HYPERTENSION

Need to Know

DO NOT
OVER EXERCISE

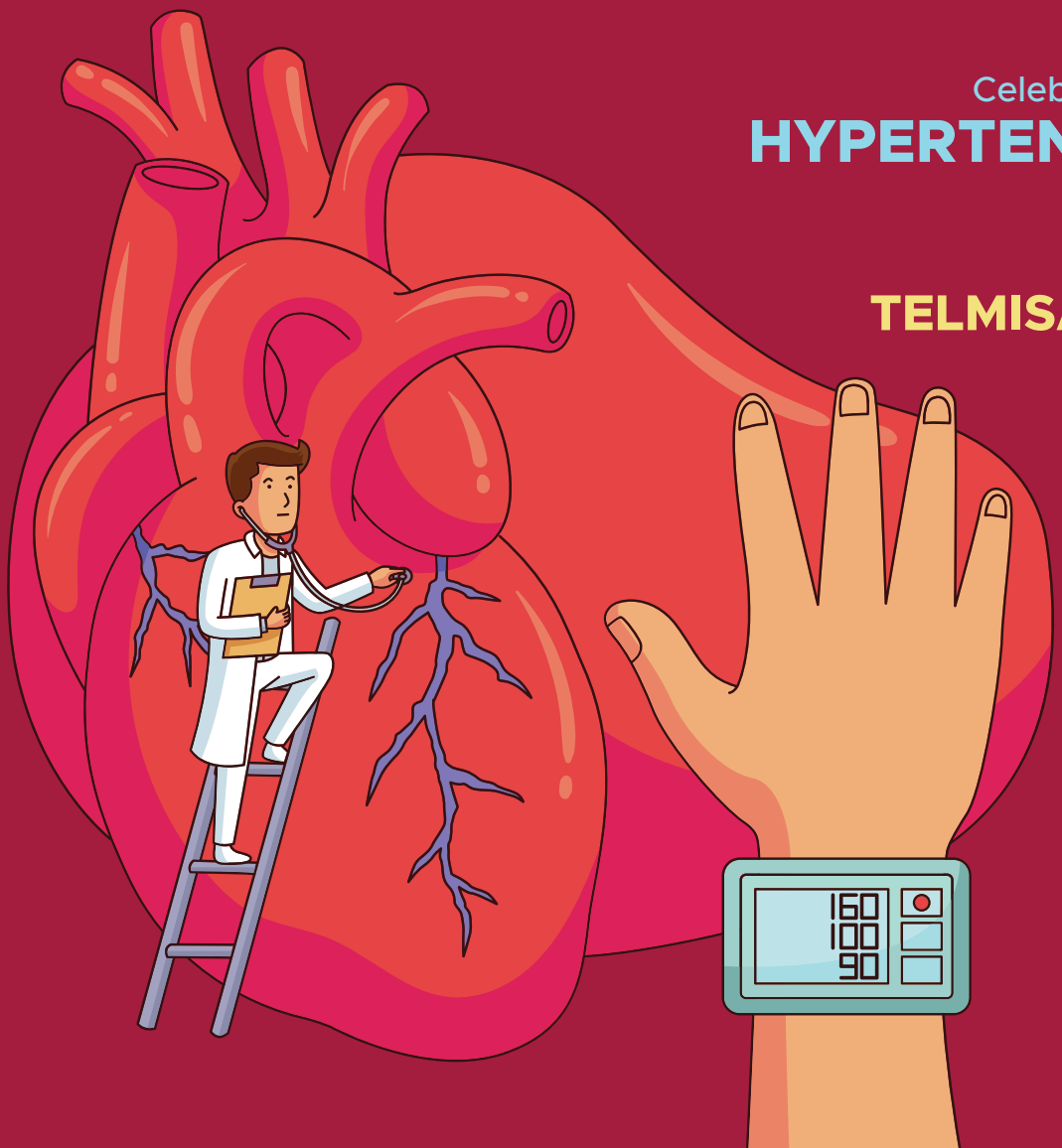
1 OUT OF 5
BANGLADESHI ADULTS
HAVE HYPERTENSION

ARE WE OVER TREATING
HYPERTENSION?

Know Your **NUMBERS**

Celebrities with
HYPERTENSION

All About
TELMISARTAN



SK+F

Editorial Board

Dear Doctor,

Welcome to the publication of " Hypertension Magazine, September - 2022 "

This time we have incorporated some Edutainment articles, news and facts in our magazine. We assure with our best belief that you'll find this magazine helpful and enjoyable as always.

Keep well & stay safe. We wish you a prosperous journey ahead.

Happy reading.....

Dr. Mohammad Murad Hossain
Sr. Manager, Medical Affairs
Eskayef Pharmaceuticals Ltd.
E-mail: murad@skf.transcombd.com

TELMISARTAN-
A Different Angiotensin II Receptor Blocker

Telmisartan, Telmisartan is an orally effective non-peptide angiotensin II receptor antagonist that was discovered and developed by Boehringer Ingelheim for the treatment of hypertension, Heart Failure, and Diabetic Kidney disease. Versions are available as the combination telmisartan/hydrochlorothiazide, telmisartan/cilnidipine and telmisartan/amlodipine Compared to other drugs in its class, Telmisartan has a relatively high dosing, on average 80 mg/day.

Telmisartan) Tablets
Company: Boehringer Ingelheim Pharmaceuticals, Inc.
USFDA Approval Date: 11/10/1998

Boehringer Ingelheim

Patented in 1991 | Came into Medical use in 1999. It is available as a generic medication in 2018

It was the 292nd most commonly prescribed medication in the United States, with more than 1 million prescriptions.

Background

In 1898, the physiologist Robert Tigerstedt and his student, Per Bergman, experimented with rabbits by injecting them with kidney extracts. Their results suggested the kidneys produced a protein, which they named renin, that caused a rise in blood pressure. In the 1930s, Goldblatt conducted experiments where he constricted the renal blood flow in dogs; he found the Ischaemic kidneys did in fact secrete a chemical that caused vasoconstriction. In 1939, renin was found not to cause the rise in blood pressure, but was an enzyme which catalyzed the formation of the substances that were responsible, namely, angiotensin I (Ang I) and Ang II.

Discovery and development of angiotensin receptor blockers

In the 1970s, scientists first observed Ang II to harm the heart and kidneys, and individuals with high levels of renin activity in plasma were at increased risk of myocardial infarction and stroke. With the introduction of angiotensin converting enzyme (ACE) inhibitors in the late 1970s it was confirmed that Ang II plays an important role in regulating blood pressure and electrolyte and fluid balance.

