

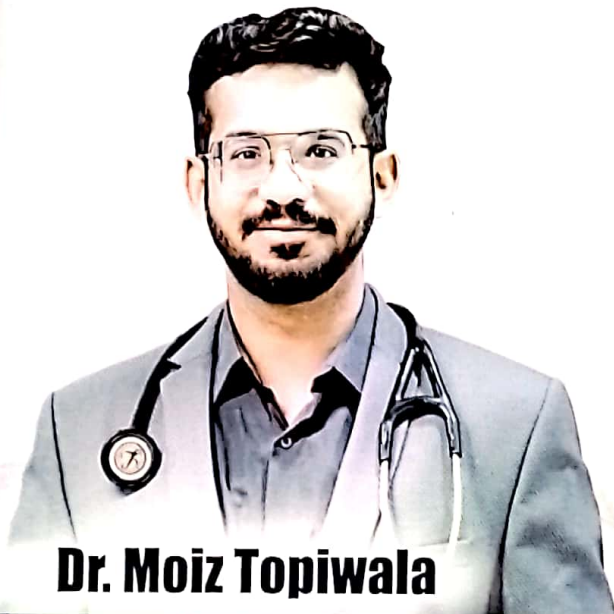


YOUR GUIDE TO MAINTAIN HEALTHY BLOOD PRESSURE

what do **BLOOD** Pressure Readings tell ?



Medication with
Lifestyle Modification:
Key to maintain balance



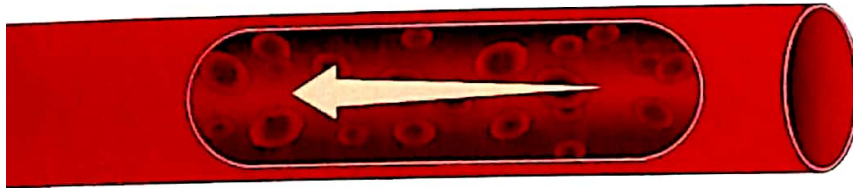
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What is Blood Pressure?

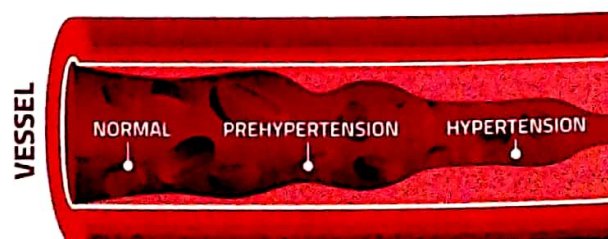
- ➔ Blood pressure is the pressure of blood pushing against the walls of your arteries.
- ➔ Arteries carry blood from your heart to other parts of your body.
- ➔ Your blood pressure normally rises and falls throughout the day.



Understanding Blood Pressure

- ➔ The first number, called **systolic blood pressure**, measures the pressure in your arteries when your **heart beats**.
- ➔ The second number, called **diastolic blood pressure**, measures the pressure in your arteries when your **heart rests** between beats.
- ➔ It is measured in millimeters of mercury (mmHg).
- ➔ Ideal blood pressure is usually considered to be between 90/60 mmHg and 120/80 mmHg.

SYSTOLIC PRESSURE —————> Is measured between when the heart contracts



DIASTOLIC PRESSURE —————> Is measured between beats when the heart relaxes

Blood Pressure Readings

BLOOD PRESSURE CATEGORY	SYSTOLIC mmHg (upper number)	and/or	DIASTOLIC mmHg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120-129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130-139	or	80-89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

Normal

- ➔ Blood pressure numbers of less than **120/80 mmHg** are considered within the normal range.
If your results fall into this category, stick with heart-healthy habits like following a balanced diet and getting regular exercise.

Elevated

- ➔ Elevated blood pressure is when readings consistently range from **120-129 mmHg systolic and less than 80 mmHg diastolic**.
People with elevated blood pressure are likely to develop high blood pressure unless steps are taken to control the condition.



Hypertension Stage 1

- ➔ Hypertension Stage 1 is when blood pressure consistently ranges from **130-139 mmHg systolic or 80-89 mmHg diastolic**. At this stage of high blood pressure, doctors are likely to prescribe lifestyle changes and may consider adding blood pressure medication based on your risk of atherosclerotic cardiovascular disease (ASCVD), such as heart attack or stroke.

Hypertension Stage 2

- ➔ Hypertension Stage 2 is when blood pressure consistently ranges at 140/90 mmHg or higher.
- ➔ At this stage of high blood pressure, doctors are likely to prescribe a combination of blood pressure medications and lifestyle changes.

