Comparison of Commonly Used Diuretics

full update May 2025

This chart reviews the indications, dosing, kinetics, cost, and place in therapy for commonly used diuretics.

NOTE: *Information based on US prescribing information unless otherwise noted. Indication and dosing information from Canadian labeling is provided if significantly different from US labeling.*

Diuretic/Availability	USUAL Adult Dose Range	Onset	Duration	Cost[a]	Comments
THIAZIDE DIURETICS are among the drugs that significantly increase blood glucose. They can also increase triglycerides and cholesterol minimally.[1] Other side effects include hypokalemia, metabolic alkalosis, hyponatremia, and hypomagnesemia.[1,2] Thiazides reduce urinary calcium excretion, an effect that may be beneficial to people at risk of osteoporosis or kidney stones.[1] Contrary to popular belief, thiazides, particularly metolazone, can be effective if CrCl is <30 mL/min.[6,7]					
Chlorothiazide (oral) (not available in Canada) Diuril 250 mg/5 mL, suspension	**Edema** 0.5-1 g QD to BID **HTN** 0.5-1 g QD or divided BID	≤2 hrs	6 to 12 hrs	US: 500 mg: ~$2.50 (brand)	•Brand only.
Chlorothiazide (IV) (not available in Canada) 500 mg injection (IV)	**Edema** 0.5-1 g QD to BID	15 min	N/A	US: 500 mg injection: ~$30	•Only thiazide available as an injectable.
Chlorthalidone HemiClor (US) 12.5 mg tabs Thalitone (US) 15 mg, 25 mg tabs 25, 50 mg tabs (US); 12.5, 25, 50 mg tabs (Canada)	**Edema** 50 to 200 mg QD or 100 to 200 mg every other day (Canada: 50 mg QD, max) **HTN** 12.5 to 100 mg QD (Canada: 25 to 50 mg QD)	~2.6 hrs	48 to 72 hrs	US: 25 mg tab: ~$0.40 Canada: 50 mg tab: ~$0.15	•Diuretic with most evidence for improved CV outcomes (e.g., used in ALLHAT).[1] Has not been proven to provide better cardiovascular outcomes than hydrochlorothiazide.[3] Comparative study ongoing.[4] •May be more effective in lowering SBP (by ~5 mmHg) over a full 24-hour period than hydrochlorothiazide.[5] •12.5 mg chlorthalidone ~ hydrochlorothiazide 25 mg.[1] •In combination products, only available with atenolol or azilsartan.

Diuretic/Availability	USUAL Adult Dose Range	Onset	Duration	Cost[a]	Comments
Hydrochlorothiazide 12.5, 25 mg, 50 mg tabs; 12.5 mg cap (US)	**Edema** 25 to 100 mg QD or divided (Canada: 25 to 100 mg QD or BID) **HTN** 12.5 QD to 50 mg QD or divided BID (Canada: 50 to 100 mg QD or divided)	≤2 hrs	6 to 12 hrs	US: 25 mg tab: ~$0.02 Canada: 25 mg tab: ~$0.02	•Most commonly prescribed thiazide.[1] •Most widely available diuretic in combination products with other antihypertensives.[1]
Indapamide 1.25, 2.5 mg tabs	**Edema** (US only) 2.5 to 5 mg QD **HTN** 1.25 to 2.5 mg QD	1 to 2 hrs[2]	At least 24 hrs[2]	US: 1.25 mg tab: ~$0.20 Canada: 1.25 mg tab: ~$0.15	•Reduced CV events (heart failure and death from stroke) in hypertensive patients ≥80 years vs placebo.[8] •May be more effective in lowering SBP (by ~5 mmHg) over a full 24-hour period than hydrochlorothiazide.[9] •In combo product with perindopril (Canada). •1.25 mg ~ hydrochlorothiazide 25 mg[9]
Metolazone Zaroxolyn (Canada) US: 2.5, 5, 10 mg tabs Canada: 2.5 mg tabs	**Edema** 5 to 20 mg QD **HTN** 2.5 to 5 mg QD	≤1 hr	≥24 hr (dose-dependent)	US: 2.5 mg tab: ~$0.45 Canada (brand): 2.5 mg tab: ~$0.25	•Absorption is slow and unpredictable.[10] •More effective than other thiazides at CrCl <30 mL/min.[10]
LOOP DIURETICS are more effective diuretics than thiazides, but lack outcomes data for hypertension.[1,11] They are best reserved for edematous conditions (e.g., heart failure, renal failure).[1] Loops are generally recommended over thiazides for patients with GFR <30 mL/min/1.73 m^2.[7] A thiazide can be added to a loop to enhance diuresis.[7] Like thiazides, loops can cause hypokalemia and metabolic alkalosis.[11] Loops are less likely to cause hyponatremia or hypomagnesemia.[11,12] Loops increase excretion of calcium, instead of reducing it like thiazides.[1] Loops can cause dose-dependent ototoxicity (furosemide >bumetanide).[13] **For edematous states, loops are usually dosed intermittently, as needed.**					
Bumetanide (oral) Bumex (US) Burinex (Canada) US: 0.5, 1, 2 mg tabs Canada: 1, 5 mg tabs	**Edema**: 0.5 to 2 mg QD. If needed, repeat every 4 to 5 hrs (max 10 mg/day).	0.5 to 1 hr	4 to 6 hrs (dose-dependent)	U.S.: 1 mg tab: ~$0.40 Canada (brand): 1 mg tab: ~$0.90	•Well-absorbed[13] •1 mg oral bumetanide = 40 mg oral furosemide[13] •Canadian labeling recommends a max dose of 5 mg in patients with hepatic failure.