Before that attempts had been made to develop useful Ang II receptor antagonists and initially, the main focus was on angiotensin peptide analogues. Saralasin and other Ang II analogues were potent Ang II receptor blockers but the main problem was a lack of oral bioavailability.

In the early 1980s it was noted that a series of imidazole-5-acetic acid derivatives diminished blood pressure responses to Ang II in rats. Two compounds, S-8307 and S-8308, were later found to be highly specific and promising non-peptide Ang II receptor antagonists but using molecular modeling it was seen that their structures would have to mimic more closely the pharmacophore of Ang II. Structural modifications were made and the orally active, potent and selective nonpeptide AT1 receptor blocker losartan was developed. In 1995 losartan was approved for clinical use in the United States and since then six additional ARBs have been approved. These drugs are known for their excellent side-effects profiles, which clinical trials have shown to be similar to those of placebos.

Telmisartan; not only effective in controlling BP, but has a favorable effect on lipid profile also.

Title: Effect of Telmisartan on Serum Lipid Profile in Patients with Hypertension & Dyslipidemia.

In our study, Telmisartan proved to be effective not only in controlling BP, but had a favorable effect on lipid profile also. Telmisartan treatment results in amelioration of cardiovascular risk factors, not only through arterial pressure regulation but also through reduction of serum lipid profile. So, in conclusion, all the patients with uncomplicated hypertension and dyslipidemia without other associated risk factors can be effectively treated with Telmisartan.

Source – International Journal of Medical Research & Health Sciences.

Let's Talk About

HIGH BLOOD PRESSURE AND STROKE

High blood pressure is a major risk factor for stroke. HBP adds to your heart's workload and damages your arteries and organs over time. Compared to people whose blood pressure is normal, people with HBP are more likely to have a stroke. About 87% of strokes are caused by narrowed or clogged blood vessels in the brain that cut off the blood flow to brain cells. This is an ischemic stroke. High blood pressure causes damage to the inner lining of the blood vessels. This will narrow an artery. About 13% of strokes occur when a blood vessel ruptures in or near the brain. This is a hemorrhagic stroke. Chronic HBP or aging blood vessels are the main causes of this type of stroke. HBP strains blood vessels. Over time, they no longer hold up to the pressure and rupture.

BANGLADESH: HYPERTENSION

Deaths	%
14,776	**2.06**
Rate	**World Rank**
13.27	**114**

According to the latest WHO data published in 2020 Hypertension Deaths in Bangladesh reached 14,776 or 2.06% of total deaths.

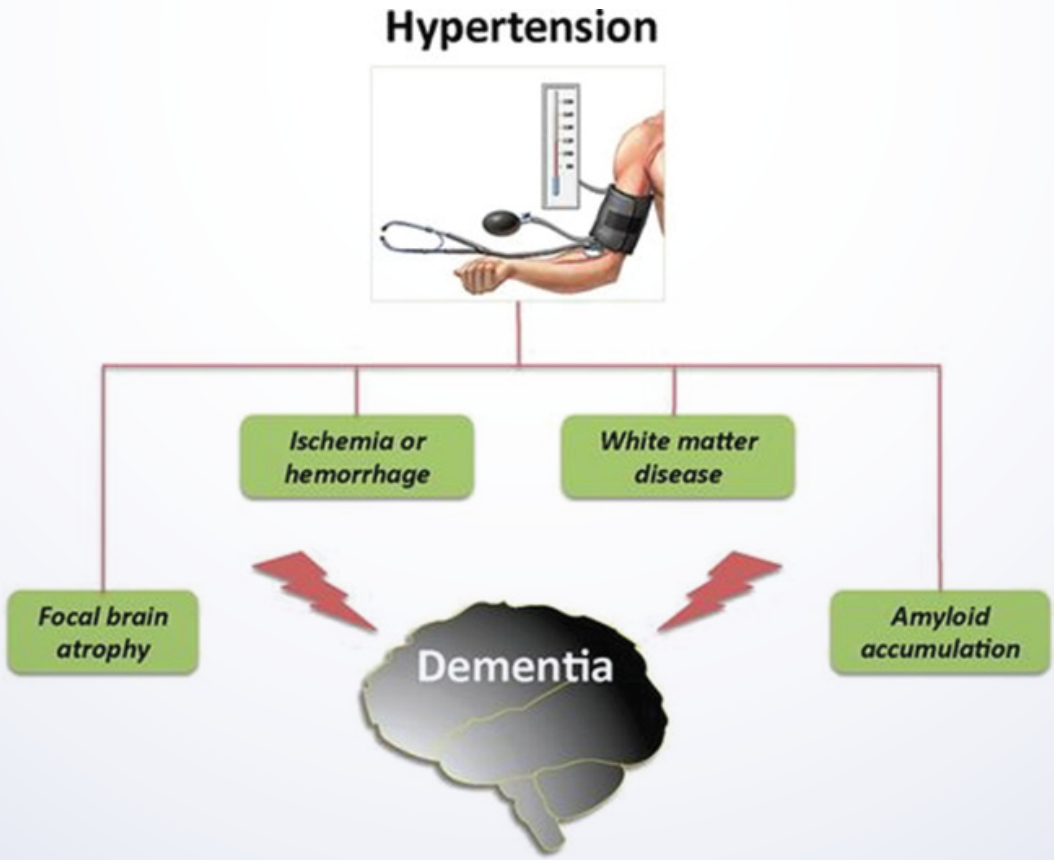
BANGLADESH: STROKE

Deaths	%
134,166	**18.74**
Rate	**World Rank**
119.20	**41**

According to the latest WHO data published in 2020 Stroke Deaths in Bangladesh reached 134,166 or 18.74% of total deaths.

HIGH BLOOD PRESSURE MAY BE LINKED TO DEMENTIA

Recent studies show that high blood pressure is linked to a higher risk for dementia, a loss of cognitive function. Timing seems to matter. Evidence suggests that having uncontrolled high blood pressure during midlife (ages 44 to 66) creates a higher risk for dementia later in life. It's never too early to start thinking about your blood pressure and taking steps to manage your high blood pressure.



Famous Celebrities with High BLOOD PRESSURE Problems

High blood pressure usually doesn't come with any physical symptom, which is dangerous because when this condition is left untreated, it can lead to heart failure, heart disease, and stroke. If you have any doubt, you should get your blood pressure checked by your doctor regularly.

Anyone can be affected by high blood pressure, and since it can be caused by chronic stress, many celebrities with busy work schedules are suffering from this serious condition.

Here are the famous celebrities with high blood pressure, and unfortunately two of them have died as a result of their condition.

