

# Medications for the Heart – Antihypertensive Medications



## Pharmacist's advice on appropriate medication use

**✗** Lifestyle changes are not needed after taking medications for hypertension.

**✓** Most patients find it difficult to change their current lifestyle. However, unhealthy lifestyle habits can affect your health and worsen high blood pressure. For example, consuming large amount of alcohol and food with high sodium content increases blood pressure. Smoking and eating food with high fat and cholesterol increase the likelihood of getting heart disease. Being overweight increases the burden of the heart and blood vessels. Therefore, lifestyle changes go hand-in-hand with medication therapy for optimal disease management.

**✗** Refuse to use medications because of potential side effects.

**✓** Not everyone will experience side effects after using the medications. The severity of side effects also differs among individuals. You should not be too worried about the side effects of the medications. If you stop using the medications or change the dose or frequency due to potential side effects, your conditions may get worse. Most common side effects are mild and will subside when your body adapts to them. Consult your doctor or pharmacist if the side effects persist or worsen.

**✗** Only stressful people have high blood pressure. As I keep relaxed, I do not need any medications for high blood pressure.

**✓** Anyone can have high blood pressure. Keeping your mood relaxed can only play a supporting role, and may reduce the required dose of medications.

**✗** Self-reduce the dosage or even stop the medication when blood pressure is under control and I feel well.

**✓** Any changes made to the medications should be directed by your doctor. As there is no obvious symptom for high blood pressure, feeling well does not mean the disease is well-controlled. Medications can only help to control blood pressure, but they cannot cure high blood pressure. If you change the dosage or stop the medications without consulting your doctor, blood pressure may be out of control again. You should take the medications as directed for good control of blood pressure. Do not self-adjust the dosage merely based on your symptoms.

**✗** I am going to try other medications for high blood pressure, because:

- \* My friends/relatives claim that they are very effective.
- \* Doctor prescribed several medications to me but my friend only needs to take one. That medication must be more effective.

**✓** There are many medications for high blood pressure. The types and dosage of medications are prescribed according to your clinical condition and how your body responds to the medications. Some patients only need one medication but others may need several to control their blood pressure. Do not stop taking your medications or use other medications (including Traditional Chinese Medicines, Proprietary Chinese Medicines and over-the-counter medications) without consulting your doctor, as this may affect treatment effect and your blood pressure control. Please consult your doctor or pharmacist if you are taking other medications or supplements.

## What if I miss a dose?

Use the missed dose as soon as you remember. Skip the missed dose if it is almost the time for your next scheduled dose.

Do not double the dose.

## How to store?

Store in a cool, dry place and away from direct heat and light.

Keep out of reach of children.

Discard all medications that have expired or are no longer required.

Do not share the medications with other people.

**? For any queries,  
please seek advice from your doctor,  
pharmacist or other healthcare  
professionals.**

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# What is High Blood Pressure (Hypertension)



Treating high blood pressure can prevent complications.  
Successful treatment relies on your cooperation.

Our heart pumps blood throughout the body. Blood pressure is the force against the wall of arteries when blood enters arteries. When heart muscles contract and relax, the blood in the arteries exerts systolic blood pressure (SBP, upper number) and diastolic blood pressure (DBP, lower number) respectively to the vessels. Normal blood pressure is SBP less than 120 mmHg and DBP less than 80 mmHg. High blood pressure (hypertension) is defined as SBP higher than 140 mmHg or DBP higher than 90 mmHg. Doctors may set individualised blood pressure targets depending on patients' status. Please consult doctor about your target blood pressure level.

Blood pressure may occasionally exceed normal range due to various factors, but it does not mean you have high blood pressure. High blood pressure should only be confirmed after multiple measurements of blood pressure persistently greater than the normal range. In about 90% of cases, the cause of high blood pressure is unknown and these cases are called primary hypertension. In remaining 10% of cases, high blood pressure may be secondary to other conditions (such as kidney diseases, endocrine diseases or abnormalities of blood vessels) and are known as secondary hypertension. As one is getting older, blood pressure will go higher. Therefore, older people are more likely to have high blood pressure.

There are no warning signs and symptoms for high blood pressure and only a high blood pressure reading may tell a patient has such disease. If high blood pressure is not treated properly, it may be harmful to heart, brain, eyes and kidneys and even cause more severe complications, such as heart failure, heart attack, stroke, vision damage, kidney failure and even death. As the blood pressure goes higher, the chance of getting these complications also goes higher.

Primary hypertension is a chronic condition and cannot be cured. However, with appropriate treatment, blood pressure could be controlled to normal level and the chance of getting complications lowers. In general, high blood pressure should be managed by lifestyle changes before starting medication therapy.

