

# Excess Sleep Can Increase Stroke Risk by 85%

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## STORY AT-A-GLANCE

- › Compared with sleeping seven to eight hours a night, those who slept for nine hours or more had a 23% greater risk of stroke
- › Those who took long midday naps of more than 90 minutes also had a greater stroke risk – by 25% – than those who napped for 30 minutes or less
- › The greatest risk occurred among those who both slept for nine hours or more at night and napped for more than 90 minutes; this combination increased stroke risk by 85%
- › Sleeping for less than seven or more than eight hours per night is associated with an increased risk of high blood pressure, a leading risk factor for stroke

While the pitfalls of too little sleep have been well documented, there are also risks of sleeping too much, which is generally defined as more than nine hours a night. Specifically, excessive sleep, along with long midday naps, may increase your risk of stroke, according to a Chinese study involving 31,750 people.<sup>1</sup>

It's unclear exactly why excess sleep increases stroke risk, but long nappers and sleepers are more likely to have increased waist circumferences and inactive lifestyles, both of which are risk factors for stroke. However, other mechanisms could also be at play, as the relationship between sleep and cardiovascular health is complex and still being explored.

## Too Much Sleep, Long Naps Increase Stroke Risk by 85%

Compared with sleeping seven to eight hours a night, those who slept for nine hours or more had a 23% greater risk of stroke, while shorter sleep (less than six hours a night) had no significant effect on stroke risk. Those who took long midday naps of more than 90 minutes also had a greater stroke risk – by 25% – than those who napped for 30 minutes or less.<sup>2</sup>

The greatest risk of all, however, occurred among those who both slept for nine hours or more at night and napped for more than 90 minutes. This excessive sleep combination increased stroke risk by 85% compared to moderate sleepers and nappers.

Sleep quality also matters, and the researchers found, "Compared with good sleep quality, those with poor sleep quality showed a 29%, 28% and 56% higher risk of total, ischemic, and hemorrhagic stroke, respectively."<sup>3</sup> People who were long nighttime sleepers with poor sleep quality were 82% more likely to have a stroke compared to moderate sleepers with good-quality sleep.

What's more, even switching sleep duration from moderate to long increased stroke risk. Those who switched from seven to nine hours of sleep a night to nine hours or more were 44% more likely to have a stroke than persistent moderate sleepers.<sup>4</sup> Previous research has also linked sleeping for more than eight hours per night with stroke, particularly in the elderly and women.<sup>5</sup>

## **The Link Between Sleep Duration and Stroke**

In the U.S., more than 795,000 people have a stroke every year, which amounts to one stroke every 40 seconds.<sup>6</sup> While stroke is the second leading cause of death, and a leading cause of disability, worldwide,<sup>7</sup> it's only recently that its link to sleep has become more widely recognized. In fact, most strokes occur in the first hours of the day, a time during sleep when blood pressure patterns dip, then surge in the morning.

"This morning blood pressure surge has been suggested to lead to increased cardiovascular and cerebrovascular events in the morning by disrupting vulnerable

plaques, leading to rupture and thrombosis," researchers explained in the journal *Frontiers in Neurology*.<sup>8</sup>

Sleep duration is also associated with an increased risk of high blood pressure, a leading risk factor for stroke. One study revealed, for instance, that sleeping for less than seven or more than eight hours per night is associated with an increased risk of high blood pressure.<sup>9</sup>

Disrupted sleep, including that caused by sleep apnea or limb movements during sleep, can also raise stroke risk, as noted in the *Journal of Stroke*,<sup>10</sup> perhaps because it puts extra stress on your cardiovascular system:

*"Any causes of sleep curtailment or fragmentation such as sleep restriction, sleep apnea, insomnia, periodic limb movements during sleep, and shift work, not only impair cardiovascular restoration but also impose a stress on the cardiovascular system. Sleep disturbances have been reported to play a role in the development of stroke and other cardiovascular disorders."*

In order to reduce your risk of stroke and other chronic conditions, optimizing your sleep is crucial – but what's the "magic" number? Adults need an average of seven to nine hours of sleep a night, with most doing well with about eight.

## **Additional Risk Factors for Stroke**

There are a number of risk factors for stroke aside from excess sleep, many of them physical in nature. As mentioned, high blood pressure is the greatest one, increasing risk of stroke by two- to fourfold.<sup>11</sup> Other health conditions, including heart disease, diabetes, atherosclerosis and obesity, also increase the risk, as do smoking cigarettes and physical inactivity.

