

# Low diastolic blood pressure may be associated with brain atrophy

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Low baseline diastolic blood pressure (DBP) appears to be associated with brain atrophy in patients with arterial disease, whenever declining levels of blood pressure (BP) over time among patients who had a higher baseline BP were associated with less progression of atrophy, according to a report published Online First by *JAMA Neurology*.

"Studies have shown that both high and [low blood pressure](#) (BP) may play a role in the etiology of brain atrophy. High BP in midlife has been associated with more brain atrophy later in life, whereas studies in older populations have shown a relation between low BP and more brain atrophy. Yet, prospective evidence is limited, and the relation remains unclear in patients with manifest [arterial disease](#)," according to the study.

Hadassa M. Jochemsen, M.D., of University Medical Center Utrecht, the Netherlands, and colleagues examined the association of baseline BP and change in BP over time with the progression of [brain atrophy](#) in 663 patients (average age 57 years; 81 percent male). The patients had [coronary artery disease](#), cerebrovascular disease, [peripheral artery disease](#) or abdominal aortic aneurysm.

According to the results, patients with lower baseline DBP or mean arterial pressure (MAP) had more progression of subcortical (the area beneath the cortex of the brain) atrophy. In patients with higher BP (DBP, MAP or systolic BP), those with declining BP levels over time had less progression of subcortical atrophy compared with those with rising BP levels.

"This could imply that BP lowering is beneficial in patients with higher BP levels, but one should be cautious with further BP lowering in patients who already have low BP," the study authors conclude.

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