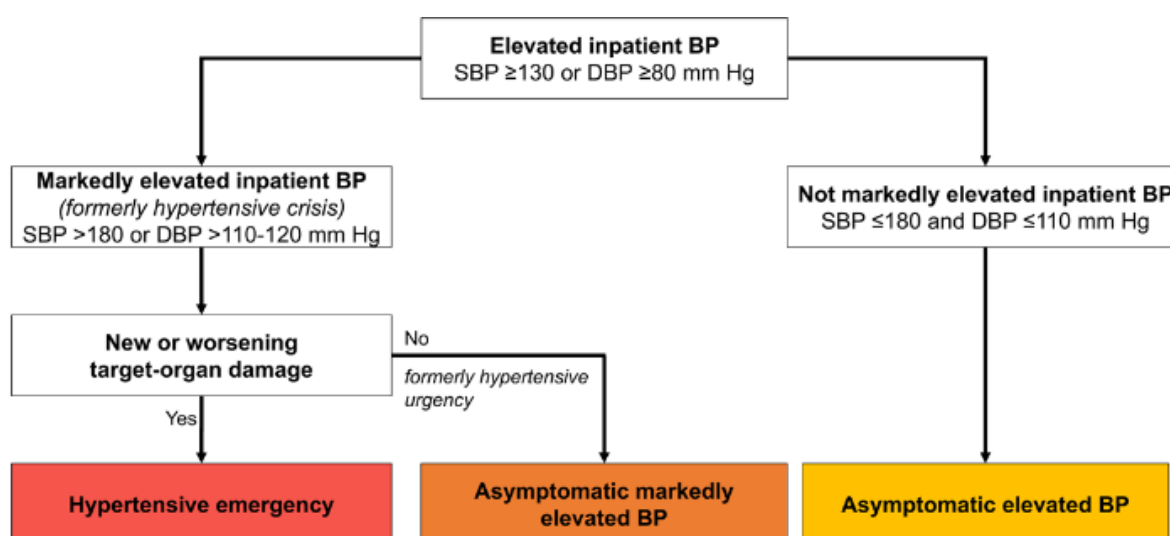


# Management of Asymptomatic elevated BP (Previously called Hypertensive urgency) in the Emergency Department (For pregnant women – Refer to Hypertension in pregnancy CBR CLIN048)

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## Definitions

- Asymptomatic **elevated** BP: 130 – 180 / 80 – 110
- Asymptomatic **markedly elevated** BP: SBP > 180 and/or DBP > 110  
= Severe hypertension without acute end-organ dysfunction



## Why has the current approach changed in 2024?

- There is **no clear association** between asymptomatic markedly elevated inpatient BP and short-term adverse outcomes
- Recent well-designed observational studies suggest **harms** associated with acute treatment of asymptomatic elevated BP, including increased risk for myocardial and kidney injury
- Therefore, in most cases, **acute treatment should NOT be given**

## Assessment and management

### Step 1 – Assess the accuracy of the BP measurement

- Use the appropriate cuff size ('large' cuff if mid-upper arm circumference  $\geq 33$  cm)
- If seated, ensure back supported, feet touching the ground, not talking, arm at the level of the heart.
- If supine, ensure the cuffed arm is at the level of the patient's heart
- Do at least 2 readings, 30 seconds apart

## Step 2 – Rule out Hypertensive emergency

- If SBP > 180 and/or DBP > 110, assess for target organ damage
  - 1) **Brain** (stroke, hypertensive encephalopathy [PRES], cerebral hemorrhage)
  - 2) **Arteries** (acute aortic dissection)
  - 3) **Retina** (Papilledema and retinal hemorrhages)
  - 4) **Kidney** (acute kidney injury, thrombotic microangiopathy)
  - 5) **Heart** (pulmonary oedema, acute coronary syndrome)
- Organise investigations; EUC, FBC, urinalysis, ECG, Chest X-ray
- If hypertensive emergency is present, then switch to hypertensive emergency guideline

