

# UNDERSTANDING HYPERTENSION



*holding your hand through health*

## Introduction

South Africa has one of the highest rates of hypertension in the world, with approximately 6.3 million people living with this “silent killer”.<sup>1,2</sup> Statistics indicate that approximately 130 heart attacks and 240 strokes occur daily in our country, implying that 10 people will suffer a stroke and 5 people will have a heart attack every hour.<sup>1</sup> Lifestyle changes are at the ‘heart’ of managing hypertension in order to reduce the impact of hypertension and related heart disease in South Africa.<sup>3</sup>

## Understanding blood pressure

The heart is a muscular organ with arteries and veins which pump blood through the body.<sup>4</sup> Arteries carry blood away from the heart, while veins carry blood to the heart and the process of blood moving through the body is called circulation.<sup>4</sup> Blood pressure is the force of blood pushing against the walls of the arteries, needed to keep the blood flowing through the body.<sup>2,5</sup> While it is normal for blood pressure to rise and fall throughout the day, consistently high blood pressure can damage the heart and increase the risk for heart attack and stroke.<sup>5</sup> Hypertension is the medical term for high blood pressure, which can develop if the walls of the larger arteries lose their natural elasticity and become rigid, and the smaller blood vessels become narrower.<sup>2,6</sup>

## How high can you go?

A blood pressure measurement is made up of 2 readings: systolic blood pressure (SBP) which occurs when the heart contracts and diastolic blood pressure (DBP) which occurs during the period when the heart relaxes between heart beats.<sup>2</sup> The unit of expressing blood pressure is millimetres of mercury (mmHg).<sup>8</sup> If a blood pressure measurement gives a SBP of 120 and a DBP of 80, it would be expressed as “120 over 80” or written as “120/80 mmHg”.<sup>8</sup>

Hypertension is known as a “silent killer” as there are rarely any symptoms or visible signs warning you that your blood pressure is high.<sup>2</sup> As a result, many people are unaware that they have it. The only way to know if you have high blood pressure is to have your blood pressure measured.<sup>5</sup>

**Table 1: Guide to understand blood pressure readings<sup>2,3</sup>**

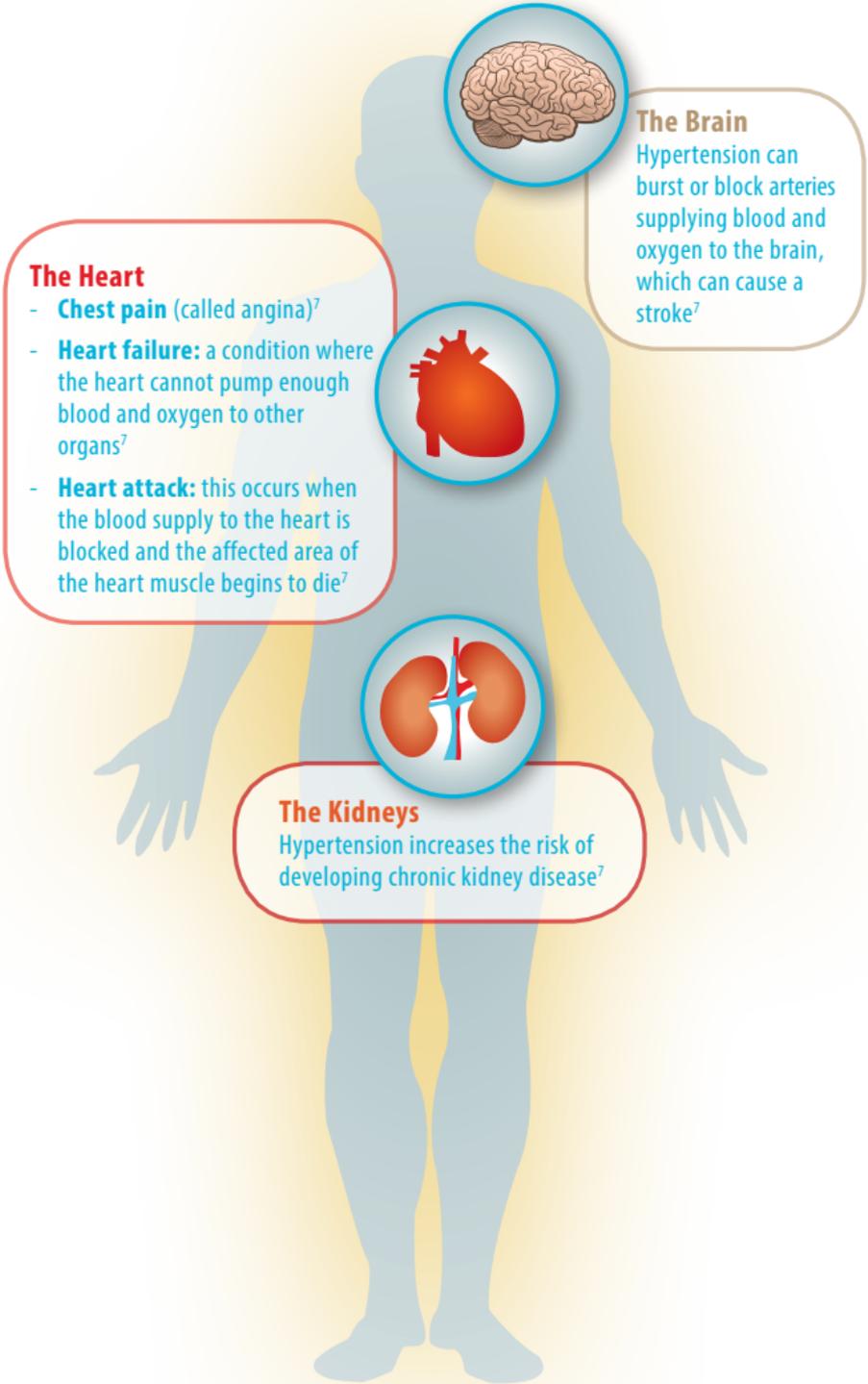
Classification	Reading (mmHg)
Normal	Less than 120/80
Optimal	120/80 to 129/84
High normal	130/85 to 139/89
Hypertension	
Mild (Grade 1)	140/90 to 159/99
Moderate (Grade 2)	160/100 to 179/109
Severe (Grade 3)	More than or equal to 180/110