Oprah Winfrey

Oprah Winfrey, the famous talk show host, actress, and philantropist, is one of the most famous celebrities with high blood pressure. It was believed that these issues were related to her unhealthy lifestyle and diet.

With the right changes to her lifestyle and diet, she has managed to put these high blood pressure problems under control. She has also been struggling with problems related to her thyroid gland.

Curly Howard

Curly Howard, born Jerome Lester Horwitz, was one of the Three Stooges. In 1945, after feeling a decline in energy, he was diagnosed with hypertension and obesity, among a few other health problems. He had to leave the famous comedy team in 1946, after suffering a stroke while waiting to be called to film a scene in a movie. He eventually died after another stroke in 1952.

Franklin D. Roosevelt

Franklin D. Roosevelt was the 32nd President of the United States, from 1933 to his death in 1945. In 1944, he was diagnosed with different health issues, including high blood pressure and coronary artery disease.
He died on April 12, 1945, from a massive cerebral hemorrhage. His death came as a surprise to the public since his declining health was kept a secret.

ENDOCRINE HYPERTENSION:

AN OVERVIEW ON THE CURRENT ETIOPATHOGENESIS AND MANAGEMENT OPTIONS

Endocrine causes of secondary hypertension include primary aldosteronism, pheochromocytoma, cushing's syndrome, hyperparathyroidism and hypo- and hyperthyroidism. They comprise of the 5%–10% of the causes of secondary hypertension. Primary hyperaldosteronism, the most common of the endocrine cause of hypertension often presents with resistant or difficult to control hypertension associated with either normo-or hypokalemia. Pheochromocytoma, the great mimicker of many conditions, is associated with high morbidity and mortality if left untreated. A complete history including pertinent family history, physical examination along with a high index of suspicion with focused biochemical and radiological evaluation is important to diagnose and effectively treat these conditions. The cost effective targeted genetic screening for current known mutations associated with pheochromocytoma are important for early diagnosis and management in family members. The current review focuses on the most recent evidence regarding causes, clinical features, methods of diagnosis, and management of these conditions. A multidisciplinary approach involving internists, endocrinologists and surgeons is recommended in optimal management of these conditions.

In summary, both primary hyperaldosteronism and pheochromocytoma are important causes of endocrine hypertension that carry significant mortality and morbidity, if left untreated. A high index of clinical suspicion, a systematic approach to diagnosis, localization and management of both these conditions is important. Personalized approach with multidisciplinary team of internists, endocrinologists and surgeons is recommended in optimal management of these conditions.

Aggressive Hypertension Treatment
does not lead to
Dangerous Drops in Blood Pressure

Hypertension is a leading cause of death and disability worldwide. It is a primary risk factor for numerous medical conditions, including heart attacks, strokes, heart failure, kidney disease, atrial fibrillation, and dementia.
Blood pressure (BP) control is so critical that when the American Heart Association and the American College of Cardiology updated their treatment guidelines in 2017, they called for more aggressive blood pressure treatment. They lowered the definition of normal, or optimal, blood pressure to less than 120/80 mm Hg, and they recommended treatment for blood pressure higher than 130/80 mm Hg.

Doctors worry about treating high blood pressure too aggressively:
Physicians have historically worked to optimize blood pressure, yet many doctors have been reluctant to be overly aggressive. This is likely based on our Hippocratic Oath of "first, do no harm." There is concern that lowering blood pressure too aggressively might result in symptoms of weakness and fatigue, or lightheadedness and dizziness. These symptoms, especially in older patients, could result in a fall with the potential for injury or disability.

A reduction in blood pressure with a change in position is called orthostatic hypotension. It typically occurs when someone goes from sitting to standing. Most of us have experienced momentary symptoms, noting dark vision after getting up too quickly. This is typically a short-lived event, lasting only seconds and resolving quickly. But what if these symptoms were severe enough or lasted long enough to be dangerous?
Study finds intensive hypertension treatment does not cause dangerous drops in blood pressure

A recent meta-analysis published in Annals of Internal Medicine reviewed five trials to examine the effect of intensive blood pressure-lowering treatment, and to answer the question: does intensive blood pressure treatment cause a dangerous drop in blood pressure? The analysis included over 18,000 participants, and study quality was noted to be good, with minimal variation between trials.

This meta-analysis analyzed randomized studies in which patients were assigned to either intensive blood pressure control, less intensive blood pressure control, or a placebo, for at least six months. The studies documented both seated and standing blood pressure readings, and the standing blood pressure readings were taken after standing for at least one minute. Orthostatic hypotension was defined as a drop in seated to standing blood pressure of at least 20 mm Hg systolic blood pressure (the top number in a BP reading) and at least 10 or more mm Hg diastolic blood pressure (the bottom number).

HIGH BLOOD PRESSURE AT THE DOCTOR'S OFFICE BUT NOT AT HOME; WHITE-COAT HYPERTENSION, THIS COMMON CONDITION MAY RAISE HEART RISKS IF LEFT UNTREATED

Medical appointments make most people feel at least a little bit anxious. But for some, that stress may trigger a temporary rise in blood pressure. If their blood pressure is normal at home and in other nonmedical settings, they have what's known as white-coat hypertension.

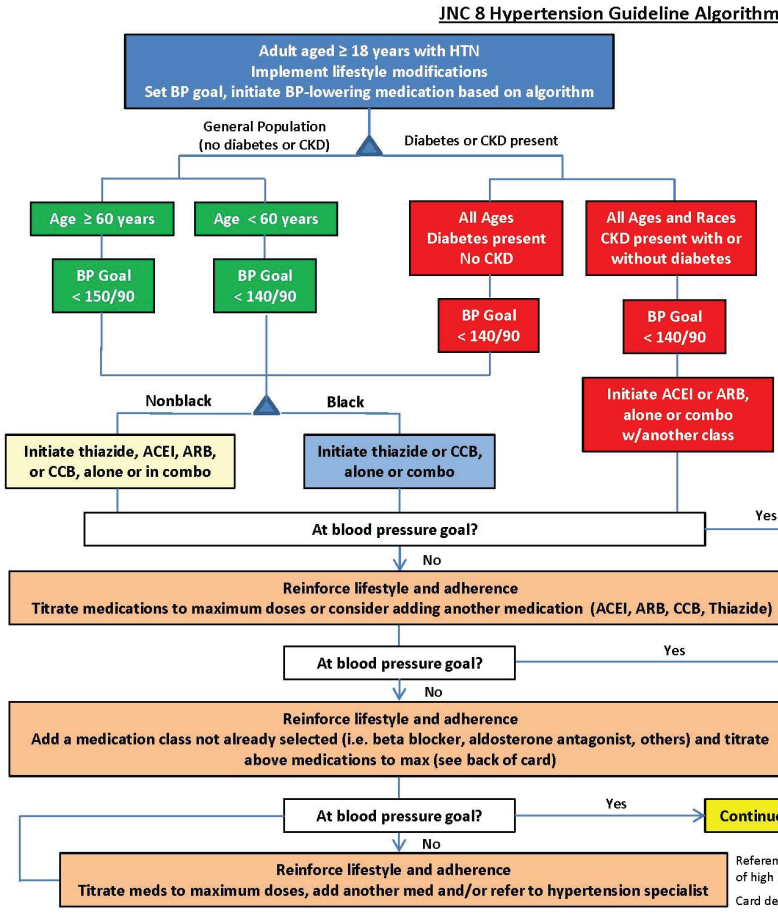
Now, a large study suggests that people with this condition face a greater threat of heart disease than people whose blood pressure readings are always normal. Normal blood pressure is defined as less than 120/80, whereas high blood pressure is 130/80 and higher.

