

Carotid endarterectomy is a common surgery to try to prevent a stroke, but many patients undergo the procedure despite being poor candidates for it.



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## Effective, but not for every patient

A recent study by Geisel and Dartmouth-Hitchcock researchers found that about 20% of patients who undergo a carotid endarterectomy may be poor candidates for the surgery.

Carotid endarterectomy is an effective treatment for the accumulation of plaque in the arteries that lead to the brain, which can cause a stroke. But because of the risks of the surgery, the Society for Vascular Surgery advises that patients should only be considered for the procedure if their life expectancy exceeds three years.

Jessica Wallaert, M.D., a resident in vascular surgery at Dartmouth-Hitchcock, knew all this. What she wanted to find out was how closely surgeons follow those guidelines.

Wallaert used data from a national database to examine 12,631 carotid endarterectomies performed from 2007 to 2009 at 186 medical centers. Of those cases, 2,525 (20%) involved patients whose overall health made them poor candidates for surgery. These patients had at least one life-limiting condition, such as cancer, liver disease, congestive heart failure, or chronic obstructive pulmonary disease. After surgery, these patients were almost three times more likely than healthier patients to have a stroke or die.

“This is a striking finding,” Wallaert says.

She conducted the study as a Veterans Affairs National Quality Scholar during a research fellowship taken as part of her surgery residency. She earned a master’s degree at the Dartmouth Institute for Health Policy and Clinical Practice, which she says “inspired me to start being more thoughtful about defining appropriate indications for the surgeries we perform on a daily basis.”

There are a few reasons for the prevalence of surgeries in poor candidates, she says. Doctors know that carotid endarterectomy is an effective procedure. Furthermore, even a surgeon who is well aware of the statistics can have difficulty declining to perform a surgery. “Every individual patient is different,” Wallaert says. “No study is generalizable to every person, and thus there is a lot of room in surgical decision-making for ‘an exception.’”

Amos Esty

## A team effort

Encouraging teenagers to play team sports may be the best way to help them maintain a healthy weight.

Rates of obesity among adolescents have climbed sharply in recent decades, and about one-third of teenagers are now overweight or obese. But though researchers, policymakers, and health-care providers are concerned about this trend, it isn’t clear what the best approach is to reversing it.

Research led by Keith Drake, Ph.D., a recent graduate of the Dartmouth Institute for Health Policy and Clinical Practice, suggests that team sports are a more effective way of promoting healthy weight among adolescents than encouraging teenagers to walk or bike to school or providing physical education classes.

In an article published in *Pediatrics*, Drake analyzed data from a survey of 1,718 New Hampshire and Vermont high school students. The students were surveyed in 2002-2003 and again several years later to provide long-term data. In the more recent survey, 29% of the teenagers were overweight and 13% were obese. But those who played three or more team sports in a year were 27% less likely to be overweight and 39% less likely to be obese than their peers who played no team sports. Even playing a single team sport had a protective effect. Active commuting (walking or biking to school) was associated with a lower risk of obesity, but it was not associated with a lower risk of being overweight.

**“Our only chance to get people physically active throughout their lives is to help them find something that they enjoy.”**

Drake concluded that the rate of teenagers who are overweight would decrease by 10.6% (from 28.8% to 25.7%) and the rate of obesity would decrease by 26.1% (from 12.8% to 9.5%) if all teenagers played at least two team sports per year.

Drake notes that in recent years a lot of resources have been directed toward making it possible for kids to walk or bike to school, but those resources might be better used to widen access to team sports.

“It’s like reading,” he says. “You just want to give kids fun books that they enjoy so that they make this connection between reading and pleasure. That might turn into a lifelong enjoyment of reading and education.” By making exercise enjoyable through team sports—rather than through fitness drills or running on treadmills—adolescents may start to have positive associations with exercise.

“We’re doing such a bad job promoting physical activity and healthy diet,” he says. “I think our only chance to get people physically active throughout their lives is to help them find something that they enjoy and make this connection between having fun and being physically active.”

Amos Esty