



HYPERTENSION FACTSHEET

Hypertension is one of the most common lifestyle diseases today!!

Hypertension: High blood pressure among adult is defined as a blood pressure exceeding 140/90 mm Hg-a systolic pressure above 140 mm Hg, or a diastolic pressure above 90 mm Hg, on repeated measurements.

BURDEN OF HYPERTENTION-GLOBAL SCENARIO

High blood pressure is estimated to cause **7.5 million deaths globally**, almost **13% of all deaths**, according to the WHO.

The overall number of people with high blood pressure rose from **594 million** in **1975** to more than **1 billion** in **2015**, due to factors such as a large global population and an increasing number of older adults⁽¹⁾

An estimated **1.39 (1.34–1.44) billion** people had hypertension in **2010**⁽²⁾

The number of adults with hypertension in **2025** is predicted to increase by about **60%** to a total of **1.56 billion**⁽³⁾

In **2015**, there were **1.13 billion** people living with high blood pressure worldwide, with the majority of them in low and middle-income countries.⁽¹⁾

BURDEN OF HYPERTENTION-INDIAN SCENARIO⁽⁴⁾

ICMR estimates that:

- 16%** of ischemic heart disease
- 21%** of peripheral vascular disease
- 24%** of acute myocardial infarctions
- 29%** of strokes are attributable to high blood pressure



Hypertension is present in **20-40% urban** and **12-17% rural** subjects in India.



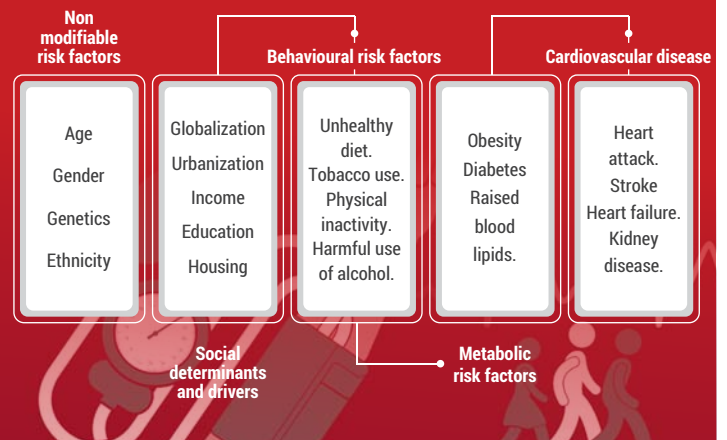
The number of people with hypertension is projected to increase from **118 million** in **2000** to **214 million** in **2025**, with nearly equal numbers of men and women



CLASIFICATION OF HYPERTENTION

Blood Pressure Category	Systolic mm Hg	and	Diastolic mm Hg
Normal	less than 120	and	less than 80
Prehypertension	120 - 139	or	80 - 89
Stage 1	140 - 159	or	90 - 99
Stage 2	160 or higher	or	100 or higher

FACTORS CONTRIBUTING TO THE DEVELOPMENT OF HIGH BLOOD PRESSURE & ITS COMPLICATIONS



LIFESTYLE MODIFICATIONS TO MANAGE HYPERTENSION⁽⁵⁾

<p>Modification Weight reduction</p> <p>Recommendation Maintain normal body weight (body mass index, 18.4-24.9 kg/m²)</p> <p>Approximate SBP Reduction Range 5-20 mmHg; 10-kg weight loss</p>	<p>Modification Adopt DASH eating plan</p> <p>Recommendation Consume diet rich in fruits, vegetables, low-fat dairy products, with reduced content of saturated and total fats</p> <p>Approximate SBP Reduction Range 8-14 mmHg</p>	<p>Modification Dietary sodium reduction</p> <p>Recommendation Reduce dietary sodium intake to no more than 100 mmol/day (2.4g sodium or 6g salt)</p> <p>Approximate SBP Reduction Range 2-8 mmHg</p>
<p>Modification Physical activity</p> <p>Recommendation Engage in regular aerobic physical activity (e.g., brisk walking) at least 30 min/day, most days of the week</p> <p>Approximate SBP Reduction Range 4-9 mmHg</p>	<p>Modification Moderation of alcohol consumption</p> <p>Recommendation Most men: Limit consumption to no more than two drinks/day Most women and those whose weight is less than normal: Limit consumption no more than one drink/day</p> <p>Approximate SBP Reduction Range 2-4 mmHg</p>	

DASH, Dietary Approaches to Stop Hypertension; SBP, systolic blood pressure

* For overall cardiovascular risk reduction, stop smoking.

† The effects of implementing these modifications are dose- and time-dependent and could be more effective for some patients.