Hypertensive Crisis

- ➔ This stage of high blood pressure requires medical attention. If your blood pressure readings suddenly exceed 180/120 mmHg, wait for five minutes and then test your blood pressure again. If your readings are still unusually high, contact your doctor immediately. You could be experiencing a hypertensive crisis.



Common Symptoms of Hypertension

- ➔ Hypertension is often known as "**silent killer**". Most people with hypertension are unaware of the problem because it may have no warning signs or symptoms. For this reason, it is essential that blood pressure is measured regularly.

When symptoms occur, it can include the following:



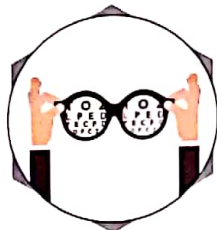
Early Morning Headache



Nosebleeds



Irregular Heart Rhythms



Vision Changes



Buzzing in the Ear

Severe Hypertension can cause:



Fatigue



Nausea & Vomiting



Confusion & Anxiety



Muscle Tremors



Severe Chest Pain

Complications of Hypertension

Heart Attack and Heart Disease

➔ High blood pressure can damage your arteries by making them less elastic, which decreases the flow of blood and oxygen to your heart that leads to heart disease. In addition, decreased blood flow to the heart can cause:

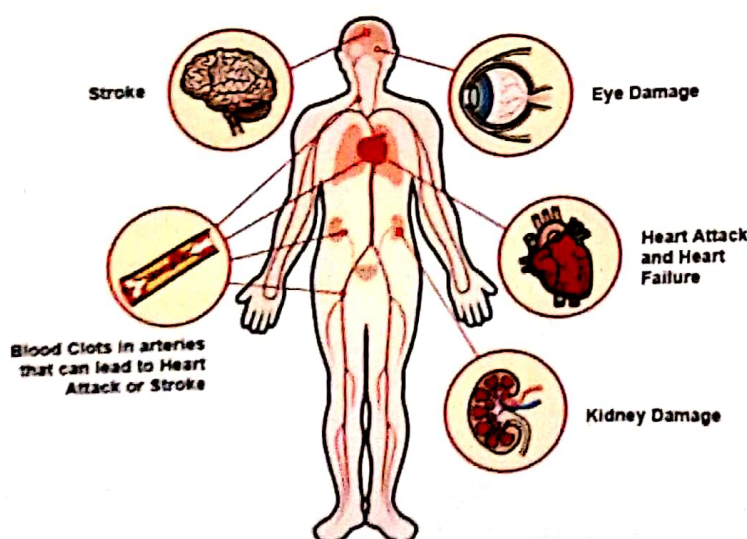
- Chest pain, also called as Angina.
- Heart attack, which happens when the blood supply to your heart is blocked and heart muscle begins to die without enough oxygen. The longer the blood flow is blocked, the greater the damage to the heart.
- Heart failure, a condition when your heart cannot pump enough blood and oxygen to your other organs.

Stroke and Brain Problems

- ➔ High blood pressure can cause the arteries that supply blood and oxygen to the brain to burst or be blocked, causing a stroke. Brain cells die during a stroke because they do not get enough oxygen. Stroke can cause serious disabilities in speech, movement and other basic activities. **It can even lead to death.**
- ➔ Having high blood pressure, especially in midlife, is linked to having poorer cognitive function and dementia later in life.

Kidney Disease

- ➔ Adults with diabetes, high blood pressure, or both have a higher risk of developing chronic kidney disease than those without these conditions.



Prevent High Blood Pressure

Eating a Healthy Diet

- ➔ Cut down on the amount of salt in your food and eat plenty of fruits and vegetables. Salt raises your blood pressure. The more salt you eat, the higher your blood pressure.
- ➔ Aim to eat less than 5g of salt a day, which is about a teaspoonful.



Cook with Less Salt

- ➔ There are many ways in which you can add flavor to your cooking without using any salt:
 - Use black pepper as seasoning instead of salt.
 - Add fresh herbs and spices to your pasta dishes, vegetables and meats.
 - Make your own stock and gravy instead of using cubes or granules or look out for reduced-salt products.
 - Try baking or roasting vegetables to bring out their flavor.
 - Make sauces using ripe tomatoes and garlic.



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Shop for Lower Salt Foods

When shopping for food, you can take steps to cut your salt intake:

- Compare nutrition labels on food packaging when buying everyday items.
- You can really cut your salt intake by checking the label and choosing the pizza, ketchup or breakfast cereals that are lower in salt.

Try choosing 1 food a week to check and swap when you're food shopping:

- Cured meats and fish can be high in salt, so try to eat these less often.
- Buy tinned vegetables without added salt.
- Do the same with tinned pulses.
- Watch out for the salt content in ready-made pasta sauces.
- Go easy on soy sauce, mustard, pickles, mayonnaise and other table sauces, as these can all be high in salt.



