DOSE IN RENAL IMPAIRMENT **ULHT/G/2018/035 (V4) CESC May 2018 Review May 2021**

ANTIBIOTIC DRUG	ADULT DOSE IN NORMAL RENAL FUNCTION	eGFR 20 to 50ml/min	eGFR 10 to 20ml/min	eGFR <10ml/min	REFERENCE SOURCE
Aciclovir IV	5 to 10mg/kg 8-hourly	*eGFR 25 to 50ml/min* 5 to 10mg/kg 12-hourly	*eGFR 10 to 25ml/min* 5 to 10mg/kg 24-hourly	*eGFR <10ml/min* 2.5 to 5mg/kg 24-hourly	2
Aciclovir oral	**Simplex**: 200mg to 400mg 5 times daily	No change	200mg 6 to 8-hourly	200mg 12-hourly	2
	Zoster: 800mg 5 times daily	No change	800mg 8 to 12-hourly	400mg to 800mg 12-hourly	2
Amikacin IV	15mg/kg/day in 2 divided doses Max 1.5g/day	5 to 6 mg/kg 12-hourly	3 to 4 mg/kg 24-hourly	2 mg/kg 24 to 48-hourly	1,2
Amoxicillin Oral	250mg to 1g 8-hourly, up to 6g/day Up to 12g/day in endocarditis	*eGFR >30ml/min* No change	*eGFR 10 to 30ml/min* Max 500mg 12-hourly	*eGFR <10ml/min* 500mg 24-hourly	2
		Patients on haemodialysis should receive 500mg 24-hourly, and 500mg ***pre-dialysis*** & 500mg ***post-dialysis***			
Amoxicillin IV	250mg to 1g 8-hourly, up to 6g/day. Up to 12g/day in endocarditis	*eGFR >30ml/min* No change	*eGFR 10 to 30ml/min* 1g stat, then 500mg to 1g 12-hourly	*eGFR <10ml/min* 1g stat, then 500mg 24-hourly Max 6g/day in endocarditis	2
		Patients on haemodialysis should receive 1g ***post-dialysis*** , then 500mg 24-hourly			
Azithromycin Oral	500 mg once daily for 3 days or 500mg day 1 then 250mg once daily for 4 days	No change	No change	No change	2
Aztreonam IV	1g 8-hourly to 2g 6-hourly	*eGFR 30 to 50 ml/min* No change	*eGFR 10 to 30ml/min* 1g to 2g loading dose, then 500mg to 1g 6, 8 or 12-hourly	*eGFR <10ml/min* 1g to 2g loading dose, then 250mg to 500mg 6, 8 or 12-hourly	1,2
Benzylpenicillin IV	600mg to 14.4g/day in 4 to 6 divided doses	No change	600mg to 2.4g 6-hourly	600mg to 1.2g 6-hourly	1
		Patients on haemodialysis should receive 300mg 6-hourly ***during dialysis***			
Cefalexin oral	250mg 6-hourly or 500mg 8-12-hourly Max 4g daily	*eGFR 40 to 50ml/min* No change, max 3g daily	*eGFR 10 to 40ml/min* 250mg to 500mg 8 to 12-hourly	*eGFR <10ml/min* 500mg 12 to 24-hourly	1
Cefixime Oral	200mg to 400mg daily in 1 to 2 divided doses	No change	No change	200mg 24-hourly	1,2
Cefotaxime IV	1g 12-hourly to 12g daily in 3 to 4 divided doses	No change	No change	*eGFR <5ml/min* Initial 1g loading dose, then 50% dose and keep frequency the same	1
Ceftazidime IV	500mg to 2g 8 to 12-hourly or 3g 12-hourly in severe infections Max 9g daily *For elderly > 80 yrs old, max 3g daily*	*In patients with impairment, an initial dose of* ***1g,*** *then give the following according to eGFR:-* *eGFR: 31 to 50* 1 to 2g 12-hourly	*eGFR: 16 to 30* 1 to 2g 24-hourly	*eGFR: 6 to 15* 500mg to 1g 24-hourly	*eGFR <5* 500mg to 1g 48-hourly	1,2
