

# HYPERTENSION TREATMENT AND MANAGEMENT

Having prolonged and uncontrolled high blood pressure or hypertension, can have deleterious effects on your overall health. Unfortunately, high blood pressure can go unnoticed for many years because of the absence of symptoms, but damage to your blood vessels, heart, and other organs may have occurred. When symptoms do appear, they are often non-specific like headaches, shortness of breath, or nose bleeds. These symptoms are likely to indicate that there is poor blood pressure control for many years and injury to the organs.<sup>1</sup>

## Complications of prolonged uncontrolled blood pressure

Excessive pressure on your blood vessels walls due to hypertension can damage them and the organs that these blood vessels supply to in your body. This leads to serious complications such as heart attack, stroke, kidney failure and even blindness (Figure 1).<sup>1</sup> If hypertension remains undetected and untreated, these complications may even lead to premature death.<sup>2-4</sup>

## The dangers of blood pressure variability

It is normal for blood pressure to fluctuate within a range throughout the day—it is usually lower at night while you sleep, and then picks up a few hours before you wake up and continues to rise during the day. It dips again in the evening.<sup>5</sup>

However, significant fluctuations in blood pressure, known as blood pressure variability (BPV) can be harmful.<sup>6</sup> In fact, some studies have shown that

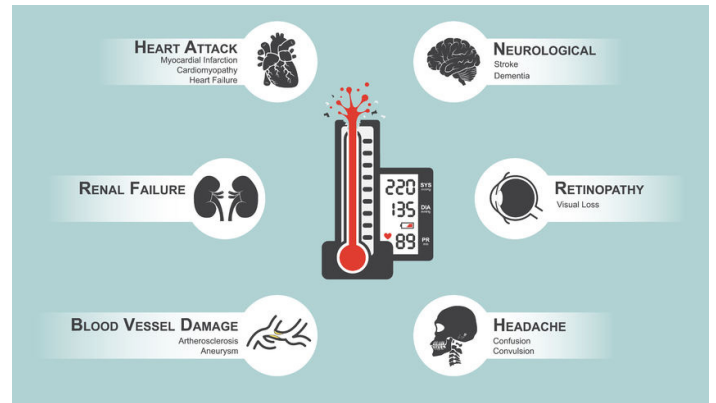


Figure 1. Complications of hypertension<sup>1</sup>

increased BPV can put you at increased risk of significant brain, heart, and/or kidney damage.<sup>6,7</sup> Thus, adequate blood pressure control also means minimizing BPV throughout the day.

## How do I manage my hypertension?

With slightly elevated blood pressure levels, lifestyle changes may be able to lower your blood pressure even without any medications. However, if your blood pressure is not well-controlled, it is important to discuss with your doctor to ensure adequate treatments to normalize your blood pressure levels and to reduce variability.

## Lifestyle changes

Several lifestyle changes can help lower your blood pressure and are also recommended alongside any medical intervention to help achieve optimal blood pressure control (Table 1).<sup>8</sup>

Table 1. Lifestyle change recommendations to lower blood pressure<sup>8</sup>

 <p><b>Low-salt diet</b> Not more than 5 to 6 g/day</p>	 <p><b>Healthy diet</b> Increase intake of vegetables, fruits, low-fat dairy products Decrease intake of saturated and total fats</p>	<p><b>Moderate alcohol consumption</b> For men: ≤2 standard drinks/day ; For women: ≤1 standard drink/day</p>
<p><b>Weight loss</b> Reduce weight to a body mass index BMI &lt;23 kg/m<sup>2</sup> and to a waist circumference &lt;90 cm in men, &lt;80 cm in women (for Asians)</p>	 <p><b>Exercise</b> At least 30 minutes of moderate dynamic exercise 5-7 days/ week; any physical exercise above the basal level, up to about 150 minutes a week, has incremental cardiovascular and metabolic benefits, including BP reduction</p>	<p><b>Quit smoking</b> Smoking increases your blood pressure and temporarily keeps it elevated for sometime even after you have stopped smoking</p>

**Diuretics**  
How do they work?  
Act on your kidneys to help your body eliminate sodium and water, reducing blood volume

**ACE\* inhibitors**  
\*Angiotensin-converting enzyme  
How do they work?  
Relax the blood vessels by blocking the formation of a natural chemical that narrows blood vessels

**ARBs\***  
\*Angiotensin II receptor blockers  
How do they work?  
Relax blood vessels by blocking the action, not the formation, of a natural chemical that narrows blood vessels

**CCBs\***  
\* Calcium-channel blockers  
How do they work?  
Relax the muscles of your blood vessels; some CCBs slow your heart rate

**Beta-blockers**  
How do they work?  
Reduce the workload on your heart and open your blood vessels, causing your heart to beat slower and with less force

## Medical interventions

Blood pressure lowering medicines may be needed in some patients once hypertension is confirmed. In Singapore, five major drug classes are available as antihypertensive medicines.<sup>9,10</sup> It is important to discuss with your doctor on the appropriate medicine to ensure adequate treatment to normalize your blood pressure.

## Adherence to treatment

While there are medicines useful to manage your blood pressure, adherence to treatment is important to manage your blood pressure in the long term and to

avoid organs damage and associated complications. Making a conscious decision to incorporate lifestyle changes as part of your routine, will help you manage your hypertension. In addition, regular home blood pressure monitoring allows you to know your blood pressure better and empowers you to take responsibility of your own health. If you have hypertension, you and your doctor will need to work together to address the factors that may affect your adherence to medication to optimize the efficacy of your chosen blood pressure lowering treatment.

**References**  
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