

# Systolic Hypertension: An Overview

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## Editorial

Systolic hypertension is a medical term for high systolic blood pressure (SBP). It's called "isolated systolic hypertension" when the systolic blood pressure (SBP) is high (>140) while the diastolic blood pressure (DBP) is normal (90). Systolic hypertension may be caused by the aorta's decreased compliance as people get older. This causes left ventricular hypertrophy, coronary ischemia, and heart failure by increasing the strain on the ventricle and compromising coronary blood flow. A computer portrayal of a single heartbeat using an immersed boundary method has been demonstrated in recent science. Immersed boundary theory, when applied to physiologic models, depicts the heart as a large folded semisolid sail that fields and retrieves a viscous blood mass. The sail gives and receives a load in time-ordered stages, similar to the Windkessel effect physiology. The start of systolic hypertension is signalled by the sail's decreasing compliance.

The purpose of systolic hypertension treatment is to delay and minimise damage to the heart, cerebrovascular system, and kidneys. A low-sodium (salt) diet rich in whole grains, fruits, and vegetables is one of the most important lifestyle treatments for successful treatment. Weight loss, increasing physical activity, and restricting alcohol use have all been shown to be effective in clinical trials. Medication, in addition to lifestyle adjustments, can be used to lower systolic hypertension to acceptable levels. According to these researches, treatment to a systolic blood pressure of 140 while maintaining a diastolic blood pressure of 68 or higher appears to be safe. Allowing the diastolic to fall below 70 may enhance harmful consequences, according to a reanalysis of the SHEP data [1-5].

The lowest diastolic blood pressure for which cardiovascular outcomes improve is 85 mm Hg for untreated hypertensive and 80 mm Hg for treated hypertensive, according to a meta-analysis of individual patient data from randomised controlled trials. "Poor health problems leading to low blood pressure and an increased risk of death certainly explain the J-shaped

curve," the scientists found. It's difficult to interpret the meta-analysis, however avoiding a diastolic blood pressure of less than 68–70 mm Hg appears sensible because:

- The meta-analysis' low value of 85 mm Hg for treated hypertensive is greater than the two largest randomised controlled trials of isolated systolic hypertension, which show a value of 68–70 mm Hg.
- The individuals in the meta-two analysis's largest studies, the Hypertension Detection and Follow-up Program (HDFP) and the Medical Research Council study in moderate hypertension were mostly middle-aged and had diastolic hypertension before treatment.
- In the meta-analysis, the independent contributions of diseases and factors other than hypertension vs treatment effects are not obvious.

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