การปรับขนาดยาตามการทำงานของไต กลุ่มงานเภสัชกรรมฯโรงพยาบาลป่าพะยอม

Drug	Normal dose	Renal Impairment	Remark
Acyclovir	200-800 mg oral 5 times daily	CrCl 10-25 ml/min: normal dosing regimen 800 mg 5 times daily, administer 800 mg q 8 hr CrCl < 10 ml/min: • normal dosing regimen 200 mg 5 times daily or 400 mg q 12 hr: administer 200 mg q 12 hr • normal dosing regimen 800 mg 5 times daily: administer 800 mg q 12 hr	
Allopurinol	100-600 mg/day oral single or 2-3 times daily	- CrCl 10-20 ml/min: 200 mg daily - CrCl 3-10 ml/min: ≤ 100 mg daily - CrCl < 3 ml/min: ≤ 100 mg/dose at extended intervals	
Amikacin	Once Daily Dosing: 15 mg/kg/day once daily หรือ Conventional Dosing: 5 mg/kg IV every 8 hours (Once Daily Dosing ไม่ใช้ในผู้ป่วย ascites, over 20% BSA burns, patients on dialysis ให้ใช้ conventional dosing)	**Once Daily Dosing** - CrCl> 60 ml/min: 15 mg/kg q 24 hr - CrCl 40-59 ml/min: 15 mg/kg q 36 hr - CrCl 30-39 ml/min: 15 mg/kg q 48 hr - CrCl < 30 ml/min: not recommended (Use conventional dosing method) **Conventional Dosing** - CrCl> 50 ml/min: no adjustment - CrCl 30-50 ml/min: 5 mg/kg q 12-18 hr - CrCl 10-29 ml/min: 5 mg/kg q 18-24 hr - CrCl < 10 ml/min: 5 mg/kg q 48-72 hr	

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Drug	Normal dose	Renal Impairment	Remark
Amoxicillin	500 mg q8-12hr or 875 mg q12hr H pylori: 1,000 mg q12hr	CrCl >30 ml/min: No dosage adjustment CrCl 10-30 ml/min: 250-500 mg q12hr CrCl < 10 ml/min: 250-500 mg q24hr	hemodialysis: 250-500 mg amoxicillin q 24 hr, administer dose both during and after dialysis
Amoxicillin + clavulanic	875/125 mg q12hr or 500/125 mg PO q8hr	CrCl >30 ml/min: No dosage adjustment CrCl 10-30 ml/min: 250-500/125 mg q12h CrCl < 10 ml/min: 250-500/125 mg q24hr	
Ampicillin	1-2 g IV/IM q 4-6 hr (max12 g/day)	CrCl >50 ml/min: q6hr CrCl 10-50 ml/min: q6-12hr CrCl < 10 ml/min: q12-24hr	- hemodialysis: 1-2 g q 12-24 hr, administer after hemodialysis on dialysis days - peritoneal dialysis: 250 mg q 12 hr
Atenolol	25-100 mg/day	- CrCl 15-35 ml/min: max dose 50 mg/day - CrCl < 15 ml/min: max 25 mg/day	
Cefazolin	0.5-1 g IV q6-8hr	- CrCl ≥ 55 ml/min: usual dose and interval - CrCl 35-54 ml/min: 100% q 8 hr - CrCl 11-34 ml/min: 50% q 12 hr - CrCl ≤ 10 ml/min: 50% q 18-24 hr;	
Ceftazidime	0.5-2 g IV q 8 hr	- CrCl 31-50 ml/min: 1 g q 12 hr - CrCl 16-30 ml/min: 1 g q 24 hr - CrCl 6-15 ml/min: 500 mg q 24 hr - CrCl < 5 ml/min: 500 mg q 48 hr	hemodialysis: 0.5-1 g q 24 hr or 1-2 g q 48-72 hr

