Creative blood pressure management: whys and the tricks

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Objectives

1. Describe current guidelines for Blood Pressure screening and management.

2. List the categories of medications available for BP management, and an algorithm for their use.

3. Have a strategy for hypertensive urgencies and emergencies.

4. Know what you’d do when all else fails.
Asymptomatic BP
Symptomatic BP
Definition of Hypertension

- Normal SBP<120, DBP<80

- Pre-hypertension- time to prevent problems in the future
  - SBP 120-139, DBP 80-89

- Stage 1- AKA pipes are going to wear out sooner than later
  - SBP 140-159, DBP 90-99

- Stage 2- AKA pipes are damaged and it's getting serious
  - SBP >160, DBP>100
120/70

135/85,

walking 130/80

140/90, 150/90
How do I diagnose Hypertension?

- Automated Office BP >135/85
- Home BP >135/85
- Ambulatory BP >130/85 (130/80 24hrs average)

USPTF recommendation:
- Level A: Screening adults over the age 18
Talking the same language, what to do?

- Asymptomatic have time to work on a plan
  1. Lifestyle changes
  2. Discuss what numbers oblige me to treat vs expectant manage
  3. How successful have they been in BP control
  4. Physical exam- End organ changes (Severe, mild, none)
Lifestyle Modifications
Lifestyle Modifications

- Eat
- Do
- Smoke
- Drink
- Feel
- Team
- Weigh
- Knowledge
Life Style Modification

- What we eat
- What we do
- How we feel
- How much we weigh
- How much we drink
- What (If) we smoke
- How we take our medicines
- Whose on our team- frequent visits to MD or system care
- How much we know about our disease
How bad is my Hypertension?

- Get the diagnosis and have time to change lifestyle—135/85

- Get diagnosis, lifestyle change and need to start meds
  - Depends on age, DM and CKD
DM, CKD then Age

DM or CKD

- No
  - <60
    - 140/90
  - >60
    - 150/90
- Yes
  - 140/90
When to start treatment- CKD, DM, AGE?

- DM or CKD high risk for end stage damage or already occurring
  - Yes-----SBP >140, DBP>90
  - No------How old are you??
    - Older than 60, Let’s wait until SBP>150, DBP >90
    - Youger than 60, Let’s start at SBP>140, DBP >90

- DO NO HARM!!!!
  - Avoid harm from hypotension,
  - syncope,
  - electrolyte abnormalities,
  - acute kidney failure or injury
First do not harm
What about scary high? >180/110

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Action</th>
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<tbody>
<tr>
<td>Talk to your patient- sick go to the hospital immediately</td>
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<tr>
<td>Examine your patient - Abnormal findings go to the hospital</td>
<td>No sx- previous treatment for hypertension adjust medicine and recheck 2-4 weeks</td>
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<tr>
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<td>No sx- never diagnosed with hypertension recheck BP 2-4 weeks</td>
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<td>Mild sx short acting medicine if works then start med and recheck 1 week</td>
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<td>Start looking for end stage problems- if negative recheck BP in 1 week</td>
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- BMP
- UA
- EKG

Source: www.aafp.org/afp/2017/0415/p.492.html
Which meds and how fast?

- **Inpatient**: Minutes to hours
  - Hydralazine, Metoprolol, Captopril, Prazosin

- **Outpatient**: Hours to days
  - HCTZ, Atenolol, Lisinopril, Norvasc, Spironolactone
  - Cozaar: Plasma peak 4hrs,
    - Antihypertensive effect 1 week
    - Max BP reduction 3-6 weeks
Asymptomatic but need treatment

- White: ACE/Thiazide Advance before adding next medicine,
  - ???Pregnancy??? Key question —Thiazide or chlorthialidone
  - Ace intolerant—Thiazide or chlorthialidone
    - Save ARB for cough not treatment intolerant

- Add amlodipine— Advance before adding next medicine

- Spironolactone ( GFR>60), or add Atenolol
Special medicines for special situations:

- Angina: Beta blockers/Calcium Channel blockers
- A-fib: Beta blockers/Calcium Channel blockers (nondihydropyridine - diltiazem)
- CHF-Diuretics, beta blockers, ACE, ARB, Mineralcorticoid receptor antagonist - spironolactone
- DM- ACE, ARB
- MI- Beta blocker, ACE, ARB
- Stable Chronic kidney disease- ACE, ARB

• General Black population: Start with CCB/thiazide (JNC8 Rec #7)
Know your Patients
Asymptomatic and still not in control

- Compliance
- Confidence of information—White Coat syndrome

- Secondary causes—next slide

- Consider consulting hypertensive specialist- Nephrology vs Cardiology, or PharmD
Secondary Causes of Hypertension

- Echocardiogram, looking for ventricular hypertrophy
- Stress echo if considering Coronary artery disease
- Renin levels if suspect primary mineralocorticoid excess
- Renovascular hypertension- suspect if acute increase Creatinine -30% with ACE/ARB
- Renal: Uric acid, serum marker for hypertension, not known if treat uricemia if long term affects of hypertension reduces-
  - Renal: monitor Creatinine
- Drugs: Good and Bad ones
- Sleep apnea
- Thyroid, and endocrine disorders. Phaeochromocytoma—0.2% of cases
Remember to prevent secondary complications

- One Key Question: Are you thinking of getting pregnant in the next year?

- Lipids Therapy: Discuss cardiac risk profile with lipid screens

- Aspirin Therapy: Initiate with the diagnosis of hypertension
Thank you for your attention