Diuretic/Availability	USUAL Adult Dose Range	Onset	Duration	Cost[a]	Comments
Bumetanide (IV or IM) (not available in Canada) 0.25 mg/mL injection	**Edema** 0.5 to 1 mg. If needed, repeat every 2 to 3 hrs (max 10 mg/day).	IV: minutes IM: 40 min.[14]	3 to 6 hrs[14]	US: 1 mg injection: ~$0.65	•1:1 IV to PO conversion[13]
Ethacrynic acid (oral) Edecrin 25 mg tab	**Edema** 50 mg QD to 50 to 100 mg BID Take after a meal.	30 min	6 to 8 hr	US: 25 mg tab: ~$2.15 Canada (brand): 25 mg tab: $1.30	•Useful in patients resistant to other diuretics (Canada). •50 mg oral ethacrynic acid ~ 40 mg oral furosemide[15] •More ototoxic than other loops.[7] •Only loop without a sulfa group.[7] May be useful for patients with allergic reaction to other loops or thiazides. See our chart, *Sulfa Drugs and the Sulfa-Allergic Patient*, for more information.
Ethacrynate sodium (IV) Sodium Edecrin (US) 50 mg injection	**Edema** 50 mg x 1 (or 0.5 to 1 mg/kg; max 100 mg). May repeat (at a different site to avoid phlebitis) if needed.	5 min	2 hrs[14]	US: 50 mg: ~$1,900 Canada: 50 mg: $480	•Not for IM or subcutaneous injection. •More ototoxic than other loops.[7] •Only loop without a sulfa group.[7] May be useful for patients with allergic reaction to other loops or thiazides. See our chart, *Sulfa Drugs and the Sulfa-Allergic Patient*, for more information.
Furosemide (oral) Lasix 20, 40, 80 mg tabs; 10 mg/mL oral solution; 40 mg/5 mL oral solution (US); *Lasix Special** (Canada) *see comments section	**Edema** 20 to 80 mg (Canada: 40 to 80 mg). May repeat, or increase by 20 to 40 mg, in 6 to 8 hrs. (max 600 mg/day; Canada: 200 mg/day). When effective dose reached, give QD or divide BID (morning and early afternoon; Canada: may repeat one to three times daily) **HTN** 40 mg BID (Canada: 20 to 40 mg BID)	<1 hr	6 to 8 hr	US: 40 mg tab: ~$0.05 Canada: 40 mg tab: ~$0.04	•Loop with poorest oral absorption (~50% [range 10% to 100%].[13] •*Lasix Special** is a high-dose oral formulation (500 mg tab) of furosemide, for hospitalized patients with GFR 5 to 20 mL/min/1.73 m^2 not responding to usual furosemide doses. Initial dose is guided by the IV dose found to be effective. Or, in patients who do not respond adequately to 80 to 160 mg of oral furosemide, the initial dose is 250 mg. After 4 to 6 hrs, if response is inadequate, dose may be increased to 500 mg. Max daily dose 1,000 mg.

