Acute Hypertension: Office Management for the Primary Practitioner

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Office Emergencies
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Disclosures

- Honouraria Received: Bayer, BMS-Pfizer, Boehringer-Ingelheim, Novartis, Servier
- Grants: Servier
- Ad Board: Boehringer-Ingelheim
- Bias Mitigation:
  - No commerical remuneration
  - No endorsement of specific company products
  - No off-label recommendations

Objectives

***Key message**: acute hypertension can be safely treated in the outpatient setting, with focus on identifying and addressing common causes and instituting or reinstituting common oral medications*

In an asymptomatic patient, short term cardiovascular risk is low!

one: Review features and definitions of acute hypertensive scenarios

two: Discuss strategies for in-office management

three: Consider when to refer for emergent evaluation

four: Consider options for further investigations and follow-up

Definitions & Terminology

- Urgency = severe asymptomatic hypertension = uncontrolled severe hypertension (*arbitrarily* systolic blood pressure >= 180 mmHg and/or diastolic blood pressure >=120 mmHg)
- Emergency = signs or symptoms of acute or impending target organ damage (e.g. encephalopathy, stroke/hemorrhage, aortic dissection, MI, CHF, retinal hemorrhage/papilledema, AKI)

How is a hypertensive urgency defined?

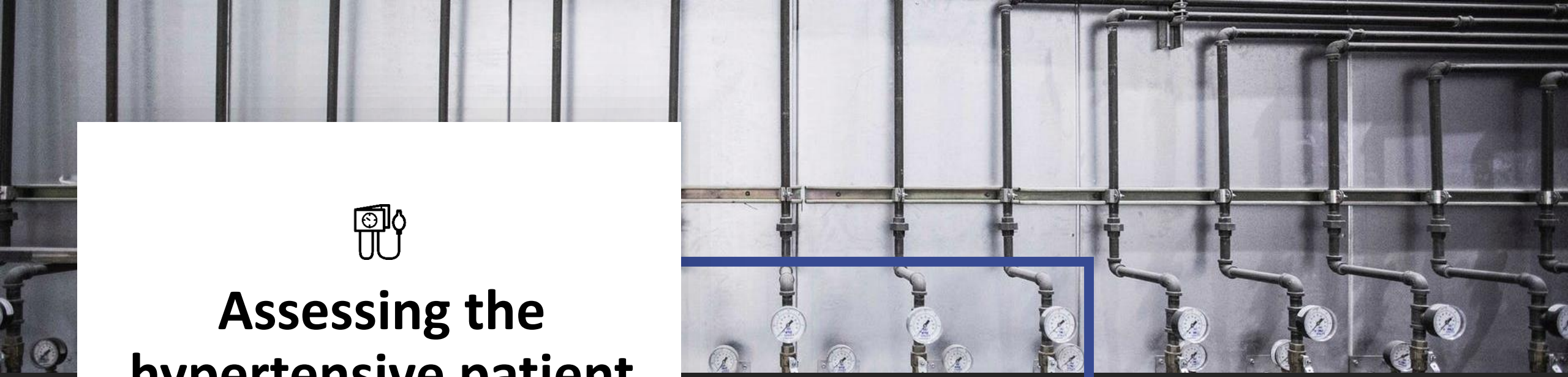
- systolic blood pressure >= 180 mmHg and/or diastolic blood pressure >=120 mmHg ; arbitrary and conventional
- Relatively or completely asymptomatic, with no signs or symptoms of acute or impending target organ damage (e.g. encephalopathy, stroke, hemorrhage, aortic dissection, MI, CHF, AKI)
- De-emphasize terms such as crisis, accelerated, malignant, etc.

Why is the distinction crucial?

- Hypertension is a prothrombotic state, with platelet activation, inflammation, endothelial dysfunction
- A hypertensive emergency is an active, progressive, severe vascular event happening somewhere
- Therefore, managing the hypertensive emergency involves managing the vascular problem, not just the blood pressure itself

Assessing the hypertensive patient

The first and main goal is to exclude acute or threatened target organ damage, i.e. to exclude a hypertensive emergency, which absolutely requires hospital management.



Assessing the hypertensive patient

What brought the patient to you today?

