

by DIANE YORK

Stimulating the brain is one key to fighting Alzheimer's



Dr. Paul Nussbaum

If you knew you were going to develop Alzheimer's disease, what could you do to help save your brain?

Dr. Paul Nussbaum, clinical neuropsychologist at the University of Pittsburgh School of Medicine, says you can do plenty. Studies have found that between 25 and 67 percent of people, whose brains on autopsy have enough of the characteristic plaques and tangles of Alzheimer's to indicate that diagnosis, had no signs or symptoms of the disease while alive. The theory is that the brains of these individuals had some method of compensating for the damage of Alzheimer's.

What was different about those people with signs of Alzheimer's in their brains yet no symptoms? Commonalities found among them were higher IQs, higher educational levels attained, higher level jobs performed and they had leisure activities that were stimulating. Since we know that the brain is able to develop new cells, the theory is that these Alzheimer's "survivors" built a brain reserve that was utilized as they lost brain function to the disease. Dr. Nussbaum believes that in order for these new neurons to be valuable they must be in areas of the brain not routinely

used by that person.

Most of us have heard that doing mentally challenging things like Sudoku or crosswords or math problems can help keep our brains young. But Dr. Nussbaum points out that the key here is new pathways not strengthening old ones. So, if you love language and are skilled at it, you need to do some math. If you are great at math and computers but cannot dance, take dance lessons. If you never learned a foreign language, now is a good time to try. Each time you work at something that is, as Dr. Nussbaum says, "novel and complex" you are adding to your reserve of brain cells. Travel, he says, is particularly good for the brain because it presents many challenging and new situations. Just as it requires effort to build muscle in your body, it can be frustrating for the brain to be challenged in this way. However, once the pathway has been established, it's there for you when you need it.

Dr. Nussbaum adds, though, that it is not just intellectual development that is important. He suggests that nutrition, exercise, spirituality and socialization are other keys to keeping a brain healthy. With nutrition, the two important elements are Omega-3 oils and antioxidants. Sixty percent of the brain is fat. Fat insulates the nerve cells. The best source of Omega three oils (to provide the right kind of fat) is fish. Herring, salmon, sardines,

mackerel, trout and small tuna are the best fish to eat as they do not contain as much mercury as larger fish such as big tuna, shark, king mackerel and swordfish.

A second nutritional consideration is antioxidants. It is believed that antioxidants (found in quantity in fruits, beans and vegetables) help clean the body and brain of plaques and residual garbage called free radicals that increase the aging of cells.

Physical exercise is good for the entire body but what it does for the brain is increase the amount of blood and oxygen your brain is getting. Each beat of the heart circulates 25 percent of the body's blood into the brain to build and feed new brain cells. When you encourage that flow, feeding is increased.

Socialization is another form of activity that helps you develop new brain pathways. Dr. Nussbaum believes that the older brain in isolation tends to atrophy. Social isolation also leads to emotional stress and depression, while having social relationships adds to purpose in life and stimulation.

Stress is an enemy of the brain. In studies of patients with posttraumatic stress disorder (PTSD), their brains show negative changes in the hippocampus region, the part of the brain that generates our most sophisticated thoughts and activities. Fortunately, researchers also have seen

that those changes can be reversed if the PTSD is resolved.

Spiritual practices, deep meditation, yoga and breathing techniques can all help reduce mental stress. Neuro-theology is a new term coined to describe the relationship of spirituality to the functioning of the brain. Dr. Nussbaum notes that rarely do we give ourselves time to just think. He strongly recommends meditation and time set aside for creativity. Quiet time alone can initiate creative thoughts and resolutions. As he says, "the removal of structure spurs creative thinking."

While there is no cure for Alzheimer's, as Dr. Nussbaum says: "the brain is a physical organism that will react (to stimulation) at any age." Perhaps continuing to build it up as we age can allow people to continue to function despite having the disease present in the brain.

More information about Dr. Nussbaum's recommendations can be found at www.paulnussbaum.com.

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