Diuretic/Availability	USUAL Adult Dose Range	Onset	Duration	Cost[a]	Comments
Furosemide (subcutaneous) (not available in Canada) Furoscix 8 mg/mL subcutaneous solution	**Edema** The single-dose infuser delivers 30 mg over the first hour, then 12.5 mg/hour for four hours (80 mg over 5 hrs).	Rapid[16]	≥8 hrs after initiation of dosing	US: ~$950	•Furoscix is a wearable patch pump with furosemide solution buffered to pH 7.4 to allow for subcutaneous administration.[16] •Similar diuretic efficacy to two doses of furosemide 40 mg IV two hours apart.[16]
Furosemide (IV or IM) 10 mg/mL injection	**Edema** 20 to 40 mg. May repeat, or increase by 20 mg, in 2 hrs. (Canada: max 100 mg/day). Once effective dose reached, give QD or divide BID. For **pulmonary edema**, dose is 40 mg, increased to 80 mg in 1 hr if needed (Canada: 40 mg, repeated in to 1.5 hrs if needed.)	IV: ≤5 min	IV: ~2 hr	US: 20 mg/2 mL vial: ~$1 Canada: 20 mg/2 mL amp: ~$1.30	•When switching to/from oral furosemide, keep in mind that oral furosemide bioavailability is ~50% (range 10% to 100%).[13] •Administer over one to two minutes (bolus) or as a continuous infusion at ≤4 mg/min).
Torsemide (not available in Canada) *Soaanz*, *Demadex* (brand discontinued) 5 mg, 10 mg, 20 mg, 40 mg (Soaanz), 60 mg (Soaanz), 100 mg tabs	**Edema** 10 to 20 mg QD (max 200 mg/day) **HTN** 5 to 10 mg QD	≤1 hr	6 to 8 hrs	10 mg tab: ~$0.45	•Bioavailability 80% to 100%.[13] •20 mg oral torsemide = 40 mg oral furosemide[13] •Cirrhosis: start with 5 to 10 mg QD. Doses >40 mg/day have not been studied in cirrhosis.
POTASSIUM-SPARING DIURETICS are usually weak antihypertensives, but they can be added to a thiazide to minimize hypokalemia risk.[1] The risk of hyperkalemia is increased in kidney impairment and/or with use of an ACE inhibitor or ARB.[14]					
Amiloride *Midamor* 5 mg tab	5 to 10 mg QD (max 20 mg) See comments for indications.	2 hr	~24 hrs	US: 5 mg tab: ~$0.2 Canada (brand): 5 mg tab: ~$0.40	•Weak antihypertensive and diuretic effects that are somewhat additive to those of thiazides. •Indications: adjunct to thiazide or loop diuretic in patients with heart failure or hypertension, to maintain potassium levels; edema associated with cirrhosis (Canada). Rarely used alone.

