Antibiotic Prophylaxis for Gynaecological Surgery in Adults

Surgery	Recommendation	Antibiotic Choice		Comments &Timing *(i.e. administration to be completed)*
		1st Line	2nd Line	
MINIMAL ACCESS SURGERY				
Laparoscopic hysterectomy (assisted/total, whenever vaginal vault is opened) **Laparoscopic treatment of significant endometriosis** **Laparoscopic tubal/ovarian procedures if infection is suspected**	Antibiotic prophylaxis is **recommended** (local practice)	Gentamicin* IV *(bolus over 3 min)* + Metronidazole 500mg IV *(infuse over 20 min)*	Co-amoxiclav 1.2g IV *(bolus over 3-4 min)*	At induction, ≤60 min before incision. Metronidazole must be started at least 20 minutes prior to incision.
Diagnostic Laparoscopies, Laparoscopic tubal/ovarian procedures(if clean) **Hysteroscopic procedures (diagnostic, operative, endometrial ablation)**	Antibiotic prophylaxis is **not recommended** (local practice)			
ABDOMINAL- ANY LAPAROTOMY				
Abdominal hysterectomy (with or without removal of ovaries)	Antibiotic prophylaxis is **recommended**	Gentamicin* IV *(bolus over 3 min)* + Metronidazole 500mg IV *(infuse over 20 min)*	Co-amoxiclav 1.2g IV *(bolus over 3-4 min)*	At induction, ≤60 min before incision. Metronidazole must be started at least 20 minutes prior to incision.
Colposuspension, Abdominal Sacro-colpopexy, Abdominal Sacro-hysteropexy, Myomectomy	Antibiotic prophylaxis is **recommended** (local practice)			
PELVIC FLOOR/ UROLOGICAL				
Any type of Pelvic Floor Repair or Vaginal Hysterectomy (with or without mesh), **Sacrospinous Colpopexy, Sacrospinous Hysteropexy, Vault Repair, Mid-Urethral Incontinence Surgery of any type**	Antibiotic prophylaxis is **recommended** (local practice)	Gentamicin* IV *(bolus over 3 min)* + Metronidazole 500mg IV *(infuse over 20 min)*	Co-amoxiclav 1.2g IV *(bolus over 3-4 min)*	At induction, ≤60 min before incision. Metronidazole must be started at least 20 minutes prior to incision.
Cystoscopy	Antibiotic prophylaxis is **not recommended** (local practice) except in high risk patients or in patients with evidence of UTI			
FERTILITY-RELATED				
Surgical Induced Abortion, **Evacuation of retained products of conception**	Antibiotic prophylaxis is **recommended** If signs/symptoms of infection, use a low threshold for treating as per endometritis guidance.	Low risk of STI / negative pre-procedure STI swab result: Metronidazole 800mg oral single dose **OR** Higher risk of STI and no negative pre-procedure swab result: Doxycycline 100mg twice daily for 3 days		Post procedure (starting within 2 hours of the procedure) Higher STI risk includes: under 25 years; any age with new partner in last year, more than one partner in last year or partner who has other partners. Offer STI test (*chlamydia, gonorrhoea, trichomonas vaginalis*) to all patients
Medical Induced Abortion	Antibiotic prophylaxis is only recommended if higher risk of STI and no negative pre-procedure STI swab.	Doxycycline 100mg twice daily for 3 days		
Intrauterine contraceptive device (IUCD) insertion	Antibiotic prophylaxis is **not routinely recommended** for IUC insertion or removal but offer STI testing to at risk groups before or at fitting and ensure arrangements for prompt treatment and partner notification if infection found. Please refer to the FSRH CEU statement on antibiotic cover[1,2] for urgent insertion of IUC in women at high risk of STI. Discuss individual risk/benefit of prophylaxis for women with previous subacute bacterial endocarditis/ prosthetic cardiac valves with cardiology.			