"If your blood pressure goes up under the relatively nonthreatening situation of seeing a doctor, then what might happen if you're cut off on the highway, or experience a challenging family or work circumstance?" says Dr. Randall Zusman, a cardiologist at Harvard-affiliated Massachusetts General Hospital. Everyone's blood pressure fluctuates constantly throughout the day. But people with white-coat hypertension may experience more frequent and higher spikes. About one in five people has condition, which doctors typically don't treat with medication.

The white-coat effect

For the study, researchers pooled findings from 27 studies involving more than 64,000 people in the United States, Europe, and Asia. Compared with people whose blood pressure was normal both at the doctor's office and at home, people with untreated white-coat hypertension had a 36% higher risk of heart attack, stroke, and other heart-related events. They were also twice as likely to die from heart disease.

JNC 8 HYPERTENSION GUIDELINE



Initial Drugs of Choice for Hypertension
- ACE inhibitor (ACEI)
- Angiotensin receptor blocker (ARB)
- Thiazide diuretic
- Calcium channel blocker (CCB)

Strategy	Description
A	Start one drug, titrate to maximum dose, and then add a second drug.
B	Start one drug, then add a second drug before achieving max dose of first
C	Begin 2 drugs at same time, as separate pills or combination pill. **Initial combination therapy is recommended if BP is greater than 20/10mm Hg above goal**

Lifestyle changes:
- Smoking Cessation
- Control blood glucose and lipids
- Diet
  - ✓Eat healthy (i.e., DASH diet)
  - ✓Moderate alcohol consumption
  - ✓Reduce sodium intake to no more than 2,400 mg/day
- Physical activity
  - ✓Moderate-to-vigorous activity 3-4 days a week averaging 40 min per session.

Reference: James PA, Ortiz E, et al. 2014 evidence-based guideline for the management of high blood pressure in adults: (JNC8). JAMA. 2014 Feb 5;311(5):507-20

Card developed by Cole Glenn, Pharm.D. & James L Taylor, Pharm.D.

Hypertension Treatment

Compelling Indications	
Indication	**Treatment Choice**
Heart Failure	ACEI/ARB + BB + diuretic + spironolactone
Post –MI/Clinical CAD	ACEI/ARB AND BB
CAD	ACEI, BB, diuretic, CCB
Diabetes	ACEI/ARB, CCB, diuretic
CKD	ACEI/ARB
Recurrent stroke prevention	ACEI, diuretic
Pregnancy	labetolol (first line), nifedipine, methyldopa

Beta-1 Selective Beta-blockers – possibly safer in patients with COPD, asthma, diabetes, and peripheral vascular disease:
- metoprolol
- bisoprolol
- betaxolol
- acebutolol

Drug Class	Agents of Choice	Comments
Diuretics	HCTZ 12.5-50mg, chlorthalidone 12.5-25mg, indapamide 1.25-2.5mg triamterene 100mg *K+ sparing* – spironolactone 25-50mg, amiloride 5-10mg, triamterene 100mg furosemide 20-80mg twice daily, torsemide 10-40mg	Monitor for hypokalemia Most SE are metabolic in nature Most effective when combined w/ ACEI Stronger clinical evidence w/chlorthalidone Spironolactone - gynecomastia and hyperkalemia Loop diuretics may be needed when GFR <40mL/min
ACEI/ARB	*ACEI:* lisinopril, benazapril, fosinopril and quinapril 10-40mg, ramipril 5-10mg, trandolapril 2-8mg *ARB*: candesartan 8-32mg, valsartan 80-320mg, losartan 50-100mg, olmesartan 20-40mg, telmisartan 20-80mg	SE: Cough (ACEI only), angioedema (more with ACEI), hyperkalemia Losartan lowers uric acid levels; candesartan may prevent migraine headaches
Beta-Blockers	metoprolol succinate 50-100mg and tartrate 50-100mg twice daily, nebivolol 5-10mg, propranolol 40-120mg twice daily, carvedilol 6.25-25mg twice daily, bisoprolol 5-10mg, labetalol 100-300mg twice daily,	Not first line agents – reserve for post-MI/CHF Cause fatigue and decreased heart rate Adversely affect glucose; mask hypoglycemic awareness
Calcium channel blockers	*Dihydropyridines*: amlodipine 5-10mg, nifedipine ER 30-90mg, *Non-dihydropyridines*: diltiazem ER 180-360 mg, verapamil 80-120mg 3 times daily or ER 240-480mg	Cause edema; dihydropyridines may be safely combined w/ B-blocker Non-dihydropyridines reduce heart rate and proteinuria
Vasodilators	hydralazine 25-100mg twice daily, minoxidil 5-10mg terazosin 1-5mg, doxazosin 1-4mg given at bedtime	Hydralazine and minoxidil may cause reflex tachycardia and fluid retention – usually require diuretic + B-blocker Alpha-blockers may cause orthostatic hypotension
Centrally-acting Agents	clonidine 0.1-0.2mg twice daily, methyldopa 250-500mg twice daily guanfacine 1-3mg	Clonidine available in weekly patch formulation for resistant hypertension

DOES COFFEE RAISE BLOOD PRESSURE?

Drinking more than 4 cups of coffee a day may increase your blood pressure. If you're a big fan of coffee, tea or other caffeine-rich drinks, such as cola and some energy drinks, consider cutting down. Caffeine also raises blood pressure by triggering your adrenal glands to secrete adrenaline.

