

### ICU ANTIBIOTIC GUIDELINES

Antibiotic treatment on any ICU should be agreed with Microbiology on initiation whenever possible.

**Dose:** Use the highest dose commensurate with patient body mass, renal and hepatic function. Pharmacy can advise on doses.

**Duration:** Most courses should be 5 days or less  
Severe pneumonia up to 10 days  
Abdominal or mediastinal sepsis 10 - 21 days  
Osteomyelitis or endocarditis 6 - 12 weeks

**Spectrum:** Keep antibiotic spectrum narrow if the pathogen is known

#### EMPIRICAL TREATMENT NO OBVIOUS SOURCE (within 48-72 hrs of admission / intubation)

<b>1<sup>st</sup> choice</b>	Cefuroxime 750mg – 1.5g IV 8 hourly
<b>Alternative</b> (Order of choice may be changed if outbreaks of infection dictate e.g. <i>C. difficile</i> )	Co-amoxiclav 1.2g IV 8 hourly
<b>If hypotensive or shocked</b>  (Refer to Gentamicin dosing guideline for advice on levels).	<b>Add</b> Gentamicin 7mg/kg IV 24 hourly <b>OR</b> Gentamicin 80mg IV 12–24 hourly (if CrCl <20ml/min)
<b>If anaerobic infection suspected</b>	<b>Add</b> Metronidazole 500mg IV 8 hourly (Not necessary with Co-amoxiclav)
If patient has diarrhoea, only use Teicoplanin, Ciprofloxacin or Metronidazole as necessary. Avoid cephalosporins.	

#### EMPIRICAL TREATMENT OF PNEUMONIA (within 72 hrs of surgery or ICU admission)

Risk of atypical pneumonia depends on history and symptoms on presentation.

<b>1<sup>st</sup> choice</b>	Cefuroxime 750mg – 1.5g IV 8 hourly <b>+ / -</b> Clarithromycin 500mg IV 12 hourly <b>OR</b> Erymax 500mg PO 12 hourly
<b>Alternative</b>	Teicoplanin 400mg IV 12 hourly for 3 doses, then 400mg IV 24 hourly <b>+ / -</b> Clarithromycin 500mg IV 12 hourly

**EMPIRICAL TREATMENT OF PNEUMONIA  
(within 72 hrs of surgery or ICU admission)**

<b>1<sup>st</sup> choice</b>	Ceftazidime 2g IV 8 – 12 hourly
<b>2<sup>nd</sup> choice</b>	Ciprofloxacin 400mg IV 12 hourly
<b>3<sup>rd</sup> choice</b>	Tazocin 4.5g IV 8 hourly

**PNEUMOCYSTIS CARINII PNEUMONIA (PCP)**

Steroids given early in the course of therapy, in addition to PCP treatment have been shown to reduce mortality in cases of moderate to severe disease. **Check whether steroids indicated and doses needed with the Infectious Diseases team.**

**Treatment**

<b>1<sup>st</sup> choice</b>	Co-trimoxazole 120mg/kg*/day PO/IV in 2 or more divided doses for 2 days then Co-trimoxazole 90mg/kg*/day in 2 or more divided doses for 19 days
*Use ideal body weight to calculate dose if patient is 15% above or below their ideal body weight.	
<b>2<sup>nd</sup> choice</b>	Clindamycin 600mg PO/IV 6 hourly for 21 days <b>plus</b> Primaquine* (base) 15mg Po 24 hourly for 21 days (*Avoid in patients with G6PD deficiency)
<b>Alternatives</b>	Pentamidine, Trimetrexate Dapsone and Trimethoprim Atovaquone  (Discuss with Infectious Diseases team)

**LEGIONNAIRE'S PNEUMONIA**

If suspected, contact Microbiology urgently

**NEUTROPENIC FEVER**

Refer to Neutropenic sepsis guidelines and contact on-call Haematologist

**MENINGITIS**

Refer to Meningitis treatment guidelines

**ENDOCARDITIS**

Refer to Endocarditis treatment guidelines

**INTRAVENOUS CATHETER INFECTION**

Change or remove catheter if possible. If cannot, or fever does not settle then treat as below:

**1<sup>st</sup> choice**Teicoplanin 400mg IV 12 hourly for 3 doses,  
then 400mg IV 24 hourly for 5 days**STERNAL WOUND INFECTION**

Treatment may change once the pathogen is identified.

**If organism unknown or *Staphylococcus***Teicoplanin 400mg IV 12 hourly for 3 doses,  
then 400mg IV 24 hourly for 7 - 10 days**If Gram negative organism**Ceftazidime 2g IV 8 – 12 hourly  
**OR**  
Tazocin 4.5g IV 8 hourly**ABDOMINAL SEPSIS****1<sup>st</sup> choice**(\*Refer to Gentamicin dosing guideline for  
advice on levels).Cefuroxime 1.5g IV 8 hourly  
**plus**  
Metronidazole 500mg IV 8 hourly  
**plus**  
Gentamicin\* 7mg/kg IV 24 hourlyPancreatitis may be treated with a carbapenem for up to 2 weeks as there is some evidence of  
improvement of necrotic pancreatitis. However, there is a documented risk of multiresistant  
infection following such a policy. Discuss treatment with Microbiology.**DIARRHOEA**This is usually caused by *C. difficile*. Stop antibiotics if possible.**1<sup>st</sup> choice**Metronidazole 400mg PO 8 hourly for 7 – 10  
days**2<sup>nd</sup> choice**Vancomycin 125mg **PO** 6 hourly for 7 to 10  
days

IV Vancomycin is NOT effective

<b>URINARY TRACT INFECTION</b>	
Treatment if symptomatic or suspected bacteraemia.	
<b>Within 72h of catheterisation</b>  (*Refer to Gentamicin dosing guideline for advice on levels).	Cefuroxime 750mg – 1.5g IV 8 hourly <b>plus</b> Gentamicin* 7mg/kg IV 24 hourly
<b>More than 72h from catheterisation</b>	Ceftazidime 2g IV 8 – 12 hourly <b>OR</b> Ciprofloxacin 400mg IV 12 hourly

<b>STAPHYLOCOCCUS AUREUS INFECTION</b>	
<b>1<sup>st</sup> choice</b>  (*Refer to Gentamicin dosing guideline for advice on levels).	Flucloxacillin 1g – 2g IV 6 hourly <b>plus</b> Gentamicin* 7mg/kg IV 24 hourly
<b>MRSA</b>	Teicoplanin 400mg IV 12 hourly for 3 doses, then 400mg IV 24 hourly <b>plus</b> Gentamicin* 7mg/kg IV 24 hourly <b>OR</b> Vancomycin (2 <sup>nd</sup> line) <b>OR</b> Linezolid (glycopeptide intermediate resistant <i>S. aureus</i> – GISA)

<b>STREPTOCOCCUS GROUP A INFECTION</b>	
Treatment must be given without any delay as soon as infection suspected.	
<b>1<sup>st</sup> choice</b>	Benzylpenicillin 1.2g IV 4 hourly <b>plus</b> Clindamycin 600mg IV 6 hourly

<b>ENTEROCOCCUS INFECTION</b>	
<b>1<sup>st</sup> choice</b>	Teicoplanin 400mg IV 12 hourly for 3 doses, then 400mg IV 24 hourly <b>OR</b> Tazocin 4.5g IV 8 hourly
<b>VRE (Vancomycin resistant enterococcus)</b>	Linezolid – discuss with Microbiology