



ELDER CARE

A Resource for Providers

Systolic Hypertension in Elders

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Older adults frequently have elevated systolic blood pressures (BPs). For many years, medical professionals have accepted both classic hypertension and isolated systolic hypertension (ISH) as a natural consequence of aging. As studies continue to show, however, *any* reduction in blood pressure, in adults at *any* age, can significantly reduce both overall and cardiovascular mortality, as well as the incidence of stroke and cardiac events. Though the results are mixed, new evidence also suggests that ISH and dementia are linked; thus, blood pressure control might also delay the development of cognitive dysfunction.

The most recent recommendations of the JNC 7, issued in 2003, state that elders be subject to the same BP parameters as the rest of the adult population (see references). Explicitly, *normal* blood pressure is defined as less than or equal to 120/80 mmHg for all adults. Pressure above that, but below 140/90 mmHg is considered *prehypertension*, a state which should be addressed seriously with lifestyle modification. Because of increased morbidity, the JNC 7 recommends that all diabetics aim for even lower blood pressures $\leq 130/80$ mmHg. *Hypertension* is defined as blood pressures $\geq 140/90$ mmHg,

further divided into Stage One ($<160/90$ mmHg) and Stage Two ($\geq 160/90$ mmHg). Using these definitions, it is estimated that one billion people worldwide, and over one-third of Americans over the age of 65, suffer from hypertension.

Effective treatment of this silent killer often requires a team approach between the patient and the medical staff, to ensure maximum adherence to therapy. Lifestyle modification is the easiest suggestion and the most difficult challenge for most patients. Smoking cessation and weight loss are paramount for many patients. Exercise and dietary salt restriction are also strongly recommended, but these are often unattainable goals for many elders. The drugs of choice for initial anti-hypertensive therapy are diuretics. Most ISH patients, however, particularly $SBP > 160$, will require two drugs for successful therapy. Recent data suggest that Calcium Channel Blockers (CCBs) and/or Angiotensin Converting Enzyme Inhibitors (ACEIs) may be more beneficial and better tolerated in older patients. Don't forget the old adage - "start low and go slow." Don't accept elevated BP—treat!



Annual B/P evaluation is recommended for all adults



Salt restriction may be a quality of life issue for some

elders, and may be unreasonable for those who already have nutritional issues and decreased oral intake.



Exercise can often be difficult for elders. If able, walking 30 minutes a day can be of great cardiovascular benefit.



Patient education and a team approach can help with medication adherence, as can once a day dosing schedules.

TIPS FOR DIAGNOSING AND TREATING HYPERTENSION IN ELDERS

- Ask all new patients about their HTN history and CV risk factors
- Perform a good physical exam—check BP in both arms, orthostatics, listen for bruits, murmurs, S4 ; check for edema and retinopathy, palpate thyroid, calculate BMI; get BP readings on 3 occasions
- Perform ECG, laboratory exam with attention to renal and thyroid
- Identify all treatable causes of hypertension
- Remember that life style changes may not be a realistic option in many elders
- Remember it often takes two medications to control BP—start with a diuretic and consider comorbidities when choosing a second medication
- Remember START LOW and GO SLOW with all elders

Exogenous Substances that Contribute to Hypertension

Prescription

Steroids
 Sympathomimetic Drugs
 Decongestants
 NSAIDs
 Cyclosporine
 Tacrolimus
 Erythropoietin
 *Diet Pills
 *Oral Contraceptives

Non-Prescription

Excess Alcohol
 Licorice
 Chewing Tobacco
 Smoking
 Ephedra
 Ma Huang
 Bitter Orange
 *Anabolic Steroids
 *Amphetamines

Treatable Causes of Hypertension

Cushing's Syndrome
 Renovascular Disease
 Chronic Kidney Disease
 Primary Aldosteronism
 Thyroid Disease
 Parathyroid Disease
 **Pheochromocytoma
 **Coarctation of the Aorta
 *Uncommonly seen in elders
 **Usually diagnosed earlier in life

Blood Pressure Components & Their Significance

Elevated systolic blood pressure implies stiffening of large arteries and is the most common type of BP disorder in the elderly.

Elevated diastolic blood pressure implies increased peripheral resistance, and is

commonly seen in younger hypertensives.

A widened pulse pressure greater than 50 mm signifies cardiovascular disease. Peripheral vascular response often becomes diminished with age, and therefore, diastolic

BP often normalizes in elders. When this is coupled with elevated systolic pressures from large artery stiffness a widened pulse pressure results. Don't forget to look for other culprits, however, like valvular heart disease (eg. Aortic regurgitation).

BP Problems Encountered more Frequently in the Elderly

Orthostatic Hypotension – from normal aging, Parkinson's disease, dehydration, alpha blocking agents -associated with falls, hip fractures

White Coat Hypertension – an ambulatory 24 hour BP monitor can help to sort this out

Labile Blood Pressure – swings in blood pressure are associated with an increased stroke rate

???? Did You Know ????

Blood pressure was first described and measured in 1731 by Stephen Hales of England, building on William Harvey's theories regarding circulation. The stethoscope ("I see the chest"—Greek) was invented by Parisian Laennec in 1816 when he was embarrassed to place his ear on a young woman's chest. In 1905, the Russian surgeon Karotkoff used the stethoscope to measure blood pressure, eventually leading to the discovery of HTN.

References

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