

Study finds no link between surgical anesthesia and mild cognitive impairment

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Credit: Lynn Greyling/public domain

A Mayo Clinic study of people who received anesthesia for surgery after

age 40 found no association between the anesthesia and development of mild cognitive impairment later in life. Mild cognitive impairment is a stage between the normal cognitive decline of aging and dementia. The findings are published in the February issue of the medical journal *Mayo Clinic Proceedings*.

Elderly patients can develop delirium after [anesthesia](#) and [surgery](#), but it usually resolves within days or weeks. Researchers have been studying whether [surgical anesthesia](#) is associated with more prolonged [cognitive impairment](#).

"We looked at a group of patients who have been followed here in Olmsted County, where we have detailed information about their cognitive function as they age. The bottom line of our study is that we did not find an association between exposure to anesthesia for surgery and the development of mild cognitive impairment in these patients," says senior author David O. Warner, M.D., a Mayo Clinic anesthesiologist.

A previous Mayo study found that older patients who receive anesthesia are no likelier than others to develop dementia.

In the current study, researchers analyzed detailed patient information from the Mayo Clinic Study of Aging and the Rochester Epidemiology Project.

The study included people who were ages 70 to 89 and cognitively normal as of October 2004; their mean age was 79, and there were almost equal numbers of men and women. They were evaluated every 15 months. Of 1,731 people studied, 85 percent had at least one surgery requiring [general anesthesia](#) after age 40; 31 percent developed mild cognitive impairment during the study evaluation period, but it was not found to be linked to their anesthesia exposure.

The researchers noted that while exposure to anesthesia for surgery after age 40 wasn't associated with [mild cognitive impairment](#), they couldn't exclude the possibility that surgical anesthesia after age 60 might be, particularly in vascular surgery patients.

"That may not be surprising, because there is increasing evidence that some of the problems that we see with cognition in the elderly may be caused by vascular problems that cause stroke and other sorts of problems like that," Dr. Warner says, adding that more research is needed.

Mayo researchers are also studying the effects of anesthesia in young children. At that other extreme of [age](#), they are seeing some associations between surgical anesthesia exposures and some problems with learning and memory later in life, Dr. Warner says.

"That by no means is established yet. Right now it's just associations, and we and many other people are doing a lot of work to try to see if this really is a problem in children or not," he says. "Because of the associations that we've seen, there is more concern in the young than the old, and it will require quite a bit more research to find out what is happening with the children, and if there is a problem, how we can best address it. But for the moment, there is little clinical evidence that anesthesia itself leads to cognitive decline in the elderly - although more research is needed."

Provided by Mayo Clinic

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