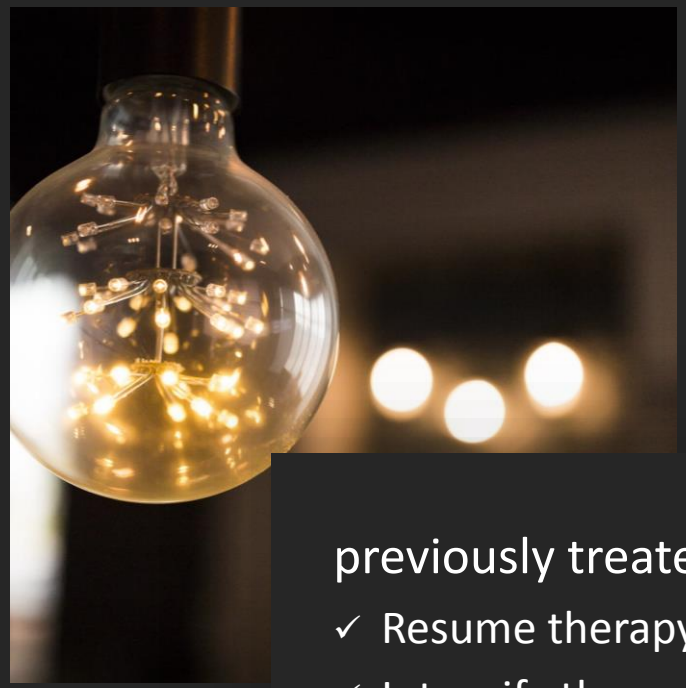
Blood pressure check?
Incidental?
Symptoms?

Assessment of a hypertensive urgency

Many patients have withdrawn from or are noncompliant with anti-hypertensive therapy. Other causes or contributors include new medications, pain, substance use, anxiety or acute stress.

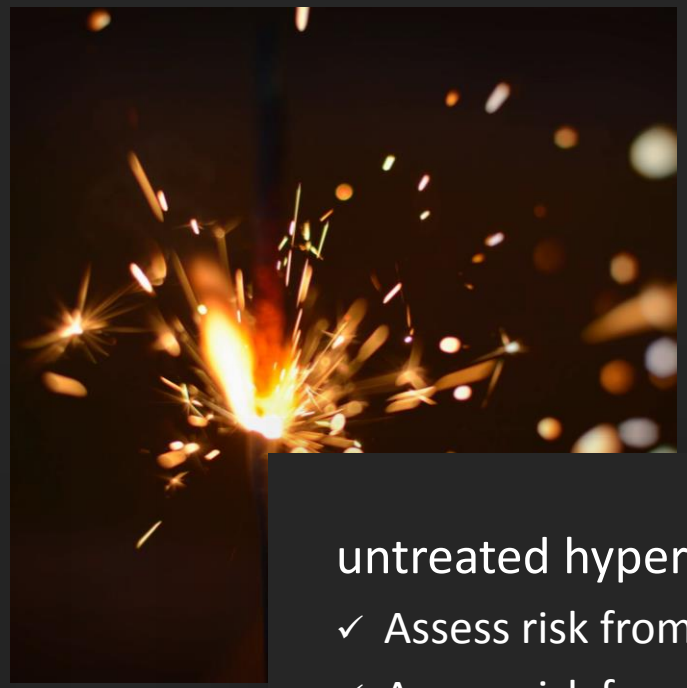
Treatment strategies in the office

Largely experience-based approaches suggest an initial target of <160/<100 or mean arterial pressure reduction of no greater than 25-30% over the first several hours; slower often ok



previously treated hypertension

- ✓ Resume therapy
- ✓ Intensify therapy (dose)
- ✓ Intensify therapy (add-on)
- ✓ Reinforce Rx and non-Rx adherence



untreated hypertension

- ✓ Assess risk from untreated HTN
- ✓ Assess risk from rapid/strong reduction
- ✓ Treat with standard guideline-suggested oral Rx, based on patient characteristics

Treatment strategies in the office

Optimize Environment

Discuss exacerbating factors, provide quiet space to rest, and re-assess BP

Proceed to Rx if this is ineffective, not feasible, not applicable

Initiate Rx

Balance autoregulation (real) vs risk of imminent CV event (mostly low)

