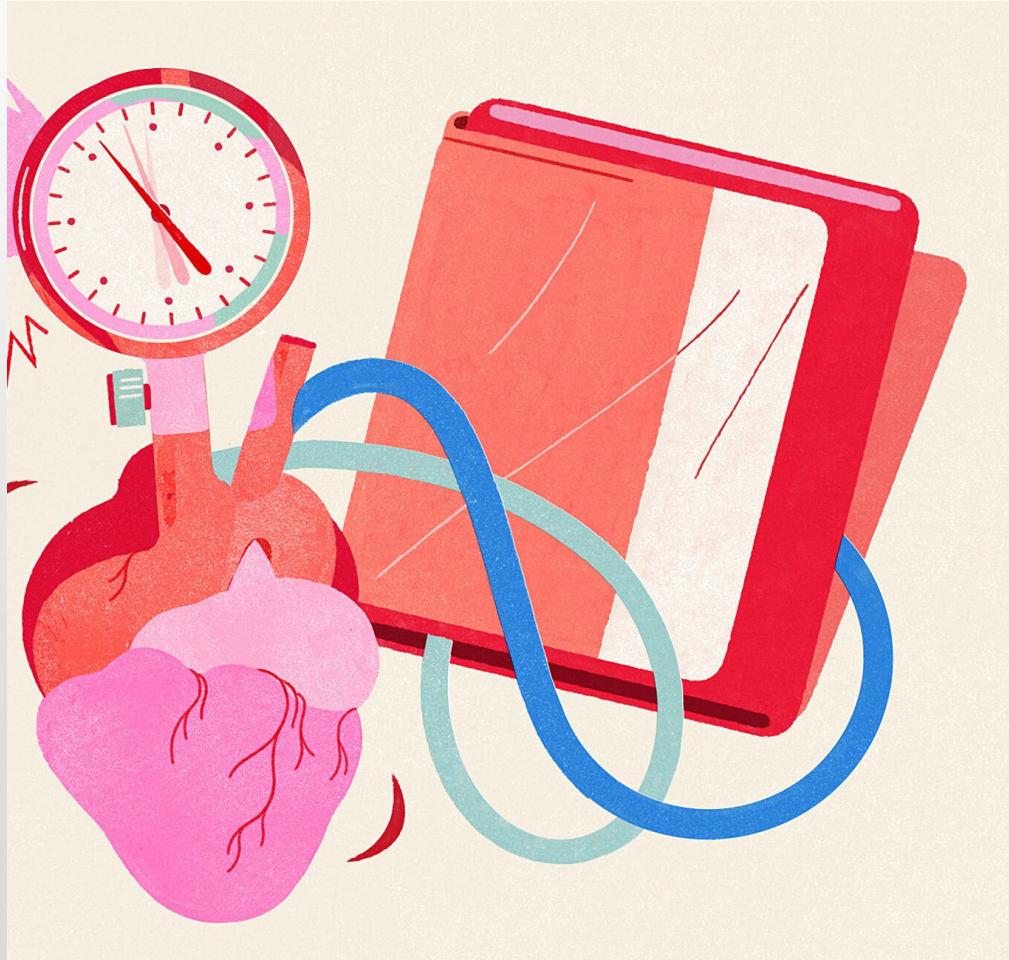


Blood Pressure (BP) Basics

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High Blood Pressure - The “Silent Killer”



- It affects almost half of all adults in the U.S.
- Patients rarely experience the symptoms of high BP until it's too late.
- Once symptoms present themselves, the damage has already been done.
- Prolonged high blood pressure increases your risk of heart attack, stroke, and heart failure.
- It's important to get your BP checked routinely to catch any changes.

How Does it Work?

When your heart beats, it creates pressure inside your arterial walls. In between beats that pressure decreases/relaxes.

