Diagnosis (requires systolic or diastolic elevations on 2 separate occasions)
Age <60  > or = to 140/90
Age > or = 60  > or = to 150/90

Initial Work-up
CBC, CMP, Lipids, TSH
EKG
Consider further studies for secondary causes of HTN

Secondary Causes of HTN
Primary Aldosteronism
Pheochromocytoma
Renal Vascular Disease
Renal Parenchymal Disease
Parathyroid Disorders
Thyroid Disease
Coarctation of the Aorta
Obstructive Sleep Apnea
Cushing’s Syndrome

Treatment
*Lifestyle Changes- DASH Diet (<2.4gm Na per day), Weight Loss, Smoking cessation, Less caffeine & alcohol
*Medical Therapy-
1. Does a compelling indication exist?

Compelling Indications
CHF       ACE/ARB, B-Blocker, Diuretic
Post-MI   ACE, B-Blocker
Diabetes  ACE or ARB
CKD       ACE or ARB
Post-CVA  ACE, Thiazide diuretic
African-American  Thiazides, CCB more effective

2. Decide on Initial Therapy

BP Less than 160/100
Thiazide (i.e. HCTZ 12.5mg)
ACE Inhibitor (i.e. Lisinopril)
ARB (i.e. Atacand at Crossover Pharm)
Calcium Ch Blocker (i.e. Amlodipine)

BP Greater than 160/100
ACE + Thiazide [i.e.Lisinopril/HCTZ 10/12.5mg daily ($4 retail)]
ARB + Thiazide (i.e. Atacand-HCT at crossover pharmacy)
Calc Ch Blocker + Thiazide [i.e. Amlodipine + HCTZ]
Calc Ch Blocker + ARB [i.e. Exforge at crossover pharmacy]

↓

3. Goal is <140/90 for those under 60yrs old; <150/90 for those 60yrs old and up
4. Schedule follow-up for 4-8 weeks
5. Optimize dose or add other agents until at goal. Add or titrate Thiazides, CCB, and ACE or ARB (but not both together) prior to considering other classes.
6. Once at goal, follow-up every 6 to 12 months
## Hypertension

### Ace Inhibitors

<table>
<thead>
<tr>
<th>Name</th>
<th>Dosage</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lisinopril</td>
<td>2.5, 5, 10, 20mg</td>
<td>$4retail</td>
</tr>
<tr>
<td>Benazepril</td>
<td>5, 10, 20, 40mg</td>
<td>$4retail</td>
</tr>
<tr>
<td>Enalapril</td>
<td>2.5, 5, 10, 20mg</td>
<td>$4retail</td>
</tr>
</tbody>
</table>

### ARBs

<table>
<thead>
<tr>
<th>Name</th>
<th>Dosage</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diovan</td>
<td>40, 80, 160, 320mg</td>
<td>CrossOver</td>
</tr>
<tr>
<td>Atacand</td>
<td>4, 8, 16, 32mg</td>
<td>CrossOver</td>
</tr>
</tbody>
</table>

### Beta Blockers

<table>
<thead>
<tr>
<th>Name</th>
<th>Dosage</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atenolol</td>
<td>25, 50, 100mg</td>
<td>$4retail</td>
</tr>
<tr>
<td>Carvedilol</td>
<td>3.125, 6.25, 12.5, 25mg</td>
<td>$4retail</td>
</tr>
<tr>
<td>Coreg CR</td>
<td>10, 20, 40, 80mg</td>
<td>CrossOver</td>
</tr>
<tr>
<td>Innopran XL</td>
<td>80mg</td>
<td>CrossOver</td>
</tr>
<tr>
<td>Metoprolol</td>
<td>25, 50, 100mg</td>
<td>$4retail</td>
</tr>
<tr>
<td>Propanolol</td>
<td>10, 20, 40, 80mg</td>
<td>$4retail</td>
</tr>
<tr>
<td>Sotalol</td>
<td>80mg</td>
<td>$4retail</td>
</tr>
<tr>
<td>Toprol XL</td>
<td>25, 50, 100, 200mg</td>
<td>CrossOver</td>
</tr>
</tbody>
</table>

### Calcium Channel Blockers

#### Dihydropyridines

<table>
<thead>
<tr>
<th>Name</th>
<th>Dosage</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amlodipine</td>
<td>5, 10mg</td>
<td>$5Kmart, CrossOver</td>
</tr>
</tbody>
</table>

#### NonDihydropyridines

<table>
<thead>
<tr>
<th>Name</th>
<th>Dosage</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardizem LA</td>
<td>120, 180, 240, 300, 360mg</td>
<td>CrossOver</td>
</tr>
<tr>
<td>Procardia</td>
<td>30, 60, 90mg</td>
<td>CrossOver</td>
</tr>
</tbody>
</table>
Verapamil 80mg, 120mg $4retail

**Diuretics**

Bumetanide 0.5, 1mg $4retail
Furosemide 20, 40, 80mg $4retail, CrossOver (40mg)
HCTZ 12.5, 25, 50mg $4retail
Indapamide 1.25, 2.5mg $4retail
Spironolactone 25mg $4retail, CrossOver

**Other**

Clonidine 0.1, 0.2mg $4retail
Hydralazine 10, 25mg $4retail
Methyldopa 250mg $4retail

Lanoxin 125mcg CrossOver
Rythmol SR 225, 325mg CrossOver
Tevturna 150mg CrossOver

**Combinations**

Accuretic 10/12.5, 20/12.5, 20/25mg
Atacand HCT 16/12.5, 32/12.5, 32/25mg CrossOver
Exforge 5/160, 5/320, 10/160mg CrossOver
Teveten/HCT 600/12.5mg CrossOver
Tevturna HCT 150/12.5mg CrossOver
References

1. In the Clinic: Hypertension, Annals of Internal Medicine, December 2, 2008 149:ITC6-1