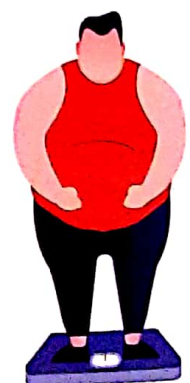
Limit your Alcohol Intake

- ➔ Regularly drinking too much alcohol can raise your blood pressure over time.
- ➔ Staying within the recommended levels is the best way to reduce your risk of developing high blood pressure.



Lose Weight

- ➔ Being overweight forces your heart to work harder to pump blood around your body, which can raise your blood pressure.
- ➔ Get advice on losing weight in a healthy way through your healthcare professional.



Get Active

- ➔ Being active and taking regular exercise lowers blood pressure by keeping your heart and blood vessels in good condition.
- ➔ Regular exercise can also help you lose weight, which will also help lower your blood pressure.
- ➔ Adults should do at least 150 minutes (2 hours and 30 minutes) of moderate-intensity aerobic activity, such as cycling or fast walking, every week.
- ➔ Physical activity can include anything from sports to walking and gardening.



Get Enough Sleep

- ➔ Getting enough sleep is important to your overall health, and enough sleep is part of keeping your heart and blood vessels healthy. Not getting enough sleep on a regular basis is linked to an increased risk of heart disease, high blood pressure and stroke.



Stop Smoking

- ➔ Smoking does not directly cause high blood pressure, but it puts you at much higher risk of a heart attack and stroke.
- ➔ It can cause your arteries to narrow.
- ➔ If you smoke and have high blood pressure, your arteries will narrow much more quickly and your risk of heart or lung disease in the future is significantly increased.



Measure your Blood Pressure

- ➔ Measure your blood pressure regularly to help your health care team diagnose any health problems early. You and your health care team can take steps immediately to control your blood pressure if it is too high.



What is the correct way to measure blood pressure?

- ➔ Learn the correct way to have your blood pressure taken, whether you are getting it checked at the clinic or checking it yourself at home.

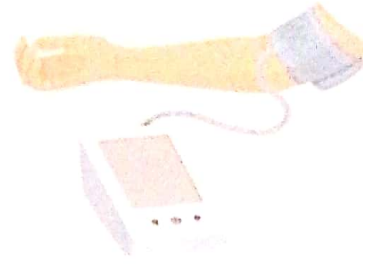
Use this checklist:

- Do not eat or drink anything 30 minutes before you measure blood pressure.
- Empty your bladder before your reading.
- Sit in a comfortable chair with your back supported for at least 5 minutes before your reading.
- Put both feet flat on the ground and keep your legs uncrossed.
- Rest your arm with the cuff on a table at chest height.
- Make sure the blood pressure cuff is not very tight. The cuff should be against your bare skin, not over clothing.
- Do not talk while your blood pressure is being measured.



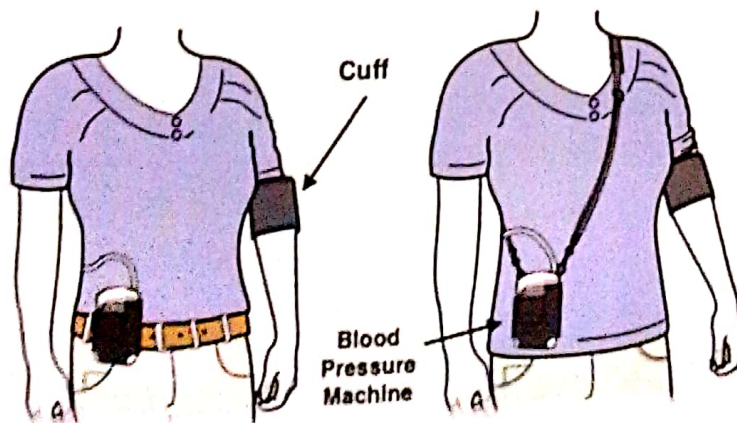
How can I measure my blood pressure at home?

- ➔ Talk with your health care team about regularly measuring your blood pressure at home, also called self-measured blood pressure (SMBP) monitoring.
- ➔ SMBP means you regularly use a personal blood pressure measurement device away from a clinic or hospital—usually at home. These blood pressure monitors are easy and safe to use. A health care team member can show you how to use the one if you need help.



Ambulatory Blood Pressure Monitoring

- ➔ Ambulatory Blood Pressure Monitoring (ABPM) is a diagnostic test to determine the presence of hypertension by taking measurements during normal daily activities, over a span of 24 consecutive hours.
- ➔ Helps to diagnose as well as monitor high blood pressure, usually defined as a systolic pressure of 140 mmHg or more and a diastolic pressure of 90 mmHg or more.
- ➔ The instrument used is a portable blood pressure machine worn as a belt, with the cuff being attached around the upper arm.
- ➔ All types of daily activities, including sleep, may be normally carried out while wearing this device.