Diuretic/Availability	USUAL Adult Dose Range	Onset	Duration	Cost[a]	Comments
Eplerenone *Inspra* 25, 50 mg tabs	**HFrEF post-MI** 25 to 50 mg (target dose) QD **HTN** 50 mg QD or BID **Note**: HFrEF indication requires dose reduction if potassium level ≥5.5 mEq/mL. Max dose 25 mg QD (HF) or BID (HTN) with moderate CYP3A4 inhibitors.	Not available	Not available	U.S.: 50 mg tab: ~$1.10 Canada: 50 mg tab: ~$2.50	•Eplerenone is an aldosterone antagonist with less progesterone and androgen receptor antagonism than spironolactone.[10] •Option for resistant hypertension.[1] •Benefit in HFrEF (morbidity and mortality reduction) due to RAS suppression.[7] •Helps offset loop or thiazide diuretic-related potassium and magnesium losses.[17] •Do not use if K >5.5 mEq/L (Canada: >5 mmol/L) at initiation, CrCl ≤30 mL/min (<50 mL/min for HTN), or with strong CYP3A4 inhibitors.
Spironolactone tablets *Aldactone* 25, 50 (US only), 100 mg tabs	**Edema** 25 to 200 mg QD or divided (see comments regarding cirrhosis) **HTN** 25 to 100 mg QD or divided (Canada: 200 mg max). **HF** 25 to 50 mg QD. See comments. **Hypokalemia** (Canada) 25 to 100 mg/day **Primary hyperaldosteronism** See comments	Not available	2 to 3 days[14]	US: 50 mg tab: ~$0.25 Canada: 25 mg tab: ~$0.04	•Benefit in HFrEF (morbidity and mortality reduction) due to RAS suppression.[7] •Option for resistant hypertension.[1] •Helps offset loop or thiazide diuretic-related potassium and magnesium losses.[17] •Do not use in severe kidney impairment (Canada) or hyperkalemia. •**HF**: consider 25 mg every-other-day if eGFR 30 to 50 mL/min/1.73 m^2 or if hyperkalemia develops. •**Primary hyperaldosteronism treatment**: 100 to 400 mg/day pre-op, or lowest effective dose for maintenance. •**Primary hyperaldosteronism diagnosis** (Canada) 400 mg/day x 4 days (short test), or 3 to 4 weeks (long test) •**Cirrhosis:** consider a max of 100 mg or 400 mg for Na+/K+ ratio >1 or <1, respectively (Canada)
Spironlactone suspension *Carospir* *Continued…*	**Edema due to cirrhosis** 75 mg to 100 mg QD (initiate in hospital) **HTN** 20 to 75 mg QD or divided	Not available	2 to 3 days[14]	US: 20 mg ~$15	•**Dosing not equivalent to tablets**. •Benefit in HFrEF (morbidity and mortality reduction) due to RAS suppression.[7] •Option for resistant hypertension.[1] •Helps offset loop or thiazide diuretic-related potassium and magnesium losses.[17] •Do not use in hyperkalemia.

Diuretic/Availability	USUAL Adult Dose Range	Onset	Duration	Cost[a]	Comments
Spironolactone suspension, continued	**HF** 20 to 37.5 mg QD				•**HF**: reduce dose to 20 mg every-other-day if hyperkalemia occurs on 20 mg QD. Initiate with 10 mg QD if eGFR 30 to 50 mL/min/1.73m^2.
Triamterene *Dyrenium* 50, 100 mg cap (Only combo products are available in Canada.)	**Edema** 100 mg BID (max 300 mg/day) Take after meals.	2 to 4 hr	7 to 9 hr	US (brand): 50 mg cap: ~$15	•Weak antihypertensive effect.[1]

Product labeling used in above chart, unless otherwise noted: **US**: Diuril suspension (November 2021), chlorothiazide injection (September 2023), chlorthalidone (Rising, November 2024), HemiClor (March 2025), Thalitone (May 2021), hydrochlorothiazide tab (Leading, April 2024), hydrochlorothiazide cap (Rising, September 2024), indapamide (Rising, April 2023), metolazone (Alembic, May 2024), Bumex tablets (August 2018), bumetanide injection (Camber, March 2025), Edecrin (August 2020), Lasix (August 2018), furosemide oral solution (Hikma, October 2023), Furoscix (March 2025), furosemide injection (Hikma, March 2025), Soaanz (December 2021), torsemide (Chartwell, February 2024), amiloride (Endo, November 2024), Inspra (October 2021), Aldactone (September 2023), Carospir (August 2023), Dyrenium (December 2024); **Canada**: chlorthalidone (Apotex, March 2023), hydrochlorothiazide (Sanis Health, October 2024), indapamide (Mylan, October 2024), Zaroxolyn (January 2023), Burinex (July 2022), Edecrin (December 2020), ethacrynate sodium (SteriMax, February 2024), Lasix Special (October 2022), Lasix oral solution (September 2022), Pro-furosemide tablets (January 2022), furosemide injection (Marcan, November 2024), Midamor (August 2010), Inspra (July 2023), Aldactone (December 2022)

Abbreviations: ACE = angiotensin-converting enzyme; ARB = angiotensin receptor blocker; BID = twice daily; CrCl = creatinine clearance; GFR = glomerular filtration rate; HF = heart failure; HFrEF = heart failure with reduced ejection fraction; HTN = hypertension; IM = intramuscular; IV = intravenous; Na+/K+ = sodium/potassium; PO = oral; QD = once daily; RAS = renin-aldosterone system

a. Wholesale acquisition cost (US) per dose (unless otherwise specified), for generic if available, of dose specified. US medication pricing by Elsevier, accessed April 2025. Canadian cost is wholesale.

