



## Hypertension in the Old and Very Old

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Blood pressure tend to increase with age due to mechanical hemodynamic changes, decreasing amount of elastin in the vessel wall, increasing vascular stiffness, increasing endothelial dysfunction, neurohormonal and autonomic dysregulation, increasing salt sensitivity and increasing comorbid conditions such as chronic kidney disease and obesity.

The aging changes in the kidney are increased salt sensitivity due to a decline in the activity of the sodium, potassium, calcium adenosine triphosphate pumps which may lead to vasoconstriction and vascular resistance.

In very elderly there is a paradoxical fall in diastolic blood pressure mainly due to the central arterial stiffness, loss of elasticity of the arterial wall. This results in isolated systolic hypertension and widened pulse pressure.

Reduced baroreflex sensitivity with age and loss of artery compliance causes Ortho static hypotension. Postprandial hypotension in the elderly may be related to reduce sympathetic response to a meal.

Management strategies for hypertension in older adults must consider the degree of frailty, increasingly complex medical comorbidities, ability to follow instructions, complexity of the current regimen, supporting care (i.e., spouse and family), psychosocial factors and lastly electrolytes and renal function. Thiazide diuretics, angiotensin-converting enzyme (ACE) inhibitor, angiotensin II receptor blockers (ARB), and CCB have all shown benefit on CVD outcomes in elderly patients. Treatment should be initiated with caution monitoring of adverse events and maybe with a slightly higher target range as per the age.

### Conclusion

Screening, improving access to care and adoption of guideline driven management and non-pharmacological treatment are important in the overall management of elderly patients. Further research is needed in the very elderly population since many clinical trials include a small proportion of persons over the age of 85 years.