Assessment and Management of Hypertension (HT) in Primary Care Settings

### Measure blood pressure (BP) for all individuals aged ≥ 18 years old

(Core Document 7)

<table>
<thead>
<tr>
<th>BP ≥ 140 / ≥ 90mmHg</th>
<th>&lt;120/&lt;80mmHg</th>
<th>120-129/80-84mmHg</th>
<th>130-139/85-89mmHg</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NO</strong></td>
<td>- Recheck in 2 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>YES</strong></td>
<td>- Recheck in 1 year</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>- Lifestyle modification</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>- Recheck in 6 months</td>
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<tr>
<td></td>
<td>- Lifestyle modification</td>
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</tbody>
</table>

- **140 - 159 / 90 - 99 mmHg**
  - Confirm HT within 2 months
  - Lifestyle modification

- **160 - 179 / 100 - 109 mmHg**
  - Evaluate and treat within 1 month
  - Lifestyle modification

- **≥ 180 / ≥ 110 mmHg**
  - Evaluate within 1 week
  - Start drug treatment if HT is confirmed
  - Urgent referral if malignant HT is suspected
  - Lifestyle modification

### If HT is confirmed

Initial assessment (Module 4)
- History
- Physical examination
- Laboratory investigations (urine analysis, fasting glucose, renal function test, lipid profile, electrocardiogram)

Management strategy (Core Document 8.2)
- Promote lifestyle modification
- Consider drug treatment for sustained HT despite lifestyle modification or if target organ damage is present
- Use lipid modifying drugs in high-risk hypertensive patients (Module 9)
- Arrange appropriate follow up and monitoring
- Consider referral if indicated (Core Document 8.5)

(*optional: random urine albumin: creatinine ratio)

Target blood pressure (Core Document 8.3)
- < 140 / 90 mmHg in general, and < 130/80 mmHg if well tolerated
- < 130 / 80 mmHg for patients with diabetes or renal impairment

Annual assessment (Module 8)
- History
  - New symptoms of cardiovascular complications, lifestyle modification, family history of premature heart disease, ideas and concerns, side effects of drugs, compliance to treatment, quality of life
- Physical examination
  - BP, body mass index, cardiovascular examination
- Laboratory investigations
  - Urine for protein / albumin*, uric acid if on diuretics, fasting glucose, renal function test, lipid profile

(*optional: random urine albumin: creatinine ratio)
Drug treatment for essential hypertension (Module 7)

Compelling indications / contraindications over choice of drug

YES

Refer to the table below

NO

Start with either ACEI (or ARB if ACEI intolerant), calcium channel blockers or thiazide diuretics

If no response or not tolerated, switch to another drug
If inadequate response but tolerated, add a second drug from different class

If BP goal is still not reached, increase dose or consider adding third drug from different class

Refer to specialist if BP still not under control

<table>
<thead>
<tr>
<th>Class of drug</th>
<th>Compelling indications</th>
<th>Compelling contraindications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Angiotensin-converting enzyme inhibitors (ACEI)</td>
<td>Heart failure, left ventricular hypertrophy, post myocardial infarction, diabetic nephropathy</td>
<td>Pregnancy, bilateral renal artery stenosis, hyperkalaemia</td>
</tr>
<tr>
<td>Angiotensin II receptor antagonist (ARB)</td>
<td>ACEI intolerance</td>
<td>Pregnancy, bilateral renal artery stenosis, hyperkalaemia</td>
</tr>
<tr>
<td>Alpha-blockers</td>
<td>Benign prostatic hypertrophy</td>
<td>-</td>
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<tr>
<td>Beta-blockers</td>
<td>Angina, post myocardial infarction, tachyarrhythmia</td>
<td>Asthma, chronic obstructive pulmonary disease, heart block</td>
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<tr>
<td>Calcium channel blockers (dihydropyridine)</td>
<td>Isolated systolic HT, elderly</td>
<td>-</td>
</tr>
<tr>
<td>Calcium channel blockers (rate limiting)</td>
<td>Angina</td>
<td>Heart block</td>
</tr>
<tr>
<td>Thiazide / Thiazide-like diuretics</td>
<td>Heart failure, isolated systolic HT, elderly</td>
<td>Gout</td>
</tr>
</tbody>
</table>

Extracted from the Hong Kong Reference Framework for Hypertension Care for Adults in Primary Care Settings. Available at www.pco.gov.hk

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