

## Changes in sleep duration and subsequent risk of hypertension in healthy adults

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### Abstract

#### Study Objectives

It is unknown whether changes in sleep duration are associated with hypertension risk. The aim of this study was to investigate whether changes in sleep duration were associated with subsequent risk of developing hypertension in young and middle-aged women and men.

#### Methods

We analyzed data from 106385 participants who were free of hypertension and cardiovascular disease during the exposure period and who underwent a health checkup exam, including repeated measures of sleep duration.

#### Results

Over 250907.5 person-years, we documented 4750 incident cases of hypertension. Both a decrease in sleep duration and persistently short sleep were associated with an elevated risk of hypertension during the subsequent 2.4 years. In analyses for relevant covariates during the exposure period, a decrease of  $\geq 2$  hours of sleep and an increase of  $\geq 2$  hours of sleep compared with no change in sleep duration were associated with a higher risk of incident hypertension in women (hazard ratio [HR]: 1.46; 95% confidence interval [CI] 1.08–1.98) and men (HR: 1.31; 95% CI 1.10–1.56). Women with persistently shorter sleep durations compared with those who maintained 7 hours of sleep, were at greater risk of developing hypertension during the subsequent follow-up period.

#### Conclusion

In this large study of young and middle-aged women and men, we found that individuals with either considerable changes in sleep duration or persistently short sleep were at an increased risk of incident hypertension, underscoring the importance of maintaining moderate sleep duration to prevent hypertension.

[sleep](#), [hypertension](#), [incidence](#), [risk factors](#), [men](#), [women](#)

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