Antibiotic Prescription Quick Reference Guide for MDH-ITU

	Maximum dose when CR_{CL} > 50ml/min	Standard dose when CR_{CL} > 50ml/min	Dose when CR_{CL}=20-50 ml/min	Dose when CR_{CL} < 20 ml/min	Dose in CVVHDF	Dose in IHD[1]
Aciclovir	10mg/kg q8h	5mg/kg q8h	5-10mg/kg q12h	5mg/kg q24h	5mg/kg q24h	2.5-5mg/kg q24h
Amikacin	LD: 30mg/kg (max 2.5g) then follow MDH Amikacin Guideline	LD: 15mg/kg then follow MDH Amikacin Guideline	LD: 15mg/kg , then follow MDH Amikacin Guideline		LD: 15mg/kg Should ideally be avoided (alternative drug class) or given as a single STAT dose[2]	
Amoxicillin	2g q4h[3]	2g q8h	1-2g q8h[4]	1-2g q12-24h	1-2g q6h	1-2 g q12h
Amphotericin B (Liposomal)[8]	5-10mg/kg q24h	3-5mg/kg q24h	3-5mg/kg q24h			
Caspofungin[5]	LD: 70mg then MD: 70mg q24h if patient weight > 80Kg **OR** MD: 50mg q24h if patient weight < 80 Kg		LD: 70mg then MD: 70mg q24h if patient weight > 80Kg **OR** MD: 50mg q24h if patient weight < 80 Kg			
Ceftazidime	2g q6h	2g q8h	1g q8h	1g q24h	2g q12h	1g q24h
Ceftriaxone	LD: 4g then MD: 2g q12h	2g q24h	2g q24h[4] (max 2g q24h)			
Cefuroxime	3g q8h	1.5g q8h	0.75-1.5g q8h	750mg q12h	750mg q8h	750mg q12h
Ciprofloxacin	400mg q8h	400mg q12h	400mg q12h	200mg q12h	400mg q12h[4]	200mg q12h
Clindamycin	1.2g q6h	0.9g q6h	0.9g q6h[4]			
Co-amoxiclav	1.2g q6h	1.2g q8h	1.2g q8-12h	LD: 1.2g MD: 0.6gq12h	1.2g q12h	LD: 1.2g MD: 0.6gq12h
Colistin	LD: 9MU MD: 3MU q8h (starting 8h post LD)		LD: 9MU MD: 2MU q8-12h (starting 8h post LD)	LD: 9MU MD: 1MU q8-12h (starting 8-12h post LD)	LD: 9MU MD: 1MU q12-24h (starting 12-24h post LD)	LD: 9MU MD: 1MU q24h (starting 24h post LD)
Co-trimoxazole[9]	1920 mg q6h	960mg q6h	960mg q6h	Not advised	960mg q6h	To check
Doxycycline	LD: 200mg MD: 200mg q12h	LD: 200mg MD: 200mg q24h	[4]LD: 200mg MD: 200mg q24h			
Flucloxacillin	2g q4h	2g q6h	1-2g q6h	1g q6h	2g q6h	1g q6h
Fluconazole	LD: 800mg MD: 400mg q24h		LD: 800mg MD: 400mg q24h	LD: 400mg MD: 200mg q24h	800mg q24h	LD: 400mg MD: 200mg q24h
Gentamicin*[2]	7mg/Kg; timing is adjusted according to levels (usually q24h)		LD: 7mg/Kg then according to levels (≥q48h)	LD: 7mg/Kg; ideally avoided (alternative drug class chosen) or given as a single STAT dose[2]		
Levofloxacin	500mg q12h		500mg q24h	LD: 250-500mg MD: 250mg q24h	LD: 500mg MD: 250mg q24h	LD: 500mg MD: 250mg q48h
Linezolid	600mg q12h		[4]600mg q12h			
Meropenem	2g q8h[7]	1g q8h	1g q8h	500mg q8h	1g q12h	1g q24h
Metronidazole	500mg q8h		[4]500mg q8h			
Oseltamivir	75mg q12h		75mg q12h	75mg q24h		
Piperacillin-Tazobactam	4.5g q6h	4.5g q8h	4.5g q8h	4.5g q12h	4.5g q8h	4.5g q12h
Teicoplanin	12mg/kg (based on maximum body weight = max dose 1200mg)	LD: 800mg q12h X 3 doses MD: 600mg q24h	LD: 800mg q12h X 3 doses MD: 200-400mg q24h	LD: 800mg q12h X 3 doses MD: 200mg q24-48h	LD: 800mg q12h X 3 doses MD: 200-400mg q24h	LD: 800mg 12hrly X 3 doses MD: 200mg q24-48h
Tigecycline	LD 200mg MD: 100mg q12h	LD 100mg MD: 50mg q12h	[4]LD 100mg MD: 50mg q12h			
Tobramycin*[2]	7mg/Kg; timing is adjusted according to levels (usually q24h)		LD: 7mg/Kg then according to levels (≥q48h)	LD: 7mg/Kg; ideally avoided (alternative drug class chosen) or given as a single STAT dose[2]		
Vancomycin*	Refer to MDH Vancomycin Guideline		Refer to MDH Vancomycin Guideline			