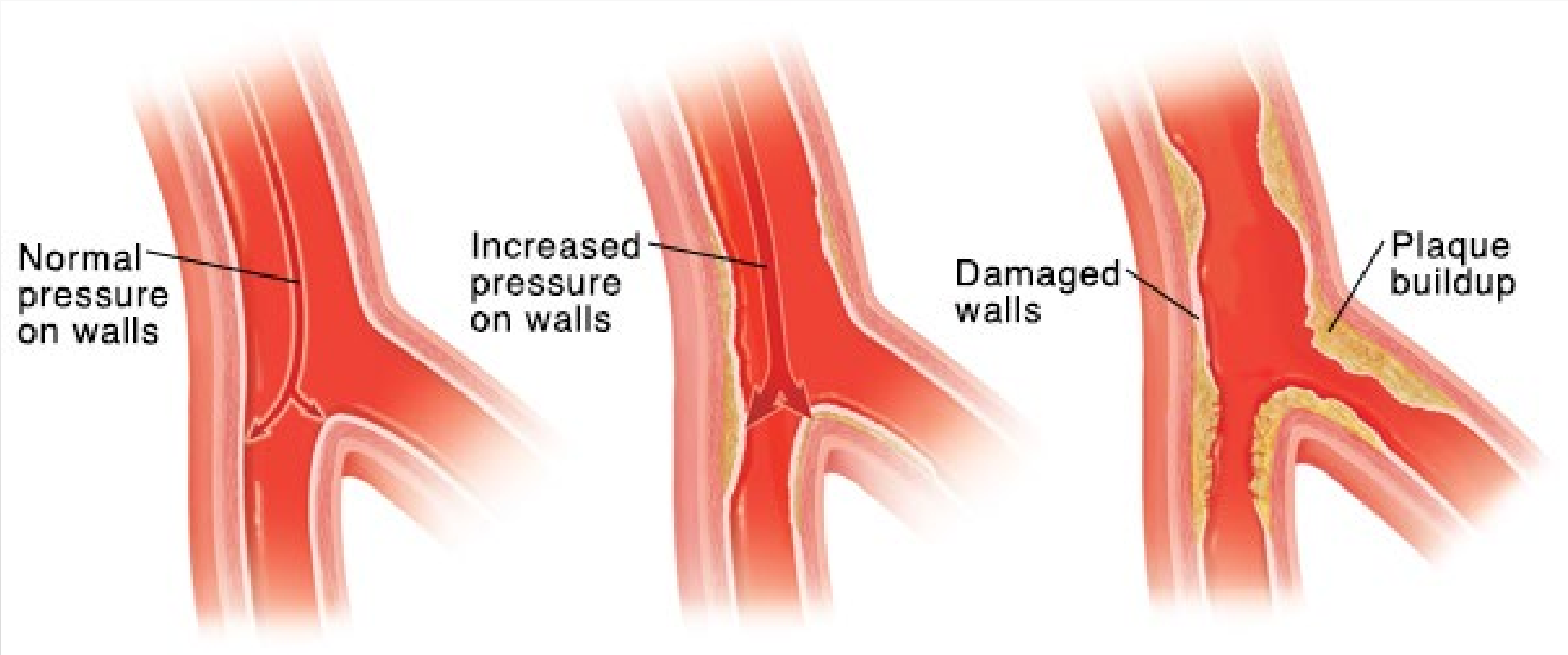


If there is damage to the artery walls, it causes them to narrow or become rigid.



Once that damage has happened, it causes resistance to the blood flow and your heart works harder and beats faster to pump blood throughout your body. This increases the workload of your heart which can result in chronic high blood pressure or hypertension.

Blood pressure is the force of blood pushing against your arterial walls.



Risk Factors for Hypertension

Increasing Age

Alcohol Use

Family History of
High BP

Race – African
Americans are at a
higher risk

Sedentary Lifestyle

High Salt Diet

Smoking

Stress

Overweight

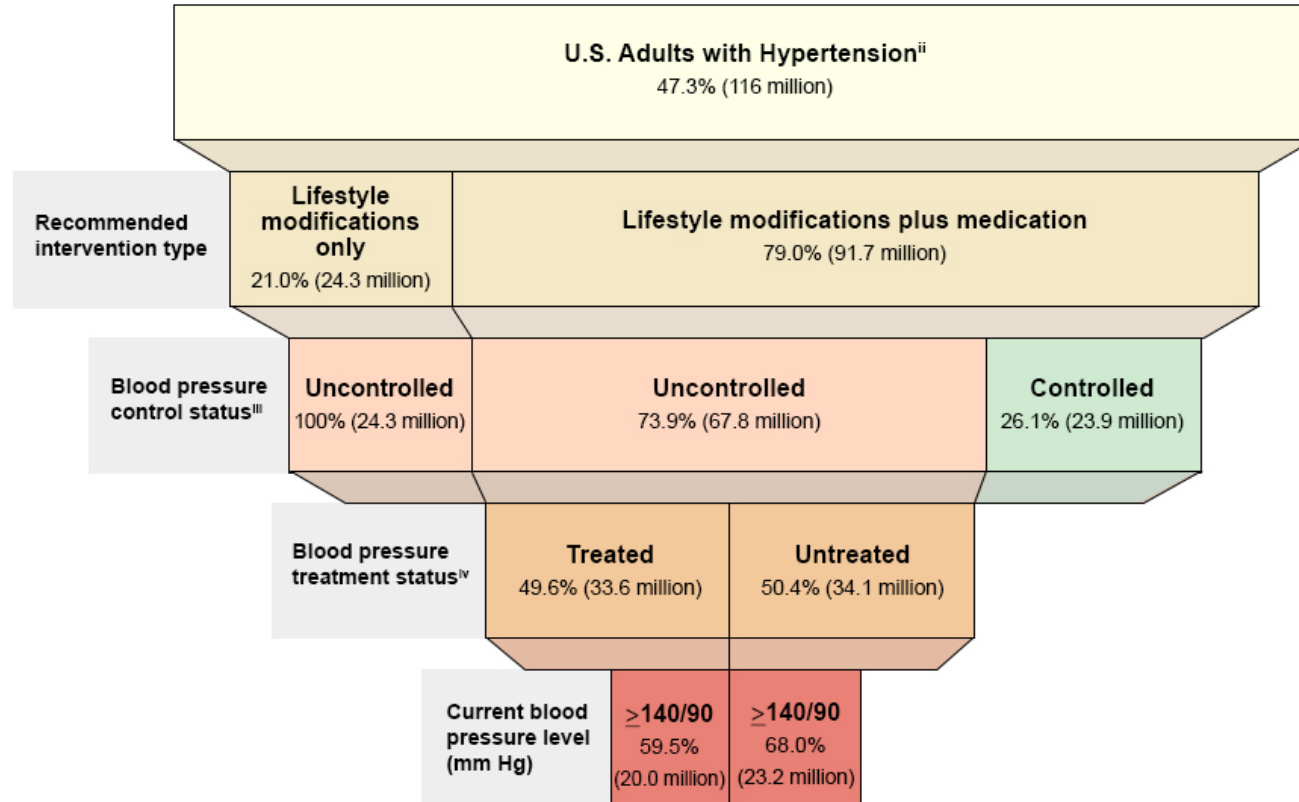
Existing Medical
Conditions Such As:
Diabetes, Gout,
Kidney Disease,
Depression