Ceftriaxone IV	1g to 4g 24-hourly	No change	No change	Max 2g 24-hourly	1,2
Cefuroxime IV	750mg to 1.5g 6 to 8-hourly Meningitis 3g 8-hourly	No change	750mg to 1.5g 12-hourly	750mg to 1.5g 24-hourly	1,2

ANTIBIOTIC DRUG	ADULT DOSE IN NORMAL RENAL FUNCTION	eGFR 20 to 50ml/min	eGFR 10 to 20ml/min	eGFR <10ml/min	REFERENCE SOURCE
Ceftaroline IV	600mg 12-hourly	*eGFR 30 to 50ml/min* 400mg 12-hourly	*eGFR 15 to 29ml/min* 300mg 12-hourly	*eGFR< 15ml/min* 200mg 12-hourly	1,2
Chloramphenicol Oral	12.5mg to 25mg/kg every 6 hours	No change	No change	Avoid unless no alternative	1,2
Chloramphenicol IV	12.5mg to 25mg/kg every 6 hours	No change	No change	Avoid unless no alternative	1,2
Ciprofloxacin Oral	250 to 750mg 12-hourly	*eGFR 30 to 60 ml/min* 250mg to 500mg 12-hourly	*eGFR 10 to 30ml/min* 250mg to 500mg 24-hourly	*eGFR <10ml/min* 250mg to 500mg 24-hourly	1,2
Ciprofloxacin IV	100mg to 400mg 8 to 12-hourly	200mg to 400mg 12-hourly	200mg to 400mg 24-hourly	200mg to 400mg 24-hourly	1,2
		Patients on haemodialysis should receive their dose ***post-dialysis***			
Clarithromycin Oral	250mg to 500mg 12-hourly	*eGFR 30 to 50ml/min* No change	*eGFR 10 to 30ml/min* 250mg to 500mg 12-hourly	*eGFR <10ml/min* 250mg 12-hourly	1,2
Clarithromycin IV	500mg 12-hourly	No change	250mg to 500mg 12-hourly	250mg to 500mg 12-hourly	1,2
Clindamycin Oral	150mg to 450mg 6-hourly	No change	No change	No change. Prolonged half-life, consider dose reduction	1,2
Clindamycin IV	600mg to 4.8g daily in 2 to 4 divided doses	No change	No change	No change Prolonged half-life, consider dose reduction	1,2
Co-amoxiclav Oral	625mg 8-hourly	*eGFR: 30 to 50ml/min* No change	*eGFR: 10 to 30ml/min* 625mg 12-hourly	*eGFR: <10ml/min* 625mg 24-hourly	1,2
		Patients on haemodialysis should receive 625mg 24-hourly, and 625mg ***during*** dialysis & 625mg ***post-dialysis***			
Co-amoxiclav IV	1.2g 6 to 8-hourly	*eGFR: 30 to 50ml/min* No change	*eGFR: 10 to 30ml/min* 1.2g stat then 600mg 12-hourly	*eGFR: <10ml/min* 1.2g stat, then 600mg 24-hourly	1,2
		Patients on haemodialysis should receive an initial dose of 1.2g stat then 600mg 24-hourly, and 600mg ***post-dialysis***			
Colistimethate sodium IV	9 million units/day in 2 to 3 divided doses Critically ill patients, a loading dose of 9 million units should be given	*Normal loading dose in critically ill patients, then give the following according to eGFR:-*			1,2
		eGFR 20 to 50ml/min 5.5 to 7.5 million units per day in 2 divided doses	*eGFR 10 to 20ml/min* 4.5 to 5.5 million units per day in 2 divided doses	*eGFR< 10ml/min* 3.5 milion units per day in 2 divided doses	
		Patients on haemodialyis should receive 2.25 million units/day on ***non-dialysis days*** , and 3 million units/day on ***dialysis days***			
