PROTOCOL FOR ANTIBIOTIC USE IN THE ORTHOPAEDIC DEPARTMENT

The use of any antibiotic will depend on the clinical need of the patient as well as the known sensitivities of the infecting organism and the known allergies of the patient.

These are guidelines only.

You must think about the needs of each individual patient.

SURGICAL PROPHYLAXIS

Note: Antibiotic concentrations in blood and bone peak at 20 minutes following the dose.

1. **Major Joint Arthroplasty**

   CEFUROXIME - **2 DOSES** (i.e. one dose of 1.5g 10-20 minutes before surgery and a single further dose of 750mg 6-8 hours later).

   If a tourniquet is being used make sure the dose is given at least 10 minutes before application of tourniquet.

2. **Closed Fracture Fixation**

   As above.

3. **Open Fractures**

   Risk of infection high. No clear evidence for duration of antibiotics, but standard recommendation is

   CEFUROXIME 1.5g tds IV for **3 DOSES** (i.e. 24 hours).

   Commence as soon as possible after the injury. Monitor closely for signs of overt infection.

CELLULITIS

Usually Streptococci / Staphylococci

   IV – BENZYLPENICILLIN + FLUCLOXACILLIN

   **OR**

   Oral – AMOXYCILLIN + FLUCLOXACILLIN

If allergic to penicillin consider CLINDAMYCIN.

SEPTIC ARTHRITIS / OSTEOMYELITIS

Staphylococcus aureus (commonest cause)

   IV – FLUCLOXACILLIN + FUSIDIC ACID
Try and get a sample for bacteriological culture first if this will not delay the start of treatment for too long.

May need to change antibiotic regime once sensitivities are known. Treatment will usually continue for a minimum of 6 weeks (first 2 weeks IV). If infection multiresistant or patient immunocompromised may need longer (up to 3-6 months).

**POSTOPERATIVE WOUND INFECTION**
Staph. aureus most likely

FLUCLOXACILLIN
(Consider adding METRONIDAZOLE)

May need to change antibiotic regime once sensitivities to hand.

**POSTOPERATIVE URINARY TRACT INFECTION**

First line therapy  
CEFALEXIN  
NITROFURANTOIN or  
TREMETHOPRIM

Or appropriate antibiotic if sensitivities available. **Three days therapy** is adequate for uncomplicated UTI.

**CATHETERISATION POST JOINT REPLACEMENT**

Antibiotics not indicated, as no evidence of benefit.

**POSTOPERATIVE CHEST INFECTION**

1. **Exacerbation of Chronic Bronchitis**

First line therapy  
AMOXYCILLIN

Second line therapy  
CEFACLOR  
DOXYCYCLINE

Alternatives  
ERYTHROMYCIN  
TRIMETHOPRIM

2. **Hospital acquired pneumonia**

2nd/3rd generation Cephlosporin (CEFUXOXIME/CEFTAZIDIME)

Check sputum culture and sensitivities if available and consult with Consultant Microbiologist/ Medical team on-call.

**ENTERIC INFECTION (DIARRHOEAL DISEASE)**

Antibiotics may make matters worse and should generally be avoided. If severe/debilitating infection send faeces sample for routine culture and Cl. Difficile toxin test. Discuss with microbiologist.
PSEUDOMONAS

Remember that it often only represents replacement flora.

If therapy indicated  CEFTAZIDIME or GENTAMICIN

MRSA

Always discuss with Microbiologist before treating.

Septicaemia or serous wound infection

TEICOPLANIN IV and consult microbiologist. May require additional agent e.g. fucidin/rifampicin.

Minor wound infection may be treated with oral antibiotics e.g. tetracycline and fucidin/rifampicin.

PAEDIATRIC ANTIBIOTIC PRESCRIBING

UTI
RESPIRATORY TRACT INFECTIONS
ENTERIC INFECTION

For advice on prescribing of antibiotics in children the Paediatric Policy, Consultant Paediatrician or Consultant Microbiologist as appropriate should be consulted.

1. Osteomyelitis
Acute haematogenous osteomyelitis in infants

Staph. aureus commonest – FLUCLOXACILLIN IV + FUCIDIC ACID IV
But consider
Group B Streptococcus – BENZYPENICILLIN IV
Gram negative bacillus – CEFOTAXIME IV
(Increasing frequency especially if multiple bone involvement and high risk infants).

2. Septic Arthritis
Empiric cover (Staph. aureus/Streptococci) BENZYPENICILLIN + FLUCLOXACILLIN IV.

Proven/suspected Staph. aureus – FLUCLOXACILLIN + FUCIDIC ACID IV

Proven/suspected Gram-negative – CEFOTAXIME IV.