Glossary:

LD = **L**oading **D**ose
MD = **M**aintenance **D**ose
q'X'h = every 'X' hours (where 'X' = 4, 6, 8, 12, 24, 48, 72 h)
CR_{CL} = **CR**eatinine **cl**earance
IHD = **I**ntermittent **H**aemo**D**ialysis
CVVHDF = **C**ontinuous **V**eno**V**enous **H**aemo**D**ia**F**iltration

* Use Ideal Body Weight (IBW – **Table 1**) **except** if:
(1) Actual BW < IBW = use Actual BW **or**
(2) if Actual BW > [1.2 x IBW] use Maximum BW (**Table 2**)

Table 1: Ideal Body weight (IBW) {for non obese patients}

Height (cm)	150	152	155	157	160	163	165	168	170	173	175	178	180	183	185	188	190
Males: (kg)	46	50	52	55	57	59	61	64	66	68	71	73	75	80	82	85	87
Females: (kg)	43	45	48	50	52	55	57	59	62	64	66	68	71	73	75	80	82

Table 2: Maximum Body Weight (MBW) {for obese patients}

Height (cm)	150	152	155	158	160	163	165	168	170	173	175	178	180	183	185	188	191
Males: (kg)	58	60	62	66	68	71	74	77	79	82	85	88	90	94	96	98	101
Females: (kg)	52	55	58	60	62	66	68	71	74	77	79	82	85	88	90	94	96

Calculate Creatinine Clearance (Cockcroft-Gault equation). **NOTE: eGFR should never be used for dosing purposes.**

MALE:

$$\text{CrCl (ml/min)} = \frac{140 - [\text{age}]\ (\text{years}) \times [\text{weight}]\ (\text{kg})}{[\text{serum creatinine}]\ (\mu\text{mol/L})} \times 1.23 = \underline{\quad\quad}$$

FEMALE:

$$\text{CrCl (ml/min)} = \frac{140 - [\text{age}]\ (\text{years}) \times [\text{weight}]\ (\text{kg})}{[\text{serum creatinine}]\ (\mu\text{mol/L})} \times 1.04 = \underline{\quad\quad}$$

Numbered notes:

1 **IHD should be preferably scheduled q48h** to maintain adequate antimicrobial levels. Drugs administered ≥q24h should be administered **after dialysis**

2 **Gentamicin/Tobramycin** – refer to ITU Gentamicin/Tobramycin dosing guideline. Dialysis not a contraindication on ITU. The same nomogram applies to both gentamicin and tobramycin.

3 **Amoxicillin** – suggested for Listerial meningitis or endocarditis

4 dose as in normal renal function

5 **Caspofungin** - (1) in moderate/severe hepatic impairment → LD 70mg then MD 35mg q24h (2) increase MD to 70mg q24h when prescribed with dexamethasone, phenytoin, carbamazepine or rifampicin.

6 **Aciclovir** – maximum dose to be used in viral encephalitis

7 **Meropenem** – 2g dose must be infused over 3hrs

8 **Amphotericin B (Liposomal)** - initial test dose 1 mg over 10 minutes

9 **Co-trimoxazole** – maximum dose suggested for Pneumocystis pneumonia treatment dosing