



IMPROVING BLOOD PRESSURE CONTROL

Accurate Blood Pressure Self-Measurement:
An Important First Step in Controlling Blood Pressure

Heart Disease, Stroke, and Diabetes Prevention Program
Community Based Prevention Section



Introductions

Share within your group...

- your name
- what you hope to accomplish from today's event
- one of your hobbies

Objectives

- Understand what is meant by blood pressure
- Understand why blood pressure control is important
- Learn what the blood pressure numbers mean
- Learn how to check blood pressure accurately
- Learn how to support self-management and self-measurement of blood pressure

Frequently Used Words

- **Cardiovascular Disease (CVD)**

Includes any disorders that affect the circulatory system. This includes coronary heart disease, congestive heart failure, and stroke.

- **Heart Disease**

Includes any condition that impairs the structure or function of the heart (i.e., atherosclerotic and hypertensive diseases, congenital heart disease, rheumatic heart disease, and cardiomyopathies).

Frequently Used Words

● Stroke

Also called cerebrovascular disease or a brain attack, is the interruption of blood supply to the brain.

Can lead to some level of cognitive or physical disability if not fatal.

● Hypertension

Also known as elevated or high blood pressure, is a chronic condition.

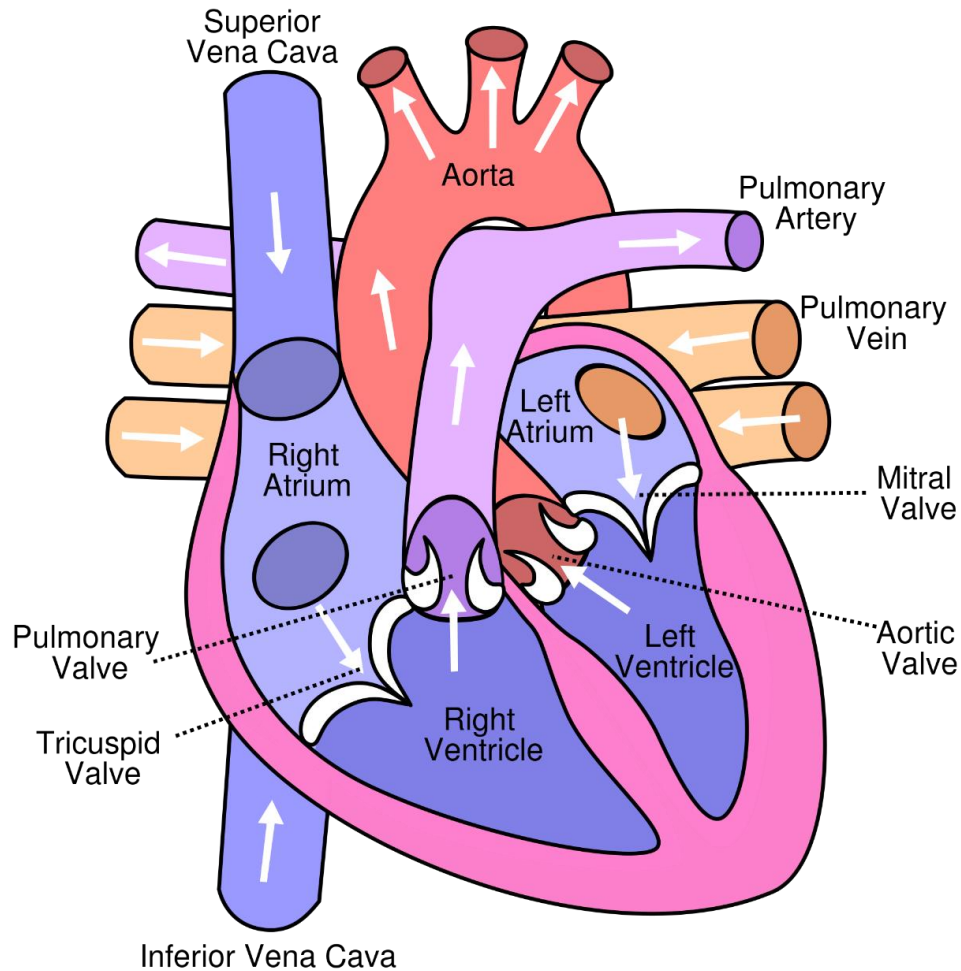
If left uncontrolled, **it can lead to damage of the heart, the brain, and kidneys.**



