

## Side Sleeping Position is Associated with Less Frequent Nighttime Numbness and Tingling

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**Introduction:** Carpal tunnel syndrome (CTS) is the most common peripheral nerve compression. Annually, approximately one million adults<sup>1</sup> in the United States are affected by CTS leading to an estimated 400,000 surgeries performed each year<sup>2</sup>. Patients suffering from CTS have worse health-related quality of life compared to the general population.<sup>3</sup> Several risk factors have been associated with the development of CTS including, age, body mass index (BMI), pregnancy, and wrist morphology<sup>2</sup>. A single study has identified sleep position as a causative factor in the development of CTS<sup>2</sup>. Our study evaluates the influence of age on the report of nighttime paresthesias and further examines the relationship between sleep position and reports of hand paresthesias.

**Methods:** A cross-sectional study of 420 participants was performed. Participants were sent an anonymous online questionnaire regarding their preferred sleeping position, frequency of nighttime paresthesias, and risk factors for CTS including, age, gender, BMI, sleep position, elbow position, wrist position, CTS diagnosis, previous carpal tunnel surgery, smoking, diabetes, and thyroid disease. Incomplete questionnaires were excluded. Data analysis was performed using ordinal and logistic regressions.  $P < 0.05$  was considered significant.

**Results:** 420 participants responded to the survey and 396 were included in the analysis (128 males and 268 females with a mean age of  $38.8 \pm 20.5$  years). Nighttime paresthesias were present among all age groups. Nineteen percent of those under 20 years of age, 26 percent of respondents between 20 and 30 years of age, and 46 percent of respondents between 30 and 40 years of age experienced at least 1 to 2 episodes of nighttime paresthesias per week. Side sleeping ( $p=0.003$ ), side sleeping with other sleep positions ( $p=0.001$ ), and sleeping with the wrist straight ( $p=0.031$ ) were significantly associated with fewer episodes of nighttime paresthesias. As age increased, the likelihood of side sleeping increased, with participants less than 20 years of age being the most likely to choose sleeping in a non-side lying position.

**Conclusions:** Populations much younger than typically thought of as being at risk for CTS experience nighttime paresthesias and may benefit from earlier intervention to prevent the future development of CTS. A lateral sleep position is associated with a decrease in nighttime numbness and tingling and is the preferred sleep position as age increases.

### REFERENCES:

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