Using antibiotics for an extended period of time during middle-age or later may also increase the risk of cardiovascular disease, including heart attack and stroke, in women.<sup>12</sup>

Among younger adults, in particular, men have a higher risk of stroke than women, and African-American and Hispanic Americans are about two times more likely to have a stroke than Caucasians.<sup>13</sup>

Further, according to Dr. Lee H. Schwamm, stroke neurologist at Massachusetts General Hospital, and Dr. Lawrence R. Wechsler, professor of neurology at Perelman School of Medicine School of Medicine, the risk factors for stroke among people under the age of 50 differ from those in older patients, and include the following:<sup>14</sup>

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Arterial dissection causing a blood clot – Causes of arterial dissection, which is when the lining of an artery tears, can occur during sudden neck movements, including sports injuries to the neck and jolting that can occur when riding a roller coaster

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Hole in the heart (patent foramen ovale) – An estimated 1 in 4 people has this condition, which raises your odds of a stroke, as it can allow a blood clot to cross through your heart and into your brain

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Blood clots

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Heart defects or disturbed heart rhythm

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Narrowing of the arteries caused by stimulants or drugs, causing a sudden lack of oxygen to your brain

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Aneurism or arteriovenous malformation

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## **Exercise Slashes Stroke Risk**

What's worse for your health than excess sleep is excess sleep combined with physical inactivity and prolonged sitting. In fact, one study found "... physical inactivity, prolonged

sitting and/or long sleep duration ... had the strongest associations with all-cause mortality."<sup>15</sup>

The good news is that exercise is very effective at both improving your sleep quality and reducing your risk of stroke, even in small doses. Less than an hour of strength training per week can reduce your risk for heart attack and stroke anywhere from 40% to 70%.<sup>16</sup> Less than one hour of strength training per week also lowered the risk of metabolic syndrome, which raises your risk for Type 2 diabetes, heart disease and stroke, by 29%.<sup>17</sup>

Daily walks may also have a protective effect, particularly in reducing stroke severity should one occur. Adults who participate in light to moderate physical activity may have less severe strokes than their physically inactive peers, with researchers recommending at least four hours of walking or two to three hours of swimming a week as a potential means of reducing stroke severity.<sup>18</sup>

One reason why exercise is protective against stroke is because elevating your core temperature through exercise, steam rooms, hot baths or saunas helps optimize heat shock proteins (HSP) inside your cells, which limit cellular damage facilitate cellular recovery,<sup>19</sup> and improves protein misfolding and repair.

Accumulation of damaged HSP may lead to plaque formation in your brain or cardiovascular system, thus leading to an increased risk of stroke or cardiovascular disease. Toward that end, researchers have also linked sauna use with a reduced risk for stroke and high blood pressure, because it increases heat shock proteins.<sup>20</sup>

## **Most Strokes Are Due to Lifestyle Factors**

The vast majority of strokes are linked to modifiable lifestyle factors, which is why I strongly encourage you to take control of your health to reduce your risk. If you're sleeping too much, seek out the underlying reasons why and address them at the source.

Overall, however, many of the same risk factors that raise your risk of heart disease – such as obesity, smoking and inactivity – also raise your risk of stroke. Common nutrient deficiencies, like vitamin D and magnesium, also raise your risk.

Ideally, measure your vitamin D level twice a year and make sure you maintain a healthy level between 60 and 80 ng/mL (150 and 200 nmol/L) year-round, either from sensible sun exposure or oral supplementation, or both. To raise your magnesium level, eat magnesium-rich foods and/or take a magnesium supplement, balanced with vitamins D3, K2 and calcium. Other key stroke-prevention strategies include:

- **Eat real food** – A diet of unprocessed or minimally processed whole foods, rich in healthy fats and fermented foods and low in net carbs, will protect your heart and cardiovascular health.
- **Manage your stress** – Stress is associated with a high-risk of stroke,<sup>21</sup> and while experiencing stress is inevitable, how you manage it can make the difference in how it affects your health. My favorite overall tool to manage stress is [EFT \(Emotional Freedom Techniques\)](#).

## **Act FAST if Stroke Occurs**

If you or a loved one is having a stroke, emergency medications can dissolve the clot that is blocking blood flow to your brain. Acting fast is crucial, however, as in order to be effective, you typically need to get help within three hours – and the sooner the better.<sup>22</sup>

Most strokes occur without warning, so knowing the following symptoms of stroke and calling 911 immediately can therefore be the difference between life and long-lasting disability or death.

- Sudden numbness or weakness of face, arm or leg, especially when occurring on one side of the body; face drooping, typically on just one side
- Sudden confusion; trouble talking or understanding speech
- Sudden trouble seeing in one or both eyes, or double vision

- Sudden trouble walking, dizziness or loss of balance or coordination
- Sudden severe headache with no known cause; nausea or vomiting

Even if the symptoms are brief and disappear, a mini stroke may have occurred, so get emergency help if you or a loved one experiences any of these symptoms. A helpful acronym to memorize is FAST:

F: Face drooping

A: Arm weakness

S: Speech impairment

T: Time to call 911!

After a stroke, neuroplasticity training can also help you to regain lost function if implemented immediately. Bob Dennis' book "Stroke of Luck: Master Neuroplasticity for Recovery and Growth After Stroke," and its shortened version, "[Stroke of Luck: NOW! Fast and Free Exercises to Immediately Begin Mastering Neuroplasticity Following a Stroke](#)," are excellent reference books that can help you to optimize recovery after a stroke.

## Sources and References

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