

# Sleep is good for your heart

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Sleep isn't just a way to pass the time. It's essential to health, right through to your heart.

This June, the American Heart Association (AHA) added sleep to its [heart health](#) checklist, now an 8-item list created to help people reflect

on and improve lifestyle habits.

"Sleep is taking its rightful place as a significant risk factor for [cardiovascular disease](#)," says behavioral scientist Brooke Aggarwal, EdD, who has been studying heart health and sleep for six years in the Department of Medicine (in Cardiology) at Columbia University Vagelos College of Physicians and Surgeons. Her team's research—including a study that found poor sleep among women correlates with worse cardiovascular health scores—was cited as evidence that led to the AHA checklist change.

According to research, more than 80% of cardiovascular events, including [heart attack](#), [abnormal heart rhythms](#), and [coronary artery disease](#), are preventable with [healthy lifestyles](#) and management of known risks. The point of the checklist is to help everyone keep their hearts healthy.

Aggarwal spoke with us to explain why sleep joined nicotine exposure, physical activity, diet, weight, [blood glucose](#), cholesterol, and blood pressure on the AHA Life's Essential 8 list.

## **How sleep impacts the heart**

Sleep intertwines with other factors that impact cardiovascular health, so it's always been an element.

Poor sleep can affect the heart indirectly by influencing our choices about food and exercise. "Our research shows not sleeping well may lead to increased food cravings and gravitation to less heart-healthy comfort foods high in saturated fat and sugar," Aggarwal says. And when you don't eat well, you don't sleep well. The relationship works both ways, and the same is true for physical activity, she adds.

People who do not get enough sleep are also more likely to develop [high blood pressure](#), which increases the risk of developing heart disease.

Lack of sleep also promotes inflammation. "You need [inflammatory cells](#) to protect you from illnesses, but too many that stay for too long even when there's no danger can result in chronic inflammation and, eventually, heart disease," Aggarwal says. Research from Columbia scientists shows that even relatively mild sleep problems can cause inflammation in the endothelial cells that line the veins, which could significantly contribute to the development of cardiovascular disease.

Too much sleep can cause problems, too, though the reasons are still undetermined. The current hypothesis is that excess sleep itself is not harmful, but people who sleep more than nine hours per night are likely to have depression or other illnesses that impact the heart.

"Sleep is easy to measure and easy to modify," Aggarwal says. "And like the other things on the AHA list, it's something you can change. Yet more than one third of American adults do not sleep enough to protect their health."

## **Consistency of sleep is vital to heart health**

The heart likes consistent sleep, according to some of the most recent research on sleep and heart health. In a study that followed older adults for five years, those with the most irregular sleep schedules were nearly twice as likely to develop heart disease as those with more regular sleep patterns.

It's not known why going off a regular sleep schedule (with consistent bed and wake times) affects the heart, but sleep inconsistency may disturb the body's circadian rhythms. Heart rate, blood pressure, and other cardiovascular functions vary with the time of day and may

become disrupted by inconsistent sleep.

"Even going to sleep or waking up 60 minutes off your usual schedule from day to day could potentially impact the heart over time," Aggarwal says.

## **Women suffer greater effects from lack of sleep**

Women are at greater risk for poor sleep, in part because they're likely to be caregivers of children or ill family members and get less sleep because of the extra demands on their time. Women are more susceptible than men to the negative effects of insufficient sleep, like inflammation, and are more likely to develop mental health disorders, which raise the risk of heart disease. Women of all ages and backgrounds can suffer poor health due to inadequate sleep, but Black and other non-Hispanic white women are at the greatest risk.

More research is required to understand and better treat sleep deprivation and its effects in women, but currently there are not enough women in clinical trials. Aggarwal is involved in a new initiative designed to empower women to contribute to health research, including research on sleep. The initiative, called Research Goes Red, is a collaboration with the AHA's Go Red for Women campaign and Verily, a subsidiary of Google.

## **Sleepy teens become sleepy adults**

Adolescent sleep disturbance predicts adult sleep disturbance. Over half of adolescents don't get enough sleep on school nights. Studies show modifying sleep behavior between age 16 and 18 is beneficial to overall health as teens, and the healthy sleep patterns could carry over into adulthood.

During the teen years, arteries begin to accumulate plaque (it forms when cholesterol gets stuck there and can limit blood flow), and [poor sleep](#) could potentially accelerate this process.

It's best to intervene early and get to the root cause of sleep problems in children and young adults, Aggarwal says. Look at the everyday factors. Up to three quarters of kids have a TV in their bedroom, which helps them procrastinate on sleep. Phones in the bedroom are another distraction. And [blue light](#) from all these electronic devices interrupts production of melatonin, which helps bring on sleep.

Aggarwal is creating an educational program for high school students in Washington Heights to raise awareness of healthy sleep to prevent heart disease.

## **Ideal amount of sleep every day/night**

- 10-16 hours (per 24 hours) for ages 5 and younger
- 9-12 hours for ages 6-12 years
- 8-10 hours for ages 13-18 years
- 7-9 hours for adults

## **How to avoid cardiovascular disease**

Protecting cardiovascular health is an overall lifestyle.

Only 1 in 5 adults consistently meet all 8 recommendations of the AHA checklist, but Aggarwal says even meeting some is beneficial: "Think about small things you can improve, mentally and physically, and do the best you can to improve each factor. And keep at it every day. Healthy habits have a cumulative effect over time."

**More information:**

- [AHA Life's Essential 8 list](#)
- [Research Goes Red initiative](#)

Provided by Columbia University Irving Medical Center

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