Caffeine may cause a short, but dramatic increase in your blood pressure, even if you don't have high blood pressure. It's unclear what causes this spike in blood pressure. The blood pressure response to caffeine differs from person to person.

Low Blood Sugar Can
Increase Blood Pressure

Low blood sugar, also known as hypoglycemia, is defined as blood sugar levels of 70 milligrams per deciliter (mg/dL) or lower. Symptoms of low blood sugar can include tiredness, sweating, and tingling lips. High blood pressure, also called hypertension, can also be a sign of low blood sugar.

Our body gets its energy to function properly from glucose, which is found in the carbohydrates we take in from the foods we eat. Insulin is responsible for pulling glucose from the bloodstream into cells, where it's used for energy. When our blood sugar levels are low, our body tries to keep essential organs working by causing various changes, including an increase in heart rate and peripheral systolic blood pressure (pushing blood and nutrients back toward the lungs and heart).3 It also lowers central blood pressure (pushing blood and nutrients away from the heart to the limbs and smaller blood vessels).

are we

OVER-TREATING

HIGH BLOOD PRESSURE?

The World Health Organization and the JNC both recommend an aggressive approach to treating high blood pressure, even in so-called low-risk patient. They do this for a variety of reasons, including some pretty compelling data. Heart and kidney risk rise with blood pressure: there is no "safe" level of high blood pressure. In patients with other risks, the benefit is clear, but what about low-risk patients? Given that many if not all of them will progress with age, and that heart and kidney damage is cumulative, it seems unwise to wait until they either get very high or develop a complication of their hypertension.

DASH Diet:
A HEALTHY WAY TO REDUCE YOUR BLOOD PRESSURE

The origins of the DASH plan can be traced back to the 1990s when the National Institutes of Health funded research to investigate whether specific dietary plans were effective for treating hypertension. Since then, studies show following the DASH diet reduces both systolic and diastolic blood pressure in adults; some studies even find the DASH diet significantly reduces blood pressure in those who don't have hypertension.

DASH Diet Food List

You won't have to go to great lengths or lots of grocery stores to find the foods on the DASH plan; they're all readily available.
Here's a closer look at the types of foods that are encouraged and how they can benefit your health, and the recommended serving size for a 2,000 daily calorie intake.

Vegetables

The DASH plan advises people on a 2,000-calorie diet to consume about four to five servings of vegetables, as veggies are rich in potassium, magnesium and fiber. In particular, the DASH diet recommends green leafy vegetables—such as kale, broccoli and spinach—carrots, squash and sweet potatoes.
Recommended serving size: 4 to 5 servings a day

Fruits

Consider adding apples, apricots, bananas, grapes, melons, oranges, peaches, pineapple and strawberries to your plate.
Recommended serving size: 4 to 5 servings a day

Grains

Oats, brown rice, whole-wheat bread and pasta and other whole grains are rich in fiber and contain healthy micronutrients. The DASH plan recommends having between six to eight servings of these foods a day on a 2,000-calorie diet.
Recommended serving size: 6 to 8 servings a day

Fat-Free or Low-Fat Dairy Products

The DASH plan includes two to three servings of low-fat or fat-free dairy products daily, such as fat-free milk or buttermilk, low-fat cheese or yogurt.
Recommended serving size: 2 to 3 servings a day

Lean Meats, Fish and Poultry

No more than six, 1-ounce daily servings of these foods (for a 2,000-calorie-per-day diet) are on the menu with the DASH diet, as they are chock-full of protein and magnesium.
Recommended serving size: No more than 6, 1-ounce servings a day

Nuts and Seeds

The DASH diet encourages four to five servings of nuts (almonds, walnuts and nut butter), seeds (like sunflower seeds) and legumes (lentils and kidney beans) a week. Consider adding 1/4 cup of nuts, 2 tablespoons of nut butter or 1/2 cup of cooked legumes to your plate.
Recommended serving size: 4 to 5 servings a week

Dietary
Approaches to
Stop
Hypertension

DASH Eating Plan

Food Group	Servings	Serving Size	Examples
 Vegetables	4–5 per Day	1 cup raw leafy greens 1/2 cup chopped raw or cooked vegetables 1/2 cup vegetable juice	Lettuce, kale, spinach, broccoli, carrots, green beans, squash, sweet potatoes, tomatoes, asparagus, green peppers, low sodium tomato juice
 Fruits	4 per Day	1 medium fruit 1/2 cup cut fresh, frozen or canned fruit 1/4 cup dried fruit 1/2 cup 100% fruit juice	Apples, bananas, berries, oranges, pineapple, peaches, pears, grapes, melons, raisins, dried apricots *Limit juice to one serving a day*
 Grains	6–7 per Day	1 slice of bread 1/2 – 1 cup dry cereal 1/2 cup cooked rice, pasta or grain	Whole wheat bread and rolls, whole wheat pasta, English mu n, brown rice, pita bread, popcorn, oatmeal, quinoa, unsalted pretzels
 1% Fat or Non-Fat Milk and Dairy Products	2–3 per Day	1 cup milk or yogurt 1 1/2 ounce cheese	1% fat or non-fat milk, reduced fat cheese, fat free or low fat regular or frozen yogurt
 Poultry, Fish, Lean Meats	4–6 ounces per Day	1 ounce cooked meat, poultry or sh 1 egg = 1 ounce serving	Choose lean meat and trim visible fat, remove skin from poultry. Bake, broil or poach
 Beans, Nuts, Seeds	4 per Week	1/3 cup or 1 1/2 ounce nuts 2 tablespoons peanut butter 2 tablespoons or 1/2 ounce seeds 1/2 cup cooked beans or dry peas	Almonds, walnuts, sun ower seeds, peanuts, peanut butter, kidney beans, pinto beans, lentils, split peas
 Oils, Fats	2 per Day	1 teaspoon soft margarine 1 teaspoon vegetable oil	Soft margarine, vegetable oils canola, corn, olive or sa ower , low fat mayonnaise, light salad dressing
 Desserts, Sweets, Added Sugars	4 or less per Week	1 tablespoon jelly 1/2 cup sorbet 1 small cookie	Jams and jellies, fruit punch, hard candy, maple syrup, sorbet and ices, sugar

USFDA approved Anti-Hypertensive Drugs

1. Candesartan cilexetil
2. Amlodipine besylate, Olmesartan medoxomil
3. Olmesartan medoxomil), Olmesartan medoxomil and hydrochlorothiazide
4. Amlodipine besylate and atorvastatin calcium tablet
5. Clevidipin
6. Fenoldopam Mesylate
7. Valsartan, Valsartan and Hydrochlorothiazide USP
8. Azilsartan Medoxomil
9. Telmisartan
10. Telmisartan and Hydrochlorothiazide
11. Perindopril Arginine and Amlodipine Besylate
12. Diltiazem Hydrochloride
13. Metoprolol Succinate
14. Olmesartan Medoxomil + Amlodipine + Hydrochlorothiazide