Colistimethate sodium neb	1 to 2 million units 8 to 12-hourly	No change	No change	No change, monitor levels	1,2
Co-trimoxazole IV PCP treatment	960mg to 1.44g 12-hourly 120mg/kg/day in 2-4 divided doses	*eGFR: 30 to 50ml/min* No change	*eGFR: 15 to 30ml/min* 60mg/kg 12-hourly for 3 days then 30mg/kg 12-hourly	*eGFR: <15ml/min* 30mg/kg 12-hourly	1,2
Co-trimoxazole Oral prophylaxis	480mg to 960mg daily or 960mg alt days or 960mg 12-hourly two days per week	*eGFR: 30 to 50ml/min* No change	*eGFR: 15 to 30ml/min* 50% of dose	*eGFR: <15ml/min* Avoid	1,2
Daptomycin IV	4mg/kg to 6mg/kg 24-hourly	*eGFR 30 to 80ml/min* No change Monitor renal function	*eGFR <30ml/min* 4mg/kg to 6mg/kg 48-hourly	*eGFR <30ml/min* 4mg/kg to 6mg/kg 48-hourly	1,2
Doxycycline	200mg on D1 then 100mg daily (200mg daily if severe infection)	No change	No change	No change	1,2

ANTIBIOTIC DRUG	ADULT DOSE IN NORMAL RENAL FUNCTION	eGFR 20 to 50ml/min	eGFR 10 to 20ml/min	eGFR <10ml/min	REFERENCE SOURCE
Ertapenem IV	1g 24-hourly	*eGFR 30 to 50ml/min* 1g 24-hourly	*eGFR 10 to 30ml/min* 500mg to 1g 24-hourly	*eGFR <10ml/min* 500mg 24-hourly	1,2
Erythromycin Oral	250mg to 500mg 6-hourly or 500mg to 1g 12-hourly	No change	No change	Max 1.5g daily	1,2
Erythromycin IV	25-50mg/kg daily in 4 divided doses Max 4g daily	No change	No change	Max 1.5g daily	1,2
Flucloxacillin Oral	250mg to 1g 6-hourly	No change	No change	No change, max 4g daily	1,2,3
Flucloxacillin IV	250mg to 2g 6-hourly	No change	No change	No change, max 4g daily	1,2,3
Fluconazole Oral/IV	50 to 400mg daily	50 to 100% normal dose	50 to 100% normal dose	50% of normal dose	1,2,3
		Patients on haemodialyis should receive 100% of normal dose ***after each dialysis***			
Sodium fusidate oral tablet	500mg to 1g 8-hourly	No change	No change	No change	1
Fusidic acid oral liquid	750mg 8-hourly	No change	No change	No change	2
Fosfomycin oral	3g as a single dose	No change	No change	Avoid	1
Fosfomycin IV	500mg to 1g 6 to 8-hourly up to 24g daily 8g max single dose	*eGFR 31 to 40ml/min* Normal loading dose, then 70% of dose, in 2 to 3 divided doses	*eGFR 21 to 30 ml/min* Normal loading dose, then 60% of dose, in 2 to 3 divided doses	*eGFR 11 to 20 ml/min* Normal loading dose, then 40% of dose, in 2 to 3 divided doses	1,2
		eGFR <10ml/min - Normal loading dose, then 20% of dose, in 1 to 2 divided doses			
Gentamicin **Multiple doses/day**	80mg 8-hourly	*CrCl: 30 to 60ml/min* 80mg 12-hourly, monitor levels (60mg if <60kg)	*CrCl: 10 to 30ml/min* 80mg 24-hourly, monitor levels (60mg if<60kg)	*CrCl: <10ml/min* 80mg 48-hourly or post-dialysis (60mg if <60kg). Monitor levels	1,3,4
Gentamicin once daily	**See Local Guidance**				4
Imipenem/cilastatin IV	500mg to 1g every 6 to 8 hours Max 4g 24-hourly	*eGFR 41 to 70ml/min* 500mg 6 to 8-hourly or 750mg 8-hourly	*eGFR 21 to 40ml/min* 250mg 6-hourly or 500mg 6 to 8-hourly	*eGFR 6 to 20ml/min* 250mg to 500mg (or 3.5mg/kg, whichever is lower) 12-hourly *Avoid if eGFR <6ml/min*	1,3
