

VESTIBULO-COCHLEAR TOXICITY

GENERIC NAME,	TRADE NAME	TREATMENT	VESTIB-OTOTOX	COCHLEAR-OTOTOXICITY	ADMIN	REVERSIBLE or Toxic Lev
Medications and substances considered and documented to cause ototoxicity						
ANESTHETIC		Surgery		HL	Tinnitus	
Bupivacain					X	Y
Lidocaine	Novacaine				X	Y
Tetracain					X	Y
ANTI-MALARIALS		Malaria				
Chloroquine	Aralen				X	N
Hydroxychloroquine	Plaquinil				X	N
ANTIBIOTICS		Infection				
<i>AMINOGLYCOSIDES-Potent bacterial antibiotics that act by creating fissures in the outer membrane of the bacterial cells, particularly active against aerobic, gram negative bacteria and act against synergistically against certain gram positive organisms. Used to treat severe infections of abdomen and urinary tract.</i>						
Amikacin	Amakin	Nebulizer		X-13.9%		IM or IV
Gentamycin (Most widely used)	Garamicin	Topical	8.6%	Minor		IM or IV-
Kanamycin	Kantrex	Nebulizer	Minor	X		IM or IV
Neomycin	Neomycin Sulfate Tablets	Topically	Minor	X		PO
Neomycin (additional)	Neosporin Irrigant, et al	Topical-Ear Drops	Minor	X		Topical
Netromycin	Netilmicin			2.4%		IM or IV
Paramomycin				X		PO-3X/day
Streptomycin	(only available from the US Center for Disease Control for certain cases of tuberculosis)		X-very toxic	Minor		IM only 2x daily
Tobramycin sulfate	Nebcin	Nebulizer		Minor		IM or IV
AMPHOTERCIN B	Antifungul				X	
CAPREOMYCIN	Capestat	TB		X	X	Injection -IM only
CHLORAMPHENICOL	Chloromycetin				X	
DIHYDROSTREPTOMICIN			Minor	X		
ERTHROMYCIN		Kidney failure		X		IV 2-4 g
Azithromycin	Zithromax	IV		X		
Clarithromycin	Biaxin	IV		X		N
EES		IV		X		N
E-Mycin		IV		X		PO or IV
Eryc		IV		X		N
Ilosone		IV		X		N
Troleandomycin	Pediazole	IV		X		N
ETIOMYCIN			Moderate			
FLAGYL	Metronidazole			X		
FLOXINS			X			
MINOCYCLINE	Minocin	Syphillis	X	X	X	PO or IV
POLYMYXIN B	Aerosporin	Antifunfungal			X	
SULFONAMIDES	Septra, Bactrim				X	
VANCOMYCIN	Vancocin	Infection		X	X	IV
ANTI-NEOPLASTICS						
Bleomycin	Blenoxane				X	N
Carboplatinum	Paraplatin				X	N
Cis-platinum)	Platinol				X	N
Methotrexate	Rheumatrex				X	N
Nitrogen mustard	Mustagen				X	N
Vinblastin	Velban				X	N
CARDIAC MEDICATIONS						
Celiprolol					X	
Flecainide	Tambocar				X	
Lidocaine					X	
Metoprolol	Lopressor				X	
Procainamide	Pronestyl				X	
Propranolol	Inderal				X	
Quinidine	Quinaglute, Quinidex					

