



## Learning Series - #11



### Making sense of medical terminology - HYPERTENSION



#### What is hypertension?

Blood pressure (BP) is created by the force that pumping blood exerts on the walls of blood vessels (arteries). The higher the pressure reading, the harder the heart has to pump. BP is commonly expressed as the ratio of the systolic BP (the pressure that the blood exerts on the arterial walls when the heart contracts) and the diastolic BP (the pressure when the heart relaxes)

Systemic arterial hypertension (hypertension) is characterized by persistently high BP in the systemic arteries.

#### Types of Hypertension (HTN)

1. *Primary, or essential, HTN* is the most common type and doesn't have a known secondary cause, and develops over time.
2. *Secondary HTN* is caused by another disease (kidney disease, adrenal disease, thyroid disorder, obstructive sleep apnea, stress) or by chemical substances (drugs and medications, and herbals/licorice).
3. *Additional types:*
  - *Isolated Systolic HTN (ISH):* the systolic BP is high, but the diastolic blood pressure is normal.  
\* Causes: artery stiffness, hyperthyroidism, diabetes, heart valve problems, obesity
  - *Malignant:* extremely high BP (>180/120) that develops rapidly and causes some type of organ damage, usually via a secondary caused like collagen vascular disease – i.e SLE, scleroderma, kidney disease, spinal cord injuries, adrenal gland tumor, and drug reactions
  - *Resistant:* BP pressure that remains above goal in spite of the concurrent use of three or more antihypertensive agents of different classes
  - *Refractory:* uncontrolled BP despite the use of five or more antihypertensive drugs
  - *Labile:* repeated or sudden changes from normal to abnormally high levels, usually in the presence of stressful situations.  
\* An example is white coat syndrome – when BP elevates in a medical setting/Dr's office, but not in other settings)

#### Risk Factors

- genetics and family history
- tobacco use
- continuous daily alcohol use
- obesity
- diabetes
- unhealthy diet
- physical inactivity
- age over 60
- postmenopausal female

#### Signs and Symptoms

HTN patients are largely asymptomatic, but may present with any or all of the following symptoms:

- headache ranging from mild to severe
- chest pain or angina pectoris
- shortness of breath or dyspnea with exertion
- vision changes
- dizziness
- fainting
- nosebleeds
- tinnitus
- confusion
- congestive heart failure
- cerebral hemorrhage
- personality changes

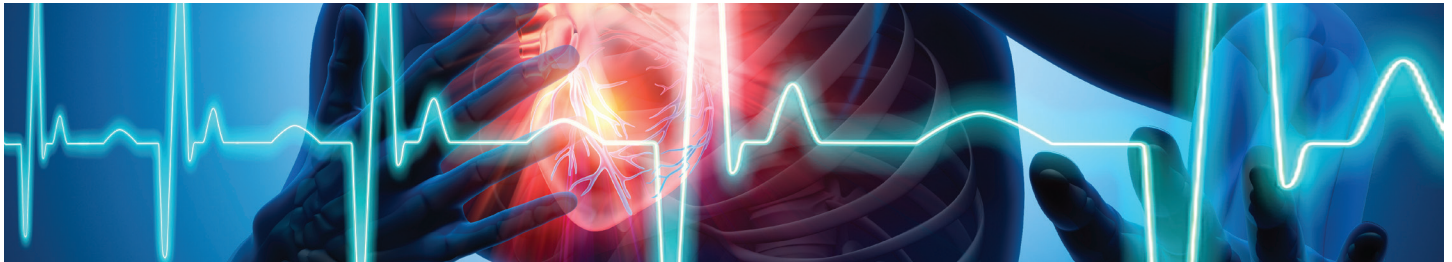




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### Making sense of medical terminology - HYPERTENSION (cont'd)



