The authors and reviewers have made every attempt to ensure the information in the Family Medicine Clinical Cards is correct – it is possible that errors may exist. Accordingly, the source references or other authorities should be consulted to aid in determining the assessment and management plan of patients. The Cards are not meant to replace customized patient assessment nor clinical judgment. They are meant to highlight key considerations in particular clinical scenarios, largely informed by relevant guidelines in effect at the time of publication. The authors cannot assume any liability for patient outcomes when these cards are used.

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# Hypertension Management

| Lifestyle Changes | SBP↓ |
|---|---|
| - Salt restriction to 6 g per day | 2-8 mmHg |
| - Daily EtOH intake < 2 drinks for ♂ and < 1 drink for ♀ | 2-4 mmHg |
| - DASH diet: ↑vegetables, fruits and low-fat dairy products | 8-14 mmHg |
| - BMI reduced to 25kg/m2 and waist circumference to <102cm for ♂ and <88 cm for ♀ | 5-20 mmHg/10kg |
| - Exercise 30 min of moderate intensity for 5-7 days/week. | 4-9 mmHg |
| - Smoking cessation | |

## Drug Therapy in Hypertensive Patients with Specific Conditions

| CONDITION | GUIDANCE | TARGET |
|---|---|---|
| **LVH with no sx** | ACEi/ARBs, CCB, thiazide-like diuretic | <140/90 |
| **Chronic Heart Failure** | Aldosterone antagonist, BB, ACEi/ARBs. Tx guided by Sx's (e.g. diuretics for congestion; BB for ↑ HR). | SBP<140 |
| **Atrial Fibrillation** | BB, non-DHP CCB for high ventricular rate Afib. | |
| **Previous Myocardial Infarction** | ACEi/ARBs; MI < 2-3 yr ago: BB. MI > 2-3 yr ago: BB or CCB if concomitant angina, otherwise any BP lowering agent suitable. | SBP<140 |
| **Recent Stroke/TIA** | ACEi/ARBs, + thiazide-like diuretic; CCB, BB. | SBP<140 |
| **Peripheral Artery Disease** | CCB, ACEi (As these are shown to delay atherosclerosis once carotid stenosis Dx'd) | <140/90 |
| **Diabetes Mellitus** | ACEi/ARB. Esp. if proteinuria/microalbuminuria Thiazides or CCB as adjuncts. Cautious BB use as adjunct for coexisting HF, as may↑ insulin resist. | <140/85 |
| **Chronic Kidney Disease + Overt Proteinuria** | ACEi/ARB (to↓ albuminuria) and non-DHP-CCB. Aldosterone antagonist is contraindicated due to risk of worsening renal fxn and hypokalemia. Must periodically monitor eGFR. | SBP<130 |
| **> 50 Years Old AND [CKD, CVD, or Fram. Risk ≥15%)** | Choose meds and monitoring based upon disease-specific guidance in this chart. | SBP ≤120 (SPRINT trial) |
| **> 70 Years Old** | All BP rx suitable. May relax BP targets if individual is frail or cannot tolerate. Keep DBP > 60. | SBP<120 (SPRINT trial) |
| **> 80 Years Old + Isolated Syst. HTN** | Diuretics, CCB. May relax BP targets if individual is frail. Keep DBP > 60. | As above |
| **Black Population** | Thiazides, CCBs | <140/90 |

**BB = Beta-blocker CCB = Calcium Channel blocker DHP = Dihydropyridine*

## Principles of Hypertensive Crisis Management

### Hypertensive Urgency

1. Often caused by BP therapy discontinuation or anxiety.
2. Confirm absence of acute target organ damage. Patient may complain of headache, anxiety or SOB.
3. BP reduction with short-acting oral agents and observe for 1-6hr.
4. Arrange for follow-up evaluation in < 24hrs.

### Hypertensive Emergency:

1. Confirm acute target organ damage, e.g. *Hypertensive encephalopathy, MI, LV failure w/ pulmonary edema, unstable angina, dissecting aortic aneurysm.*
2. Immediate BP reduction (not necessarily to normal) with IV agents.
3. Admit for continuous BP monitoring.

**Key References:** Nerenberg KA, Zarnke KB, Leung AA, et al. Hypertension Canada's 2018 Guidelines for Diagnosis, Risk Assessment, Prevention,and Treatment of Hypertension in Adults and Children. *Can J Cardiol*. 2018;34(5):506-25. Vidt DG. Emergency room management of hypertensive urgencies and emergencies. *J Clin Hypertens*. 2001;3(3):158-64.