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Drug	Normal dose	Renal Impairment	Remark
Ceftriaxone	1 – 2 g q24hr	no dosage adjustments provided in the manufacturer's labeling, in patients with concurrent renal and hepatic impairment, max daily dose should not exceed 2 g	
Cephalexin	250 – 500 mg q6hr	- CrCl ≥ 60 ml/min: no dosage adjustment required. - CrCl 30-59 ml/min: no dosage adjustment necessary, do not exceed 1,000 mg/day. - CrCl 15-29 ml/min: 250 mg q 8-12 hr - CrCl 5-14 ml/min: 250 mg q 24 hr - CrCl 1-4 ml/min: 250 mg q 48-60 hr	- hemodialysis: the following guidelines have been used by some clinicians: 250-500 mg oral q 12-24 hr, give dose after dialysis session. - peritoneal dialysis: the following guidelines have been used by some clinicians: 250-500 mg oral q 12-24 hr
Cetirizine	5-10 mg OD	- eGFR > 50: no dosage adjustment required. - eGFR ≤ 50: 5 mg OD	- Peritoneal dialysis: 5 mg OD - Intermittent hemodialysis: 5 mg OD; may also administer 3 times weekly
Clindamycin	600–900 mg IV q8hr 150–450 mg PO q6-8hr	no dosage adjustment required.	
Cloxacillin	500 mg – 2 g q6h	no dosage adjustment required. แต่เฝ้าระวังในผู้ป่วยสูงอายุ มีรายงาน ในผู้ป่วยสูงอายุที่ได้รับยา nephrotoxic drugs ร่วมด้วยได้ high-dose cloxacillin เกิด AKI (ในผู้ป่วย eGFR <30 mL/min อาจลด dose 50%)	

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Drug	Normal dose	Renal Impairment	Remark
Colchicine	- gout prophylaxis: 0.6 mg oral once or twice daily (max 1.2 mg/day); after gout flare, wait 12 hr to continue prophylaxis - acute gout flares: 1.2 mg PO at first sign of flare, then 0.6 mg 1 hr later; not to exceed 1.8 mg in 1-hr period	**gout prophylaxis:** - CrCl 30-89 ml/min: no adjustment required, but monitor closely for toxicity - CrCl < 30 ml/min: reduce starting dose to 0.3 mg/day; closely monitor if dose increased **gout flare treatment:** - CrCl 30-89 ml/min: no dosage adjustment required. - CrCl < 30 ml/min: no dosage adjustment required., but do not repeat treatment course more than once q 2 weeks	Hemodialysis - gout prophylaxis: 0.3 mg/day 2x/week with close monitoring - gout flare treatment: 0.6 mg as a single dose; treatment course should not be repeated more frequently than q 14 days.
Dapsone	25-100 mg oral OD	No specific recommendations are available	
Dicloxacillin	125-500 mg PO q6hr	Not studied; total dosage reduction should be considered	
Doxycycline	100 mg PO q12hr	No change	
Enalapril	2.5-40 mg/day PO	- CrCl > 30 ml/min: no dosage adjustment required. - CrCl ≤ 30 ml/min: Initiate 2.5 mg/day; titrated upward until blood pressure is controlled.	
Fluconazole	Dose by indication. 200 – 400 mg OD	- no adjustment for vaginal candidiasis single-dose therapy - multiple dosing in adults, administer loading dose of 50-400 mg, then adjust daily doses as follows • CrCl > 50 ml/min: 100% of dose • CrCl ≤ 50 ml/min: 50% of dose	

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Drug	Normal dose	Renal Impairment	Remark
Gabapentin	100-1200 mg/day PO	CrCl ≥ 60 ml/min: 300-1200 mg 3 times daily CrCl 30-59 ml/min: 200-700 mg q12hr CrCl 15-29 ml/min: 200-700 mg OD CrCl <15 ml/min: 100-300 mg OD	Hemodialysis (CrCl <15 ml/min): administer supplemental dose (range 125-350 mg) posthemodialysis, after each 4 hr dialysis interval ; ลดขนาดยาลงตามสัดส่วนของค่า CrCl (เช่น CrCl 7.5 ml/min ควรได้รับยาหลังการฟอกไตครึ่งหนึ่งของขนาดยาปกติต่อวัน)
Gemfibrozil	600 mg PO q12-24hr	manufacturer's labeling: - CrCl 31-80 ml/min: no dosage adjustments provided in the manufacturer's labeling; use with caution - CrCl < 30: contraindicated บางตำรา CrCl > 50 ml/min: no dosage adjustment required CrCl 10-50 ml/min: 600 mg OD CrCl <10 ml/min: 300 mg OD	
Gentamicin	Once daily: 4–7 mg/kg/dose IV q 24 hr Conventional dosing: 3-5 mg/kg/day IV divided q8hr	Once daily (Adjust doses based on serum concentrations and organism MIC) CrCl ≥ 60mL/min: No dosage adjustment necessary CrCl 40-59 mL/min: 4-7 mg/kg IV q36hr CrCl 20-39 mL/min: 4-7 mg/kg IV q48hr CrCl<20 mL/min: not recommended (ถ้าให้ monitor serum levels and redose when gentamicin level is <1 mcg/mL)	

