# Example of Therapeutic Management of Hypertension

Adults age ≥18 years with hypertension.

Exclude CHF patients with EF <40

No DM/CKD, age <60 years

DM and/or CKD

No DM/CKD, age ≥60 years

Blood Pressure Goal

SBP <150 mm Hg\*

DBP <90 mm Hg\*

Blood Pressure Goal

SBP <140 mm Hg\*

DBP <90 mm Hg\*

Blood Pressure Goal

SBP <140 mm Hg\*

DBP <90 mm Hg\*

Initiate/titrate thiazide-type diuretic or ACE-I or ARB or DHP-CCB alone or in combinationa

Initiate/titrate ACE-I or ARB alone as first-line or in combination with other Table 1 drug classesa

Refer to Table 1 for doses and titration

Check BP 2-4 wk

BP at goal?b

* Reinforce medication and lifestyle adherence
* Add/titrate thiazide-type diuretic or ACE-I or ARB or DHP-CCB (use medication class not previously selected)a,c

Check BP 2-4 wk

BP at goal?b

* Reinforce medication and lifestyle adherence
* Add/titrate thiazide-type diuretic or ACE-I or ARB or DHP-CCB (use medication class not previously selected)a,c

Continue current therapy. Follow up with PCP in 6 to 12 months as needed

Check BP 2-4 wk.

BP at goal?b

a PCP will be notified via notes in EHR; PCP will co-sign prescriptions.

b Consult with PCP as needed.

c In patients with CAD and/or CHF, consider a beta blocker.

\* Note: Blood pressure goal guidelines are subject to change. Update in process map as necessary.

* Reinforce medication and lifestyle adherence
* Discuss and assist PCP on the next steps. Refer to Table 2 for dosing and titration of alternative antihypertensive agents.

Start

Process

Decision

Preparation

## Table 1: First-line antihypertensive medications

|  |  |  |
| --- | --- | --- |
| **Drug Class and Generic Name** | **Brand Name** | **Usual Dosage Regimens** |
| Thiazide Diuretics | | |
| hydrochlorothiazide |  | 12.5 mg daily 25 mg daily 50 mg daily |
| chlorthalidone |  | 25 mg daily |
| indapamide |  | 1.25 mg daily 2.5 mg daily |
| ACE Inhibitors | | |
| benazepril | Lotensin | 5 mg daily 10 mg daily 20 mg daily 40 mg daily |
| quinapril | Accupril | 10 mg daily 20 mg daily 40 mg daily |
| lisinopril | Prinivil/Zestril | 5 mg daily 10 mg daily 20 mg daily 40 mg daily |
| enalapril | Vasotec | 2.5 mg daily 5 mg daily 10 mg daily 10 mg BID |
| fosinopril | Monopril | 10 mg daily 20 mg daily 40 mg daily |
| trandolapril | Mavik Univasc | 1 mg daily 2 mg daily 4 mg daily |
| moexipril | Altace | 7.5 mg daily 15 mg daily |
| ramipril | Aceon | 2.5 mg daily 5 mg daily 10 mg daily |
| perindopril |  | 4 mg daily 8 mg daily |
| Angiotensin Receptor Blockers | | |
| telmisartan | Micardis | 40 mg daily 80 mg daily |
| olmesartan | Benicar | 20 mg daily 40 mg daily |
| valsartan | Diovan | 80 mg daily 160 mg daily 320 mg daily |
| irbesartan | Avapro | 150 mg daily 300 mg daily |
| candesartan | Atacand | 8 mg daily 16 mg daily 32 mg daily |
| eprosartan | Teveten | 400 mg daily 600 mg daily |
| losartan | Cozaar | 50 mg daily 100 mg daily 50 mg BID |
| Dihydropyridine Calcium Channel Blockers | | |
| amlodipine | Norvasc | 5 mg daily 10 mg daily |
| felodipine | Plendil | 5 mg daily 10 mg daily |
| nifedipine CC | Adalat CC  Procardia XL | 30 mg daily 60 mg daily 90 mg daily |
| nisoldipine | Sular | 20 mg daily 30 mg daily 40 mg daily |
| isradipine | Dynacirc CR | 2.5 mg BID 5 mg BID |