No evidence for one drug, but probably better to use longer-acting agents

Establish Follow Up

Observe for few hours, re-assess and follow-up 1-2 days, subsequent visits

Many patients still lost to follow-up and present to ER within months

Overall Approach

There is no proven benefit from ER treatment of BP in asymptomatic patients, and a suggestion of harm if treatment is too rapid or aggressive

Entities which also should not be managed in the office

hypertension in pregnancy (> 160/110)

Post-operative hypertension

Sympathomimetic drug abuse

Autonomic dysreflexia

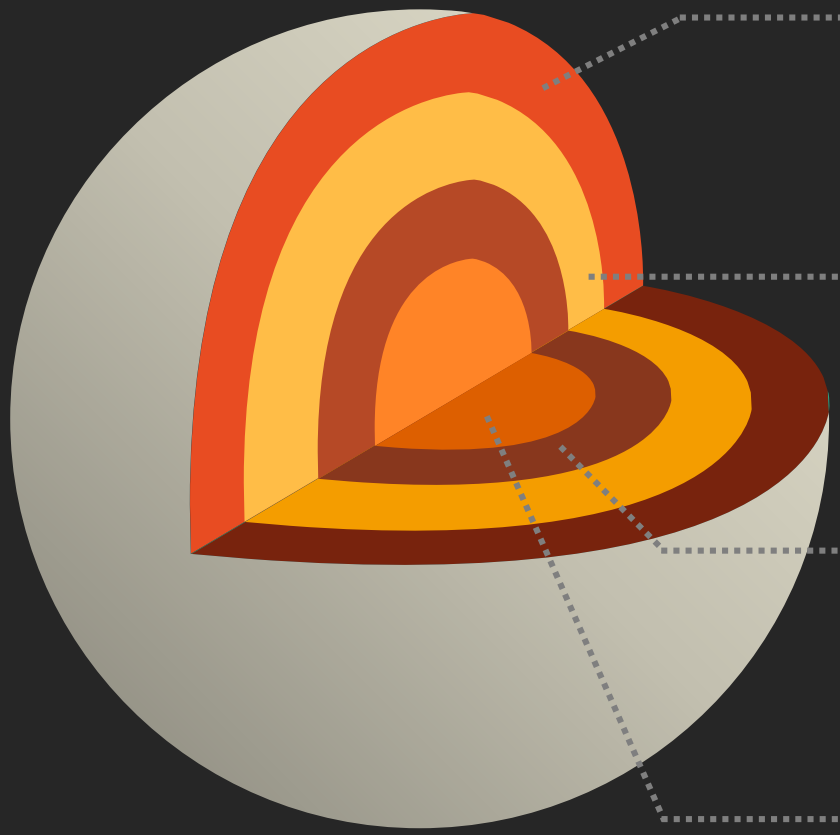
Pheochromocytoma

- Any concerns regarding renal injury
- Some medication withdrawal (clonidine, high-dose BB)

Techniques for optimizing blood pressure control

- **Chronotherapy**
  - It does work
  - flexibility
  - less Rx changes
- **Agent changes**
  - longer-acting
  - dose equivalents
  - specific indications
- **Renal**
  - different choices
  - different effects
- **Choose an MRA**
  - Good for rHTN
  - often successful
  - spironolactone
- **Not one size fits all**
  - amiloride, triazide
  - alone or combined

The value of the in-office assessment



Update basic investigations
Labs (renal function, electrolytes), EKG

Reconsider (cardio)vascular risk
Is further evaluation needed? Does other therapy need to be up-titrated (eg. DM2, lipids)

Reassess lifestyle / habits
An opportunity to assess smoking, alcohol, diet, weight, stress, etc.

Reconsider "secondary" causes
(renovascular disease is often not considered)

ER treatment of asymptomatic patients is not evidence-based

- routine screening for target organ injury (creatinine, EKG) is not required
- Routine intervention is not required, and rapid lowering is unnecessary and potentially harmful
- The above assumes outpatient follow-up
- Select populations (e.g. poor follow-up, high-risk) may benefit from acute treatment and initiation of longer-term control

American College of Emergency Physicians Policy Statement (2013)

ER treatment is not supported by evidence

- There is no evidence demonstrating improved outcomes or decreased mortality or morbidity with ER management of HTN
- When ER treatment of asymptomatic hypertension is initiated, there can be no expectation of BP normalization in the ER
- Even ER treatment should be non-aggressive