Anti-Hypertensive Drugs from SK+F

Telmisartan

Amlodipine

Amlodipine+Atenolol

Levamlodipine

Bisoprolol Fumarate

Losartan Potassium

Losartan Potassium & Hydrochlorothiazide

Olmesartan Medoxomil

Olmesartan Medoxomil & Hydrochlorothiazide

Furosemide & Spironolactone

Celiprolol Hydrochloride

Enalapril maleate

Olmesartan Medoxomil

Olmesartan Medoxomil & Amlodipine

Comparative assessment of the clinical efficacy of various amlodipine isomers in 1st and 2nd degree arterial hypertension patients

Abstract

Objective: The paper presents the results of clinical trials of medications based on S-amlodipine and S/R-amlodipine.

Materials and methods: A total of 140 patients diagnosed with arterial hypertension of I and II degree were included into study, in particular, 70 patients with 1st degree and another 70 patients with 2nd degree hypertensive disease. A group consisted of 80 male (57%) and 60 female patients (43%) aged from 45 to 73 years. The average age of the examined patients was 62.1±5.8 years. Duration of the disease was established between 1 and 22 years (12.5±1.2 years on average).

Results and discussion: The stereoselectivity mechanisms of the studied amlodipine enantiomers were found to initiate the activity of only one S-amlodipine isomer. Applying S-amlodipine in treatment was proved to improve significantly the clinical results, facilitate the course of hypertensive disease, and normalize the structure and functional heart condition. After 8 weeks of amlodipine-based treatment, the diastolic pressure in groups receiving S-amlodipine reduced by 20-25% and systolic pressure reduction was between 20% and 31%. Among patients taking the original amlodipine medication consisting of S and R enantiomers, the diastolic pressure decrease was between 19.4% and 24%, and the systolic pressure reduced from 16.7% to 27.37%.

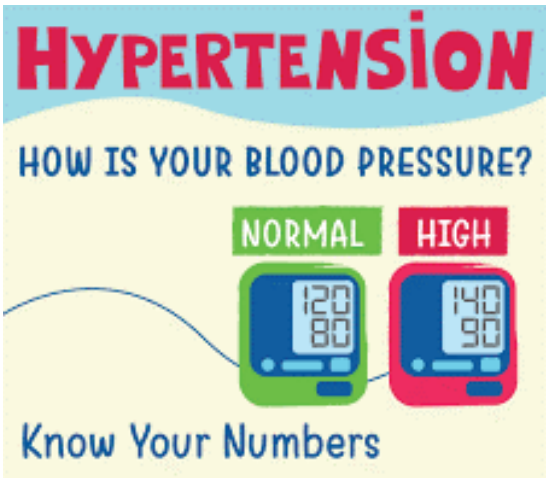
Conclusions: By using S-amlodipine, the prescribed medication dosage can be reduced by 50%, which allows diminishing the drug load on the body and lessen the side effects.

WHAT DOCTORS WISH PATIENTS KNEW ABOUT HIGH BLOOD PRESSURE?

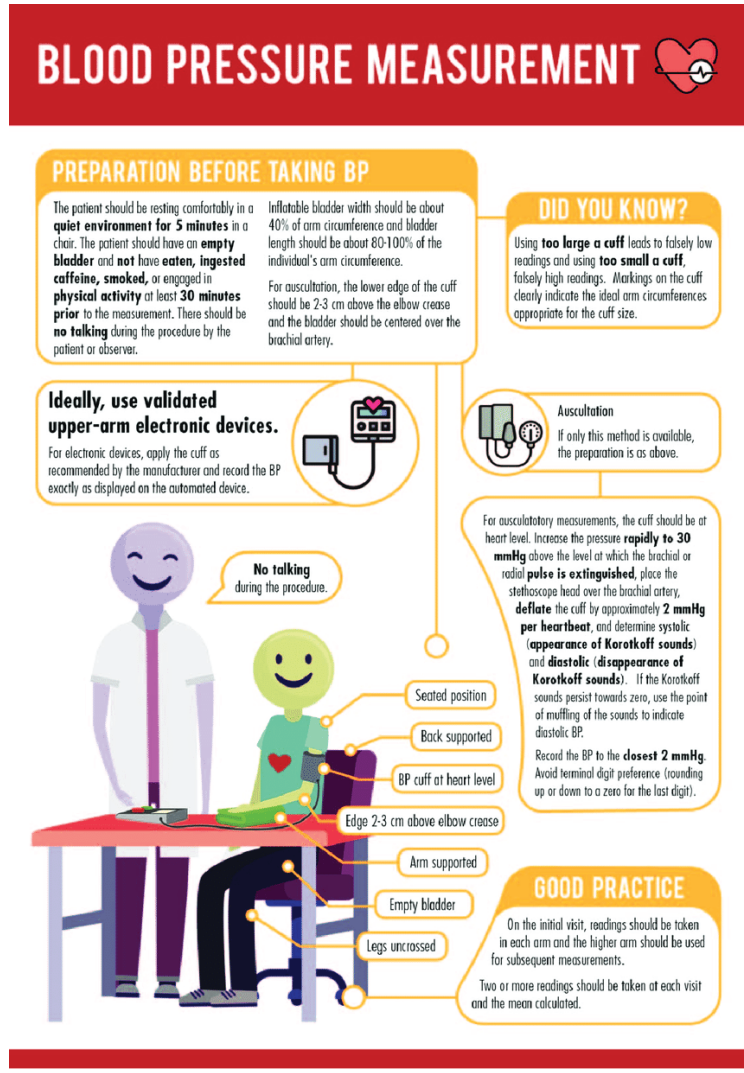
1. Know your numbers

The only way to know if you have high blood pressure is to measure your BP at home or have it measured by a health professional. Your doctor can then look at your numbers and determine if you have high blood pressure.

Your BP is recorded as two numbers
When taking your blood pressure, keep in mind that your BP has two numbers: systolic and diastolic.
Whether it's in your doctor's office or at home, make sure that your blood pressure is measured using proper preparation, technique and positioning.



Home BP measurement helps everyone
Measuring blood pressure at home is very useful for your doctor because it provides BP numbers in the environment that you're in most of the time. You also take measurements twice a day over several days. This gives a more complete picture of your BP numbers that your doctor can use to make decisions about your treatment.