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Drug	Normal dose	Renal Impairment	Remark
Gentamicin (ต่อ)		Conventional dosing (adjusted dose recomendations are based on doses of 1.7 mg/kg/dose q8hr or 4-7 mg/kg/dose once daily) CrCl>50 ml/min: No dosage adjustment necessary CrCl 10-50 ml/min: Administer q12-48 hr CrCl<10 ml/min: Administer q48-72 hr	
Lamivudine	HIV Infection: 300 mg PO q24hr or 150 mg PO q12hr Chronic Hepatitis B: 100 mg PO OD	HIV Infection: CrCl ≥ 50 ml/min: no dosage adjustment required. CrCl 30-49 ml/min: 150 mg PO OD CrCl 15-29 ml/min: 150 mg first dose, then 100 mg OD CrCl 5-14 ml/min: 150 mg first dose, then 50 mg OD CrCl <5 ml/min: 50 mg first dose, then 25 mg OD treatment of hepatitis B patients: - CrCl ≥ 50 ml/min: no dosage adjustment required. - CrCl 30-49 ml/min: 100 mg first dose, then 50 mg OD - CrCl 15-29 ml/min: 100 mg first dose, then 25 mg OD - CrCl 5-14 ml/min: 35 mg first dose, then 15 mg OD - CrCl < 5 ml/min: 35 mg first dose, then 10 mg OD	
Levetiracetam	500 mg twice daily may increase q 2 wk by 500 mg/dose to the recommended dose of 1,500 mg twice daily.	- CrCl > 80 ml/min: no dosage adjustment required. - CrCl 50-80 ml/min: 500-1,000 mg q 12 hr - CrCl 30-50 ml/min: 250-750 mg q 12 hr - CrCl < 30 ml/min: 250-500 mg q 12 hr	hemodialysis: 500-1000 mg q 24 hr, supplemental dose of 250-500 mg is recommended posthemodialysis

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Drug	Normal dose	Renal Impairment	Remark
Metoclopramide	10 mg IV/PO q6-8hr	- CrCl > 40 ml/min: no dosage adjustment required. - CrCl 10-40 ml/min: ลดเหลือ 50% ของขนาดยาปกติ - CrCl < 10ml/min: ลดเหลือ 25% ของขนาดยาปกติ	
Metronidazole	500 mg IV q8hr Or 7.5 mg/kg/dose (max: 4 g/day)	- renal impairment: no dosage adjustments provided in the manufacturer's labeling - บางตำรา CrCl < 10 ml/min ให้ 7.5 mg/kg q12hr - end-stage renal disease requiring dialysis: metabolites may accumulate; monitor for adverse events.	
Norfloxacin	400 mg q12hr	Crcl <30 ml/min: 400 mg q24hr	Hemodialysis: 400 mg q24hr
Ofloxacin	200-400 mg q12h	CrCl 20-50 ml/min: 200-400 mg q24hr CrCl < 20ml/min: 100-200 mg q24hr (one-half of usual dose q24hr)	
Oseltamivir	Treatment: 75 mg oral twice daily for 5 days Prophylaxis: 75 mg oral OD for 7-10 days	**Treatment:** - CrCl > 60 ml/min: no dosage adjustment required. - CrCl > 30-60 ml/min: 30 mg twice daily for 5 days - CrCl 10-30 ml/min: 30 mg once daily for 5 days - CrCl < 10 ml/min not undergoing dialysis: use not recommended - ESRD on hemodialysis: 30 mg PO immediately, then 30 mg after every hemodialysis cycle; treatment duration not to exceed 5 days - ESRD CrCl ≤ 10 mL/min; on CAPD: Single dose of 30 mg administered immediately	

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Drug	Normal dose	Renal Impairment	Remark
Oseltamivir (ต่อ)		**Prophylaxis:** - CrCl > 60 ml/min: no dosage adjustment required. - CrCl > 30-60 ml/min: 30 mg OD - CrCl 10-30 ml/min: 30 mg PO every other day (วันเว้นวัน) - CrCl < 10 ml/min: not undergoing dialysis: use not recommended - ESRD on hemodialysis: 30 mg PO immediately and then 30 mg after alternate hemodialysis cycle - ESRD CrCl ≤ 10 mL/min; on CAPD: 30 mg immediately and then 30 mg once weekly	
Penicillin G benzathine (Benzathine benzylpenicillin)	1.2-2.4 million units IM at 1-week intervals	- CrCl 10-50 ml/min: ลดdoseลง 25% - CrCl < 10 ml/min: ลดdoseลง 50-70%	Hemodialysis: Removed by hemodialysis; administer after dialysis
Penicillin G sodium	1-24 million units/day IV/IM divided doses q 4-6 hr Dose by indication.	- CrCl 10-50 ml/min: ลดdoseลง 25% - CrCl < 10 ml/min: ลดdoseลง 50-70% - CrCl > 10 ml/min and uremia: full loading dose IV/IM, followed 50% loading dose q 4-5 hr - - CrCl < 10 ml/min and uremia: full loading dose IV/IM, followed 1/2 loading dose q 8-10 hr	Hemodialysis: Removed by hemodialysis; administer after dialysis
Phenobarbital	30-120 mg/day PO divided BID/TID, max 400 mg/day	- eGFR > 10: no dosage adjustment required. - eGFR < 10: ลด dose 50%	