#### Treatment Methods

##### **Lifestyle changes**

- low sodium & saturated fat diet
- DASH (Dietary Approaches to Stop hypertension) diet, increase consumption of: nuts, whole grains, fruits and veggies
- regular physical exercise
- limiting the amount of alcohol intake  
male < 2 consumptions per day; female ≤ 1
- tobacco abstinence
- caffeine abstinence
- stress reduction – mediation, relaxation, biofeedback



##### **Medications and their side effects**

- Diuretics (water pills)
  - hypokalemia, gout, increased thirst, increased urination, blood sugar changes, gynecomastia, skin reactions
- ACE inhibitors
  - cough, headache, hypotension, reduced kidney function if BP too reduced
- Beta-blockers
  - cold extremities, fatigue, weight gain, depression, shortness of breath, insomnia, lipid changes
- Angiotensin II receptor blockers
  - hyperkalemia, dizziness, fatigue, respiratory tract infections, gastrointestinal issues
- Calcium channel blockers
  - edema, flushing, dizziness, heartburn/nausea
- Alpha blockers
  - postural hypotension, arrhythmias, nausea, weakness
- Alpha-2 Receptor Agonists
- Combined alpha and beta-blockers
- Central agonists
  - dry mouth, drowsiness, headache, sleepiness, depression, nightmares
- Peripheral adrenergic inhibitors
- Vasodilators
  - excessive hair growth, weight gain, headaches, palpitations, aches/pains in joints

#### Importance of Treatment

Hypertension is the most important modifiable risk factor for all-cause morbidity and mortality worldwide.

It is associated with increased risk of cardiovascular disease, including coronary artery disease, heart failure, stroke, myocardial infarction, atrial fibrillation and peripheral artery disease; chronic kidney disease (CKD) and cognitive impairment.

The relationship between BP and the increased risk of CVD is graded and continuous.

Studies showed that lowering BP by 5 mmHg diastolic reduces the risk of stroke by an estimated 34% and ischemic heart disease by 21%.







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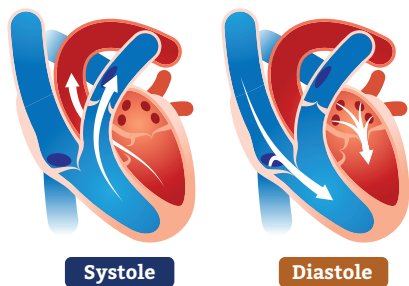
“ The strength  
of expertise ”

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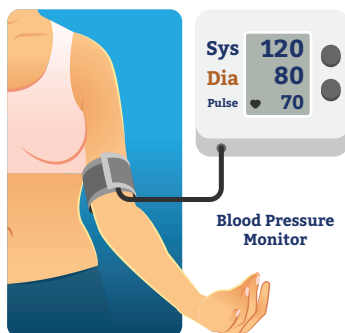
#### Underwriting Quick Reference

## High Blood Pressure Hypertension



**Hypertension**, also known as High Blood Pressure (HBP) is a medical condition in which the **Blood Pressure** in the arteries is persistently **elevated**.

#### Damage from High Blood Pressure



Normal	Elevated	Stage 1 Hypertension	Stage 2 Hypertension	Hypertensive crisis
Less than 120 Less than 80	120 to 129 Less than 80	130 to 139 or 80 to 89	140 to 180 or 90 to 120	Higher than 180 Higher than 120

#### Symptoms



#### Underwriting Considerations

1. Current blood pressure readings with MD:
  - regular follow-up
  - compliance with medications
2. Any end organ complications?
  - cerebrovascular disorders - dizziness, confusion, memory or mood changes, possible CVA concerns
  - kidney disease - proteinuria, microalbuminuria, abnormal kidney ultrasound findings, low GFR
  - coronary artery disease - ER visits for chest pain, angina without cardiac testing
  - congestive heart failure - pitting pedal edema, shortness of breath, dyspnea
  - rhythm disorders - atrial fibrillation
  - aortic aneurysm in the presence of uncontrolled HTN
  - additional/underlying risks or causes of HTN that are not controlled - alcohol usage, sleep apnea, stress/anxiety, obesity, diabetes

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