**Table 2: Alternative antihypertensive medications**

|  |  |  |
| --- | --- | --- |
| **Drug Class and Generic Name** | **Brand Name** | **Usual Dosage Regimens** |
| Aldosterone Antagonists | | |
| spironolactone | Aldactone | 25 mg daily 50 mg daily |
| eplerenone | Inspra | 50 mg daily 50 mg BID |
| Potassium Sparing/Thiazide Combination Diuretics | | |
| amiloride /HCTZ |  | 5 mg/50 mg daily |
| triamterene/HCTZ |  | 37.5 mg/25 mg daily |
| spironolactone/HCTZ |  | 25 mg/25 mg daily |
| Beta Blockers | | |
| atenolol | Tenormin | 25 mg daily 50 mg daily 100 mg daily |
| metoprolol tartrate | Lopressor | 50 mg BID 100 mg BID |
| propranolol | Inderal LA | 40 mg BID 80 mg BID |
| propranolol | Inderal XL | 60 mg daily 80 mg daily 120 mg daily |
| labetalol | Trandate/Normodyne | 100 mg BID 200 mg BID 300 mg BID |
| nadolol | Corgard | 40 mg daily 80 mg daily 160 mg daily |
| metoprolol succinate | Toprol XL | 100 mg daily 200 mg daily |
| nebivolol | Bystolic | 2.5 mg daily 10-20 mg daily 40 mg daily |
| carvedilol | Coreg  Coreg CR | 3.125 BID 12.5-25 mg BID 25 BID  10 mg daily 20 mg daily 40 mg daily 80 mg daily |
| Non-Dihydropyridine Calcium Channel Blockers | | |
| verapamil SR | Calan SR | 240 mg daily |
| diltiazem | Cardizem | 30 mg QID 60 mg TID 60 mg QID 90 mg TID |
| diltiazem CD | Cardizem CD | 120 mg daily 180 mg daily 240 mg daily 300 mg daily |
| Central Acting Agents | | |
| clonidine | Catapres | 0.1 mg BID 0.2 mg BID 0.3 mg BID |
| clonidine patch | Catapres-TTS | 0.1 mg/24 hr 0.2 mg/24 hr 0.3 mg/24 hr |
| methyldopa |  | 250 mg TID 500 mg TID 1000 mg TID |
| Vasodilators | | |
| isosorbide dinitrate |  | 10 mg TID 20 mg TID 40 mg TID |
| hydralazine |  | 25 mg TID 50 mg TID 100 mg TID |
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|  |  |  |
| **Table 2: Alternative antihypertensive medications, continued** | | |
| Alpha Blockers | | |
| doxazosin | Cardura | 1 mg daily 2 mg daily 4 mg daily |
| terazosin | Hytrin | 1 mg daily 2 mg daily 5 mg daily |
| prazosin | Minipress | 1 mg BID 2 mg BID 5 mg BID |
| Renin Inhibitors | | |
| aliskiren | Tekturna | 150 mg daily 300 mg daily |
| Other Diuretics | | |
| furosemide | Lasix | 20 mg BID 40 mg BID |
| torsemide | Demadex | 5 mg daily 10 mg daily |

*Disclaimer: Please note that clinical guidelines change frequently and this document is meant to serve as an example only. The therapeutic management of hypertension protocol flow chart can be modified so you can update it based on your patient population and current guidelines. This content is provided for informational purposes only and is not intended as medical advice, or as a substitute for the medical advice of a physician. This content does not constitute a recommendation or endorsement of any specific tests, products, procedures, practices or medical opinions.*

Example provided courtesy of the University of Michigan Medical Group.

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