g TDS. For severe infections use Piperacillin with tazobactam IV 4.5g TDS Or Meropenem (in penicillin allergy) IV 1g TDS Switch to Co-amoxiclav PO 625mg TDS & Amoxicillin PO 500mg TDS when enteral route available. If penicillin allergy: Metronidazole IV 500mg TDS + IV Ciprofloxacin 400mg BD converting to enteral route when available (Metronidazole PO 400mg TDS + Ciprofloxacin PO 500mg BD) Add prophylactic fluconazole PO 200mg OD (Only use IV route if PO route inappropriate). Send cultures and beta d glucan (BDG) blood serum sample. Review with microbiology when results available.
UTI		Refer to full Trust UTI guideline on Antimicrobial Website
Sepsis All patients with suspected sepsis or EWS of 3 or more should be assessed using the Adult Sepsis Screening and Immediate Action Tool		**If High Risk Sepsis identified:** give a STAT dose of Meropenem IV 1g from Sepsis Box. Do not continue meropenem beyond doses available in Sepsis Box without microbiology advice and verification code. **If High Risk Sepsis NOT identified and patient is well or improving:** prescribe antibiotics as per guideline for identified source of infection.
Sepsis unknown origin where Red Flag Sepsis NOT identified - see Antimicrobial Website		Co-amoxiclav IV 1.2g TDS If penicillin allergy: Metronidazole PO 400mg TDS and Ciprofloxacin PO 500mg BD. If NBM: Metronidazole IV 500mg TDS + IV Ciprofloxacin 400mg BD converting to enteral route when available.
Labial/Bartholin abscesses		Incision and drainage should be considered. Uncomplicated abscesses that have been drained may not require antibiotics. Co-amoxiclav PO 625mg TDS & Amoxicillin PO 500mg TDS If penicillin allergy: Doxycycline PO 200mg OD + metronidazole PO 400mg TDS

*NB: refer to Antimicrobial Website for dosing, frequency and monitoring requirements.

2.2 Gynaecology Surgical Prophylaxis

Review requirement for additional prophylaxis if antibiotic doses have been administrated in the previous 24 hours.

Surgical procedure	Prophylaxis regimen (single dose and given at induction)		Prophylaxis regimen for penicillin allergic patients (single dose and given at induction)	
	Standard Regimen	**Known or Previously known MRSA positive patients**	**Standard regimen**	**Known or Previously known MRSA positive patients**
Gynaecology – major	Co-amoxiclav IV 1.2g If peritoneal soiling give a further 2 doses post-op	Teicoplanin IV 400mg + Co-amoxiclav IV 1.2g If peritoneal soiling give a further 2 doses of Co- amoxiclav post-op	Teicoplanin IV 400mg + Gentamicin IV 120mg + Metronidazole IV 500mg	Teicoplanin IV 400mg + Gentamicin IV 120mg + Metronidazole IV 500mg

Surgical Termination of Pregnancy	All patients undergoing abortion should be screened for *Chlamydia trachomatis*, Gonorrhoea and Syphilis. Hepatitis B risk factors are assessed and HIV screening is offered. A risk assessment for other STIs should be done and the patient screened if deemed appropriate. Any positive STI screens should be referred to GUM for follow up and partner notification. Prophylaxis is only needed for surgical abortions (given 2 hours before procedure): 1) Doxycycline 200mg PO stat single dose or 100mg PO BD for 3 days may be considered. 2) If allergic to Doxycycline, consider 1000mg of Azithromycin PO stat single dose

Doses recommended for adult patients with normal renal and liver function.

For further information refer to Antimicrobial website.

Antibiotic prophylaxis is NOT routinely recommended in the following procedures:

1. Medical evacuation of incomplete miscarriage
2. Intrauterine contraceptive (IUCD) insertion
3. Medical termination of pregnancy

3. OBSTETRICS

3.1 OBSTETRICS GUIDELINE – EMPIRIC TREATMENT GUIDELINES

- Recommended antibiotics – total duration of antibiotics (IV+PO) is 5 days unless otherwise stated
- Perinatal: Consider using IV rather than oral antibiotics due to gastric stasis
- ALWAYS review culture results and adjust empiric antibiotics therapy accordingly
- Consider IV to PO switch when patient is able to tolerate orally and there is sustained clinical improvement and patient is afebrile for at least 24 hours.