The CDC states there are 1.1 million visits to the ER each year for high blood pressure.

Estimated Hypertension Prevalence, Treatment, and Control Among U.S. Adultsⁱ

Applying the Criteria From the American College of Cardiology and American Heart Association's (ACC/AHA) 2017 Hypertension Clinical Practice Guideline—NHANES 2015–2018



Data Source: National Center for Health Statistics, Centers for Disease Control and Prevention. National Health and Nutrition Examination Survey (NHANES), 2015–2018. Definitions: ACC/AHA criteria adapted from Ritchey MD, Gillespie C, Wozniak G, et al. Potential need for expanded pharmacologic treatment and lifestyle modification services under the 2017 ACC/AHA Hypertension Guideline. *J Clin Hypertens.* 2018;20:1377–1391. <https://doi.org/10.1111/jch.13364>

ⁱ Among adults aged 18 years and older; estimates may not equal 100% due to rounding.

ⁱⁱ Blood pressure $\geq 130/80$ mm Hg or currently using prescription medication to lower blood pressure.

ⁱⁱⁱ Controlled is defined as having a blood pressure $<130/80$ mm Hg.

^{iv} Treatment status refers to current use of prescription medication to lower blood pressure.

BP Stats

What do the numbers mean?



- BP is measured by two numbers:
 - Systolic (top): when the heart contracts
 - Diastolic (bottom): when the heart relaxes

- Normal BP: Less than 120/80
- Elevated BP: 120-129/80
- Stage 1 High BP: 130-139/80-89
- Stage 2 High BP: 140 or higher/90 or higher
- Hypertensive Crisis: 180 or higher/120 or higher

Hypertensive Crisis

▪ Causes:

- Forgetting to take your BP meds
- Abruptly stopping your daily prescribed cardiac meds
- Medication interactions
- Tumor(s) of the adrenal glands

▪ Symptoms

- Anxiety
- Blurred vision
- Chest pain
- Confusion
- Nausea
- Vomiting
- Unresponsiveness
- Seizures
- Severe headache
- Shortness of breath

Hypertensive Crisis

- If you have a blood pressure reading of **180/120** or higher, you are experiencing:
 - Chest pain
 - Shortness of breath
 - Stroke symptoms such as:
 - Numbness
 - Tingling
 - Trouble speaking
 - Changes in vision
- You need to call **9-1-1** or seek emergency medical services.



Don't Panic!

- Having one high blood pressure reading does not mean you have chronic high blood pressure.
- Your healthcare provider would need multiple readings over days or weeks to accurately diagnose hypertension and then discuss various treatment options.



Treatment Options

Lifestyle Changes:

Low-fat, low sodium diet with whole grains, vegetables, and fruits

Regular exercise

Maintaining a healthy weight

Reducing or eliminating alcohol and caffeine

Not smoking

If lifestyle changes don't lower your blood pressure, your healthcare provider can discuss medications to treat you.

Medicinal Treatment Options

Oral medications such as:

- **Thiazide Diuretics**
 - These help the body get rid of extra salt to help control BP.
- **ACE Inhibitors (Angiotensin-Converting Enzyme)**
 - Angiotensin causes arteries to narrow, thus this medication helps prevent the body from making this chemical, which leads to the blood vessels to relax.
- **Angiotensin II Receptor Blockers**
 - This med blocks the effect of angiotensin and its reaction it has on blood vessels, which prevents constriction.
- **Calcium Channel Blockers**
 - Calcium causes the smooth muscle cells in the heart to contract stronger, so this medication blocks that resulting in reduced contraction force.
- **Beta Blockers**
 - These meds reduce the force of contractions in the heart, as well as causing the heart to beat slower.



If you are taking daily medications to treat your BP, you should *not* stop taking them without talking to your prescribing doctor. If you are experiencing side effects, you should also contact your doctor for an evaluation.

Make sure you are checking your blood pressure periodically to help avoid missing any unseen damage that may be happening to your cardiovascular system.

References:

- www.uhhospitals.org
- www.heart.org
- www.mayoclinic.org