

For a healthier brain, stay active and sleep well

By: Andrew Robertson, PhD and Hilary Dunn, MSc

For the past few years, a team of researchers led by Dr. Richard Hughson (Schlegel Research Chair in Vascular Aging and Brain Health) have been examining how everyday activities affect the blood vessels in the brain. The research was conducted at the University of Waterloo in partnership with the Schlegel-UW Research Institute for Aging (RIA).

The research on physical activity

This research looked at how important everyday physical activity was in maintaining enough blood flow to the brain. The research subjects were seniors who were living independently. They wore monitors for three days to check their day-to-day activity levels. This meant that the researchers would find out about unplanned physical activities, not just scheduled exercise sessions.

The results showed there was higher brain blood flow with increased activity levels, even when the activity was at a low to moderate intensity, such as walking briskly or taking the stairs instead of the elevator. This helps to confirm that regular physical activity is good for our mind, as well as our heart.

The research on sleep quality

More than half of older adults report that they have trouble falling asleep or that they wake up often throughout the night. People in the study who reported sleeping at least seven hours a day had better brain blood flow than those who reported six or fewer hours of sleep.

The study used simple, safe tools to measure brain blood flow and blood pressure in the study volunteers. They were tested on one day after dinner, and the following morning soon after they woke up. They wore a monitor to measure how much they moved around throughout the night.



The results showed that restless sleep seemed to be related to poorer brain blood flow the next morning. This suggests that our sleeping habits are important for brain health, and that we should make the bedroom a place that promotes good sleep.

Promoting good sleep habits

In a resource from the Division of Sleep Medicine at Harvard Medical School, “sleep doctors recommend a variety of measures to help adults and children achieve adequate sleep. In general, all of these approaches are intended to help with relaxation as the desired sleep time approaches, to maintain a comfortable sleep environment, and to encourage a healthful balance of nutrition and exercise. Their recommendations include:

- maintaining a regular sleep-wake schedule
- avoiding caffeine, alcohol, nicotine, and other chemicals that interfere with sleep
- making your bedroom a comfortable sleep environment

- establishing a calming pre-sleep routine
- going to sleep when you're truly tired
- not watching the clock at night
- using light to your advantage by exposing yourself to light during the day and limiting light exposure in the evening
- not napping too close to your regular bedtime
- eating and drinking enough—but not too much or too soon before bedtime
- exercising regularly—but not too soon before bedtime”

About the Authors

This article was compiled by Andrew Robertson, PhD and Hilary Dunn, MSc. Dr. Robertson was a member of Dr. Hughson's research team. He is now an RIA Researcher and post-doctoral fellow at the Heart and Stroke Foundation's Centre for Stroke Recovery at Sunnybrook Research Institute. Hilary Dunn is a Project Officer with the RIA. You can reach her at hadunn@uwaterloo.ca. For more information about this research, or to learn more about the Research Institute for Aging, visit www.the-ria.ca.