

**THIS IS WHY**with *Dr. Busti*

DIURETICS

INDICATIONS & COMMON USES

Drug Class	Ascites	Edema	Epilepsy	Heart Failure	CKD in Type 2 Diabetes	Hypertension	Intracranial Pressure Reduction	Intraocular Pressure Reduction	Mountain Sickness	Primary Hyperaldosteronism
Thiazides and Thiazide-Like Chlorothiazide Hydrochlorothiazide Chlorthalidone Indapamide Metolazone		✓ ✓ ✓ ✓ ✓				✓ ✓ ✓ ✓ ✓				
Loop Diuretics Bumetanide Furosemide Torsemide	✓	✓ ✓ ✓		✓ ✓ ✓		✓ ✓ ✓				
Mineralocorticoid Receptor Antagonists Eplerenone Finerenone Spironolactone	✓			✓ ✓ ✓	✓	✓ ✓				✓ ✓
Potassium Sparing Diuretics Amiloride Triamterene		✓		✓		✓ ✓				
Carbonic Anhydrase Inhibitors Acetazolamide Methazolamide		✓	✓				✓	✓ ✓	✓	
Osmotic Diuretics Mannitol							✓	✓		

Note: The diuretics summary represents the editor's best effort to summarize the indications based on data from various reputable sources of information and reported clinical trial data. It is also meant to be for educational purposes only and is not intended to replace medical decision making or clinical judgment.

LOOP DIURETICS

PHARMACOKINETIC & DOSING CONSIDERATIONS

	Furosemide	Bumetanide	Torsemide
PHARMACOKINETICS			
Bioavailability	50 - 70%	80 - 100%	80 - 100%
Affected by Food	Yes	Yes	No
Interpatient Variability	+++	+	+
Half-life	0.5 - 2 hrs	~ 1.5 hrs	~ 3.5 hrs
Duration	6 - 8 hrs	4 - 6 hrs	12 - 16 hrs
Elimination (Primary)	Renal Tubular Secretion (OAT1/3)	Renal Tubular Secretion (OAT1/3)	Renal Tubular Secretion (OAT1/3 & OATP1B1/1B3)
DOSING CONSIDERATIONS			
Usual Daily Dose	20 - 160 mg	0.5 - 4 mg	10 - 80 mg
Ceiling Dose	400 mg	10 mg	200 mg
Equivalent Dose	1	~ 40	~ 4
PO → IV Dose	1:0.5	1:1	1:1

Note: The table represents the editor's best effort to summarize the intent of clinical data based on data from various reputable sources of information. It is relevant to recognize that some information is intended to be estimates (not absolutes) or to provide initial guidance. Each clinical scenario will be unique and requires clinical judgment, as well as consideration of multiple confounders. Any use is meant to be for educational purposes only and is not intended to replace medical decision-making or clinical judgment.



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EFFECT ON PLASMA ELECTROLYTE CONCENTRATIONS

DRUG CLASS	Diuresis	Sodium (Na ⁺)	Potassium (K ⁺)	Magnesium (Mg ²⁺)	Calcium (Ca ²⁺)	Chloride (Cl ⁻)	Bicarb (HCO ₃ ⁻)	Uric Acid	Glucose
Thiazides	++ [*]	↓↓	↓	↓	↑	↓	↑	↑	↑
Loop Diuretics	++++	↓	↓↓	↓↓	↓↓	↓	↑↑	↑	↑
Mineralocorticoid Receptor Antagonists	++ [#]	--	↑↑	--	--	--	--	--	--
Potassium Sparing Diuretics	+	--	↑↑	--	--	--	--	--	--
Carbonic Anhydrase Inhibitors	++	--	↓	--	--	--	↓	--	--

*Thiazide diuresis decreases with chronic use but the effect for hypertension persists due to decreased systemic vascular resistance from thiazides with long-term use.

Aldosterone antagonists in higher doses are excellent diuretics in cases of hyperaldosteronism, such as cirrhosis. The diuretic effect is minimal in those with low aldosterone levels.

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