*__Severe penicillin allergy__: anaphylaxis, anaphylactic reactions (flushing, pruritus, urticaria, angioedema, bronchospasm, laryngeal edema, and/or hypotension), Stevens-Johnson syndrome, Toxic Epidermal Necrolysis, Drug reaction with eosinophilia and systemic symptoms/drug-induced hypersensitivity syndrome (DRESS)

__^Non-severe penicillin allergy__: Reactions to penicillin not listed under severe penicillin allergy category

Indication	First line treatment	Second line treatment (non-severe penicillin allergy^)	Third line (severe penicillin allergy*)	Notes
Chorioamnionitis	Cefuroxime IV 1.5g TDS + Metronidazole IV 500mg TDS (Switch to Cefalexin PO 500mg TDS + Metronidazole PO 400mg TDS)	Cefuroxime IV 1.5g TDS + Metronidazole IV 500mg TDS (Switch to Cefalexin PO 500mg TDS + Metronidazole PO 400mg TDS)	IV Vancomycin + PO Ciprofloxacin 500mg BD + PO Metronidazole 400mg TDS (Switch to Clindamycin PO 300mg QDS + Ciprofloxacin PO 500mg BD)	Vancomycin dose/frequency/monitoring as per UHL Vancomycin prescription chart on microguide. Booking weight to be used for dosing calculations. Consider stopping antibiotics once baby and birth products have been delivered and patient is clinically well and afebrile.

1. Endometritis 2. Post-operative in surgical evacuation of retained products of conception 3. Suspected infection in patients having manual removal of placenta.	Co-amoxiclav PO 625mg TDS & Amoxicillin PO 500mg TDS (If NBM: Co-amoxiclav IV 1.2g TDS switching to oral when route available)	Cefalexin PO 500mg TDS + Metronidazole PO 400mg TDS (if NBM: Cefuroxime IV 1.5g TDS + Metronidazole IV 500mg TDS)	Clindamycin PO 300mg QDS + Ciprofloxacin PO 500mg BD (If NBM: Ciprofloxacin IV 400mg BD and Clindamycin IV 900mg TDS)	For antibiotic prophylaxis (STAT dose) following removal of retained placenta please refer to page 8
Prophylaxis for third & fourth degree perineal tears	Co-amoxiclav IV 1.2g TDS (Switch to Co-amoxiclav PO 625mg TDS & Amoxicillin PO 500mg TDS)	Cefuroxime IV 1.5g TDS + Metronidazole IV 500mg TDS (Switch to Cefalexin PO 500mg TDS + Metronidazole PO 400mg TDS)	Clindamycin IV 900mg TDS + Ciprofloxacin PO 500mg BD (Switch to Clindamycin PO 300mg QDS + Ciprofloxacin PO 500mg BD)	Oral route can be used after first dose if patient able to tolerate Known MRSA: IV vancomycin + PO ciprofloxacin + PO metronidazole and discuss with microbiology for suitable oral options
Infected abdominal wound post section	Flucloxacillin PO 1g QDS	Cefalexin PO 500mg TDS	Clindamycin PO 300mg QDS	For 7 days Known MRSA: IV vancomycin or discuss with microbiology for suitable oral option
Infected perineal wound	Co-amoxiclav PO 625mg TDS & Amoxicillin PO 500mg TDS	Cefalexin PO 500mg TDS + Metronidazole PO 400mg TDS	Clindamycin PO 300mg QDS + Ciprofloxacin PO 500mg BD	For 7 days Known MRSA: discuss with microbiology

