

## 1. What is Hypertension?

- **Hypertension (High Blood Pressure)** occurs when the force of the blood against the walls of your arteries is consistently too high. This forces the heart to work harder and can lead to damage over time.
- **Blood pressure** is measured in millimeters of mercury (mmHg) and is recorded as two numbers:
  - **Systolic (upper number):** The pressure when the heart beats and pumps blood.
  - **Diastolic (lower number):** The pressure when the heart is at rest between beats.
- **Normal blood pressure** is usually less than **120/80 mmHg**.
- **Hypertension** is defined as having blood pressure consistently higher than **130/80 mmHg**.

## 2. Types of Hypertension

- **Primary (Essential) Hypertension:** This is the most common type and develops over many years. It is not caused by any other condition but is often influenced by genetics, lifestyle, and environmental factors.
- **Secondary Hypertension:** This type is caused by an underlying health condition, such as kidney disease, thyroid disorders, or sleep apnea. Certain medications can also lead to secondary hypertension.

## 3. Risk Factors for Hypertension

Several factors increase the likelihood of developing hypertension:

- **Unmodifiable Risk Factors:**
  - **Age:** The risk of high blood pressure increases as you get older.
  - **Family history:** A family history of hypertension increases the risk.
  - **Gender:** Men tend to develop hypertension earlier than women. However, after age 65, women are more likely to have high blood pressure than men.
- **Modifiable Risk Factors:**
  - **Obesity:** Being overweight or obese puts extra strain on the heart and blood vessels.

- **Physical inactivity:** Lack of regular exercise can increase the risk of hypertension.
- **Poor diet:** Diets high in sodium (salt), saturated fats, and low in fruits and vegetables can contribute to high blood pressure.
- **Excessive alcohol consumption:** Drinking more than moderate amounts of alcohol can raise blood pressure.
- **Smoking:** Tobacco use raises blood pressure and harms blood vessels.
- **Chronic stress:** Long-term stress may contribute to hypertension.
- **Sleep apnea:** Untreated sleep apnea can lead to high blood pressure.

#### 4. Symptoms of Hypertension

- **Hypertension is often called the "silent killer"** because it usually has no noticeable symptoms, especially in the early stages. Many people do not experience any symptoms until their blood pressure is dangerously high.
- If left untreated, hypertension can lead to severe complications like **heart disease, stroke, and kidney damage**. For this reason, it's important to have regular blood pressure checks, especially if you have risk factors.

#### 5. How to Measure Blood Pressure

- Blood pressure is measured using a **blood pressure cuff** (also called a sphygmomanometer) and is typically taken at a doctor's office. It can also be monitored at home with a **home blood pressure monitor**.
- To get an accurate reading:
  - Sit quietly for at least 5 minutes before measuring.
  - Avoid caffeine, smoking, or exercise for at least 30 minutes before a reading.
  - Ensure that the cuff is the right size and positioned at heart level.

#### 6. Managing Hypertension

- **Lifestyle Changes:**
  - **Healthy Eating:** The CDC recommends the **DASH (Dietary Approaches to Stop Hypertension) diet**, which emphasizes fruits, vegetables, whole grains, lean proteins, and low-fat dairy. It also limits sodium, unhealthy fats, and added sugars.

- **Physical Activity:** Regular physical activity, such as **30 minutes of moderate-intensity exercise** most days of the week (e.g., walking, swimming, or cycling), helps reduce blood pressure.
- **Weight Loss:** Losing even a small amount of weight can help lower blood pressure.
- **Limit Alcohol Consumption:** If you drink alcohol, limit it to **one drink per day for women** and **two drinks per day for men**.
- **Quit Smoking:** Smoking increases blood pressure and harms your blood vessels. Quitting can help lower your risk.
- **Reduce Stress:** Managing stress through relaxation techniques such as deep breathing, meditation, yoga, or mindfulness can help lower blood pressure.
- **Medications:**
  - If lifestyle changes are not enough to control blood pressure, your healthcare provider may prescribe medications. Common classes of blood pressure medications include:
    - **Diuretics:** Help the body get rid of excess salt and water, which lowers blood pressure.
    - **ACE inhibitors:** Relax blood vessels by blocking the production of a hormone that constricts blood vessels.
    - **Beta-blockers:** Reduce the heart rate and the force of the heart's contractions.
    - **Calcium channel blockers:** Relax blood vessels and reduce heart rate.
    - **Angiotensin II receptor blockers (ARBs):** Relax blood vessels by blocking the effects of a hormone that raises blood pressure.
  - It's important to take medications exactly as prescribed and have regular follow-up visits with a healthcare provider to monitor blood pressure.

## 7. When to Seek Medical Attention

- If blood pressure readings are **above 180/120 mmHg** and you experience symptoms such as severe headache, chest pain, difficulty breathing, or vision changes, seek **emergency medical attention immediately**.

- Routine visits to a healthcare provider are important for monitoring blood pressure, especially for those with a family history of hypertension or other risk factors.

## 8. Complications of Untreated Hypertension

High blood pressure that is not managed can lead to:

- **Heart disease** (including heart failure and coronary artery disease)
- **Stroke**
- **Kidney disease** or kidney failure
- **Vision loss** or damage to the eyes
- **Cognitive decline** or dementia
- **Aneurysms** (weakened areas of blood vessels that can burst)

## 9. Prevention of Hypertension

- Regular physical activity, a healthy diet, weight management, smoking cessation, and moderate alcohol consumption can prevent or delay the onset of high blood pressure.
- For those with a family history or risk factors, regular monitoring of blood pressure is essential to detect and address hypertension early.

## Key Takeaways:

- Hypertension is a **silent disease** that can lead to serious complications if left untreated.
- Blood pressure can be controlled with a combination of **lifestyle changes** (healthy diet, exercise, weight management, stress reduction) and, if necessary, **medications**.
- Regular monitoring of blood pressure is essential, especially for individuals with risk factors.