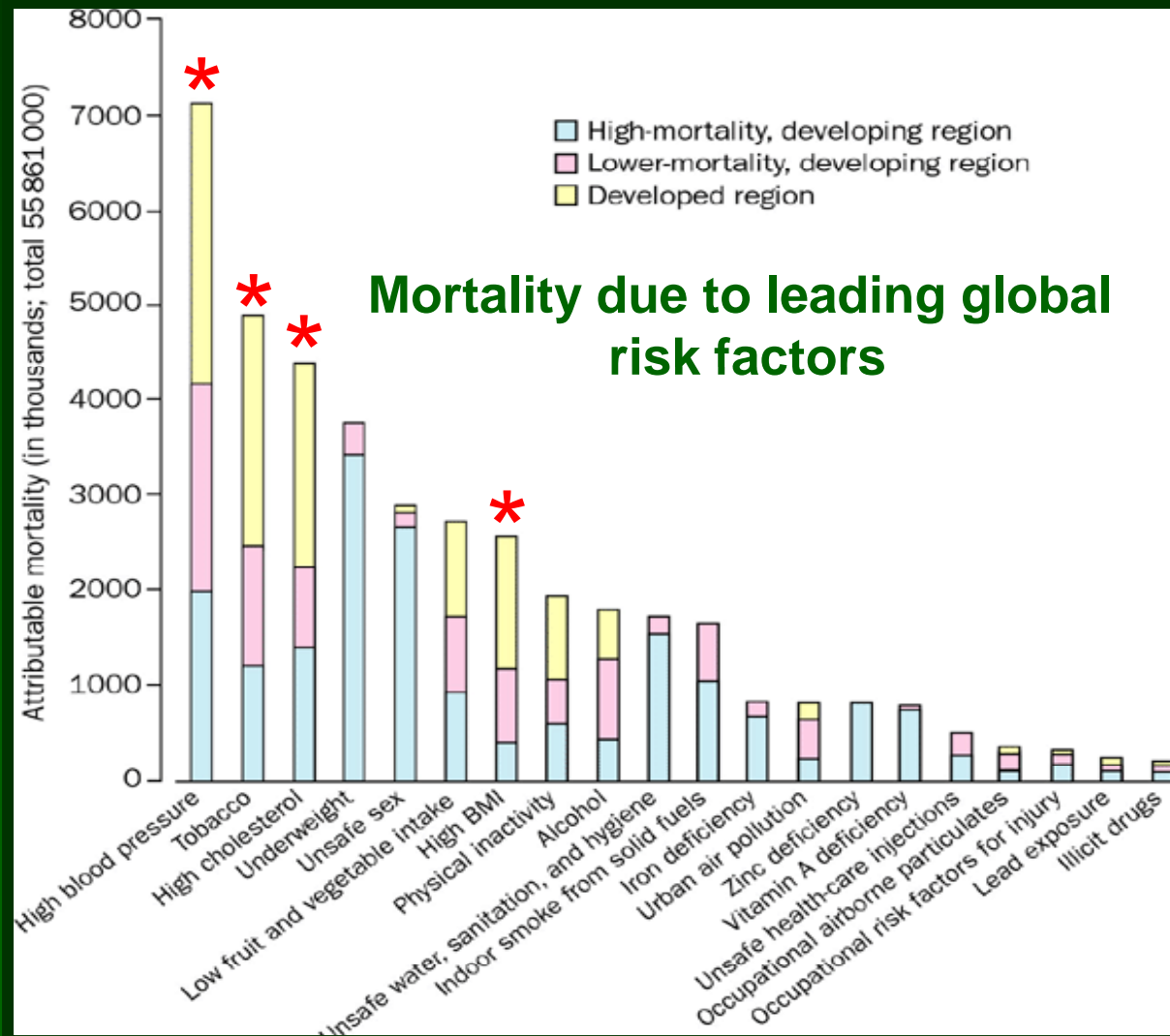


Risk Assessment of Hypertensive Patient

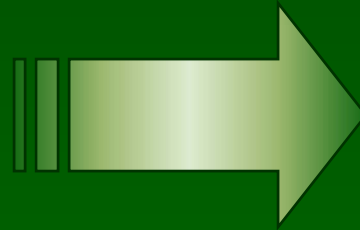
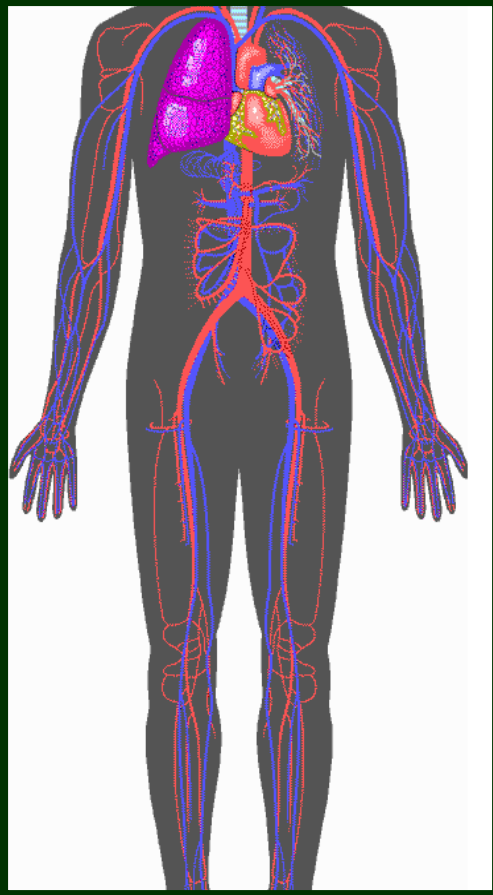
Azza Farrag