Users of this resource are cautioned to use their own professional judgment and consult any other necessary or appropriate sources prior to making clinical judgments based on the content of this document. Our editors have researched the information with input from experts, government agencies, and national organizations. Information and internet links in this article were current as of the date of publication.

References

1. Cheng JW. Essential hypertension. In: Zeind CS, Carvalho MG, Cheng JWM, et al., editors. Applied Therapeutics: the Clinical Use of Drugs. 12th ed. Philadelphia, PA: Wolters Kluwer Health, 2024:140-68.
2. e-CPS [Internet]. Ottawa (ON): Canadian Pharmacists Association; c2021. Thiazide CPhA monograph [May 2019]. http://www.etherapeutics.ca. (Accessed April 16, 2025).
3. Hripcsak G, Suchard MA, Shea S, et al. Comparison of Cardiovascular and Safety Outcomes of Chlorthalidone vs Hydrochlorothiazide to Treat Hypertension. JAMA Intern Med. 2020 Apr 1;180(4):542-551.
4. U.S. Department of Veterans Affairs. VA CSP Study No. Diuretic Comparison Project https://www.research.va.gov/programs/csp/597/default.cfm. (Accessed April 16, 2025).
5. Ernst ME, Carter BL, Goerdt CJ, et al. Comparative antihypertensive effects of hydrochlorothiazide and chlorthalidone on ambulatory and office blood pressure. Hypertension. 2006 Mar;47(3):352-8.
6. Mullens W, Damman K, Harjola VP, et al. The use of diuretics in heart failure with congestion - a position statement from the Heart Failure Association of the European Society of Cardiology. Eur J Heart Fail. 2019 Feb;21(2):137-155.
7. Singh H, Marrs JC. Heart failure. In: Zeind CS, Carvalho MG, Cheng JWM, et al., editors Applied Therapeutics: the Clinical Use of Drugs. 12th ed. Philadelphia, PA: Wolters Kluwer Health, 2024: 274-324.
8. Beckett NS, Peters R, Fletcher AE, et al. Treatment of hypertension in patients 80 years of age or older. N Engl J Med. 2008 May 1;358(18):1887-98.
9. Roush GC, Ernst ME, Kostis JB, et al. Head-to-head comparisons of hydrochlorothiazide with indapamide and chlorthalidone: antihypertensive and metabolic effects. Hypertension. 2015 May;65(5):1041-6.
10. Ernst ME, Moser M. Use of diuretics in patients with hypertension. N Engl J Med. 2009 Nov 26;361(22):2153-64. Erratum in: N Engl J Med. 2010 Nov 4;363(19):1877.
11. Sica DA, Carter B, Cushman W, Hamm L. Thiazide and loop diuretics. J Clin Hypertens (Greenwich). 2011 Sep;13(9):639-43.
12. Rosner MH, Ha N, Palmer BF, Perazella MA. Acquired Disorders of Hypomagnesemia. Mayo Clin Proc. 2023 Apr;98(4):581-596.
13. Felker GM, Ellison DH, Mullens W, et al. Diuretic Therapy for Patients With Heart Failure: JACC State-of-the-Art Review. J Am Coll Cardiol. 2020 Mar 17;75(10):1178-1195.
14. Clinical Pharmacology powered by Clinical Key. Tampa, FL: Elsevier; 2025. http://www.clinicalkey.com. (Accessed April 17, 2025).
15. Mahajan, MD, Kedar (2013) "Overview of Diuretic Strategies in Edematous States," The Medicine Forum: Vol. 14, Article 7. Available at: https://jdc.jefferson.edu/tmf/vol14/iss1/7. (Accessed April 17, 2025).
16. Sica DA, Muntendam P, Myers RL, et al. Subcutaneous Furosemide in Heart Failure: Pharmacokinetic Characteristics of a Newly Buffered Solution. JACC Basic Transl Sci. 2018 Feb 7;3(1):25-34.
17. Sica DA. Eplerenone: a new aldosterone receptor antagonist - are the FDA's restrictions appropriate? J Clin Hypertens 2002;4:441-5.

Cite this document as follows: **Clinical Resource,** ***Comparison of Commonly Used Diuretics. Pharmacist's Letter/Pharmacy Technician's Letter/Prescriber Insights.*** **May 2025. [410563]**