

## GUIDELINES FOR ANTIBIOTIC PROPHYLAXIS IN GENERAL SURGERY

### Introduction

The administration of prophylactic antibiotics has been shown to be effective in preventing surgical site infections (SSI) in certain procedures. Important factors in determining the efficacy of the prophylaxis include the timing of administration and the choice of antibiotic.

### Notes

#### *Time of administration*

The period of risk for SSI begins at incision therefore the antibiotic(s) should be administered prior to this point to ensure that effective tissue concentrations are achieved.

- **Prophylaxis should be started preoperatively in most circumstances, ideally within 30 minutes of the induction of anaesthesia.**

#### *Duration of Prophylaxis*

The inappropriate prolongation of administration after the completion of surgery increases the risk of developing antibiotic associated side effects and is associated with increased costs.

- **Additional intra-operative doses of antibiotic are usually not required unless the procedure is >3hrs or unless there is blood loss of more than 1500ml during surgery or haemodilution of up to 15ml/kg.**
- **A single dose of antibiotics will usually be sufficient, prophylaxis may be continued at the discretion of the surgeon for up to 24hrs.**

### Choice of agent:

Type of Surgery	Likely Organisms	First Choice	Penicillin allergy i.e. history of minor rash <sup>1)</sup>	History of immediate penicillin hypersensitivity <sup>2)</sup>	Comments
Colorectal surgery	Coliforms Anaerobes	Cefuroxime 1.5g IV + Metronidazole 500mg IV	Cefuroxime 1.5g IV + Metronidazole 500mg IV	Gentamicin* 2mg / kg IV + Metronidazole 500mg IV	*Gentamicin should generally be avoided in patients with pre-existing renal impairment, other agents maybe indicated please contact microbiology for advice  If the use of gentamicin is considered inappropriate in a particular patient ciprofloxacin 400mg IV may be substituted or please contact microbiology for advice.
Appendectomy					
Small bowel surgery					
Abdominal surgery (Clean-contaminated procedures)					
Oesophageal surgery (not including Boerhaave's syndrome)					
Gastroduodenal surgery					
PEG	Coliforms	See individual unit policies			
ERCP					
Laparoscopic cholecystectomy	Coliforms	Cefuroxime 1.5g IV	Cefuroxime 1.5g IV	Gentamicin* 2mg / kgIV	Recommended in patients with a high risk of infected bile, such as those with acute cholecystitis, biliary obstruction and stones in the common bile duct
Biliary tract surgery (open)					
Breast surgery	Staphylococci	Flucloxacillin 1g IV	Cefuroxime 1.5g IV	Clindamycin 600mg IV	
Laparoscopic or non-laparoscopic hernia repair with mesh	Staphylococci	Flucloxacillin 1g IV	Cefuroxime 1.5g IV	Clindamycin 600mg IV	Not recommended for hernia repairs without the use of mesh

Discuss antibiotic choice with microbiology if:

- Patient is already receiving antibiotics or has a complicated antibiotic history
- Patient is known or suspected to be colonised with multi resistant organisms (e.g. MRSA)

<sup>1)</sup> Individuals with a history of minor rash (i.e. non-confluent rash restricted to a small area of the body) or a rash that occurs more than 72 hours after penicillin administration are probably not allergic to penicillins.

<sup>2)</sup> Penicillin allergy: previous anaphylaxis, angioedema, or immediate widespread urticaria or rash after penicillin administration are at risk of immediate hypersensitivity to a penicillin, these individuals should not receive a penicillin, a cephalosporin or another beta lactam antibiotic

Produced by the Antimicrobial Steering Group

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