*Gentamicin Dosing Guidance (for patients with eGFR >20ml/min) (bolus over 3 minutes)		
Height Female)		**Gentamicin Dose (based on 3mg/kg Ideal Body Weight)**
≤152cm	≤5'0	120mg
153-159cm	5'1 - 5'2	140mg
160-167cm	5'3 – 5-5	160mg
168-174cm	5'6 - 5'8	180mg
175-182cm	5'9 – 5'11	200mg
183-189cm	6'0 – 6'2	220mg
≥190cm	≥6'3	240mg

In renal impairment avoid gentamicin where possible. For patients with an eGFR <20ml/min where there is no alternative to gentamicin, reduce the dose to 80mg and do not re-dose.

Introduction

The aim of surgical prophylaxis is to reduce rates of surgical site (SSI) and healthcare-associated infections (HAIs) and so reduce surgical morbidity and mortality.

Principles of Surgical Antibiotic Prophylaxis

- **Indication** for prophylaxis should comply with national recommendations where available. Antimicrobial prophylaxis may be justified for any procedure if the patient has an underlying medical condition associated with a high risk of SSI or if the patient is immunocompromised.
- **Choice of antibiotic(s):**
  - Narrow spectrum agents will be chosen when possible
  - Antibiotics associated with a higher risk of C. Difficile Infection (CDI) will be avoided where possible i.e. cephalosporins, quinolones, co-amoxiclav and clindamycin. (Where antibiotics with a higher risk of CDI are recommended the prescriber should take into account patient risk factors for CDI before prescribing.)
  - Local resistance patterns will be taken into account
  - Alternatives for patients with penicillin allergy will be provided
- **Complex individual prophylaxis** issues including multi-drug resistant carriage should be discussed with the Duty Microbiologist pre-operatively and recorded in the notes.
- **Patient Information –** Patients should be informed before their operation, whenever possible, if they will require antibiotic prophylaxis. Patients should be informed after their operation which antibiotics were administered.
- **Documentation** – Prescribe antibiotic doses on the prescribing system in use in your area and ensure there is good communication to ward staff of which antibiotics have been administered in theatre to avoid drug errors. In addition, the antibiotic used, dose and time of administration should also be recorded on the Anaesthetic Record. The plan for antibiotic prophylaxis may also be recorded in the medical notes e.g. where no prophylaxis is indicated or where prescribing is different to guideline recommendations. Where the intention is for antibiotic treatment rather than prophylaxis this should be clearly documented in the medical notes including both indication and duration.
- **Repeat doses:** A single dose should typically be given. A repeat dose should be given when:
  - Co-amoxiclav: if the operation lasts >4 hours. Give a third dose if the operation lasts >8 hours
  - Metronidazole: if the operation lasts >8 hours
  - Gentamicin:
    - if eGFR >60ml/min/1.73m^2 give half the original dose if the operation lasts >8hours
    - If eGFR <60ml/min/1.73m^2 do not give a repeat dose

  Additionally, if there is >1.5 litre intraoperative blood loss, following fluid resuscitation, give a repeat dose of co-amoxiclav or metronidazole; give half the original dose of gentamicin.[3]

- **MRSA**:
  - Decolonisation therapy is required prior to surgery for MRSA positive patients. Refer to https://rightdecisions.scot.nhs.uk/antimicrobial-prescribing-nhs-grampian-orkney-shetland/hospital-guidance-for-adults/skin-soft-tissue/mrsa-decolonisation-regime-for-adults-children-and-neonates/
  - In MRSA positive patients undergoing high risk surgery discuss with the microbiology team: consider the addition of vancomycin or teicoplanin.

References

1 Faculty of Sexual & Reproductive Healthcare Clinical Effectiveness Unit Statement on antibiotic cover for urgent insertion of intrauterine contraception in women at high risk of STI May 2019 https://www.fsrh.org/standards-and-guidance/documents/fsrh-ceu-statement-on-antibiotic-cover-for-urgent-insertion-of/#:~:text=Asymptomatic%20women%20at%20high%20risk,antibiotic%20cover%20is%20not%20required

2 Faculty of Sexual & Reproductive Healthcare Guideline Intrauterine Contraception Mar 2023 https://www.fsrh.org/standards-and-guidance/documents/ceuguidanceintrauterinecontraception/

3 Good practice recommendations for re-dosing antibiotics for surgical prophylaxis in adults Oct 2022 https://www.sapg.scot/media/7247/20221121-gprs-for-redosing-antibiotics-for-surgical-prophylaxis.pdf

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