



# Blood Pressure Guide

Summary of Various International Recommendations

**IMPORTANT: This information is for educational purposes only.**

This material is not a substitute for professional medical advice, diagnosis or treatment.

## Guide: Monitor Blood Pressure at Home

*[Evolution](#) strives to minimise the burden of cardiovascular, pulmonary and neurokinetic diseases. Hypertension, or high blood pressure (BP), remains a major health concern globally. When uncontrolled, it can lead to heart attack, stroke, heart failure, vision problems, kidney disease and other diseases impacted by persistent excessive blood vessel pressure. Current estimates indicate that approximately 45-50% of adults in the U.S. have hypertension, with prevalence increasing with age (Benjamin et al., 2019). Notably, approximately 20% of young adults aged 18-39 are affected by elevated BP, highlighting the need to monitor even early onset trends (de Freminville et al., 2024).*

*Further to this, dementia cases are on the rise. Uncontrolled hypertension is demonstrated to be a significant risk factor for cognitive decline and dementia over time. Research demonstrates that individuals with poorly managed BP are at a significantly higher risk of developing Alzheimer's disease and other forms of dementia, emphasising the importance of BP control for cognitive health (Iadecola et al., 2016). Control of blood pressure could reduce incidence by 12-15%.*

*Since elevated BP often presents us with no symptoms – a condition known as "the silent killer" – regular monitoring is crucial for early detection and management.*

*Blood pressure readings can vary due to numerous factors, including inflammation, activity levels, anxiety, measurement techniques and even oral health and mouthwash use. Single-occasion measurements, even in clinical settings, may not accurately reflect an individual's true BP levels. Yet, detecting your BP range can be an early, identifiable sign of a health emergency and help protect your major organs. Therefore, taking the time to monitor blood pressure at home for a few weeks can provide a reliable assessment of blood pressure trends. Research suggests that this approach, combined with other recommended practices, enhances the accuracy of BP monitoring and supports better health outcomes by achieving normal and safe trends (Whelton et al., 2017).*

## ***This guide will help you:***

- 1. Accurately measure your blood pressure at home.*
- 2. Understand your readings and educate on recommended actions based on these readings.*
- 3. Consider safe and reasonable steps to monitor your blood pressure in the long-term.*

## **Preparing to Measure**

### **Variables that immediately affect pressure readings (non-exhaustive list):**

- hydration levels at the time of measurement
- general physical health at the time of measurement
- temperature and humidity of the place of measurement
- overall state of the person who is measuring the blood pressure
- blood sugar dysregulation and insulin resistance
- size of the blood pressure cuff used
- recent or distant food or sustenance intake
- recent salt and electrolyte intake
- regular use of antiseptic mouthwash
- prescribed medications
- diet and over-the-counter supplementation
- present mental state, stress and/ or anxiety level/s (acute and chronic)
- recent physical exertion levels
- smoking up to 30 mins prior
- caffeine and nicotine
- alcohol consumption
- bladder distension, empty bladder
- familiarity or lack thereof with the environment, where measurement is taken



## **Tools Needed to Measure:**

### **Choose the Best Blood Pressure Monitor**

There are two main types of blood pressure monitors:

1. Manual Monitors (Sphygmomanometers) – A stethoscope and some skills are required. They are not recommended for home use unless you are trained.
2. \*Automatic Digital Monitors\* (Recommended) – These are easier to source and use and are usually more accurate for home monitoring. An upper-arm monitor is preferred to wrist monitors, for the purpose of attaining more consistent readings.

### **Cuff Bladder Size**

**The AHA's 2017 Blood Pressure Measurement Guidelines recommend:**

- The width of the cuff bladder should be approximately 40% of the arm circumference
- While both the *European Society of Hypertension (ESH)* and the *AHA* 2017 statements conclude that the length should be about 80% of the arm circumference to ensure proper measurement.
- Measure the arm circumference at the midpoint of the upper arm, which is the best way to determine the appropriate cuff size.
- A cuff that's too large may cause falsely low readings, and one that's too small may cause falsely high readings.
- For accurate readings, choose a cuff that fits snugly.

## **Record and Track Your Readings**

Two (2) weeks of consecutive daily tracked BP measurements can adequately assess norms.

Tracking trends over time by keeping a log of your blood pressure readings and sharing this information with your healthcare provider/s can help you to manage BP optimally.

1. Use a notebook
2. Record the date & time
3. Record systolic and diastolic values
4. Record heart rate
5. Add notes (e.g., feeling stressed, after shopping)
6. Carry notes with you
7. Take a picture of your notes with your phone

### **NOTE:**

- Some monitors have apps or memory functions
- Organising a telehealth visit where you are monitored while doing this could be helpful.