Levofloxacin oral/ IV	250mg 24-hourly to 500mg 12-hourly	Initially 250 to 500mg then 125mg 24-hourly to 250mg 12-hourly	Initially 250 to 500mg then 125mg 12 to 48-hourly	Initially 250 to 500mg then 125mg 24 to 48-hourly	1,2
Linezolid Oral/IV	600mg 12-hourly	No change	No change	No change, but monitor closely (metabolites may accumulate) Consider 600mg 24-hourly if platelets drop whilst on 12-hourly dosing	1,2,3
Meropenem	500mg to 2g 8-hourly	*eGFR 26 to 50ml/min* 500mg to 2g 12-hourly	*eGFR 10 to 25ml/min* 250mg to 1g 12-hourly or 500mg 8-hourly	*eGFR <10ml/min* 250mg to 1g 24-hourly	1,2,3

ANTIBIOTIC DRUG	ADULT DOSE IN NORMAL RENAL FUNCTION	eGFR 20 to 50ml/min	eGFR 10 to 20ml/min	eGFR <10ml/min	REFERENCE SOURCE
Metronidazole Oral	200mg to 400mg 8 to 12-hourly	No change	No change	No change	1,2,3
Metronidazole IV	500mg 8-hourly	No change	No change	No change	1,2,3
Metronidazole PR	1g 8 to 12-hourly	No change	No change	No change	1,2,3
Moxifloxacin	400mg 24-hourly	No change	No change	No change	1,2,3
Ofloxacin oral	200mg to 400mg 24-hourly	200mg to 400mg 24-hourly	200mg to 400mg 24-hourly	100mg to 200mg 24-hourly	1,2,3
Ofloxacin IV	200mg to 400mg 12-hourly	200mg to 400mg 24-hourly	200mg to 400mg 24-hourly	100mg 24-hourly	1,2,3
Oseltamivir treatment	75mg 12-hourly for 5 days	*eGFR 30 to 60ml/min* No change	*eGFR 10 to 30 ml/min* 75mg 24-hourly or 30mg 12-hourly	*eGFR < 10ml/min* 75mg as a single dose	1,2
		Patients on haemodialyis should receive 30mg as a single dose, then 30mg ***after each dialysis***			
Oseltamivir prophylaxis	75mg every 24 hours for 10 days	*eGFR 30 to 60ml/min* No change	*eGFR 10 to 30 ml/min* 75mg 48-hourly or 30mg 24-hourly	*eGFR < 10ml/min* 30mg as a single dose, then repeated after 7 days	1,2
		Patients on haemodialyis should receive 30mg as a single dose, then 30mg ***after each second dialysis***			
Oxytetracycline	250mg to 500mg 6-hourly **Acne**: 500mg 12-hourly	**Avoid if possible** otherwise, no change	**Avoid if possible** otherwise, no change	**Avoid if possible** otherwise, 250mg 6-hourly	1,2
Penicillin V	500mg to 1g 6-hourly	No change	No change	No change	1,2,3
Pivmecillinam	200 to 400mg every 6 to 8-hourly	No change	No change	No change but unlikely to be effective	1,2,3
Rifampicin Oral/IV	600mg to 1200mg daily in 2 to 4 divided doses	No change	No change	50 to 100% of normal dose Caution if daily dose> 600mg	1,2,3
Streptomycin	Non-TB 1 to 2 g daily, divided doses	*eGFR 50 to 80ml/min* 1g loading dose, then 7.5mg/kg 24-hourly Dose according to levels	*eGFR 10 to 49ml/min* 1g loading dose, then 7.5mg/kg 24 to 72-hourly Dose according to levels	*eGFR < 10ml/min* 7.5mg/kg 72 to 96-hourly Dose according to levels	1
