Hypertension and Heart Disease

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The “Silent Killer”

- High blood pressure, also known as HBP or hypertension, is a widely misunderstood medical condition.
- It's sometimes called "the silent killer" because HBP has no symptoms, so you may not be aware that it's damaging your arteries, heart and other organs.
No Boundaries

• Some people think that those with hypertension are tense, nervous or hyperactive, but hypertension has nothing to do with personality traits

• You can be a calm, relaxed person and still have HBP
What’s causing my HBP?

• In as many as 95% of reported high blood pressure cases in the U.S., the underlying cause cannot be determined.

• This type of high blood pressure is called essential hypertension.
Factors that play a role

- Smoking
- Being overweight or obese
- Lack of physical activity
- Too much salt in the diet
- Too much alcohol consumption (more than 1 to 2 drinks per day)
- Stress
- Older age
- Genetics
- Family history of high blood pressure
- Chronic kidney disease
- Adrenal and thyroid disorders
What’s in a number?

• Blood pressure is typically recorded as two numbers, written as a ratio like this:

\[ \frac{117}{76} \text{ mm Hg} \]

• Read as "117 over 76 millimeters of mercury"
Systolic vs. Diastolic

Systolic
The top number, which is also the higher of the two numbers, measures the pressure in the arteries when the heart beats – when the heart muscle contracts

Diastolic
The bottom number, which is also the lower of the two numbers, measures the pressure in the arteries between heartbeats – when the heart muscle is resting between beats and refilling with blood
# AHA BP Categories

<table>
<thead>
<tr>
<th>Blood Pressure Category</th>
<th>Systolic mm Hg (upper #)</th>
<th>Diastolic mm Hg (lower #)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Normal</td>
<td>less than 120</td>
<td>and</td>
</tr>
<tr>
<td>Pre-hypertension</td>
<td>120 – 139</td>
<td>or</td>
</tr>
<tr>
<td>High Blood Pressure (Hypertension)</td>
<td>140 – 159</td>
<td>or</td>
</tr>
<tr>
<td>Stage 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>High Blood Pressure (Hypertension)</td>
<td>160 or higher</td>
<td>or</td>
</tr>
<tr>
<td>Stage 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertensive Crisis (Emergency care</td>
<td>Higher than 180</td>
<td>or</td>
</tr>
<tr>
<td>needed)</td>
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<td></td>
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</tbody>
</table>
Keeping a Healthy Range

By keeping your blood pressure in the healthy range, you are:

• Reducing your risk of the walls of your blood vessels from becoming overstretched and injured
• Reducing your risk of having a heart attack or stroke; and of developing heart failure, kidney failure and peripheral vascular disease
• Protecting your entire body so that your tissue receives regular supplies of blood that is rich in the oxygen it needs
HBP and Heart Damage

• As with any muscle that is worked hard, the heart muscle becomes enlarged with HBP

• Causes stiffening and impairs the action of the heart. The heart strains as it is forced to work harder and harder to pump blood, and it eventually weakens and fails

• This strain on the heart increases a person's risk for heart failure, heart attack and sudden cardiac death
HBP and Artery Damage

• Constant high blood pressure hardens and thickens artery walls – a condition called atherosclerosis
• May lead to a stroke or heart attack
• Arteries may also become more susceptible to plaque buildup, narrowing the artery and reducing blood flow and thus further increasing pressure
Decreased Blood Flow

- When the thickening occurs in the arteries supplying the heart, coronary artery disease results
- Causes chest pain, irregular heartbeat (arrhythmia) and heart attack
- Aneurysm, a bulge in a weak spot in the arterial wall, is another complication of hypertension that can lead to heart attack and stroke
Medication for treating HBP

Individuals with HBP can often be treated with a variety of drugs, including:

- diuretics
- beta-blockers
- ACE inhibitors
- calcium channel blockers
- angiotensin II receptor blockers
- vasodilators
Lifestyle changes to treat HBP

In addition to medication, your doctor may recommend Lifestyle changes including:

• **Diet:** Limit total daily calories to lose weight if necessary, and limit intake of foods that contain refined sugar, saturated fats, salt, and cholesterol

• **Monitoring your weight:** Daily recording of weight and increasing your activity level

• **Avoiding tobacco products and alcohol**

• **Regular medical checkups**
Complementary Therapies

- Meditation and other relaxation techniques can help lower blood pressure
- Yoga, tai chi, and breathing exercises can also help reduce blood pressure
- It’s best when these are combined with changes in diet and exercise.
- Tell your doctor if you are taking any herbal remedies – some of these preparations can actually raise blood pressure or interact with your blood pressure medications
Avoiding these consequences

In some cases, when HBP leads to heart disease, surgery is needed. This could include:

- Coronary bypass grafting (to bypass clogged heart arteries)
- Mitral valve repair (to repair a leaky valve caused by cardiomyopathy or ischemia)
- Vascular surgeries (to repair defects of the blood vessels)
The bottom line…
be heart smart

Hypertension often lasts a lifetime, so following a careful management plan is essential to a balanced life. Keeping your blood pressure under control can lower your risk of heart disease, stroke, and kidney failure and can improve your quality of life.
Questions?