

# **Keeping Your Brain Active and Your Body Healthy**

"The brain is like a muscle. Use it or you lose it" says Dr. Santosh Kesari, a neuro-oncologist, and chair of the Department of Translational Neuro-oncology and Neurotherapeutics at the John Wayne Cancer Institute at Providence Saint John's Health Center in California. He suggests that the more you use the different parts of your brain, the stronger the connections get between what's being exercised and the parts of the brain responsible for those activities. "When you don't use your brain very much, it gets weaker," Kesari says, "I think it is important for brain health that you use your brain more."

Joshua Grill, PhD, co-director of UCI MIND and an associate professor of psychiatry and human behavior, said association studies [like the Exeter study] are valuable and important for hypothesis generation." However, they're not instructive to neurologists writing a prescription to tell their older patients who are concerned about developing cognitive problems to do so many crossword puzzles per week."

## Keeping the brain healthy

Grill said, "For the last several years there's been a strong interest in the clear relationship between how we act and treat our bodies and our brains throughout life and the risk of developing cognitive problems later in life." "As much as half of the risk for developing Alzheimer's disease and late life cognitive problems could be due to lifestyle choices and behaviors," he continued. "And whether we engage in cognitive activities like puzzles is very much on that list."

Grill admits that we still have a way to go before we learn all the answers, but he is still a big supporter of cognitive activities like doing word puzzles. "When in your life you engage in these behaviors, what behaviors we can and should engage in, and how much of those behaviors we can and should engage in to maximize the reduction in risk, all remain open questions," he said.

### Alzheimer's disease and dementia

In discussing cognitive decline in the older brain, the conversation often turns to the subjects of dementia and Alzheimer's disease. The Alzheimer's Association defines dementia as "a general term for a decline in mental ability severe enough to interfere with daily life." Dementia is not a specific disease. It describes a life-altering decline in thinking skills. "Alzheimer's is the most common type of dementia," the association website says. "[It] causes problems with memory, thinking, and behavior. Symptoms usually develop slowly and get worse over time, becoming severe enough to interfere with daily tasks." The association noted that Alzheimer's accounts for 60 to 80 percent of dementia cases.

"If the way we live our lives is responsible for up to half of our risk for getting Alzheimer's and cognitive problems later in life, then the other half of the risk is due to genetics," said Grill. Despite that, he said that given the number of genes that can affect someone's risk of getting Alzheimer's, the recommendations we make really do not differ depending upon someone's genes."

### Taking charge of brain health

Experts at the National Institute of Aging agree that some of the most important things we can do each day to promote cognitive health are to eat healthy foods, be physically active, exercise our mind, and stay socially connected.

In addition, since all brains with Alzheimer's contain amyloid plaques, are there things we can do to slow or stop plaques from forming? Each of the doctors contributed a suggestion:

- Dr. Kesar: Reduce inflammation
- Dr. Fillit: Maintain a healthy weight, exercise regularly, and eat a healthy diet rich in Omega-3 fatty acids
- Dr. Grill: A healthy heart exercise and don't smoke.
- Dr. Grill also says: Get a good night's sleep. "It's pretty clear that when we sleep, we clean our brain of metabolic by-products and even some toxins, and that includes cleaning our brain of the amyloid protein that accumulates in those amyloid plaques." This is because when you sleep, cerebrospinal fluid moves through the brain, acting as a flushing mechanism. "Getting a good night's sleep does seem to be critical for lowering our risk for developing these problems later in life," said Grill.
- Dr. Fillit agreed. "Establishing a bedtime routine and maintaining a regular sleep schedule can be helpful. Seven to eight hours of sleep per night is recommended," he said.

#### **The Doctors Agree: Buyer Beware**

The subject of brain health is ripe for exploitation with unsubstantiated sales gimmicks and promises. Fillit warns, "Keep in mind that not all brain games are created equal, and some manufacturers have been sued for making unsubstantiated claims." Scientists themselves admit that in order to determine the effectiveness of word puzzle-type interventions on cognitive health, they still need to undertake randomized control studies. Researchers have shown that there are certain activities that can help keep brains healthy as we age. Yet, as Grill maintains, "No one can [yet] make a claim that if you do x, y, z you're certain to not develop cognitive problems."

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