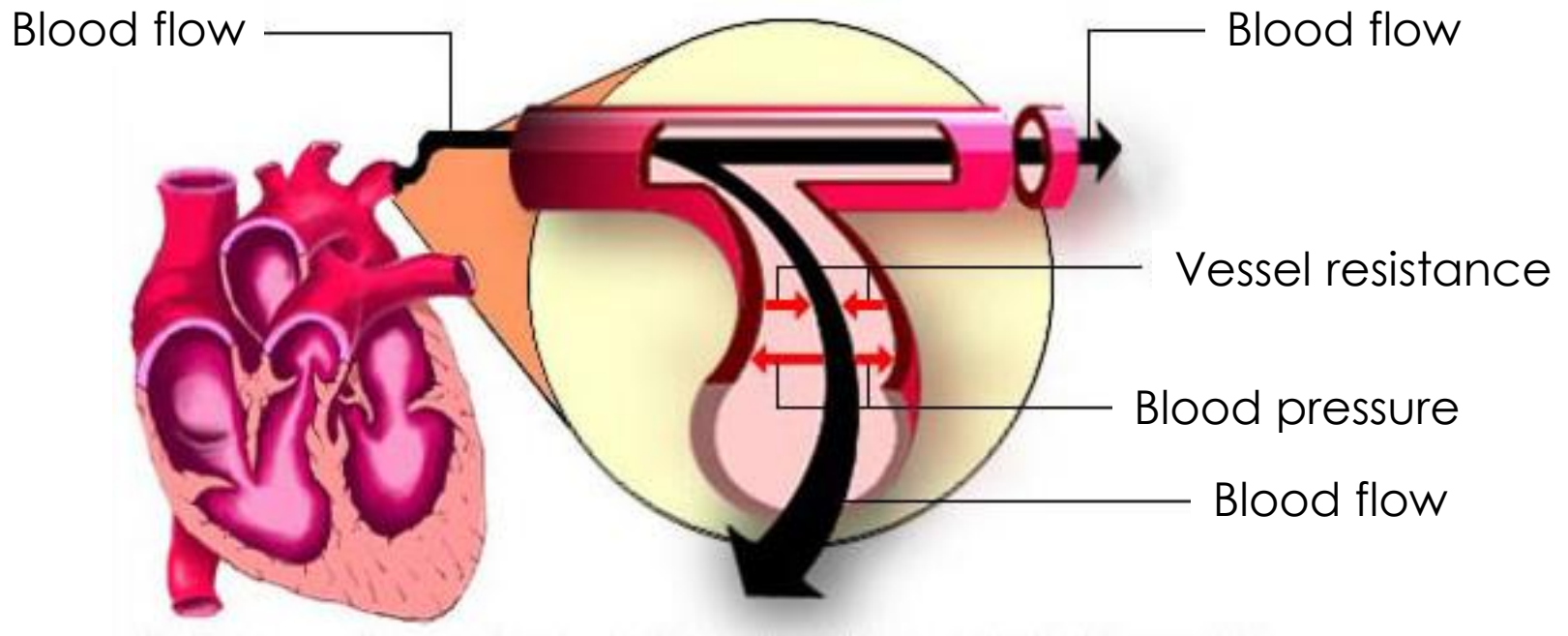
Interactive Activity # 1

- Get a partner.
- Introduce yourself to each other.
- Take turns taking your own blood pressure and recording your numbers.
- Observe your partner.
- Share your observations, thoughts, and/or any questions you want to ask.

How The Heart Works



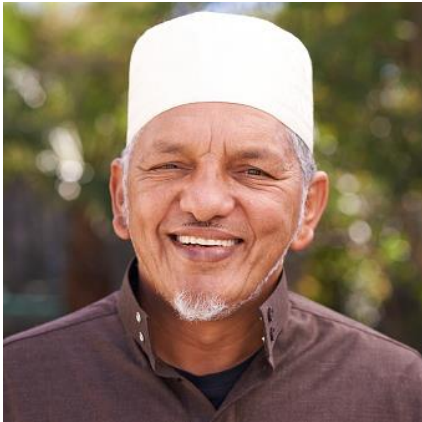
What Is Blood Pressure?



