

CHARACTERISTICS OF SECOND-LINE DRUGS FOR MTB

Drug	Bactericidal	MIC (ug/ml)	Serum Level	Dosing	Remarks	Side Effects
Streptomycin	Yes	0.25-2.0	~ 25	15mg kg/day 5-7 days/wk	Initial dosing	Lichenoid eruptions, renal toxicity, giddiness, perioral numbness, hypersensitivity, vestibular toxicity/ototoxicity, renal toxicity.
				15-20mg/kg/ 2-3 days/wk After culture conversion		
Amikacin	Yes	0.5-1.0	~ 25	15mg kg/day 5-7 days/wk	Initial dosing Adjust dose/interval for renal insufficiency.	Vestibular toxicity, ototoxicity, renal toxicity.
				15-20mg/kg/ 2-3 days/wk After culture conversion		
Capreomycin	Yes	1.25-2.5	~ 25	15mg kg/day 5-7 days/wk	Initial dosing Age>59	Vestibular toxicity/ototoxicity, hypokalemia, hypocalcemia, hypomagnesemia, eosinophilia, renal toxicity.
				15-20mg/kg/ 2-3 days/wk After culture conversion		
Moxifloxacin	Yes	0.25-0.5	4-6	400mg/qd	No modification of dose in renal failure.	Class Effect: Al, Mg, Ca antacids, sucralfate and milk based enteral supplements inhibit absorption. GI upset, dizziness, hepatitis, hypersensitivity, photosensitivity, headaches, tendonitis, tendon rupture, insomnia, psychosis, agitation, depression, paranoia, seizures, thrush, peripheral neuropathy Good CNS penetration.
Levofloxacin	Yes	0.5-1.0	8-12	500-1000 mg/qd (usual 750)	Adjust dose for creat cl <30	
Rifabutin	Yes	>2.0	0.3-0.9	450mg daily	Extensive drug interactions: P-450 induction (less than Rifampin). Leads to decreased levels of: PIs, methadone, oral contraceptives, diabetic meds, fluconazole and others (see Physicians' Desk Reference for potential interaction with all concomitantly administered prescription drugs). Concentrates in macrophages.	Decreased white blood count, decreased platelet count, arthralgia, renal impairment, hyperpigmentation, uveitis, discoloration of body fluids, flushing, erythema of head and trunk, GI upset, hepatitis, nausea.
Ethionamide	Weak	0.3-1.2	1-5	250mg BID or TID OR 250mg am/500 mg/hs or 500 mg daily	Increase dose gradually. Monitor liver function/thyroid function. Increases effect of cycloserine.	Peripheral neuropathy, nausea, vomiting, abdominal pain, hypothyroidism, salivation, metallic taste, hepatitis, giddiness, headache, hypersensitivity, alopecia, gynecomastia, hypotension, impotence, behavior changes, menstrual irregularity, hypoglycemia, photosensitivity.
PAS	No	8.0	20-60 (6 hr)	4gm BID Or 4gr A.M. 2gm hs Or 6gr QD	Diarrhea improves with time; increase dose gradually, mix with acidic juice or applesauce, avoid Benadryl. Monitor thyroid function.	GI upset, diarrhea (self limiting), nausea, hypothyroidism, lichenoid eruptions, hypokalemia, hepatitis, thrombocytopenia, increased acidosis in patient with renal failure.
Clofazamine	Weak	0.12	0.5-2.0	300mg daily x 2 mo then 100mg daily	Skin problems limited by sunscreen, lubricants helpful	Hyperpigmentation, GI complaints, acne flare, retinopathy, ichthyosis, sunburn.
Cycloserine	No	N/A**	20-35	250mg BID or 250mg AM/500 mg/hs	Avoid in patients with seizures/psychotic disease or ETOH abuse; check level before increasing dose >500 QD. Administer with pyridoxine 100 mg QD.	Lichenoid eruption, agitation, psychosis, depression, seizures, dizziness, headache, slurred speech, insomnia, Steven's Johnson Syndrome. Adjust dose in renal insufficiency.
Linezolid	Unknown	0.25-0.5	12-24	600mg daily	Pyridoxine 100 mg daily.	Peripheral neuropathy, optic neuritis (reversible), anemia, thrombocytopenia, neutropenia, headache, GI upset, rash, serotonin syndrome, lactic acidosis



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