

# CONCEPTS IN HYPERTENSION

A Journal Article Based Approach to Understanding the Clinical Aspects of Hypertension

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## Article of Interest

Lewington, S et al. Age-specific relevance of usual blood pressure to vascular mortality: a meta-analysis. *Lancet*. 2002. (Click to Access)

## Context and Study Objective

Over time, target blood pressure (BP) among hypertensives has been driven lower based on improved cardiovascular outcomes data. Physicians are often hesitant to achieve more aggressive BP goals among the elderly as they are felt to be "too old" to benefit. This paper sought to characterize the relationship between blood pressure and cardiovascular event rate by age.

## Design, Setting, and Participants

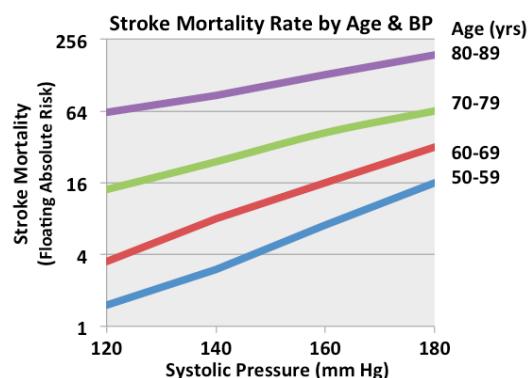
A meta-analysis was undertaken of prospective observational studies reporting baseline patient characteristics and cause of death. Those with a history of CV disease were excluded. Cholesterol, diabetes, weight, tobacco, were controlled for. Results are portrayed as the risk of death during a particular decade based on BP obtained at the start of that decade; event rates are depicted as "floating absolute risk," a metric similar to relative risk.

## Results

-61 studies with nearly 1 million individuals were analyzed.

-The risk of stroke increases linearly from pressures of 115/75 mm Hg upward. Every 20 (systolic) or 10 (diastolic) mm Hg increase in BP results in a doubling of stroke risk.

-Age is a more important risk factor for stroke than BP; an 80 year old with a systolic pressure of 120 mm Hg is four times more likely to have a stroke in the coming decade than a 50 year old with systolic pressure of 180 mm Hg.



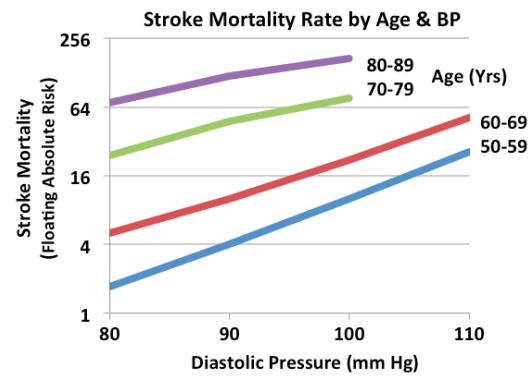
## Clinical Perspective

-While hypertension is the leading modifiable risk factor for stroke, age is the most important one. An 85 year old is 20-35 times more likely to suffer a stroke than a 55 year old with an identical BP over the following 10 years.

-While this observational data shows the prevalence of stroke rises with BP/age, interventional trials in the elderly (HYVET) and those treated to more intensive targets (SPRINT) show clear improvements in CV outcomes with lower achieved pressures.

-As such, elderly patients are the *most likely* to benefit from anti-hypertensive therapy (lower number needed to treat) and shouldn't be considered "too old" for medications.

-I maintain or intensify BP control as the patient ages with careful consideration of co-morbid conditions, patient frailty, diastolic pressures, and BP tolerability.



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Creator & Author: Hillel Sternlicht, MD

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