Blood Pressure Levels For Adults

BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
<p>NORMAL Excellent! This is right where it needs to be as a normal blood pressure.</p>	LESS THAN 120	and	LESS THAN 80
<p>ELEVATED This is getting up there. Begin lifestyle changes that keep your blood pressure from developing into or becoming hypertension.</p>	120–129	and	LESS THAN 80
<p>HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1 Your blood pressure is high. You need to see your medical provider.</p>	130–139	or	80–89
<p>HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2 Your blood pressure is very high. Seek medical care now.</p>	140 OR HIGHER	or	90 OR HIGHER
<p>HYPERTENSIVE CRISIS (Emergency Care Needed) Your blood pressure is dangerously high. Call 911 now.</p>	HIGHER THAN 180	and/or	HIGHER THAN 120

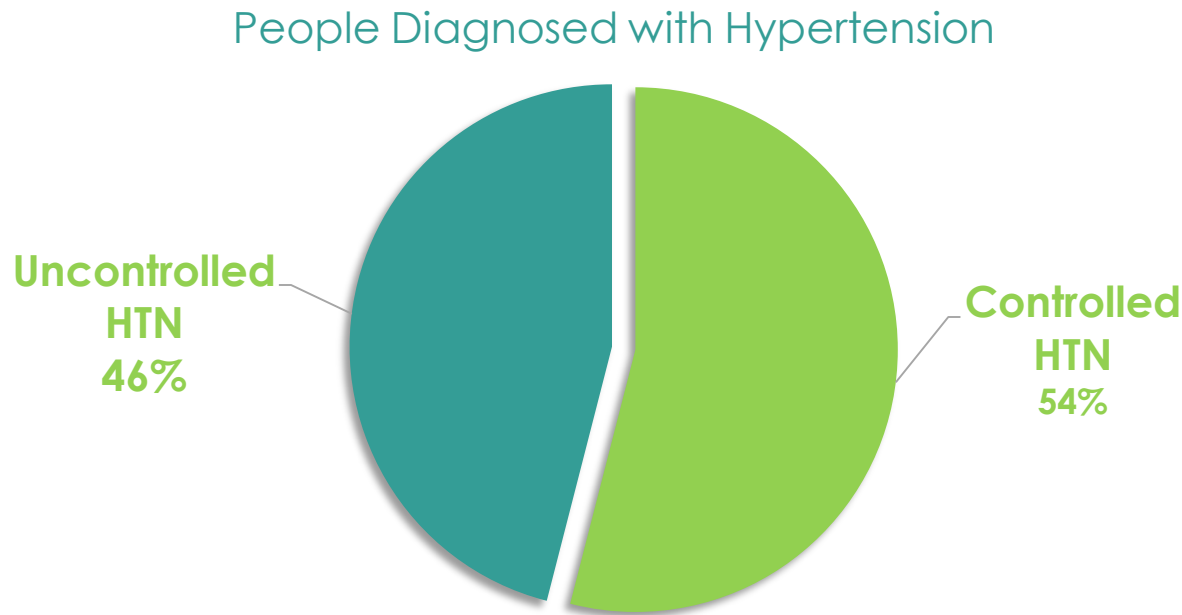
Facts About High Blood Pressure



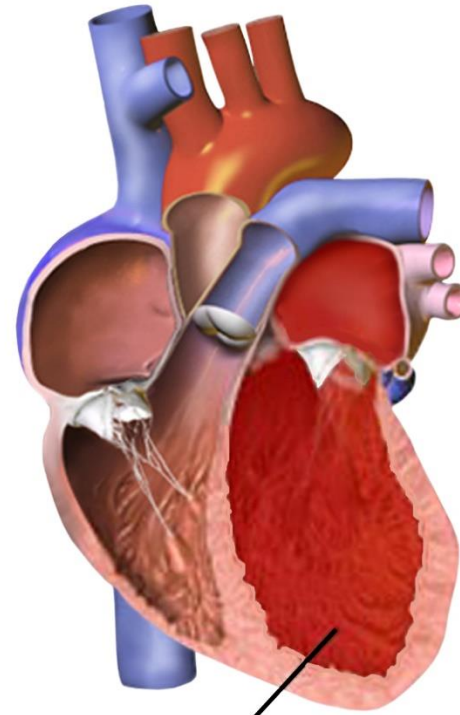
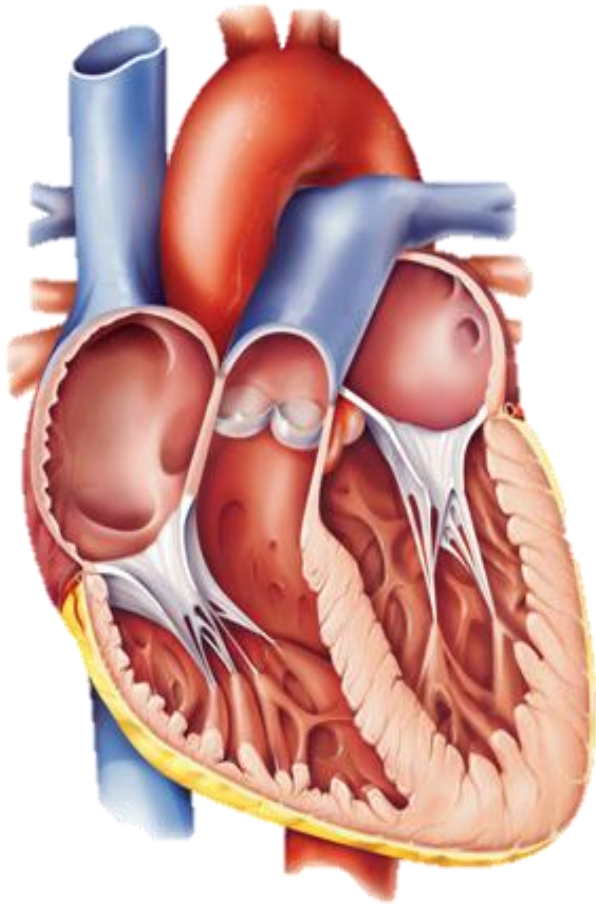
- About half of adults (about 85.7 million people) in the US has high blood pressure (HBP).
- People with HBP may not know, because they do not feel bad or have any symptoms.
- It can lead to many chronic diseases (i.e., heart disease, stroke, chronic kidney disease).

Hypertension: A Major Risk Factor

The Centers for Disease Control and Prevention (CDC) has identified uncontrolled hypertension as a major modifiable risk factor for cardiovascular disease (CVD), stroke, and chronic kidney disease (CKD).

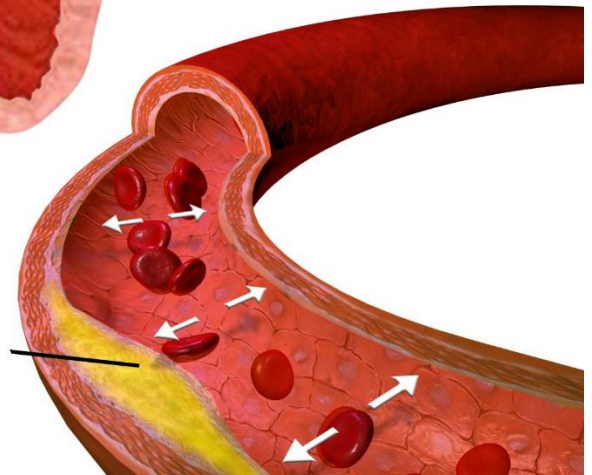


Normal Healthy Heart



Enlarged Heart
(heart failure)

High Blood