## Precautions on lifestyle

- ♥ Monitor blood pressure regularly.
- ♥ Have a balanced diet. Eat food with less salt, less fat and less cholesterol. Eat plenty of vegetables and fruits.
- ♥ Quit smoking. Limit consumption of alcohol and caffeinated beverages.
- ♥ Exercise regularly.
- ♥ Maintain an appropriate body weight, especially for overweight and obese patients.
- ♥ Take enough rest, manage stress and maintain a positive attitude.

## Precautions on medication use

- ♥ Use the medications as directed. Do not stop using the medications or change the dose or frequency unless directed by your doctor.
- ♥ Use the medications preferably at the same time every day.
- ♥ If you have history of drug allergy, consult your doctor or pharmacist before using the medications.
- ♥ Tell your doctor and pharmacist if you are pregnant, planning to become pregnant or breastfeeding.
- ♥ Consult your doctor or pharmacist before using any other medications, including health supplements, Traditional Chinese Medicines, Proprietary Chinese Medicines and over-the-counter medications.
- ♥ Please consult your doctor or pharmacist if you encounter any difficulties in using the medications.
- ♥ Please consult your doctor if symptoms persist or worsen after using the medications.

## Medications for Hypertension

Classes of medications	Common side effects	Precautions
<b>Diuretics ("Water pill")</b> Furosemide, Hydrochlorothiazide, Indapamide, Metolazone, Spironolactone	Dizziness, stomach upset	* To avoid frequent urination at night, diuretics should preferably be taken in the morning for daily dose. For twice daily dosing, take the second dose six to eight hours after the first dose. * Diuretics may affect potassium level in blood, do not use any potassium-containing medications, supplement or potassium salt substitutes without consulting your doctor. * Take with food to reduce stomach upset. * Consult your doctor if muscle twitching or weakness occurs during therapy.
<b>Calcium channel blockers</b> Amlodipine, Diltiazem, Felodipine, Nifedipine	Headache, warmth or redness in your face, swelling in your ankles, nausea, dizziness	* Avoid grapefruit or grapefruit juice if you are using certain calcium channel blocker (e.g. felodipine or nifedipine).
<b>Beta<sub>2</sub>-blockers</b> Atenolol, Metoprolol, Propranolol	Slow heartbeat, cold hands and feet, tiredness, dizziness	* Patients with asthma and chronic obstructive pulmonary disease should be aware that these medications may cause shortness of breath. * Patients taking medications to lower blood sugar or using insulin should be aware that these medications may mask the symptoms of low blood sugar. * Seek medical attention immediately if you experience the following symptoms: swelling in your hands, ankles, or feet, trouble breathing.
<b>Angiotensin converting enzyme (ACE) inhibitors</b> Captopril, Enalapril, Lisinopril, Perindopril, Ramipril	Dry cough, skin rash, dizziness	* Avoid this class of medication if you are pregnant. * These medications may raise potassium level in blood. Do not use any potassium-containing medications, supplement or potassium salt substitutes without consulting your doctor. * Apart from captopril and perindopril which should be taken before meals, these medications can be taken before or after meals.
<b>Angiotensin II receptor blockers</b> Candesartan, Irbesartan, Losartan, Telmisartan, Valsartan	Headache, dizziness	* Avoid this class of medication if you are pregnant. * These medications may raise potassium level in blood. Do not use any potassium-containing medications, supplement or potassium salt substitutes without consulting your doctor.
<b>Vasodilators</b> Hydralazine	Headache, nausea, vomiting, fast heartbeat	
<b>Centrally acting medications</b> Methyldopa	Headache, postural hypotension*	
<b>Alpha blockers</b> Prazosin, Terazosin	Dizziness, tiredness, postural hypotension* (especially at the beginning of treatment)	* When you start to take this class of medication or the dose is increased, the first dose should be taken at bedtime to prevent postural hypotension.

\* Postural hypotension is a form of low blood pressure and dizziness that happens when you stand up quickly from sitting or lying down. Standing up slowly can reduce this side effect.

\* Some medications for high blood pressure are also useful for treating other diseases, for example, preventing angina, heart failure, kidney failure, etc. Alpha blockers are also useful for treating benign prostate hyperplasia (enlarged prostate).  
\* Some medications for high blood pressure contain more than one active ingredient; if you are taking other medications for high blood pressure (e.g. medication prescribed by private doctor), please inform your doctor or pharmacist to avoid duplication of medications.  
\* If you experience sleepiness, dizziness or blurred vision after taking the medications, avoid driving or activities requiring mental alertness or coordination. Avoid alcohol as it may increase the side effects.  
\* If you notice any allergic reactions like skin itchiness, face or hand swelling, breathing difficulty, etc., consult your doctor immediately.