2. Know your goals and treatment plan

If you do have high blood pressure, you and your doctor can talk about what your goal should be for your numbers your treatment is dependent on what your numbers are and what other medical conditions you have.
And of course, you and your doctor should also talk about what treatment is best for you and make a plan together.

3. Follow the DASH diet

The dietary approaches to stop hypertension (DASH) diet has been proven to lower your blood pressure—sometimes as much as a medication can. The DASH diet is also one that many people can follow because it does not restrict certain foods like a low-carb or low-fat diet might.

Lifestyle change is part of treatment For all patients, making healthy lifestyle changes should be part of the treatment plan.

Lifestyle changes that have been proven to help lower your BP are to follow a healthy diet, like the DASH diet, get plenty of physical activity, maintain a healthy body weight, reduce your sodium intake, and moderate your alcohol consumption. Talk to your doctor about some steps you can take to begin making lifestyle change and if there are any resources to help support you in making lasting change.

4. Reduce your sodium intake

Ideally you should consume less than 1,500 milligrams a day of sodium. But any amount of reduction can help.

There is often a lot of sodium in packaged or prepared foods so it's really helpful to learn how to read nutrition labels—sometimes you may not realize how much sodium is in a particular food.

You can also track your food to see how much sodium you are taking in a typical day and monitoring your sodium can help you figure out ways to cut back.

Some over-the-counter medications contain high levels of sodium. Physicians should encourage patients to carefully read drug labels. It is also important to note that some companies produce low-sodium, over-the-counter products.

Some drugs are rich in sodium chloride:
Diuretics.
Sodium bicarbonate.
Sodium chloride.
Corticosteroids.
Anabolic steroids.
Adrenocorticotrophic steroids.
Androgens.
Oestrogens.

5. Medications help patients reach BP goals

Lifestyle change is very beneficial for reducing blood pressure, many patients need medication to reach their BP goal.

6. Share any concerns with your doctor

Doctors want to know if patients have concerns, especially about medication. We want you to tell us if you don't want to take medication or if you're worried about taking a medication and why. When you have a visit with your doctor, ask questions and share your thoughts.

Most of the sodium in a person's diet comes from packaged, processed foods. Minimizing the consumption of these foods can reduce sodium intake, lower BP and prevent hypertension from developing in the first place.

BURKINA FASO: CREATING NEW TOOLS TO ACT ON HYPERTENSION

NCD stories from the field

In Burkina Faso, around 1.5 million people have or are at high risk of heart disease. Cardiovascular disease (CVD) is responsible for around one-in-three deaths – approximately 20 600 each year – and more than from any other NCD.

One-in-three adults in the country are also estimated to be living with raised blood pressure (also known as 'hypertension'). But despite hypertension being common among the population, only around 30% of people living with the condition receive treatment for it, of whom less than half have their condition under control.

60 SECOND READ

Fact: Almost one-third of Burkinabés adults have hypertension (raised blood pressure).

Why it matters: Hypertension is one of the main risk factors of noncommunicable diseases (NCD), and a leading cause of premature death in lower- and middle-income countries.

In practice: Despite a high prevalence of hypertension, Burkina Faso's primary health care services do not have context-specific tools to diagnose, treat and manage the disease. This project created new tools to do so, and trained 32 frontline NCD health workers to act on hypertension locally.

Expected result: People living with hypertension can receive a better quality of care at their local primary care clinic, with local health staff more confident to manage the condition.

Although millions of people live with hypertension in Burkina Faso, context-specific training on the condition is not available for health care workers at the local level. For example, few health workers have adequate equipment to monitor people living with hypertension.

This lack of strategic planning for NCDs, coupled with high prevalence of hypertension across the country, is a cause for concern. If health care staff cannot access specific equipment and guidance to manage hypertension, it could have serious consequences for health outcomes and patient care.

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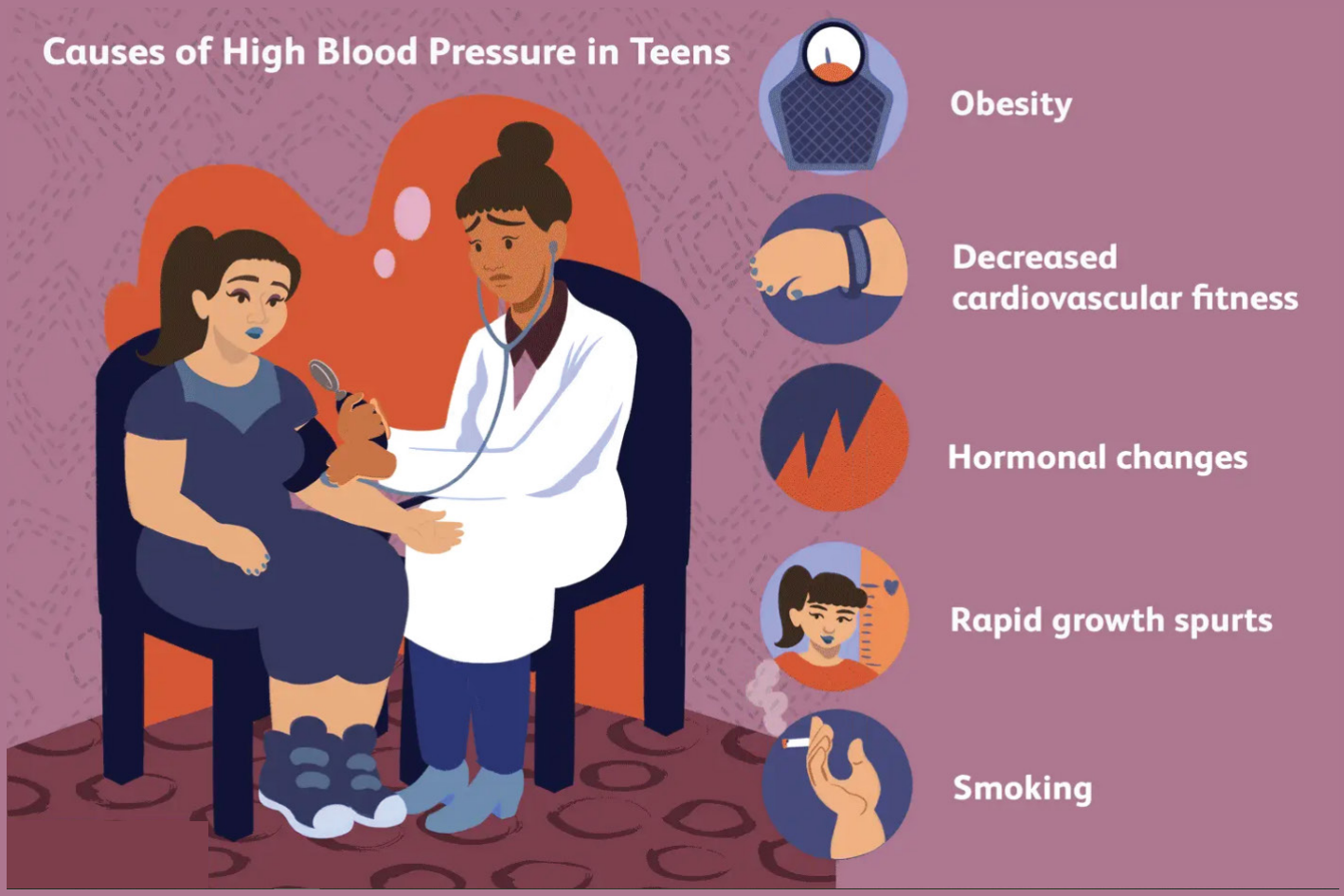
Learning to assess high blood pressure and a person's risk of heart attack or stroke can enable health workers to provide quality care, and behaviour change counseling to patients locally.