Pressure



Atherosclerosis

What Does High Blood Pressure do to our Bodies?

Risk Factors for Heart Disease and Stroke

There are many things you can do to improve your health.

Non-modifiable

- Age
- Family-History or Genetics

Modifiable

- **Hypertension**
- High Blood Cholesterol
- Diabetes
- Difficulty Managing Healthy Weight
- Smoking
- Physical Inactivity
- Poor Nutrition

Additional Risk Factors for High Blood Pressure

Socially Influenced

- Lower education
- Lower socioeconomic status
- Psychosocial stressors

Associated

- Sugar-Sweetened Beverage Intake
- Bisphenol A (BPA)

Other Conditions

- Atrial Fibrillation (AFib)
- Obstructive Sleep Apnea

Unnatural Causes Video Clip



Who Is At Higher Risk?

- People who have a **family history** of high blood pressure
- People who **are 35 years or older**
- **People of some ethnic/racial groups**, including African Americans, Native Americans, Alaskan Natives, and Hispanics
- People who **are not at a healthy weight**
- People who **use tobacco**
- People who **eat foods with too much salt**
- People who **do not eat enough fruits and vegetables**
- People who drink **too much alcohol**
- Women who **use birth control pills (estrogen)**
- People who **do not exercise**
- Women who **are pregnant**

2015 Washington State 10 Leading Causes of Death

**Heart Disease and Stroke combined are the
#1 cause of death in Washington State**

1	Cancer	23.2%	6	Stroke	4.9%
2	Heart Disease	20.2%	7	Diabetes Mellitus	3.3%
3	Alzheimer's	6.4%	8	Suicide	2.1%
4	Unintentional Injury	5.8%	9	Liver Disease	1.9%
5	COPD	5.8%	10	Flu & Pneumonia	1.6%