Adapted from The Heart and Stroke Foundation of South Africa<sup>2</sup> and Seedat YK. *et al*, 2014<sup>3</sup>

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## Treatment of hypertension

Untreated hypertension can have many detrimental effects on the body due to reduced blood flow, as highlighted in the figure below.<sup>7</sup>



Although the approach to the treatment of hypertension depends on your blood pressure reading, lifestyle changes are the first step for all people with hypertension, regardless of severity.<sup>3,6</sup>

*According to the Heart and Stroke Foundation of South Africa, 80% of heart disease may be prevented through lifestyle changes.<sup>12a</sup>*

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## Recommended lifestyle changes?

### You are what you eat

- Adopt a healthy, balanced diet, with small, regular meals<sup>2</sup>
- A high salt intake is linked to high blood pressure. Reduce your salt intake to no more than 1 teaspoon of salt a day:<sup>2</sup>
  - Foods like packet soups, stock cubes, gravies, cheese, many breakfast cereals, breads, salty snacks, processed meats and fast foods are very high in salt, so these should be eaten sparingly
- Eat a variety of fruits and vegetables, aiming to have at least 5 servings a day<sup>2</sup>
- Choose whole-grain and high-fibre foods<sup>2</sup>
- Cut down on unhealthy saturated and trans fats, found in fatty and processed meats, chicken skin, full-cream dairy products, butter, ghee, cream and hard cheeses, commercially baked goods such as pies, pastries, biscuits and crackers, fast foods and deep-fried potato/'slap' chips. It is better to replace these fats with healthier unsaturated fats such as sunflower, canola, olive oil, soft tub margarines, peanut butter, nuts and seeds, avocado or fish<sup>2</sup>
- Include fatty fish (sardines, pilchards, salmon, mackerel) at least twice a week into your diet<sup>2</sup>
- Avoid the harmful use of alcohol, and if you drink alcohol, limit it to no more than 1 drink a day for women and 2 drinks a day for men<sup>2</sup>

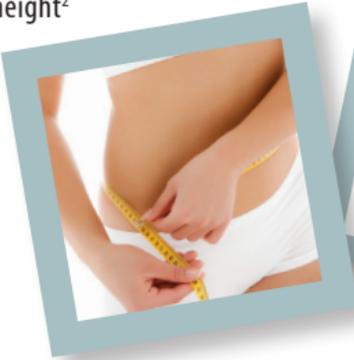


## Smoking

Take steps to quit smoking and avoid second-hand smoke<sup>2</sup>

## Weight management

Maintain a healthy weight for your height<sup>2</sup>



## Exercise

Incorporate regular physical activity into your day (at least 30 minutes 5 times a week)<sup>2</sup>