Mastitis Consider surgical drainage for breast abscess	Flucloxacillin PO 1g QDS	Clarithromycin PO 500mg BD	Clarithromycin PO 500mg BD	For 7 days Known MRSA: IV vancomycin or discuss with microbiology for suitable oral option
Lower Respiratory Tract Infection (with purulent sputum)	Amoxicillin PO 500mg TDS	Clarithromycin PO 500mg BD	Clarithromycin PO 500mg BD	
Community Acquired Pneumonia (antenatal)	**CURB-65 ≤1**: Amoxicillin PO 500mg TDS **CURB-65 = 2**: Amoxicillin PO 500mg TDS and Clarithromycin PO 500mg BD **CURB-65 ≥ 3**: Amoxicillin IV 1g TDS and Clarithromycin PO 500mg BD	**CURB-65 ≤2**: Clarithromycin PO 500mg BD **CURB-65 ≥3**: Meropenem 1g TDS IV and Clarithromycin PO 500mg BD	**CURB-65 ≤2**: Clarithromycin PO 500mg BD **CURB-65 ≥3**: Meropenem 1g TDS IV and Clarithromycin PO 500mg BD	Refer to Trust Pneumonia guideline or Antimicrobial Website for definition of CURB-65. For post-natal patients treat as per Pneumonia Trust Guidelines, substituting clarithromycin for doxycycline if breastfeeding
Intrapartum Antibiotic prophylaxis (IAP) for prevention of early-onset neonatal GBS disease	Refer to Pyrexia and Sepsis in Labour UHL Obstetric Guideline in cases of maternal pyrexia Refer to Group B Streptococcus in Pregnancy and the Newborn UHL Obstetric Guideline.pdf (sharepoint.com) in cases of pre-existing risk factors not associated with maternal pyrexia			

Indication	Notes
UTI including pyelonephritis in pregnancy	Refer to trust UTI guideline
Sepsis **All patients with suspected sepsis or MEOWS of 3 or more should be assessed using the Adult Sepsis Screening and Immediate Action Tool**	If High Risk Sepsis identified: give a STAT dose of Meropenem IV 1g from Sepsis Box. Do not continue meropenem beyond doses available in Sepsis Box without microbiology advice and verification code. If Red Flag Sepsis NOT identified and patient is well or improving: prescribe antibiotics as per guideline for identified source of infection.
Intrapartum pyrexia **(Temperature ≥38ºC or 37.5-37.9ºC twice 1 hour apart) where Red Flag Sepsis NOT identified** **Antenatal sepsis of unknown origin where High Risk Sepsis NOT identified**	Refer to pyrexia and sepsis in labour guideline for guidance on assessment and management.
Premature rupture of membranes	Erythromycin PO 250mg QDS for 10 days (or until baby is born, whichever is sooner). If allergic or intolerant to Erythromycin: Phenoxymethylpenicillin PO 250mg QDS for 10 days (or until baby is born, whichever is sooner)

3.2 Obstetric SURGICAL PROPHYLAXIS

Surgical procedure	Prophylaxis regimen (single dose and given at induction)		Prophylaxis regimen for penicillin allergic patients (single dose and given at induction)	
	Standard regimen	Known or Previously known MRSA positive patients	Standard regimen	Known or Previously known MRSA positive patients
Caesarean section	Co-amoxiclav IV 1.2g	Teicoplanin IV 400mg + Co-amoxiclav IV 1.2g	Teicoplanin IV 400mg + Gentamicin IV 120mg + Metronidazole IV 500mg	Teicoplanin IV 400mg + Gentamicin IV 120mg + Metronidazole IV 500mg
Removal of retained placenta or products of conception	Co-Amoxiclav IV 1.2g	Teicoplanin IV 400mg + Co-amoxiclav IV 1.2g	Teicoplanin IV 400mg + Gentamicin IV 120mg + Metronidazole IV 500mg	Teicoplanin IV 400mg + Gentamicin IV 120mg + Metronidazole IV 500mg
Operative vaginal delivery Single dose of prophylaxis to be given to mother after delivery of baby	Co-Amoxiclav IV 1.2g	Teicoplanin IV 400mg + Co-amoxiclav IV 1.2g	Teicoplanin IV 400mg + Gentamicin IV 120mg + Metronidazole IV 500mg	Teicoplanin IV 400mg + Gentamicin IV 120mg + Metronidazole IV 500mg
Massive haemorrhage or Bakri balloon in situ Prophylaxis to be administered until balloon has been removed	Co-Amoxiclav IV 1.2g	Teicoplanin IV 400mg + Co-amoxiclav IV 1.2g	Teicoplanin IV 400mg + Gentamicin IV 120mg + Metronidazole IV 500mg	Teicoplanin IV 400mg + Gentamicin IV 120mg + Metronidazole IV 500mg

Ensure antibiotics given are recorded on drug chart in addition to anaesthetic chart.
Doses recommended for adult patients with normal renal and liver function. For further information refer to Antimicrobial website.