Assistant Professor of Cardiology
Cairo University





Hypertension is a prevalent and independent promoter of vascular damage



HEART
BRAIN
KIDNEY
LIMBS

The cardiovascular risk of hypertension varies in relation to:

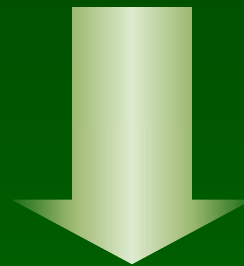
- Height of blood pressure
- Which component is elevated
- Target organ affected
- Burden of coexisting risk factors

Risk stratification of hypertensive patients

- Blood pressure level
- Component of blood pressure
- Primary vs. secondary
- Compelling indications
- Special situation
- Burden of CVD risk factors

**Most physicians consider height of BP to be
the most important consideration**

**Unfortunate tendency for some clinicians to
accept higher BP in elderly patients**



**Continuous graded influence of BP to CVD morbidity and
mortality exists
AT ALL AGES IN BOTH SEXES**

**A prudent BP for avoiding CVD is
<140/90 mmHg**

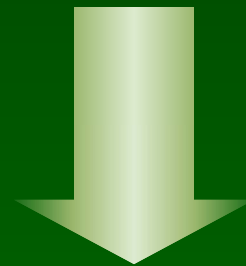
**Compared to optimal BP, high normal
(130-139/ 85-89 mmHg);**

**The Framingham study showed 1.6-2.5 increased
risk of hard CVD events**

NO

Indication to lower BP <115/75 mmHg

the current concept of a **DESIRABLE** BP is
no longer based on what is **USUAL**
but rather on what is **OPTIMAL**
for avoiding development
of CVD



THE GOAL OF THERAPY
Improve global CVD risk rather than simple lowering of BP

Since the beginning of 20th century, medical concepts about the hazards of HTN was attributed to diastolic BP

Only lately, the focus has been shifted to systolic BP

Most recently, to the pulse pressure

Recent Framingham study investigations found that with increasing age, there is shift in importance from diastolic to systolic and finally to pulse pressure for prediction of CVD events

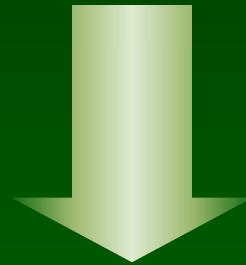
SYSTOLIC BP (MM Hg)	AVERAGE ANNUAL INCIDENCE					
	MEN (AGE IN YEARS)			WOMEN (AGE IN YEARS)		
	45-54	55-64	65-74	45-54	55-64	65-74
74-119	8	16	16	3	6	12
120-139	11	18	23	5	9	17
140-149	19	31	37	9	16	22
160-179	29	43	52	9	24	20
180-300	35	62	78	16	36	45

Incidence rate per 1000; trends all significant in specified age and sex groups.

Source: J Clin Hypertens © 2004 Le Jacq Communications, Inc

Extensive testing to identify causes of HTN is

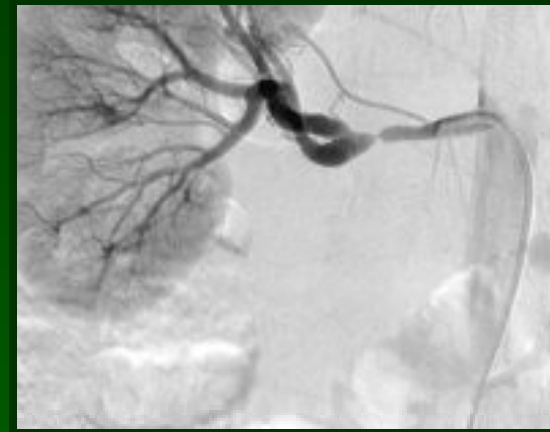
NOT recommended **UNLESS**



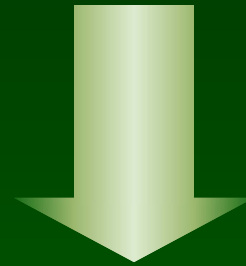
There is suggesting findings pointing to
secondary HTN or BP control cannot be achieved

Common causes of secondary HTN

- Sleep apnea
- Drug induced HTN
- Chronic kidney disease
- Renovascular disease
- Steroid therapy or Cushing syndrome
- Pheochromocytoma
- Coarctation of aorta



**JNC 7 notes a number of compelling indications
that merit special attention and follow up**



Heart failure

Post MI status

High CAD risk (>20% hazard for 10 Y)

