

MEDICAL BREAKTHROUGHS **RESEARCH SUMMARY**

TOPIC: **FLICKERING LIGHTS TO TREAT ALZHEIMER'S?**
REPORT: **MB #4722**

BACKGROUND: Alzheimer's disease is the most common cause of dementia, a general term for memory loss and other cognitive abilities serious enough to interfere with daily life. Alzheimer's accounts for 60 to 80 percent of dementia cases. Symptoms usually develop slowly and get worse over time, becoming severe enough to interfere with daily tasks. The greatest known risk factor is increasing age, and most people with Alzheimer's are 65 and older. However, it's not just a disease of old age. Alzheimer's is considered a progressive disease. In the early stages, memory loss is mild, but in late-stage, individuals lose the ability to carry on a conversation and respond to their environment. Alzheimer's is the sixth leading cause of death in the United States, and on average, a person lives four to eight years after diagnosis, but can live as long as 20 years, depending on other factors.

(Source: <https://www.alz.org/alzheimers-dementia/what-is-alzheimers>)

STAGES OF ALZHEIMER'S: The first stage of Alzheimer's begins long before any symptoms appear and is called preclinical Alzheimer's disease. It is usually identified in research settings and can last for years, even decades. The next stage, called mild cognitive impairment, causes mild changes in memory and thinking ability, but is not significant enough to affect work or relationships. Alzheimer's is often diagnosed in the mild dementia stage, when it becomes clear that a person is having significant trouble with memory and thinking that impacts daily functioning. During the moderate dementia stage, people grow more confused and forgetful and begin to need more help with daily activities and self-care. The final stage, called severe dementia, causes mental function to continually decline, resulting in a growing impact on movement and physical capabilities.

(Source: <https://www.mayoclinic.org/diseases-conditions/alzheimers-disease/in-depth/alzheimers-stages/art-20048448>)

NEW ALZHEIMER'S PREVENTION: A new study from Tokyo Medical and Dental University in Japan found that neurons died earlier than experts previously thought in Alzheimer's disease. Stopping this process could prevent Alzheimer's from ever developing. Scientists are measuring neuronal death, which is a key process underlying the symptoms of dementia, in mouse models, as well as in people with mild cognitive impairment (MCI) and those with Alzheimer's disease. They measured the levels of the HMGB1 protein in the fluid surrounding the spinal cord of 26 people with MCI and 73 people with Alzheimer's disease. They were surprised to find that neurons died much earlier than they expected. In fact, the participants with MCI had more neuronal death than those with Alzheimer's disease. "Neuronal death is obviously very important in the development of Alzheimer's but is notoriously difficult to detect in real time because dying cells cannot be stained using chemical or immunohistological methods," explains the lead author of the study, Hikari Tanaka.

(Source: <https://www.medicalnewstoday.com/articles/scientists-find-new-way-to-save-neurons-in-alzheimers-disease#From-mouse-to-man>)

FOR MORE INFORMATION ON THIS REPORT, PLEASE CONTACT:

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If this story or any other Ivanhoe story has impacted your life or prompted you or someone you know to seek or change treatments, please let us know by contacting Marjorie Bekaert Thomas at mthomas@ivanhoe.com