

## ANTIBIOTIC DOSAGES

### Common Antibiotics used in our unit

- For additional information, refer to the ICU antibiotic guidelines in our Good Practice Guidelines and Protocols website
- Many of the critically ill patients have impaired renal and liver function either acute or acute on chronic. Doses need to be adjusted (reduced) in patients with renal and liver failure
- However, also bear in mind that the other factors in the critically ill patients eg increased cardiac output, increased volume of distribution can result in lower therapeutic levels – dose may need to be increased in these patients for good effect
- Check for allergies and contraindications
- Look out for side effects (refer to MIMS)
- Creatinine clearance: save 24 hour urine  
Estimation from formula  $\frac{1.23 \times (140 - \text{age}) \times \text{body weight}}{\text{serum creatinine}}$
- CVVH clearance approx 10ml/min

Drugs	Normal	creatinine clearance(ml/min)		
		>50-90	10-50	<10
<b>Penicillin</b>				
Penicillin G	4 Mu q-4h	4Mu q-4h	3Mu q-4h	2Mu q-4h
Ampicillin	2g q-6h	2g q-6h	2g q-8-12h	2g q-12-24h
Cloxacillin	2g q-4h	2g q-4h	No recommendation	
Augmentin	2.4g q-6h	2.4g q-6h	1.2g IV stat, 600mg q-12h	1.2g IV stat, 600mg q- 24h
Tazocin	4.5g q-6h	← 4.5g q-8h →		4.5g q-12h
Unasyn	3g q-6h	3g q-6h	3g q-8-12h	3g q-24h
<b>Cephalosporin</b>				
Cefuroxime	1.5 q-8h	1.5 q-8h	1.5 q-8-12h	1.5 q-24h
Ceftazidime	2g q-8h	2g q-8-12h	2g q-24-48h	2g q-48h
Cefotaxime	2g q-8h	2g q-8-12h	2g q-12-24h	2g q-24h
Cefepime	2g q-8h	2g q-8h	2g q-12-24h	2g q-24h
Ceftriaxone	4g daily (Max)	←—————→		
Sulperazone	2g q-6h (Max)	← 2g q-12h →		1g q-12h
<b>Macrolide</b>				
Clarithromycin	1g q-12h	1g q-12h	750mg q-12h	500mg q- 12h

Azithromycin	500 mg daily	No data for < 40 ml/min		
<b>Fluoroquinolone</b>				
Ciprofloxacin	← 400mg q-12h →	300mg q-12h	200mg q-12h	
Levofloxacin	← 500mg q-24h →	500mg x1 then q24-48h	500mg x1 then q-48h	
<b>Carbapenem</b>				
Imipenem	← 500mg q-6h →	250mg q-6-12h	125-250mg q12h	
Meropenem	← 1g q-8h →	1g q-12h	500mg q-24h	
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creatinine clearance(ml/min)				
Drugs	Normal	>50-90	10-50	<10
<b>Aminoglycoside</b>				
Gentamicin	← 5mg/kg single daily dose →			
Amikacin	← 15mg/kg single daily dose →			
Netilmicin	← 5mg/kg single daily dose →			
<b>Others</b>				
Vancomycin	← 1g q-12h →	1g q-24-96h	1g q 4-7 days	
Linezolid	← 600mg q-12h →			
Rifampicin	← 600mg q-24h →	← 300-600 mg q-24h →		
Metronidazole				200mg q-8h
Septin	960mg q-12h	standard dose for 3 days then ½ of standard		Not recommended
Doxycycline	← No IV available →			
Clindamycin	← 600mg q-6h →			
<b>Antifungal</b>				
Amphotericin B	← 0.4 – 1mg/kg/24h →			
Fluconazole	← 400mg q-24h →	← 200mg q-24h →		
<b>Antiviral</b>				
Acyclovir	← (HSE) 10mg/kg/q-8h →	10mg/kg/q-12-24h	2.5mg/kg/24h	

The above table serves as a general guideline only.  
Refer to drug inserts/ MIMS for controversies.

### **Antibiotic Levels**

Send levels before 12 noon so that results can be available on the same day.

Vancomycin    predose 5-10ug/ml (10-15ug/ml advised by some authorities)

                  Postdose 20-40ug/ml

Gentamicin (single daily dose)    predose <1ug/ml

Amikacin    (single daily dose)    predose <5ug/ml

### ***Reference:***

1. The Sanford Guide to Antimicrobial Therapy
2. IMPACT guidelines