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CHEMOTHERAEUIC	The ototoxic effects can be minimized by carefully monitoring blood levels					
6-AN	6-Amino Nicotinamide			X		N
Bleomycine	Blenoxane			X		N
Bomocriptine	Parlodol			X		N
Carboplatinum	Carboplatin	Ovarian Can		1-10%		Y
Cisplatin	Platinol	Ovarian Can	Minor	X	>200 mg	Y/N-usually permanent
DCM	Dichloromethotrexate		X	X		N
DFMO	Diflouromethylornithine			X		N
Methotrexate	Rheumatrex			X		N
Misonidazole				X		N
Nitrogen mustard	Mustargen		X	X		N
Vinblastin	Velban		X	Rare		N
Vincristine Sulfate	Oncovin		X	Rare		N
DIURETICS	<i>Used to treat congestive heart failure, renal failure, cirrhosis, and hypertension. Loop Diuretics effects at the loop of Henle of the kidney. Possibly cochlea & kidney have a common receptors for the loop diuretics.</i>				IV or ORAL	S/L can be permanent
Acetazolamide	Diamox		Rare	x	X	N
Bendroflumethazide	Corzide		Rare	X		IV-N
Bendrofluazide			Rare	X	X	N
Bumetadine	Bumex		Rare	X	X	IV-N
Chlor-Thalidone	Tenoretic		Rare	X	X	IV-N
Clorothalidone	Hygroton, Tenoretic		Rare	X	X	N
Diapamide			Rare	X	X	N
Ethacrynic Acid	Edecrin		Rare	X	X	IV-N
Furosemide-Most widely used	Lasix		Rare	X	X	IV-N
Hydrochlorthiazide	Hydrodiuvil		Rare	X	X	N
Methychlorthizide	Enduron		Rare	X	X	N
						N
MUCOSAL PROTECTANT						N
Misoprostol	Cytotec			X		?
NON-STEROIDAL ANTI-INFLAMMATORY DRUGS (NSAIDS)-Treat arthritis						Y once medication is stopped
.Asprin					X	Y
Acematacine					X	Y
Benorilate					X	Y
Benoxaprofen					X	Y
.Carprofen					X	Y
Diclofenac	Voltaren				X	Y
Diflunisal)	Dolobid				X	Y
Fenoprofen	Nalfon				X	Y
Feprazon					X	Y
Ibuprofen	Motrin, Advil, Nuprin				X	Y
.Indomethacin	Indocin				X	Y
.Isoxicam					X	Y
.Ketoprofen	Orudis				X	Y
Methyl salicylates	BenGay				X	Y
Naproxen)	Naprosyn, Anaprox, Alleve				X	Y
D-Penicilliamin					X	y
Phenylbutazone	Butazolidine				X	Y
Piroxicam	Feldene				X	Y
Proglumetacin					X	Y
.Proquazon					X	Y
Salicylates	<i>Aspirin containing product most widely used. High dosage of aspirin can cause S/L and tinnitus</i>				X	Y
Sulindac	Clinoril				X	Y
Tolmetin	Tolectin				X	Y
Zomepirac					X	Y

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PSYCHOPHARMACOLOGIC AGENTS							
AMITRYPTILINE	Elavil			X			
BENZODIAZEPINE CLASS							
Alprazolam	Xanax			X			
Clorazepate	Tranxene			X			
Chlordiazepoxide	Librium			X			
Diazepam	Valium			X			
Flurazepam	Dalmane			X			
Lorazepam	Ativan			X			
Midazolam	Versed			X			
Oxazepam	Serax			X			
Prozepam	Centrax			X			
Quazepam	Doral			X			
Temazepam	Restori			X			
Triazolam	Halcion			X			
BUPROPION	Welbutrin			X			
CARBAMZEPINE	Tegretol			X			
DICLOFENSINE				X			
DOEXPIN	Sinequin			X			
DESIPRIMINE	Norpramin			X			
FLUOXETIN	Prozac			X			
IMIPRAMINE	Tofrani			X			
LITHIUM				X			
MELITRACEN				X			
MOLINDON)	Moban			X			
PAROXETIN				X			
PHENELZIN	Nardil			X			
PROTRIPTILIN	Vivacti			X			
TRAZODON	Desyrel			X			
ZIMELDIN				X			
QUININE	The ototoxic effects are very similar to those of aspirin, Treat Malaria, occasionally for nocturnal leg cramps					Sm dosage in drinks	Y-w/ short term/N-long term use
Chloroquine phosphate	Aralen		X	X	X		
Lariam	Mefloquine		X	X	X		
Plaquenil			X	X	X		
Quinacrine hydrochloride	Atabrine		X	X	X		
Quinidex			X	X	X		
Quinine sulfate	Quinam		X	X	X		

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				HL	TINNITUS		
VAPORS, SOLVENTS							
Cychohexane					X		
Dichloromethane					X		
Hexane (gasoline)					X		
Lindane (Kwell)					X		
Methyl-chloride					X		
Methyl-n-butyl-ketone					X		
Perchlor-ethylene					X		
.Styrene					X		
Tetrachlor-ethane					X		
.Toluol					X		
Trichloroethylene					X		
MISCELLANEOUS OTHER TOXIC SUBSTANCE	Ironically, several of these drugs found to cause tinnitus are also used to treat tinntus (e.g. amitryptiline, benzodiazepine class, carbamazepine, furosemide, lidocaine, prednisone).						
Alcohol					X		
Arsenum					X		
Auronofin (gold,.)	(Ridaura)				X		
Caffeine					X		
Calcium Channel Blockers				Rare	X		
Desferroxamine				X	X		
Lead					X		
Marijuana					X		
Nicotine					X		
Mercury			X	X	X		
Phenylbutazine					X		
Polybrene	Hexadimethrine						
PTU				X	X		
Sulfonamides					X		