Sulfadiazine oral (Toxoplasmosis)	Loading dose 2g to 4g Up to 4g daily, in divided doses	No change	50% of normal dose, monitor levels	25% of normal dose, monitor levels Risk of crystalluria	1,2
Tazocin' IV (Piperacillin + tazobactam)	4.5g 6 to 8-hourly	*eGFR> 40ml/min* No change	*eGFR 20 to 40 ml/min* Max 4.5g 8-hourly	*eGFR <20ml/min* Max 4.5g 12-hourly	1,2,3
Teicoplanin IV	400mg 12-hourly for 3 doses, then 200mg to 400mg 24-hourly	*eGFR 30 to 80ml/min* Days 1 to 3 as normal renal function then 200mg 24-hourly or 400mg 48-hourly		*eGFR <30ml/min* Days 1 to 3 as normal renal function then 30% of dose 24-hourly or 200 to 400mg 72-hourly	1,2,3
Temocillin IV	4g in 2 divided doses or as a continuous infusion	*eGFR 30 to 60 ml/min* 1 g 12-hourly	*eGFR 10 to 29ml/min* 1 g 24-hourly	*eGFR <10ml/min* 1 g 48-hourly or 500mg 24-hourly	1,2,3
Tigecycline IV	100mg initially, then 50mg 12-hourly	No change	No change	No change	1,2,3

ANTIBIOTIC DRUG	ADULT DOSE IN NORMAL RENAL FUNCTION	eGFR 20 to 50ml/min	eGFR 10 to 20ml/min	eGFR <10ml/min	REFERENCE SOURCE
Timentin (Ticarcillin + clavulanic acid)	3.2g 4 to 8-hourly	*eGFR 30 to 60ml/min* 3.2g 8-hourly	*eGFR 10 to 30ml/min* 1.6g 8-hourly	*eGFR<10ml/min* 1.6g 12-hourly	1,2,3
Tobramycin (nebulised) for Respiratory Physician use	300mg nebulised every 12 hours	No Information	No Information	No information	2,3
Tobramycin IV	7mg/kg once daily See local antibiotics guidelines	*Calculated creatinine clearance 30 to 60ml/min* 80mg 12-hourly 60mg 12-hourly if <60kg	*Calculated creatinine clearance 10 to 29ml/min* 80mg 24-hourly 60mg 24-hourly if <60kg	*Calculated creatinine clearance <10ml/min* 80mg 48-hourly 60mg 48-hourly if <60kg	1,2
Trimethoprim treatment	200mg 12-hourly	*eGFR >25ml/min* No change	*eGFR 15 to 25ml/min* Normal dose for 3 days, then 50% of dose	*eGFR< 15ml/min* 50% of dose *(monitor Potassium if eGFR<10ml/min)*	1,2
Trimethoprim prophylaxis	100mg at night	No change	No change	No change, monitor levels if long-term	1,2
Vancomycin IV	See local antibiotics guidelines	*eGFR 21 to 50ml/min* As per guidelines	*eGFR 10 to 20ml/min* As per guidelines	*eGFR <10ml/min* Check levels 48 hours after loading dose. Re-dose with 1g once levels <15mg/L (As per guidelines)	1,4
Vancomycin oral	125mg to 500mg 6-hourly	No change	No change	No change	1

NB: For doses in patients undergoing Renal Replacement Therapy, consult nephrologist, specialist literature or pharmacist for advice.

References:
1. Renal Drugs Database, accessed Feb 2018
2. Summaries of Product Characteristics, accessed Feb 2018
3. BNF Online Edition, accessed Feb 2018
4. Antibiotic Formulary and Prescribing Advice for Adult Patients (Ver 7.2), ULHT

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