

Drugs	Actions	MOA	Uses	Adverse effects	Contraindications
VESTIBULAR SUPPRESSANTS that decrease emesis					
1-H₁ antagonist -Meclizine -Dimenhydrinate (<u>>antiemetic < sedating than Meclizine</u>)	<i>Antihistamine</i> <i>Anticholinergic</i>	Block H₁ receptors in CRTZ Sedative effects Weak anticholinergic effects	-in vertigo -In control of MOTION SICKNESS by ↓ excitability in the labyrinth & blocking conduction in vestibular-cerebellar pathways	-Sedation -Dizziness -Anticholinergic side effects: In kids : flushing + dehydration In old age : glaucoma + prostate hyper atrophy	-Glaucoma -Prostatic enlargement
2- Phenothiazines -Prochlorperazine (A Piperazine Phenothiazines) -Promethazine	<i>Antipsychotic , some sedation + antiemetic</i> <i>+ Dopamine antagonists ± Sedation</i>	Block dopamine receptors at CRTZ	One of the best antiemetics in vertigo (sedating & has some vestibular suppressant action)		
3- Dopamine Antagonists -Metoclopramide -Domperidone → NO cross BBB	-A potent central antiemetic acting on CRTZ -Has some sedating action -Has potent gastro - prokinetic effect	Dopamine Antagonists	In vertigo	-Restlessness or drowsiness -Extrapyramidal manifestations on <u>prolonged use</u>	
VESTIBULAR SUPPRESSANTS that decrease spinning					
Drugs	MOA	Pharmacokinetics	Adverse effects	contraindications	
1- H₁ agonists & H₃ antagonist(Betahistine) (the first choice)	-Weak agonist at H₁ receptors → regulates inner ear fluid homeostasis (labyrinthine circulation) → inducing vaso-dilatation in middle ear → relieves pressure in inner ear. - strong antagonism of H₃ autoreceptors → ↑ augmenting effects on H₁ receptors in the brain → ↑ H synthesis in tuberomammillary nuclei of the posterior hypothalamus to promote & facilitate central vestibular compensation -↑ H release in vestibular nuclei -↑ levels of neurotransmitters such as 5HT in the brainstem, which inhibits the activity of vestibular nuclei.	Tablet form , rapidly & completely absorbed t½=2-3h -Partially metabolized (active) & excreted in urine .	-Headache -Nausea -Gastric effects -↓ appetite and weight loss	Peptic ulcer Pheocromocytoma Bronchial asthma	
2- Benzodiazepines -Lorazepam -Clonazepam -Diazepam	<i>promote & facilitate central vestibular compensation via GABA modulation</i>	<div>Drugs that prevents recurrence Intend to suppress acute attacks [tame vertigo episodes]: - Diuretics (but not loop diuretics)----- (↓ fluid retention) - Corticosteroids (↓inflammation) - L-type Ca Channel Blockers (↑ vasodilatation) cinnarazine, flunnarazine, verapamil</div>			

Drugs Inducing Vertigo			
Type of Toxin		Aspect Affected	
1-VESTIBULOTOXINS		Function	
1-Drugs altering fluid & electrolyte : -Loop Diuretics -Antihypertensives	2-Drugs altering vestibular firing: <ul style="list-style-type: none"> • Anticonvulsants • Antidepressants • Sedative hypnotics • Alcohol • Cocaine 		
2- MIXED OTOTOXINS <ul style="list-style-type: none"> • Aminoglycoside antibiotics; gentamycin, kanamycin, neomycin, streptomycin, tobramycin, netlimycin • Fluroquinolines, Vancomycin, Polymixin • Quinine, chloroquine, quinidine • Nitrogen mustard • Loop diuretics • NSAIDs • Tobacco 		Structure -Aminoglycoside antibiotics; streptomycin, kanamycin, neomycin, gentamycin, tobramycin, netlimycin Gentamycin → evoke free radicals → Mitochondrial Pathway Neomycin → activate caspases → Death Receptor Pathway (apoptosis)	Function <ul style="list-style-type: none"> • Quinine, chloroquine, quinidine • Loop diuretics • NSAIDs They cause: ↓local blood flow → biochemical changes → alter electromechanical transduction