‡ 1 oz or 30 mL ethanol: 12 oz wine, 1.5 oz of 80-proof whiskey.

TIPS TO GET AN ACCURATE BLOOD PRESSURE READING^(6,7)

<p>PUT CUFF ON BARE ARM Cuff over clothing adds 10-40 mm Hg</p>	<p>SUPPORT ARM AT HEART LEVEL Unsupported arm adds 10 mm Hg</p>
<p>DON'T HAVE A CONVERSATION Talking adds 10-15 mm Hg</p>	<p>EMPTY BLADDER FIRST Full bladder adds 10-15 mm Hg</p>
<p>SUPPORT FEET Unsupported feet adds 5-15 mm Hg</p>	<p>KEEP LEGS UNCROSSED Crossed legs adds 5-8 mm Hg</p>
	<p>SUPPORT BACK Unsupported back adds 5-15 mm Hg</p>



FACTORS CONTRIBUTING TO HIGH BLOOD PRESSURE AND ITS COMPLICATIONS.

All complications of hypertension are related to vascular (vessel wall) damage, either directly in the vessel or in certain organs.



Ophthalmic vascular disease:

- Hypertensive retinopathy
- Intraocular hemorrhage



Renal Vascular Disease:

- Chronic renal failure
- Renal artery stenosis



Cerebrovascular Disease:

- Haemorrhagic stroke
- Atherothrombotic stroke
- Sub-arachnoid haemorrhage
- Arterial aneurysms



Miscellaneous

- Vascular Syndromes



Coronary Artery Disease:

- Acute Myocardial Infarction
- Non-Q Myocardial Infarction/Unstable Angina
- Stable Angina Syndromes



Myocardial Disease:

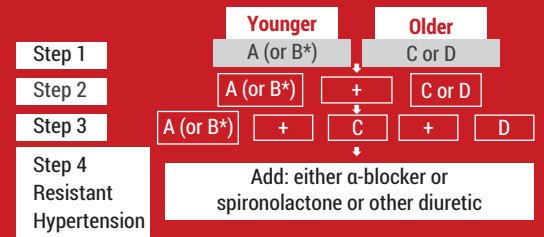
- Left ventricular hypertrophy
- Heart Failure (normal ejection fraction, reduced ejection fraction)
- Atrial fibrillation
- Other cardiac arrhythmias



Peripheral Vascular Disease:

- Aortic dissection
- Aortic aneurysms
- Large and small peripheral arterial disease

ALGORITHM FOR RECOMMENDED DRUG COMBINATION⁽⁸⁾



A : ACE Inhibitor or angiotensin receptor blocker |
B : Calcium Channel Blocker | C: β -blocker | D : Diuretic (thiazide)

*Combination therapy involving B and D may induce more new onset diabetes compared with other combination therapies. Use β blockers only in special situations. B = Newer β blockers. Younger age: <55 years, Older: >55 years

GUIDELINES FOR SELECTING THE MOST APPROPRIATE FIRST-LINE ANTIHYPERTENSIVE DRUGS

Class	Indications		Cautions	Contraindications	Side effects
	Compelling	Possible			
ACEis	CHF, post-MI, Type 1 and Type 2 diabetic nephropathy, Secondary stroke prevention	All individuals younger than 55 years. CKD, Type 2 diabetic nephropathy, proteinuria	Renal impairment (monitor Creatinine, K)	Pregnancy, renovascular disease	Dry irritating cough, angioedema, hyperkalemia and reversible decline in renal function in some
ARBs	ACEi intolerance	Same as above	Renal impairment (monitor Creatinine, K)	Pregnancy, renovascular disease	Cough, hyperkalemia and reversible decline in renal function in some
CCBs (DHP)	Elderly, Isolated systolic hypertension	Elderly, angina	-	-	Pedal edema at higher doses, headache, tachycardia
CCBs (rate limiting)	Angina	Angina	With β -blockade	Heart block, CHF	
Diuretics (Thiazide and thiazide like)	Isolated systolic hypertension	As an add on with the above drugs.	-	Gout	Metabolic -hypokalemia, hyperglycemia, hyperuricemia. (Low dose minimizes metabolic effects)
β -blockers	MI, Angina, CHF	-	-	Asthma, heart block, fatigue, reduced exercise tolerance, hyperglycemia especially when combined with diuretics	-
α -blockers	BPH	-	CHF, Postural hypotension	Incontinence	-
Aldosterone antagonist	Conn's syndrome; resistant hypertension	CHF	Hyperkalemia, gynecomastia	Hyperkalemia, gynecomastia, impotence, and menstrual abnormalities	-

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