Adult Antibiotic Prophylaxis in Obstetric and Gynaecological Surgery

NHS Lanarkshire

General Principles of Prescribing for Surgical Prophylaxis

1. **Indication for prophylaxis** should comply with SIGN 104 guideline i.e when 'highly recommended', 'recommended' or 'considered' within guideline.
2. **Choice of agent:**
   - Adhere to recommended agent in table below where possible
   - Recommendations restrict the use of cephalosporins, clindamycin, quinolones and co-amoxiclav and use narrow spectrum agents where possible
   - Take recent culture results/antibiotic therapy and additional patient risk factors into account eg. morbid obesity, multiple previous surgeries, prosthetic material, diabetes. Discuss with Infection Specialist in a timely manner prior to surgery if multidrug resistance eg. Carbapenemase producing enterobacteriaceae (CPE) isolated
   - Check allergy status of patient including nature of allergy prior to prescribing
3. **Recording of antibiotic** on ''once only'' section of drug cardex and on Anaesthetic Record Sheet
4. **Timing of antibiotic:**
   - Optimum timing of IV antibiotics is ≤60 minutes prior to skin incision, usually at induction of anaesthesia
   - Antimicrobial cover may be sub-optimal if given > 1 hour prior to skin incision or post skin incision
5. **Frequency of administration** should be single dose only unless:
   - Operation Prolonged (see re-dosing guidance table)
   - >1.5 litre intra-operative blood loss –Re-dose following fluid replacement (see re-dosing guidance table)
   - Specifically stated in following guideline

   Document in the medical notes the indication for antibiotic administration beyond 1st dose.
6. **Decolonisation therapy** should be used prior to elective surgery if patient is MRSA positive and antimicrobial prophylaxis should include cover for MRSA. See NHSL Policy for management of patients colonised or infected with MRSA.

Recommended Agents in Obstetric and Gynaecological Surgery

Procedure	1st Choice	If Penicillin allergy	If MRSA Positive	Sign 104 Recommendations/ other comments
Hysterectomy (abdominal or vaginal)	Gentamicin IV (see dosing table) + Metronidazole 500mg IV	Gentamicin IV (see dosing table) + Metronidazole 500mg IV	Gentamicin IV (see dosing table) + Metronidazole 500mg IV + [1]Teicoplanin IV 400mg if <65kg or 800mg if ≥65kg	Recommended
Other major gynaecological surgery	Gentamicin IV (see dosing table) + Metronidazole 500mg IV	Gentamicin IV (see dosing table) + Metronidazole 500mg IV	Gentamicin IV (see dosing table) + Metronidazole 500mg IV + [1]Teicoplanin IV 400mg if <65kg or 800mg if ≥65kg	
Caesarean Section	Co-amoxiclav 1.2g IV before cord clamping	Clindamycin 600mg IV before cord clamping + Gentamicin IV (see dosing table) after cord clamping if evidence of sepsis	Vancomycin 1g IV before cord clamping + Gentamicin IV (see dosing table) after cord clamping if evidence of sepsis	Highly recommended. If treating for Group B streptococcus with Benzylpenicillin give Clindamycin (+Gentamicin if evidence of sepsis) as surgical prophylaxis
Manual removal of placenta	Co-amoxiclav 1.2g IV	Gentamicin IV (see dosing table) + Clindamycin 600mg IV	Use 1st choice/penicillin allergy option. MRSA cover not required in non-skin breaching procedures	
Assisted delivery	Not routine	Not routine	Not routine	Not routine
Perineal tear 3rd/4th degree or complex perineal/vaginal lacerations	Co-amoxiclav 1.2g IV single dose followed by Co-amoxiclav 375mg 8hrly orally for 7 days	Clindamycin 600mg IV single dose followed by Clindamycin 150mg 6hrly orally for 7 days	Give [1]Teicoplanin IV 400mg if <65kg or 800mg if ≥65kg (single dose) IN ADDITION to 1st choice or penicillin allergy option. If MRSA sensitive to clindamycin, give clindamycin 150mg 6hrly orally for 7 days. Otherwise, discuss with Infection Specialist.	
Termination of Pregnancy (see comments) Evacuation of incomplete miscarriage (Local agreement between microbiology and gynaecology)	Doxycycline 100mg twice daily for 3 days (Consider addition of metronidazole in clinical situations where greater anaerobic cover required -NICE 2019)			**Medical termination**: Consider for patients with increased risk of STI. Start antibiotic on same day as mifepristone given. **Surgical termination**: Recommended - Give first dose one hour pre-procedure (NICE 2019 recommendation)
IUCD insertion	Not routine	Not routine	Not routine	Not recommended

[1]If treatment course required after teicoplanin prophylaxis convert to vancomycin (dose according to NHSL treatment protocol with 1st dose 12 hours after teicoplanin). Clinicians should be aware of potential for allergic reactions to teicoplanin

IV Antibiotic Administration and Re-dosing Guidance

- Antibiotics should be given as a bolus injection where possible.
- All re-dosing guidance based on pre-op eGFR>59ml/min/1.73^2; if renal impairment present consult individual drug product literature

Antibiotic	Dose	Administration	Prolonged Surgery	>1.5L blood loss - Re-dose after fluid replacement
Clindamycin 600mg/4ml vial	600mg	Dilute to 50ml with glucose 5% or sodium chloride 0.9% then give by IV infusion over at least 20 minutes.	Re-dose 600mg after 4 hours	300mg
Co-amoxiclav 1.2g vial	1.2g	Re-constitute 1.2g vial with 20ml of water for injection and give by slow IV injection over 3-5 minutes.	Re-dose 1.2g after 4 hours	1.2g
Gentamicin 80mg/2ml vial	See Gentamicin dosing table below	No dilution required. Give by slow IV injection over 3-5 minutes.	If pre-op eGFR>59ml/min, re-dose at half prophylaxis dose after 8 hours	If repeat eGFR>59ml/min, re-dose at half prophylaxis dose
Metronidazole 500mg minibag	500mg	Already diluted. Give by IV infusion over 20 minutes.	Re-dose 500mg after 8 hours	500mg
Teicoplanin 400mg vial	400mg if patient weight <65kg or 800mg if ≥65kg	Re-constitute slowly with 3.14ml ampoule of water for injection provided and roll gently until dissolved. If foamy, stand for 15 minutes until foam subsides then give EACH vial by slow IV injection over 3-5 minutes.	DO NOT re-dose	200mg if patient weight <65kg or 400mg if ≥65kg
Vancomycin 1g vial	1g	Re-constitute 1g with 20ml of water for injection then give by slow IV infusion in 250ml glucose 5% or sodium chloride 0.9% over 120 minutes. Begin infusion 2 hours prior to procedure.	DO NOT re-dose	DO NOT re-dose

Dosing Table for Gentamicin Prophylaxis

- If eGFR<15ml/min/1.73m^2, give HALF of dose recommended in table (1.5mg/kg ideal body weight).
- Review medication cardex prior to prescribing/administration of gentamicin. Avoid if patient has received gentamicin within previous 24 hours.

Height		Gentamicin dose (mg) based on 3mg/kg Ideal Body Weight (Females)
Feet/inches	Centimetres	
4'8-4'10	142-149cm	140mg
4'11-5'3	150-162cm	160mg
5'4-5'10	163-179cm	200mg
5'11-6'2	180-189cm	260mg
6'3-6'8	190-203cm	300mg

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