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Drug	Normal dose	Renal Impairment	Remark
Phenytoin	loading dose 10-15 mg/kg IV, maintenance doses of 100 mg oral/IV q 6-8 hr	- no dosage adjustments provided in the manufacturer's labeling, - serum conc. may be difficult to interpret in renal failure. monitoring of free (unbound) conc. or adjustment to allow interpretation is recommended.	
Propranolol	10-240 mg/day Dose by indication.	half-life อาจจะเพิ่มขึ้นในผู้ป่วย significant renal impairment ควรใช้ความระมัดระวังเมื่อเริ่มการรักษาและเลือกขนาดยาเริ่มต้น	
Risperidone	1-2 mg/day initially; target dosage: 2-8 mg/day	- CrCl ≥ 30 ml/min: no dosage adjustments provided in the manufacturer's labeling, may be decreased and doses should be reduced in patients with renal disease - CrCl < 30 ml/min: เริ่มต้นที่ 0.5 mg twice daily; titrate slowly in increments of no more than 0.5 mg twice daily; การเพิ่มขนาดยามากกว่า 1.5 mg twice daily ควรมี intervals ≥ 1 week	
Simvastatin	5-40 mg oral daily	- CrCl ≥ 30 ml/min: no dosage adjustment required. - CrCl < 30 ml/min: initial 5 mg/day with close monitoring	
Streptomycin	Moderate-Severe Infections: 1-2 g/day IM divided q6-12hr (Max 2 g/day) Tuberculosis: 15 mg/kg IM q24hr; (MAX dose 1 g/day)	- CrCl > 50 ml/min: q 24 hr - CrCl 10-50 ml/min: q 24-72 hr - CrCl < 10 ml/min: 72-96 hr	Hemodialysis: 50-75% of initial loading dose at end of dialysis period

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Drug	Normal dose	Renal Impairment	Remark
Sulfamethoxazole + Trimethoprim	Infections: 1-2 DS tablets PO q12-24hr PCP (PJP) Prophylaxis: 80-160 mg TMP PO qDay PCP (PJP) Treatment: 15-20 mg TMP/kg/day PO/IV divided q6-8hr	- CrCl 15-30 ml/min: Decrease dose by 50% - CrCl < 15 ml/min: use is not recommended **off-label** PCP (PJP) Prophylaxis: CrCl < 30ml/min: 160 mg (1DS) q24hr or 80 mg (1 SS) q24hr or 160 mg (1DS) 3x week PCP (PJP) Treatment: CrCl < 30ml/min: 5 mg/kg q12hr Skin and soft tissue infection: CrCl < 30ml/min: 80-160 mg (1-2 SS) q12hr Urinary tract infection: CrCl < 30ml/min: 80 mg (1SS) q12hr Other Infections: CrCl < 30ml/min: 3 mg/kg q12hr	
Terbutaline	Bronchospasm: 0.25 mg SC once; may repeat in 15-30 min, max 0.5 mg/4 hr	- eGFR 10-50: reduce dose by 50% - eGFR < 10: should be avoided	
Tenofovir alafenamide fumarate (TAF)	25 mg PO q24hr	Mild, moderate, or severe: No dosage adjustment required ESRD: Not recommended in patients who are not receiving hemodialysis; in patients receiving chronic hemodialysis, administer drug after completion of hemodialysis	
Tenofovir disoproxil fumarate (TDF)	300 mg PO q24hr	- manufacturer's labeling: CrCl ≥ 50 ml/min: no dosage adjustment required. CrCl 30-49 ml/min: 300 mg q 48 hr CrCl 10-29 ml/min: 300 mg q 72-96 hr CrCl < 10 ml/min: has not been studied. IDSA recommendations: - CrCl < 50 or GFR < 60: avoid use	

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Drug	Normal dose	Renal Impairment	Remark
Tramadol	50-100 mg q6-8hr	CrCl < 30 ml/min: increase dosing interval to 12 hours; MAX 200 mg/day	
Zidovudine	300 mg PO q12h	CrCl <15 ml/min, hemodialysis, or peritoneal dialysis Oral: 100 mg q8hr	