

Department of Pharmacy and Pharmaceutical Sciences Faculty of Science



HIGH BLOOD PRESSURE

ALL ABOUT HYPERTENSION

WHAT IS HIGH BLOOD PRESSURE?



Scan the QR code to find out more about high blood pressure!

When your heart pumps blood around the body, the blood puts pressure on the artery walls. This is known as blood pressure. If you have high blood pressure, also known as hypertension, your heart has to work harder to pump blood around your body.

Dubbed the "silent killer", high blood pressure does not cause any symptoms, but it may damage various body organs in the longterm. Over time, untreated high blood pressure may damage your heart and blood vessels, leading to heart attack, stroke or kidney failure.

The aim of controlling high blood pressure is to lower your risk of stroke, heart and kidney diseases. High blood pressure is only one

of several things that can lead to heart attack, stroke or kidney failure. Your healthcare professional may use a risk assessment tool to assess and help you understand your risk.

WHAT LIFESTYLE CHANGES CAN I MAKE TO TRY TO LOWER MY BLOOD PRESSURE?

- $\sqrt{}$ Eat a healthy diet Eat more fruits and vegetables, and limit added salt to foods
- $\sqrt{}$ Exercise regularly At least 150 minutes of physical activity each week
- $\sqrt{}$ Maintain a healthy body weight Check with your healthcare professional on your healthy weight range
- $\sqrt{}$ Quit smoking Smoking may increase your blood pressure
- √ Avoid drinking too much alcohol Limit to 2 standard drinks for men and 1 standard drink for women

Do not reproduce without permission from NUS Pharmacy and Pharmaceutical Sciences





WHAT ARE THE COMMON MEDICATIONS USED TO LOWER MY BLOOD PRESSURE?

	ACE inhibitors	Calcium Antagonists	Diuretics
Common examples	 Enalapril Lisinopril Perindopril 	AmlodipineNifedipine	 Indapamide Hydrochlorothiazide
How does it work?	Targets the kidney	 Targets the blood vessels 	Targets the kidney
What are the common side effects?	 Persistent dry cough Changes in kidney function High blood potassium levels 	 Swelling of ankles Flushing Headaches Palpitations 	 Increased need to pass urine Light-headedness on standing Salt imbalance (low blood sodium or potassium)
Will I need blood tests?	 Yes Kidney function testing will be performed before starting treatment, and 2-4 weeks after starting treatment and increasing doses. 	 Blood tests are usually not needed with these medications 	 Yes Kidney function testing will be performed before starting treatment, and 2-4 weeks after starting treatment and increasing doses.
What else do I need to know?	 If you have diabetes, these medications help to protect the kidneys 	 Some people suffer from swelling in the ankles. This can be managed. 	 If you have gout, these medications can make it worse



Do not reproduce without permission from NUS Pharmacy and Pharmaceutical Sciences





Department of Pharmacy and Pharmaceutical Sciences Faculty of Science

WHICH IS THE BEST OPTION FOR ME?



The following table lists some benefits and risks for you to think about when choosing the best option for you. It is important to remember that no one can say for certain what will happen to an individual person, or when. Your risk of developing heart attack, stroke or kidney failure will change over time. Making lifestyle changes or taking medications will prevent some people from developing heart attack, stroke or kidney failure, but these things will still happen to some people.

Scan the QR code to watch a video by the Singapore Heart Foundation!

The target BP is suitable for most people and vary on a case-by-case scenario. Speak to your healthcare provider for something suitable for you. Start by monitoring your home blood pressure!

You may find that you have more things to add to this list as you think about each option. Your healthcare provider will be able to offer more personalised information, advice and support.

	Do nothing	Lifestyle changes	Lifestyle changes + medications
What does this involve?	• Carry on as I am	 Not all the lifestyle changes may apply to you, but any will help 	 You will take one or more medications every day, long-term, as well as make lifestyle changes at the same time
What are the benefits?	 No lifestyle changes No extra medications 	 You are less likely to have a heart attack, stroke or kidney failure You might not need to take medications 	 You are even less likely to have a heart attack, stroke or kidney failure Medications can help to lower your blood pressure more than lifestyle changes alone
What are the risks?	 You are more likely to have a heart attack, stroke or kidney failure, although these are not certain to happen 	 Making lifestyle changes may be difficult Your risk of heart attack, stroke or kidney failure may not be lowered if your blood pressure remains high despite the lifestyle changes 	 There might be times when your blood pressure may be too low, and some people may feel light-headed You might experience side effects from your medications You might need blood tests

Do not reproduce without permission from NUS Pharmacy and Pharmaceutical Sciences





Department of Pharmacy and Pharmaceutical Sciences Faculty of Science

References:

- 1. Arnett DK, Blumenthal RS, Albert MA, et al. 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease: Executive Summary: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines Circulation. 2019;140(11):e563-e595.
- 2. Williams B, Mancia G, Spiering W, et al. 2018 ESC/ESH Guidelines for the management of arterial hypertension. Eur Heart J. 2018;39(33):3021-3104.
- Whelton PK, Carey RM, Aronow WS, et al. 2017 ACC/AHA/AAPA/ABC/ACPM/AGS/APhA/ASPC/NMA/PCNA Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults: A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines. Hypertension. 2018;71(6):e13-e115.
 MOUL Clinical Practice Guidelines. Hypertension. 2018;71(6):e13-e115.
- 4. MOH Clinical Practice Guidelines on Hypertension 2017. Available from https://www.moh.gov.sg/docs/librariesprovider4/guidelines/cpg_hypertension-booklet--- nov-2017.pdf. Accessed 17 Aug 2022.

Do not reproduce without permission from NUS Pharmacy and Pharmaceutical Sciences