Signs of a Heart Attack

- Chest pressure or tightness
- Pain in the chest, neck, back, arms, or jaw
- Palpitations, fluttering in the chest, abnormal heartbeat
- Anxiety
- Fatigue
- Shortness of breath
- Lightheadedness
- Sweating (cold sweats)
- Nausea, vomiting, indigestion, gas-like pain



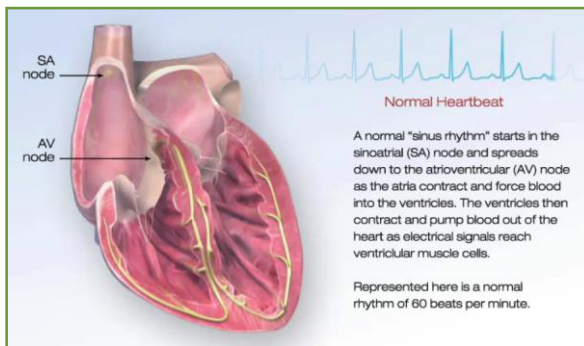
Know About AFib: *Learn AFib by Heart*



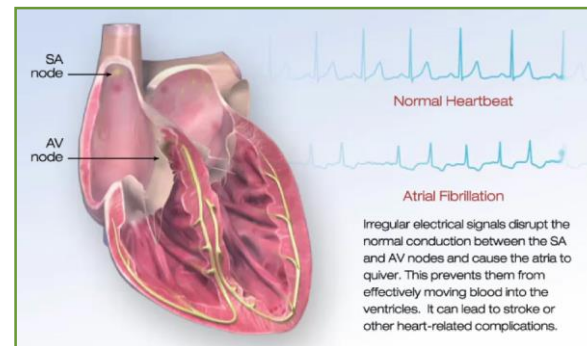
- AFib = **atrial fibrillation**
- Knowing about AFib can help you act and adapt to reduce stroke risk

What is Atrial Fibrillation?

- Also known as AFib or AF
- Most common type of irregular heartbeat
- Instead of beating in a normal pattern, the upper heart valves “quiver” or “flutter”
- Beat is irregular and too fast
- Blood flow slows, which can cause blood clots
- Risk for stroke is five times higher



Watch a Normal Heartbeat



Watch Atrial Fibrillation

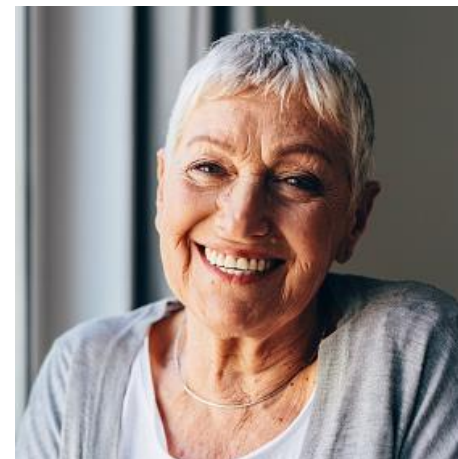
What Does AFib Feel Like?



“I was nauseated, light-headed and weak. I had a really fast heartbeat and felt like I was gasping for air.”



“I had no symptoms at all. I discovered my AF at a regular check-up. I’m glad we found it early.”



“My heart flip-flops, skips beats, and feels like it’s banging against my chest wall, especially if I’m carrying stuff up my stairs or bending down.”

What Are Other Symptoms of AFib?

- General fatigue
- Rapid and irregular heartbeat
- Fluttering or “thumping” in the chest
- Dizziness
- Shortness of breath and anxiety
- Weakness
- Faintness or confusion
- Fatigue when exercising
- Sweating
- Chest pain or pressure

Some people never have symptoms, and they are diagnosed by a physical exam and an EKG/ECG.



Chest pain or pressure is a medical emergency.

It may be a heart attack.


Call 9-1-1 immediately.



Why Do People Develop AFib?