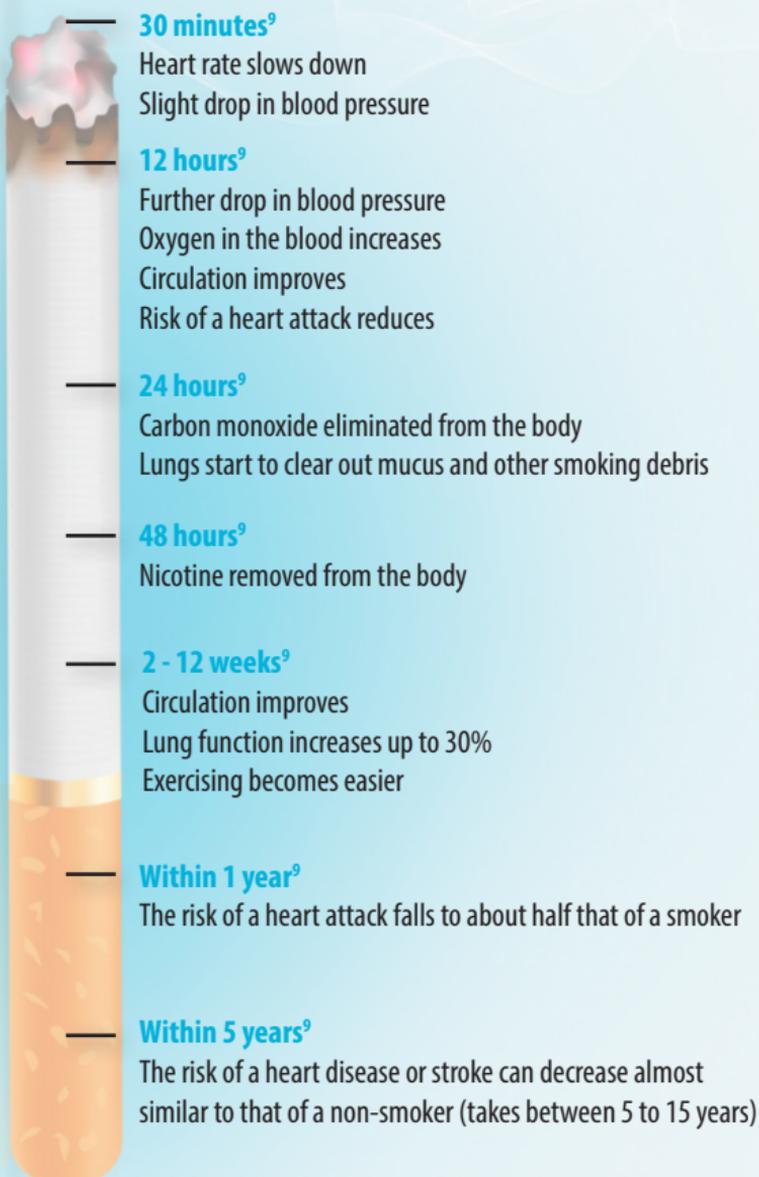
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## Kick the habit

The risk of heart disease is tripled in smokers. In addition, smoking almost doubles your risk of having a stroke.<sup>9</sup> Smoking causes narrowing of your blood vessels, increasing your risk of hypertension. It also reduces blood flow to the heart, thereby increasing your risk of a heart attack. Reduced circulation to the brain means that smokers are at higher risk of a stroke.<sup>9</sup> Smoking is also linked to an increased risk of many forms of cancer.<sup>9</sup>

### Benefits of quitting smoking

When you quit smoking, your health almost immediately improves:<sup>9</sup>



*Many strategies are available to help stop smoking, with varying success rates. Although different strategies suit different people, the success for any person depends on their willpower and motivation as well as their understanding of the problem.<sup>9</sup>*

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## Medication to treat hypertension

Medication to lower blood pressure may be recommended if your blood pressure remains consistently high despite lifestyle changes.<sup>6</sup> If you are prescribed medication to lower your blood pressure, it is imperative that you are compliant with your treatment.<sup>10</sup> There are many types of medication available but your doctor will decide which is best for you depending on your blood pressure measurement, whether you have any other health problems and your progress on your medication.<sup>10</sup> Once your treatment is started, your doctor may need to adjust your medicine or dose of medicine in order to find the medicine and dose which works best with minimal side effects.<sup>10</sup>

Commonly used medicines for hypertension include, but are not limited to:

**Diuretics** lower blood pressure by causing the kidneys to excrete more sodium and water, resulting in a reduction of fluid volume throughout the body and causing widening or dilation of the blood vessels. Diuretics are also called “water tablets”.<sup>6,10</sup>

**Angiotensin-converting enzyme (ACE) inhibitors** block the production of a hormone called angiotensin II, which causes narrowing of blood vessels and increases blood pressure. By reducing the production of angiotensin II, ACE inhibitors lower blood pressure by causing widening or dilation of the blood vessels.<sup>6</sup>

**Angiotensin II receptor blockers (ARBs)** block the effects of angiotensin II on cells in the heart and blood vessels. Therefore, ARBs can widen blood vessels, thus lowering blood pressure.<sup>6</sup>

**Calcium channel blockers** reduce the amount of calcium that enters the blood vessel walls and the heart muscle. Since muscle cells require calcium to contract, by blocking the flow of calcium across muscle cell membranes, calcium channel blockers cause muscle cells to relax and blood vessels to dilate. This reduces blood pressure as well as the force and rate of the heart beat.<sup>6</sup>

**Beta blockers** lower blood pressure in part by decreasing the rate and force at which the heart pumps blood.<sup>6</sup>

**Alpha blockers** lower blood pressure by widening or dilating the blood vessels.<sup>6</sup>

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## DON'T BE A STATISTIC

Statistics indicate that 1 in 3 South African adults suffers from high blood pressure.<sup>2</sup> High blood pressure is a serious condition that you need to be aware of. It has devastating effects including increasing the risk of strokes and heart disease.<sup>11a</sup> However, hypertension is a preventable and treatable condition.<sup>11b</sup> The first step is to know what your blood pressure is. If you are diagnosed as hypertensive, combining lifestyle changes with your medication can achieve the best results.

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