

Antibiotic prophylaxis policy in Surgery

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Introduction

- Prophylactic antibiotic reduces the incidence of post-op wound infection
- An adjunct to, not a substitute for, good surgical technique
- Wounds usually contain bacteria – often without detrimental effect

Antibiotic policy – why?

- encourages evidence-based use of antibiotics
- minimises the effect of antibiotics on patient's normal bacterial flora
- minimises adverse effects
- causes minimal change to the patient's host defences

Prophylactic vs Empiric therapy

Prophylaxis is indicated for procedures

- with high infection rates
- involving prosthetic material &
- where the consequences of infection are serious

General principles

- In uncomplicated procedures, a single pre-op dose of antibiotic = 5-day post-op therapy
- Prophylactic antibiotics should target anticipated organisms & be present in tissues when the initial incision is made
- Prophylactic antibiotics should be given within 1 hour prior to incision

General principles (contd.)

- Therapeutic concentrations should be maintained throughout the procedure. eg: prolonged procedures – repeat antibiotic every 3hours
- For the majority of procedures, prophylaxis should not exceed 24hours
- Complicated, contaminated or dirty procedures should receive additional post-op coverage

Empiric therapy

- *The continued use of* antibiotics after the operative procedure based upon the intra-op findings

Inappropriate prophylaxis

- *Unnecessary use of broad-spectrum agents & continuation of therapy* beyond the recommended time period
- These practices increase the risk of adverse effects & promote the emergence of resistant organisms

Suggested antibiotic policy

Appendectomy (non-perforated)

- Enteric Gram negative bacilli
- 1st choice
 - Cefazolin + Metronidazole
- Alternative
 - Clindamycin + Aminoglycoside

Suggested antibiotic policy

Colorectal Surgery

- Enteric Gram negative bacilli, *Enterococcus*, anaerobes
- 1st choice
 - Cefazolin + Metronidazole
- Alternative
 - Clindamycin + Aminoglycoside

Suggested antibiotic policy

High-risk oesophageal, gastroduodenal or biliary surgery

- Enteric Gram negative bacilli, Gram positive cocci
- 1st choice
 - Cefazolin
- Alternative
 - Clindamycin + Aminoglycoside

Suggested antibiotic policy

Penetrating abdominal trauma

- Enteric Gram negative bacilli, *Enterococcus*, anaerobes
- 1st choice
 - Cefazolin + Metronidazole
- Alternative
 - Clindamycin + Aminoglycoside

Consider avoiding antibiotics in ...

- Benign breast surgery
- Laparoscopic cholecystectomy*
- Open or laparoscopic inguinal or femoral or incisional hernia with or without mesh
- Splenectomy*
- Circumcision, hydrocoele repair
- Abscesses* (drainage/debridement/ irrigation alone may suffice)