Diabetes mellitus

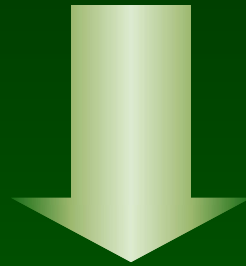
Chronic kidney disease

Prior stroke

Risk stratification of hypertensive patients

- Blood pressure level
- Component of blood pressure
- Primary vs. secondary
- Compelling indications
- **Special situation**
- Burden of CVD risk factors

**JNC 7 reflects upon number of special situations
that require attention in treatment of HTN**



LVH

Peripheral vascular disease

Postural hypotension

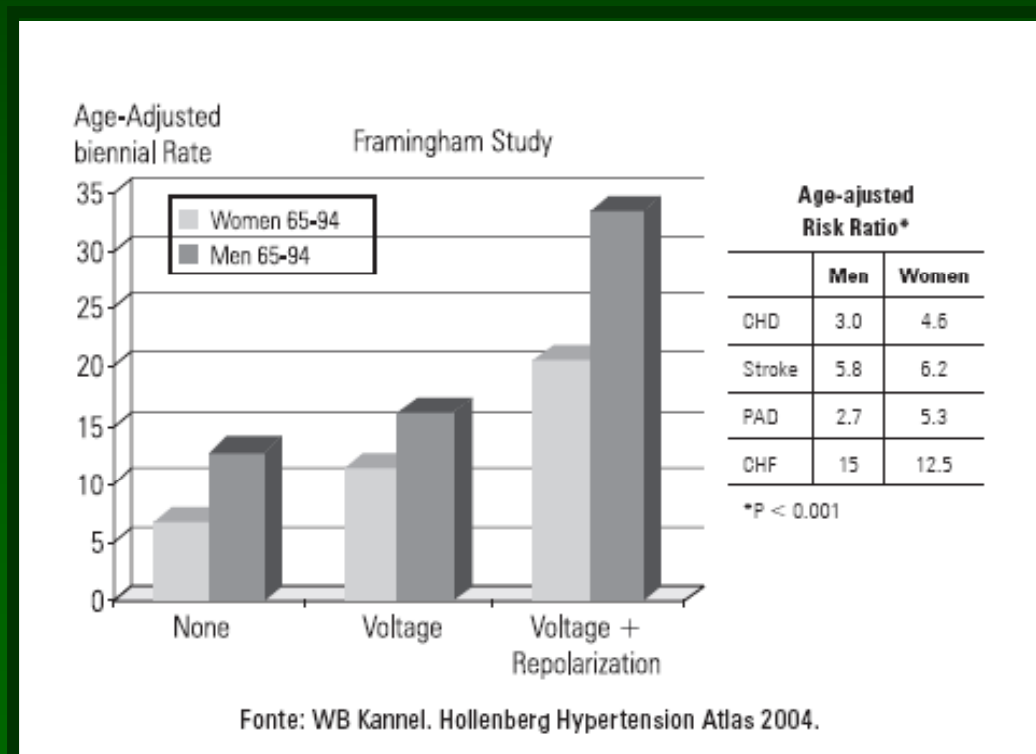
Elderly

Dementia

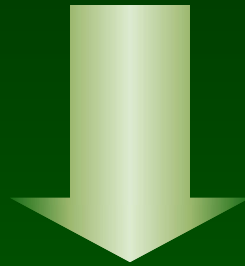
HTN in women

HTN in children and adolescents

LVH independently escalates the risk of future CVD to be comparable to those with atherosclerotic diseases



Postural Hypotension



More common in elderly
Systolic hypertension
Diabetes mellitus
Diuretic therapy
Psychotropics
Venodilators

Obesity and Metabolic Syndrome

Uncertain

**It is intrinsic component of metabolic syndrome
or an associated condition**

**It carries a lower risk than overt DM,
but being more prevalent,
it carries more risk in
general population**

Elevated BP seldom occurs in isolation of other CVD risk factors

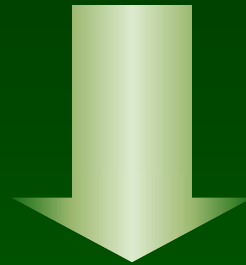
>80% have one or more coexisting risk factor
>55% have two or more risk factors

NO. OF RISK FACTORS	PERCENT WITH OTHER RISK FACTORS*	
	MEN	WOMEN
None	19	17
One	26	27
Two or more	55	56

*Other risk factors: upper quintile levels of total and low-density lipoprotein cholesterol, triglyceride, body mass index, glucose, and bottom quintile high-density lipoprotein cholesterol

Source: Kannel WB. Cardiovascular risk assessment in hypertension. In: Braunwald E, Hollenberg NK. *Atlas of Hypertension*. 4th edition. Philadelphia, PA: Current Medicine; 2003:115.

**All patients with HTN should be tested for
other risk factors**



Diabetes mellitus

Lipid profile

BMI and waist

Smoking

Chronic kidney disease

Dieting habits

Level of exercise