DR ARTHUR SEGHDA
CARDIOLOGIST, CENTRE HOSPITALIER UNIVERSITAIRE DE BOGODOGO

Hypertension in young adults may lead to brain changes later in life

New research identifies that having hypertension since young adulthood results in changes to the brain by the age of 55 that may lead to cognitive problems including thinking, emotions, and moving. There was changes in the brain structure that noted on MRI.

There is emerging evidence that vascular disease may begin to affect the brain in young adulthood and be exacerbated by social, economic, and racial inequalities. This study's finding should encourage healthcare professionals to aggressively address high blood pressure in young adults, as a potential target to narrow disparities in brain health.



HEALTHY LIFESTYLE AS A TREATMENT:

DO NOT OVER- EXERCISE

Dr. Devi Shetty, Chairman of Narayana Health, says that if a youngster is diagnosed with high BP (blood pressure), he or she is advised to make certain lifestyle modifications. This includes a healthier diet, physical activity or exercise, yoga and meditation to reduce stress. Avoid consumption of alcohol and smoking.
If the patient is over 30-years, then they are prescribed with daily medication that must be strictly followed without excuse.

Dr. Shetty further advises patients: The increase in young people having heart attacks is dramatically on the rise. Do not exercise too much without knowing your Heart's condition.

You must carefully follow your healthcare professional's recommendations, particularly regarding taking daily medication. High blood pressure is a lifelong disease, and by co-operating with your healthcare team you successfully reach your treatment goals and enjoy the benefits of better health. Once the treatment program becomes routine, it becomes easier to maintain lower blood pressure.
Remember that managing blood pressure means decreasing the risk of heart attack, heart failure, stroke, peripheral artery disease, and kidney disease.

Therefore, A happier life needs a healthier life, and a healthier life needs a healthy heart.

MYTHS ON HYPERTENSION

Myth 1 – If you feel fine, you don't have hypertension.
This is far from true. Based on this study, 1 out of 5 Bangladeshi adults have hypertension. More than 85 million U.S. adults have hypertension, but 1 in 6 have no idea. This is why it's often called "the silent killer" - because someone with no symptoms can suddenly have a heart attack or stroke.

Myth 2 - It Is Not Possible to Prevent Hypertension

Fact: It is true that there is no cure for hypertension yet, but this does not make it a condition that cannot be prevented or managed. Doctors across the world are aiming to prevent hypertension by spreading awareness.

Myth 3 – Hypertension Is A Geriatric Problem
Fact: Hypertension is often mistakenly considered a geriatric problem or a health concern for the elderly. More and more research findings are now establishing that hypertension can occur to any individual at any time.
Young adults living a sedentary life and indulging in unhealthy lifestyles are at a high risk of developing high blood pressure.

Myth 4 – Hypertension Is Inherited; If you inherit hypertension, there's nothing you can do about it.
It is often believed that 'hypertension runs in the family.' It is one of the common misconceptions about hypertension. While it's impossible to prevent

inheriting it, you can manage hypertension with lifestyle changes. Exercise, eating a low-salt diet, maintaining a healthy weight, and avoiding alcohol and smoking can have a positive impact on your blood pressure.

Myth 5 – When medication brings your blood pressure down, you can stop taking it.
Absolutely not! Never stop taking your medication without consulting your doctor. Hypertension can be a lifelong disease and you may need to take medication every day for the rest of your life. It's worth it to protect your health.

Myth 6: Lower sodium foods have no taste. There is a variety of creative and flavorful alternatives to salt. Patients should experiment with spices, herbs and citrus to enhance the natural flavor of their food. For example, making recipes in a slow cooker or pressure cooker can

reduce sodium intake while maximizing flavor

Myth 7: Wine is good for the heart, so drink as much as you want.
While many doctors recommend drinking red wine for heart benefits, excess alcohol consumption can be deadly for people with hypertension. It can lead to heart failure, stroke, and irregular heartbeats.

HYPERTENSION; A JOKE?

When a physician remarked on a new patient's extraordinarily ruddy complexion, he said, "High blood pressure, Doc. It comes from my family."

"Your mother's side or your father's?" I asked.

"Neither," he replied. "It's from my wife's family."

"Oh, come now," I said. "How could your wife's family give you high blood pressure?"

He sighed. "You should meet her, sometime, Doc!"

Mr. Johnson went to his doctor's office to have a physical exam done. The nurse asked, "How tall are you?"

"I'm about six foot two," said Mr. Johnson. The nurse measured him and found that he was only five foot six.

"How much do you weigh?" asked the nurse.

"Around 150 pounds." The nurse weighed him and found that he weighed 200 pounds.

Then she took his blood pressure. "Your blood pressure is incredibly high," she said.

"What do you expect?" sputtered Mr. Johnson. "Before I came here I was tall and thin. Now I'm short and fat!"

Nurse: Your blood pressure is great! It's text book perfect.

Me: Thanks.
Nurse: It must not be easy being perfect.
Me: I would say there is a lot of pressure, but it seems that is there just the right amount. (Sighs)

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Compiled & Edited by:

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ESKAYEF PHARMACEUTICALS LTD.

Department of Medical Affairs, Eskayef Pharmaceuticals Ltd.

House # 82, Road # 14, Block-B, Banani, Dhaka-1213, Bangladesh.

Web: www.skfbd.com, facebook.com/ESKAYEF