## **Myths about Blood Pressure**

**Myth 1:** Blood pressure remains the same all day.

**False:** Blood pressure (BP) fluctuates throughout the day as part of normal physiological processes. These variations are influenced by factors such as physical activity, stress, sleep-wake cycles, dietary intake, and autonomic nervous system activity, including vagus nerve tone (Muntner et al., 2019). Recognising these fluctuations is important for accurate BP assessment and management.

**Myth 2:** Blood pressure medications are the only option for reducing BP.

**False:** While antihypertensive medications are often necessary, especially in cases of stage 2 hypertension or when lifestyle modifications are insufficient, natural habits and lifestyle changes can effectively lower BP over time. Techniques such as dietary modifications, physical activity, stress reduction, and weight management are foundational and often recommended as first-line interventions (Whelton et al., 2018).

**Myth 3:** There is nothing natural proven to reduce blood pressure.

**False:** Several natural and lifestyle-based interventions have demonstrated efficacy in reducing BP. For example, anxiety and stress can temporarily elevate BP by approximately 10 mm Hg (Karaka, 2016). Techniques such as deep breathing exercises and physical activity have well-established evidence supporting their role in lowering BP (Cornelissen & Smart, 2013). Removal of antiseptic mouthwash from periodontal care routine (Joshi et al., 2020). Additionally, specific nutrients and supplements—including omega-3 fatty acids, magnesium, hibiscus tea, Coenzyme Q10, and garlic—have been shown to positively influence BP levels with a level of significance (Bischoff-Ferrari et al, 2025; Granal et al, 2025; Houston, 2024; Odunaye-Badmus et. al., 2025; Ried et. al., 2008, Wu et al, 2017).

**Myth 4:** “They say its high but I feel normal, so it’s okay to leave it as it is”.

**False:** Control is the goal. Long-term hypertension can cause organ damage that is not reversible. Why play roulette with something controllable and which has so much evidence supporting BP control? which also leads to a better lifespan? If you know your blood pressure is elevated, **it is worth the trouble** to address it as swiftly as possible. Why not consider a variety of options to achieve better control? Suffering any of the number of risks from not addressing it should never be an option.





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**Table 1: Internationally Recommended Actions Based on BP Readings**

<b><u>Blood Pressure Category</u></b>	<b><u>Blood Pressure Range</u></b>	<b><u>Recommended Action</u></b>
<b>Normal</b>	< 120/80 mm Hg	No immediate action needed.
<b>Elevated</b>	120-129/80 mm Hg	Recheck in a few weeks or consult a healthcare provider.
<b>Hypertension Stage 1</b>	130-139/80-89 mm Hg	Lifestyle changes and consider medication; consult your healthcare provider.
<b>Hypertension Stage 2</b>	140 or higher/90 or higher mm Hg	Seek medical attention for possible treatment, including medication.
<b>Hypertensive Crisis</b>	> 180/120 mm Hg	Seek immediate medical attention.

\*Blood pressure readings and guideline recommendations for action.

## **When to seek medical advice (non-exhaustive checklist)**

Immediate medical attention is warranted in the following cases:

Consistently high blood pressure readings indicating hypertension stage 1 (130-139 mm Hg systolic or 80-89 mm Hg diastolic) or stage 2 ( $\geq 140/90$  mm Hg), especially if readings are elevated over multiple measurements (Whelton et al., 2017).

Sudden and persistent increases in BP without an apparent cause, which may signal a hypertensive crisis requiring urgent care (James et al., 2014).

Presence of symptoms suggestive of hypertensive emergencies or cardiovascular events, including (yet not limited to):

- Severe headache
- Dizziness or loss of balance
- Chest pain or angina
- Nausea or vomiting
- Palpitations or irregular heartbeat
- Sudden onset of arm weakness or numbness
- Indigestion symptoms/ persisting indigestion symptoms
- Jaw pain
- Shortness of breath or difficulty breathing
- Visual disturbances (e.g., blurred vision)
- Severe or worsening headache unresponsive to usual remedies
- Sudden visual changes, such as loss of vision or double vision
- Unusual fatigue or confusion, which may indicate a hypertensive crisis affecting brain function

#### F.A.S.T. for Stroke Recognition:

In cases of suspected stroke, use the easy-to-remember F.A.S.T. acronym to identify symptoms requiring immediate emergency response:

- **Face:** Facial drooping or numbness
- **Arms:** Weakness or numbness in one arm
- **Speech:** Difficulty speaking or understanding speech
- **Time:** Call emergency services immediately if any of these signs are present (American Stroke Association, 2019).

**Note:** Prompt medical evaluation can prevent progression to life-threatening complications such as stroke, heart attack, or organ damage. Regular blood pressure monitoring and early intervention are essential components of hypertension management (Whelton et al., 2017).