Possible risk factors:

- Advanced age
- Heart disease, prior heart attack, heart valve and/or other chronic heart-related problems
- **High blood pressure**
- Diabetes and other chronic medical conditions
- Excessive alcohol drinking
- Smoking
- Obesity
- Sleep apnea
- Family history



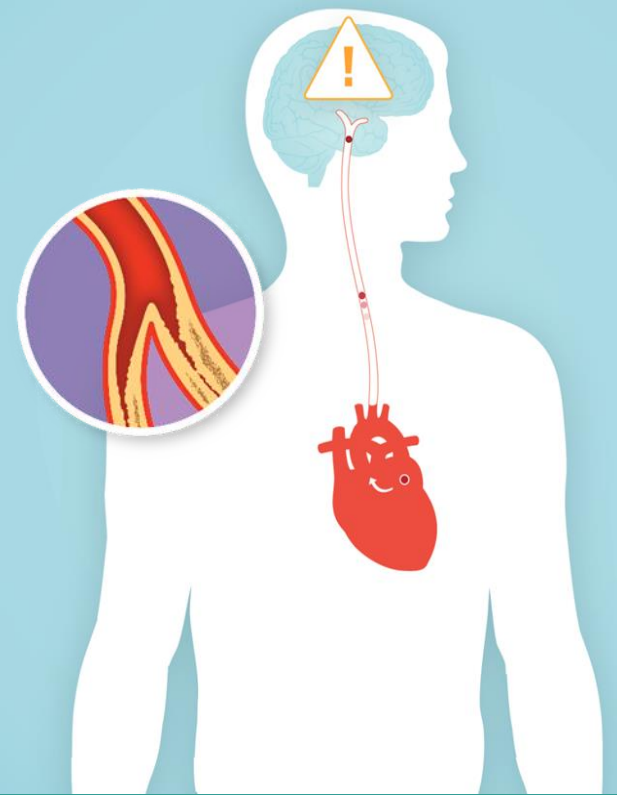
5x increased
risk of
↑ STROKE

AFib Increases Stroke Risk

- AFib creates poor blood flow, which can lead to blood clots and stroke.
- Not only does AFib increase your risk of stroke, those strokes correlated with AFib are often very serious or even lethal.

What is a Stroke?

- Stroke is caused by interruption of blood supply to the brain
- In the most common kind of stroke, a blood vessel (artery) carrying blood and oxygen (nutrients) to the brain is blocked by a clot or fatty plaque or bursts.
- When the part of the brain affected by the diseased artery cannot get enough blood and oxygen, the brain cells at that part of the brain die, causing a stroke.



**Stroke is a
medical
emergency.**

**Call 9-1-1
immediately.**



Signs & Symptoms of a Stroke

- Sudden **numbness** of arm, face, or leg
- Sudden **confusion**, trouble speaking, or understanding
- Sudden **trouble seeing**
- Sudden **trouble walking**
- **Severe headache**

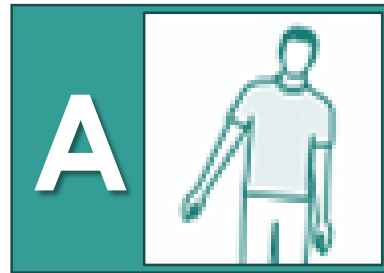
F.A.S.T.

- F.A.S.T. is an easy way to remember the sudden signs of stroke.
- When you can spot the signs, you'll know that you need to call 9-1-1 for help right away. If you **think** the person is having a stroke, **call 9-1-1 immediately!**



Face Drooping

Does one side of the face droop or is it numb? Ask the person to smile. Is the person's smile uneven?



Arm Weakness

Is one arm weak or numb? Ask the person to raise both arms. Does one arm drift downward?



Speech Difficulty

Is speech slurred or hard to understand? Ask the person to repeat a simple sentence, like "The sky is blue." Is the sentence repeated correctly?



Time to call 9-1-1

If you see any of these signs, even if the symptoms go away, call 9-1-1. Check the time so you'll know when the first symptoms appeared.

Benefits of Supporting Blood Pressure Measurement

- American Heart Association reports that blood pressure measurements are one of the most **inaccurately performed** measurement in health care.
- Measuring blood pressure (BP) correctly is the **most effective tool** in helping a person self-manage their blood pressure.
- The Care Coordinator (CC), Community Health Advocate (CHA), Community Health Worker (CHW), Community Health Representative (CHR), Health Minister (HM), Peer Supporter (PS), or any Non-Physician Care Team member can **help by teaching people how to correctly use a home BP Monitor.**

