

APPENDIX 3. Antihypertensive Pharmacotherapy—An Individualized Approach*

Condition	Initial First-Line Therapy	Second-line Therapy	Notes/Cautions
Hypertension without other compelling indications	Thiazide diuretics Beta blockers ACE-inhibitors ARBs long-acting CCBs.	Combinations of first-line drugs * Note: Use caution when combining a nondihydropyridine CCB and beta blocker	<ul style="list-style-type: none"> Alpha-blockers not recommended as initial therapy Beta blockers not recommended as initial therapy in patients > 60 years of age Avoid hypokalemia by using potassium-sparing agents in patients prescribed diuretics as monotherapy ACE-inhibitors <u>not</u> recommended in blacks
Isolated systolic hypertension without other compelling indications	Thiazide diuretics long-acting dihydropyridine CCBs. ARBs	Combinations of first-line drugs	Avoid hypokalemia by using potassium-sparing agents in patients prescribed diuretics as monotherapy.
Diabetes without nephropathy	ACE inhibitors ARB Thiazide diuretics	Combination of first-line drugs or addition of cardioselective beta blockers and/or long-acting CCBs	* Note: Use caution when combining a nondihydropyridine CCB and beta blocker
Diabetes with nephropathy	ACE inhibitors ARBs	Addition of thiazide diuretics, cardioselective beta blockers, long-acting CCBs, or use ARB/ACE inhibitor combination	If serum creatinine < 150 µmol/L, use loop diuretic as a replacement for low-dose thiazide diuretics if volume control is required.
Past cerebrovascular accident or TIA	ACE inhibitor/ diuretic combinations		BP reduction reduces recurrent cerebrovascular events.
Renal disease	ACE inhibitor + diuretic, ARB + diuretic or ACE inhibitor + CCB	Combinations of additional agents.	Avoid ACE inhibitors if bilateral renal artery stenosis.
Angina	Beta blockers (strongly consider adding ACE inhibitors)	Long-acting CCBs	Avoid short-acting nifedipine. * Note: Use caution when combining a nondihydropyridine CCB and beta blocker
Prior myocardial infarction	Beta blockers and ACE inhibitors	Combinations of additional agents.	
Heart failure	ACE inhibitors (ARBs if intolerant), beta-blockers and spironolactone	ARBs or hydralazine/isosorbide dinitrate (thiazide or loop diuretics, as additive therapy)	Avoid nondihydropyridine CCBs (diltiazem, verapamil).
Left ventricular hypertrophy	ACE inhibitors, ARBs, dihydropyridine CCBs, diuretics, beta-blockers (for patients < 55 years of age)		Avoid hydralazine and minoxidil.

ACE: Angiotensin-converting enzyme; ARB: Angiotensin II receptor blockers; CCB: Calcium channel blocker

Note: The presence of dyslipidemia or peripheral vascular disease does not affect either initial or second-line recommendations for specific agents— except that beta blockers should be avoided with severe peripheral arterial disease.

Target BPs :

Diastolic ± systolic hypertension	< 140/90
Isolated systolic hypertension	< 140
Diabetes or renal disease	< 130/80
Proteinuria >1g per day*	< 125/75

* **Adapted from:** (1) Hemmelgarn BR, McAllister FA, Myers MG, McKay DW, Bolli P, Abbott C et al. The 2005 Canadian Hypertension Education Program recommendations for the management of hypertension: part 1- blood pressure measurement, diagnosis and assessment of risk. *Can J Cardiol* 2005;21(8):645-656. PM:16003448 (2) 2005 Canadian Hypertension Education Program Recommendations. Short executive summary. Canadian Hypertension Education Program, editor. 2005. Evidence-Based Recommendations Task Force of the Canadian Hypertension Education Program (3) Chobanian AV, Bakris GL, Black HR, Cushman WC, Green LA, Izzo JL et al. The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure - The JNC 7 Report. *JAMA* 2003; 289(19):2560-2572.