Why a 24-Hour Measurement of Blood Pressure?

- ➔ The normal variations in blood pressure are mirrored in this test as it takes many measurements unlike the one or two during a normal clinic visit.
- ➔ It can detect Masked and Sustained Hypertension – when the blood pressure reading is normal in the clinic but high during normal activity, it is termed as **‘Masked Hypertension’**, whereas a persistently high blood pressure is called as **‘Sustained Hypertension’**, and is associated with higher risk of heart attacks and renal injury.
- ➔ It can also detect **‘White coat Hypertension’** a condition occurs when blood pressure readings at a health care provider's office are higher than they are in other settings, such as at home.
- ➔ The effect of medications on controlling the blood pressure throughout the day can be visualized.
- ➔ It reveals if the blood pressure increases at night or during sleep, a phenomenon is seen in some individuals, which may need an adjustment in the medical regimen.
- ➔ It also shows the heart rate at the same time.
- ➔ It yields the average or mean blood pressure, heart rate and a few other parameters.
- ➔ It helps to predict the chances of stroke or heart attacks.

BP Patterns Based on Office and Out-of-Office Measurements

	Office/Clinic/Healthcare Setting	Home Nonhealthcare ABPM Setting
Normotensive	No hypertension	No hypertension
Sustained hypertension	Hypertension	Hypertension
Masked hypertension	No hypertension	Hypertension
White coat hypertension	Hypertension	No hypertension

ABPM indicates ambulatory blood pressure monitoring and BP blood pressure.

DASH (Dietary Approaches to Stop Hypertension)

- ➔ DASH diet is a healthy-eating plan designed to help, treat, or prevent high blood pressure (hypertension).
- ➔ The DASH diet includes foods that are rich in potassium, calcium and magnesium.
- ➔ The diet limits foods that are high in sodium, saturated fat and added sugars and allows food that are rich in fruits, vegetables, and low-fat dairy foods.



FOOD Group	Daily Servings (Except as noted)	Serving Sizes
Grains & grain products	7-8	1 slice bread 1 cup ready-to-eat cereal ½ cup cooked rice, pasta, or cereal
Vegetables	4-5	1 cup raw leafy vegetables
Fruits	4-5	1 medium fruit ¼ cup dried fruit ½ cup fresh, frozen, or canned fruit 6 ounces fruit juice
Low-fat or fat-free dairy foods	2-3	8 ounces milk 1 cup yogurt 1½ ounces cheese
Lean meats, poultry, and fish	2 or fewer	3 ounces cooked lean meat, skin
Nuts, seeds, and dry beans	4-5 per week	¼ cup or 1½ ounces nuts 1 tablespoon or ½ ounce seeds ½ cup cooked dry beans
Fats and oils	2-3	1 tablespoon lowfat mayonnaise 2 tablespoons light salad dressing 1 teaspoon vegetable oil
Sweets	5 per week	1 tablespoon sugar 1 tablespoon jelly or jam ½ ounce jelly beans 8 ounces lemonade

TIPS for Switching to DASH Eating Plan:

- ➔ Change gradually. Add a vegetable or fruit serving at lunch and dinner.
- ➔ Use only half the butter or margarine you do now.
- ➔ If you have trouble in digesting dairy products, try lactase enzyme pills or drops—they're available at drugstores and groceries. Or buy lactose-free milk or milk with lactase enzyme added to it.
- ➔ Get added nutrients such as B vitamins by choosing whole grain foods, including whole wheat bread or whole grain cereals.
- ➔ Spread out the servings. Have two servings of fruits and/or vegetables at each meal, or add fruits as snacks.
- ➔ Treat meat as one part of the meal, instead of the focus. Try pasta, and stir-fry dishes.
- ➔ Have two or more meatless meals a week.
- ➔ Use fruits or low-fat foods as desserts and snacks.



Manage High Blood Pressure

Medications to control Hypertension

- Simple lifestyle changes can help to reduce high blood pressure, although some people may need to take medicines as well.
- Recommendation depends on your blood pressure reading and your risk of developing problems such as heart attacks or strokes.
- It's really important to take your medicine as directed. If you miss doses, it will not work well.
- Please consult your Doctor for the appropriate medication & dosage to control your blood pressure.

CONTACT A HEALTH CARE PROVIDER IF:

- You think you are having a reaction to medicines you have taken.
- You have repeated (recurrent) headaches.
- You feel dizzy.
- You have swelling in your ankles.
- You have trouble with your vision.





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