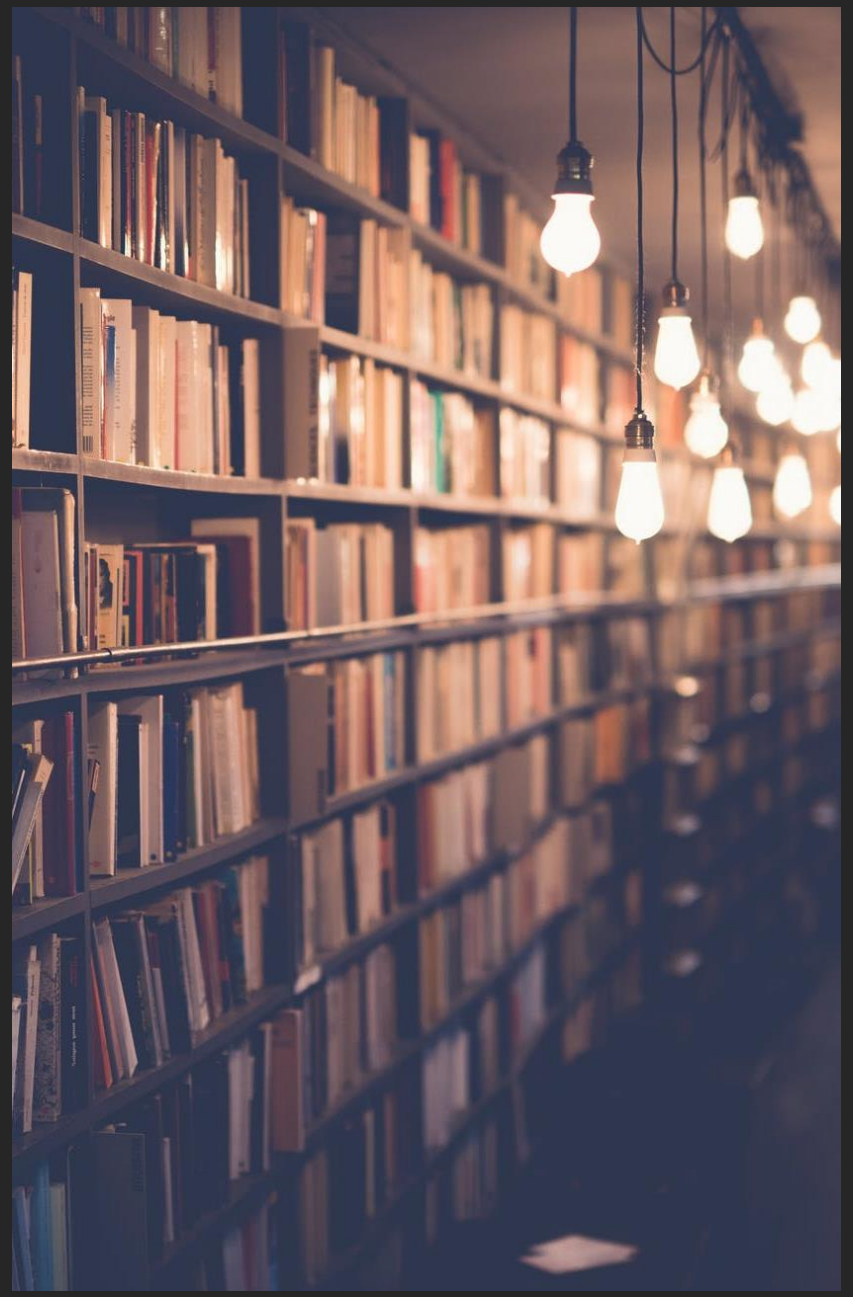
American College of Emergency Physicians Policy Statement (2013)

Summary

- Assess the patient for symptoms, and attempt to determine cause and/or contributor(s)
- Treatment of asymptomatic patients can be safely and effectively performed as an outpatient using standard approaches
- Although emergency department presentation is unnecessary for asymptomatic patients, close follow-up is important for both short- and long-term success

Summary

- Hypertensive emergencies do require hospital assessment and management
- Determine if your patient is at risk
- Involve a hypertension specialist if any questions or concerns



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Discuss / **collaborate**

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