4. Education and Training

Although no formal education and training is required:

- Medics working within neurology, microbiology, infectious diseases, and emergency & acute medicine should be made aware of this guideline
- All pharmacists should be made aware of this guideline
- Reference to this guideline will be made on the antimicrobial website and apps, and any relevant antimicrobial guidance and policies.

5. Monitoring Compliance

What will be measured to monitor compliance	How will compliance be monitored	Monitoring Lead	Frequency	Reporting arrangements
Prescribing decisions and compliance with the guideline	Through an annual audit	Audit lead for Obs & Gynae	Annually	Report to be sent to AWP

6. Supporting References

1) Royal College of Obstetricians and Gynaecologists (RCOG) 2020 Assisted vaginal birth (Green top guidelines 26). London :RCOG
2) Royal College of Obstetricians and Gynaecologists (RCOG), 2012. Bacterial sepsis following pregnancy (Green top guideline 64b). London: RCOG
3) Royal College of Obstetricians and Gynaecologists (RCOG), 2012. Early onset Group B Streptococcal disease (Green top guideline 36). London: RCOG
4) Royal College of Obstetricians and Gynaecologists (RCOG), 2016. Bacterial Sepsis in Pregnancy (Green top guideline 64a). London: RCOG
5) BASHH guidelines – update on the treatment of Chlamydia trachomatis infection (September 2018)

7. Key Words

Obstetrics, Gynaecology, Infection, Antibiotic

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.

EDI Statement

We are fully committed to being an inclusive employer and oppose all forms of unlawful or unfair discrimination, bullying, harassment and victimisation.

It is our legal and moral duty to provide equity in employment and service delivery to all and to prevent and act upon any forms of discrimination to all people of protected characteristic:

Age, Disability (physical, mental and long-term health conditions), Sex, Gender reassignment, Marriage and Civil Partnership, Sexual orientation, Pregnancy and Maternity, Race (including nationality, ethnicity and colour), Religion or Belief, and beyond.

We are also committed to the principles in respect of social deprivation and health inequalities.

Our aim is to create an environment where all staff are able to contribute, develop and progress based on their ability, competence and performance. We recognise that some staff may require specific initiatives and/or assistance to progress and develop within the organisation.

We are also committed to delivering services that ensure our patients are cared for, comfortable and as far as possible meet their individual needs.

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Details of Changes made during review: **August - October 2024 – March 2025 V:7** **Gynaecology;** Chlamydia - Doxycycline PO 100mg BD for 7 days, now added - available under PGD **Added** & Amoxicillin PO 500mg TDS to all conditions that require Co-amoxiclav PO 625mg TDS **In cases of** Suspected intra - abdominal source (i.e. GI perforation) with peritoneal soiling **REMOVED** gentamicin, **REPLACED** with if severe Piperacillin with tazobactam IV 4.5g TDS Or Meropenem (in penicillin allergy) In cases of surgical TOP Prophylaxis is only needed for surgical abortions (given 2 hours before procedure): **REMOVED** 1) If result of STI screen is unavailable/C. trachomatis positive: PO Azithromycin 1g on Day 1 followed by 500mg OD on Day 2& 3.+ stat PR metronidazole 1g* 2) If negative for C. trachomatis: PR metronidazole 1g* only *Oral metronidazole 800mg can be used instead of the PR route. **REPLACED** with Doxycycline 200mg PO stat single dose or 100mg PO BD for 3 days may be considered. If allergic to Doxycycline, consider 1000mg of Azithromycin PO stat single dose **Maternity;** **Page 4 -** In cases of Chorioamnionitis, severe penicillin allergy previously IV Clindamycin 900mg TDS + PO Ciprofloxacin 500mg BD, **CHANGED TO** IV Vancomycin + PO Ciprofloxacin 500mg BD + PO Metronidazole 400mg TDS Page 6 – Added GBS guideline signpost Maternal pyrexia parameters previously 37.8-37.9 twice 2 hours apart **changed to** 37.5-37.9^{o}C twice 1 hour apart **Added** & Amoxicillin PO 500mg TDS to all conditions that require Co-amoxiclav PO 625mg TDS	