CHW Blood Pressure Guidelines for Next Steps

CHW GUIDELINES	ACTION STEP	Blood Pressure Category	Systolic mm Hg (upper #)	Diastolic mm Hg (lower #)
Excellent BP!	Continue lifestyle modifications.	Normal	< 120	and < 80
Document and/or call supervisor	Lifestyle modifications to prevent development of HBP.	Elevated	120 – 129	or < 80
Call supervisor	Medical follow-up needed. See your doctor.	High Blood Pressure (Hypertension) Stage 1	130 – 139	or 80 – 89
Call supervisor	Medical follow-up needed. Call provider for appointment.	High Blood Pressure (Hypertension) Stage 2	140 +	or 90 +
CALL 911 THEN call supervisor!	Emergency care needed. CALL 911!	Hypertensive Crisis	180 +	or 120 +

CHW Blood Pressure Guidelines for Next Steps

- **Normal BP:** Blood Pressure (BP) is less than 120 (systolic) and less than 80 (diastolic). Excellent! Continue lifestyle modifications.
- **Elevated:** BP is 120 – 129 (systolic) and less than 80 (diastolic). Document or call supervisor & recommend **lifestyle modifications** to prevent the development of HBP.
- **Hypertension Stage 1:** BP is 130 – 139 (systolic) or 80 – 89 (diastolic). Call supervisor & recommend **medical follow-up with doctor**.
- **Hypertension Stage 2:** BP is 140 or higher (systolic) or 90 or higher (diastolic). Call supervisor & recommend medical follow-up needed. **Call Provider for appointment.**
- **Hypertensive Crisis:** BP is 180 or higher (systolic) or higher than 120 (diastolic). Call supervisor after calling 911. **Emergency care needed. Call 911!**

Lifestyle Modification

American Heart Association's Life's Simple 7™

- Manage Blood Pressure
- Control Cholesterol
- Reduce Blood Sugar
- Get Active
- Eat Better
- Lose Weight
- Stop Smoking



Accurately Measuring Blood Pressure

Manual Method For Measuring Blood Pressure

Before You Start



Do not drink coffee for at least 30 minutes before measuring.



Do not use tobacco products for at least 30 minutes before measuring.



Do not exercise or eat a large meal two hours before measuring.



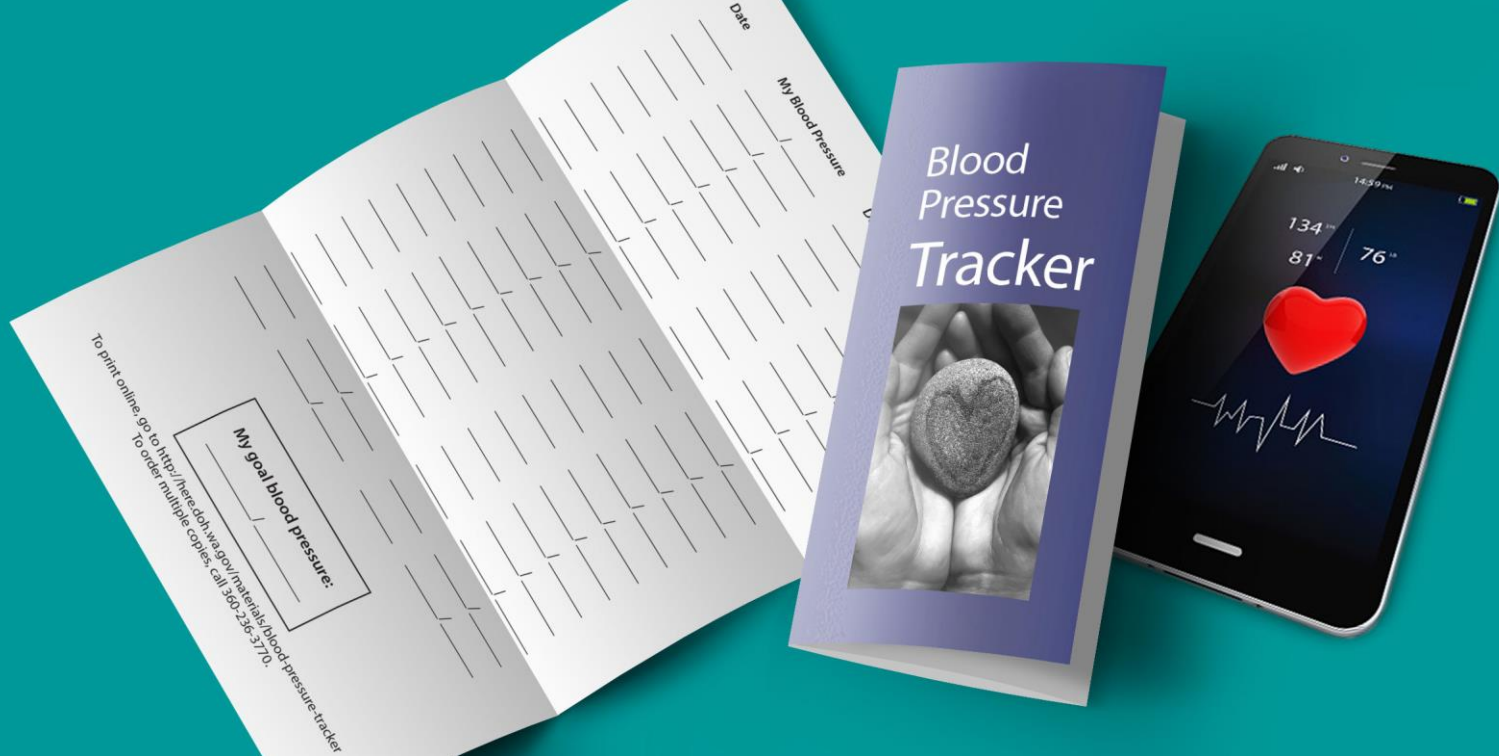
Use the rest room. A full bladder can affect the reading.