## Step 3 – Identify and address any contributing factors

- Patient factors – Acute distress (pain, anxiety, stress), Volume overload, Uncontrolled chronic HTN
- BP-raising medications (NSAIDs, steroids, Erythropoietin)

## Step 4 – Pharmacological management

- The goal should be gradual, sustained reduction in blood pressure over weeks
- Management to be stratified according to risk categories.
  - **Category 1:** Persistent markedly elevated BP with history of:
    - i. High outpatient BPs, or
    - ii. High cardiovascular risk, or
    - iii. Established cardiovascular disease, or
    - iv. High-risk features – Untreated aortic or intracranial aneurysm, previous history of hypertensive emergency, or
    - v. Poor contact with outpatient clinicians**Management:** Start a longer-acting antihypertensive, e.g. Amlodipine 5mg, or intensify doses of existing medications (*See anti-hypertensive table on next page*)
  - **Category 2:** Patients who do not fall under Category 1 and elderly frail patients  
**Management:** Do not start any acute treatment  
For patients who are being admitted for other reasons, a review by registrar or consultant with alteration to calling criteria should follow with clear handover to treating team
- Please note elevated BPs in the absence of target organ damage on its own is not an indication for hospital admission and acute BP lowering is not required before discharge from ED
- If for discharge from ED, go to Step 5

Medication	Dosing	Pharmacokinetics	Comments
<b>Long acting</b>			
Amlodipine	5mg	Peak onset 6-8 hours	If patient is already on another dihydropyridine calcium channel blocker (lercanidipine, nifedipine) then use agent from another class
Lercanidipine	10mg daily	Peak onset after 3 hours	If patient is already on another dihydropyridine calcium channel blocker (amlodipine, nifedipine) then use agent from another class
Perindopril	2.5 mg	Peak onset after 4-6 hours	Caution in those with/ at risk for hyperkalaemia
Telmisartan	40mg	Peak onset after 3 hours	Caution in those with/ at risk for hyperkalaemia
Hydrochlorothiazide	12.5mg daily	Peak onset after 4 hours.	A good consideration if patient on CCB and ACEI/ARB to allow combination pill therapy. Avoid in those with hyponatraemia
<b>Short acting</b>			
Prazosin – <b>No longer recommended</b>	0.5mg	Peak onset after 1-2 hours	Very high risk of adverse effects – First dose hypotension, falls <b>Should NOT be used as first line</b>
Hydralazine	12.5mg	Peak onset after 1-2 hours	Can result in tachycardia and headaches <b>Not recommended as first line</b>

**Table: A guide to commonly used ORAL anti-hypertensive medications**

### Step 5 – Patient education/Handover to outpatient clinician/Organise Follow-up

- If asymptomatic markedly elevated BPs, discuss with on-call nephrologist and organise an outpatient management plan before discharge from ED
- Most patients with asymptomatic elevated BPs should be followed up within 1 week
- Provide written instructions on medication changes and follow-up
- Note the rationale for this approach and reference to this guideline in the ED discharge summary

### References

1. Bress, A. P., Anderson, T. S., Flack, J. M., Ghazi, L., Hall, M. E., Laffer, C. L., Still, C. H., Taler, S. J., Zachrison, K. S., & Chang, T. I. (2024). The Management of Elevated Blood Pressure in the Acute Care Setting: A Scientific Statement From the American Heart Association. *Hypertension*. <https://doi.org/10.1161/hyp.000000000000238>
2. Kotwal, S. (2024). Assessment and management of hypertension in ADULTS in the inpatient ward setting. *SESLHD GUIDELINE* (Guideline SESLHDGL/068). South Eastern Sydney Local Health District. <https://www.seslhd.health.nsw.gov.au/sites/default/files/documents/SESLHDGL%20068%20-%20Assessment%20and%20management%20of%20hypertension%20in%20ADULTS%20in%20the%20inpatient%20ward%20setting.pdf>

