

Eating baked or broiled fish weekly boosts brain health, study says

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Eating baked or broiled fish once a week is good for the brain, regardless of how much omega-3 fatty acid it contains, according to researchers at the University of Pittsburgh School of Medicine. The findings, published online recently in the *American Journal of Preventive Medicine*, add to growing evidence that lifestyle factors contribute to brain health later in life.

Scientists estimate that more than 80 million people will have dementia by 2040, which could become a substantial burden to families and drive up [health care costs](#), noted senior investigator James T. Becker, Ph.D., professor of psychiatry, Pitt School of Medicine. Some studies have predicted that lifestyle changes such as a reduction in rates of physical

inactivity, smoking and obesity could lead to fewer cases of Alzheimer's disease and other conditions of cognitive impairment in the elderly. The anti-oxidant effect of [omega-3 fatty acids](#), which are found in high amounts in fish, seeds and nuts, and certain oils, also have been associated with improved health, particularly [brain](#) health.

"Our study shows that people who ate a diet that included baked or broiled, but not fried, fish have larger brain volumes in regions associated with memory and cognition," Dr. Becker said. "We did not find a relationship between omega-3 levels and these brain changes, which surprised us a little. It led us to conclude that we were tapping into a more general set of lifestyle factors that were affecting brain health of which diet is just one part."

Lead investigator Cyrus Raji, M.D., Ph.D., who now is in radiology residency training at UCLA, and the research team analyzed data from 260 people who provided information on their dietary intake, had high-resolution brain MRI scans, and were cognitively normal at two time points during their participation in the Cardiovascular Health Study (CHS), a 10-year multicenter effort that began in 1989 to identify risk factors for heart disease in people over 65.

"The subset of CHS participants answered questionnaires about their eating habits, such as how much fish did they eat and how was it prepared," Dr. Raji said. "Baked or broiled fish contains higher levels of omega-3s than fried fish because the fatty acids are destroyed in the high heat of frying, so we took that into consideration when we examined their brain scans."

People who ate baked or broiled fish at least once a week had greater grey matter brain volumes in areas of the brain responsible for memory (4.3 percent) and cognition (14 percent) and were more likely to have a college education than those who didn't eat fish regularly, the researchers

found. But no association was found between the brain differences and blood levels of omega-3s.

"This suggests that lifestyle factors, in this case eating fish, rather than biological factors contribute to structural changes in the brain," Dr. Becker noted. "A confluence of [lifestyle factors](#) likely are responsible for better [brain health](#), and this reserve might prevent or delay cognitive problems that can develop later in life."

Provided by University of Pittsburgh Medical Center

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