Seating Posture and Proper Cuff Placement

- Sit quietly in a chair for 5 minutes before measuring
- Keep your back supported and feet flat on the ground. Do not cross legs.
- Remove tight-fitting clothing from your upper arm. A bare arm is best.
- The bottom of the fitted and correctly positioned blood pressure cuff should be about a half inch above your elbow. Arrow over the brachial artery

Taking Your Blood Pressure

- Support your arm at the level of your heart on a table or high armrest.
- Stay in a seated position and avoid talking when taking a measurement.
- Press the **START** button to start the monitor.
- The cuff will inflate and feel tight for a few seconds, then it will relax and display the reading.
- **RECORD THE READING**
- Press the **STOP** button to clear the display.



Tracking Blood Pressure Measurement

- Smartphone Apps for Tracking Blood Pressure
- Patient Portal
- American Heart Association's Check. Change. Control. Tracker
<https://www.ccctracker.com/>
- Paper trackers

Interactive Activity #2

- What do you need to do to improve from earlier?
- Partner up again and measure blood pressure.
- Take turns: One person observing, one taking the measurement.
- Did your numbers change?

References

- 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASH/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines
- Recommendations for blood pressure measurement in humans and experimental animals, part 1: blood pressure measurement in humans: a statement for professionals from the Subcommittee of Professional and Public Education of the American Heart Association Council on High Blood Pressure Research. *Hypertension*. 2005
- Heart Disease and Stroke Statistics—2019 Update: A Report From the American Heart Association
- 2018 AHA/ACC/AACVPR/AAPA/ABC/ACPM/ADA/AGS/APhA/ASPC/NLA/PCNA Guideline on the Management of Blood Cholesterol

Resources

- Million Hearts: millionhearts.hhs.gov
- American Heart Association: heart.org
- Washington State Department of Health. How to Check Your Blood Pressure. Available at: <https://www.doh.wa.gov/Publications/>
- Unnatural Causes Video clip: youtube.com/watch?v=bXBkOYMCARo
- Blood Pressure Demo "MILLION HEARTS INITIATIVE" by the UCD School of Pharmacy: youtube.com/watch?v=Blqei6_s6J0
- 2018 Washington State Health Assessment – Coronary Heart Disease and Hypertension Chapter: <https://www.doh.wa.gov/Portals/1/Documents/1000/SHA-CoronaryHeartDiseaseandHypertension.pdf>

Contact Information

Washington State Department of Health
Heart Disease, Stroke, and Diabetes Prevention Team

Cheryl Farmer, MD

*Heart Disease, Stroke and
Diabetes Prevention Manager*

Cheryl.Farmer@doh.wa.gov

360-236-3770

Marissa Floyd

Cross-Program Coordinator

Marissa.Floyd@doh.wa.gov

360-236-3677

Alexandro Pow Sang

*Diabetes
Prevention Consultant*

Alexandro.PowSang@doh.wa.gov

360-236-3750

Sara Eve Sarliker

*Heart Disease and Stroke
Prevention Consultant*

SaraEve.Sarliker@doh.wa.gov

360-236-3799