To summarise, the monitoring methods described are consistent with globally recommended practices and can help you to accurately track pressure levels. In particular, the use of automatic upper-arm monitors, with the most appropriate cuff size considerations, and the record-keeping of multiple BP measurements over at least two weeks appears to capture baseline BP readings with a high degree of accuracy. This method demonstrably rules out the need for sole reliance on BP measures in emergencies or any other one-off measurement. Any stress-inducing environment can temporarily increase BP. The methods described are evidence-based approaches for clarifying your blood pressure trends in the comfort of your home environment. Record home BP in alliance with your GP, healthcare professional, family member, or caregiver to align with the best practices and keep your blood pressure at safe levels. Finally, if you already have a prescription, the methods described can advise about the titration of the “right amount” of medicine. Accurate home BP trends in the context of the individual’s presentation, history, and other variables can ensure that your medications are best adjusted for your current needs.

**Table 2: Evidence of Some Natural Substances Proven to Positively Influence BP**

Nutrient Source	Mechanism of Action	Effect on BP	Reference
<p><u>Omega-3 Fatty Acids (EPA &amp; DHA)</u></p> 	<ul style="list-style-type: none"> <li>-Enhance endothelial function</li> <li>-Reduce vascular resistance</li> <li>-Anti-inflammatory</li> <li>-↑ Nitric oxide</li> </ul>	<p>↓Systolic &amp; diastolic BP</p>	<p>Bischoff-Ferrari, H.A., Gängler, S., Wieczorek, M. <i>et al.</i> Individual and additive effects of vitamin D, omega-3 and exercise on DNA methylation clocks of biological aging in older adults from the DO-HEALTH trial. <i>Nat Aging</i> <b>5</b>, 376–385 (2025). <a href="https://doi.org/10.1038/s43587-024-00793-y">https://doi.org/10.1038/s43587-024-00793-y</a></p>
<p><u>Magnesium</u></p> <p>(see research summary for further details)</p>	<ul style="list-style-type: none"> <li>-Natural calcium channel blocker</li> <li>-↑ Nitric oxide</li> <li>-Relaxes vascular smooth muscle</li> </ul>	<p>↓Systolic &amp; diastolic BP</p>	<p>Wu, J., Xun, P., Tang, Q., Cai, W. &amp; He, K. (2017), Circulating magnesium levels and incidence of coronary heart diseases, hypertension, and type 2 diabetes mellitus: a meta-analysis of prospective cohort studies; <i>Nutrition Journal</i>: <b>16</b> (60); <a href="https://doi.org/10.1186/s12937-017-0280-3">https://doi.org/10.1186/s12937-017-0280-3</a></p>
<p><u>Hibiscus Tea</u></p> 	<ul style="list-style-type: none"> <li>-Acts as a natural ACE inhibitor</li> <li>-Diuretic effect</li> <li>-Rich in polyphenols and anthocyanins</li> </ul>	<p>↓Systolic &amp; diastolic BP by 5-11 mmHg)</p>	<p>S.O. Odunaye-Badmus <i>et. al.</i>, (2025). J. Marhuenda <i>et. al.</i>, (2021) Effectiveness of a Polyphenolic Extract (<i>Hibiscus sabdariffa</i> and <i>Lippia citriodora</i>) for Reducing Blood Pressure in Prehypertensive and Type 1 Hypertensive Subjects</p>
<p><u>Coenzyme Q10</u></p>	<ul style="list-style-type: none"> <li>-Improves mitochondrial efficiency</li> <li>-Reduces oxidative stress</li> <li>-Enhances endothelial function</li> </ul>	<p>↓BP in hypertensive</p>	<p>Houston M. The role of nutrition and nutraceutical supplements in the treatment of hypertension. <i>World J Cardiol.</i> 2014 Feb 26;6(2):38-66. doi: 10.4330/wjc.v6.i2.38. PMID: 24575172; PMCID: PMC3935060.</p>
<p><u>Garlic (Allicin)</u></p> 	<ul style="list-style-type: none"> <li>-Inhibits ACE</li> <li>-↑ Nitric oxide production</li> <li>- Vasodilatory effects</li> </ul>	<p>↓Systolic BP by ~4-10 mmHg</p>	<p>Ried <i>et. al.</i>, (2008), Published in <i>BMC Cardiovascular Disorders</i>. DOI: 10.1186/1471-2261-8-13.</p>

\*Demonstrable Nutrient Impacts on Blood pressure with evidence

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This guide is based on an analysis of cross-continental hypertension guidelines. Should there be any interest in helping to improve the contents, Please contact us directly. [admin@bpralliance.com]

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