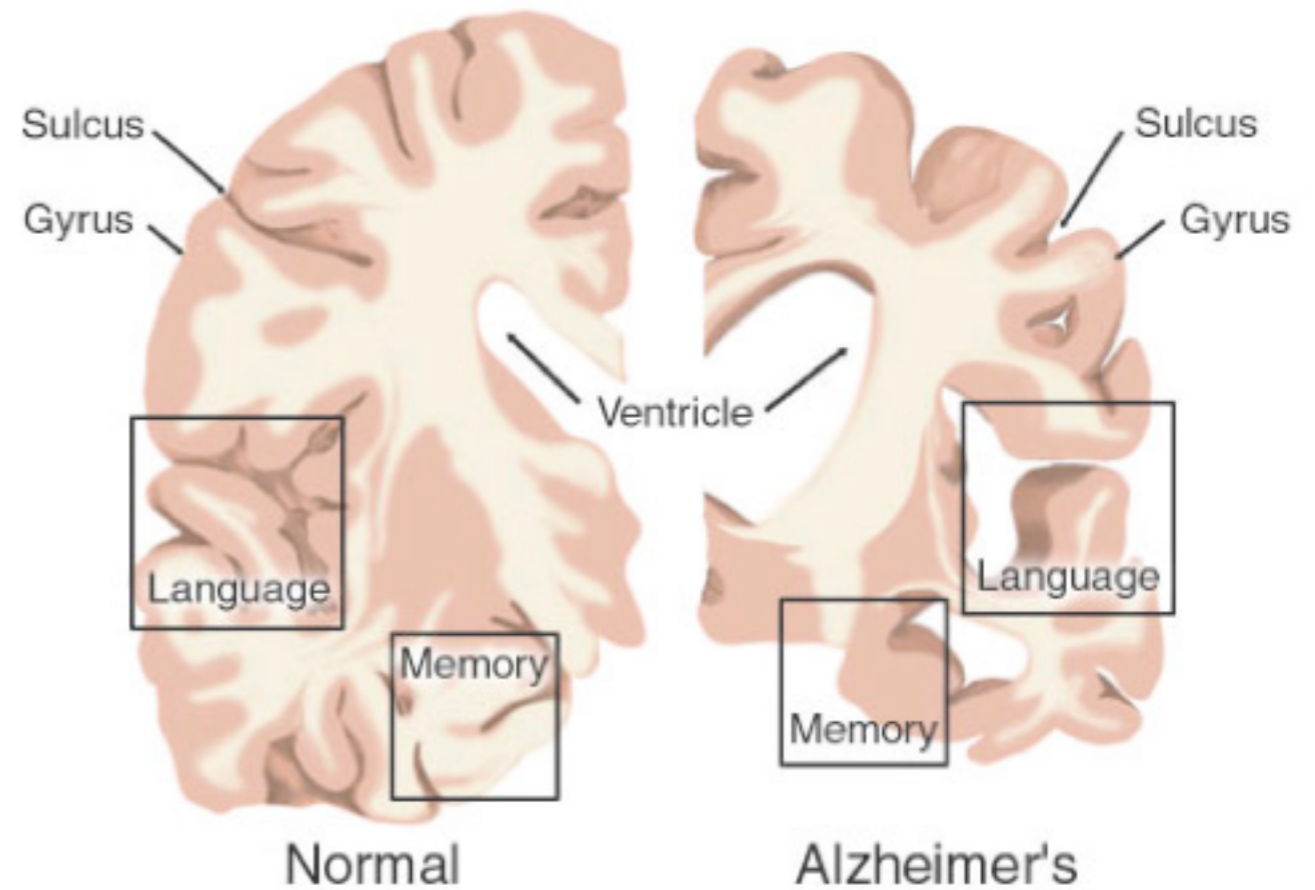
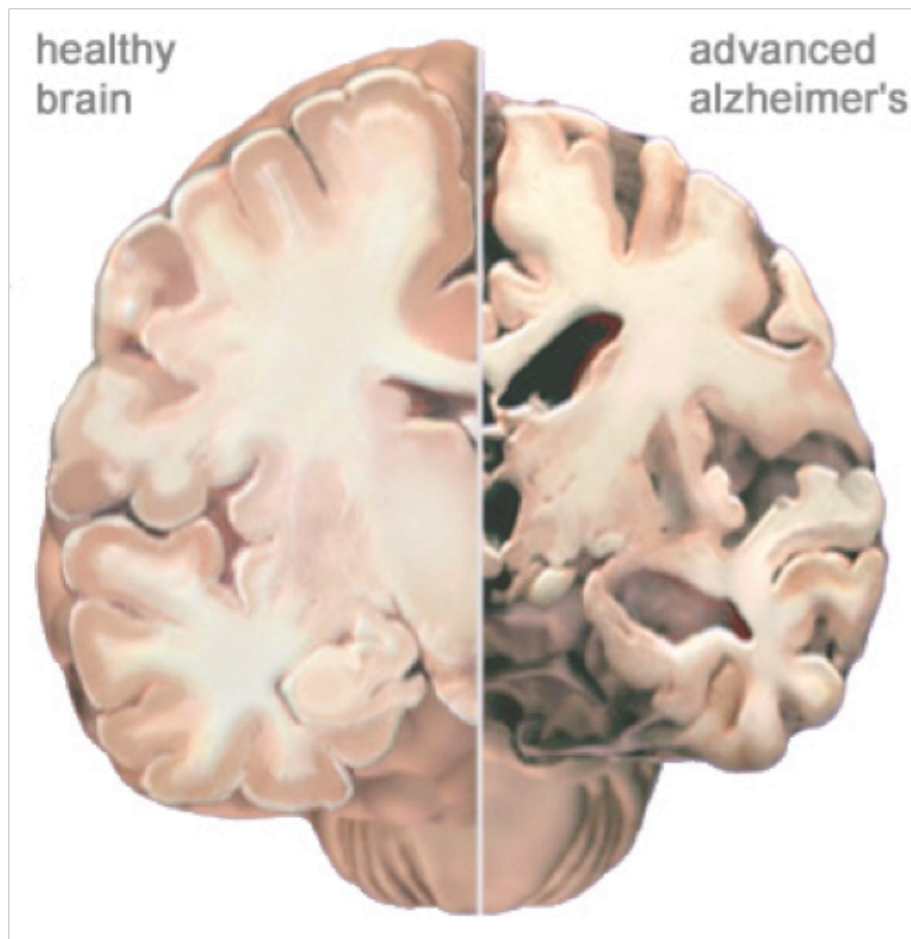


# Stem Cells and Alzheimer's Disease

# Problem

With 5.4 million of Americans suffering from Alzheimer's Disease, a proven treatment or cure remains elusive. Unfortunately, the methods scientists are using to study the disease have yet to yield much in the way of understanding, much less treatment, of the disease.

# Healthy Brain v.s Alzheimer's Brain

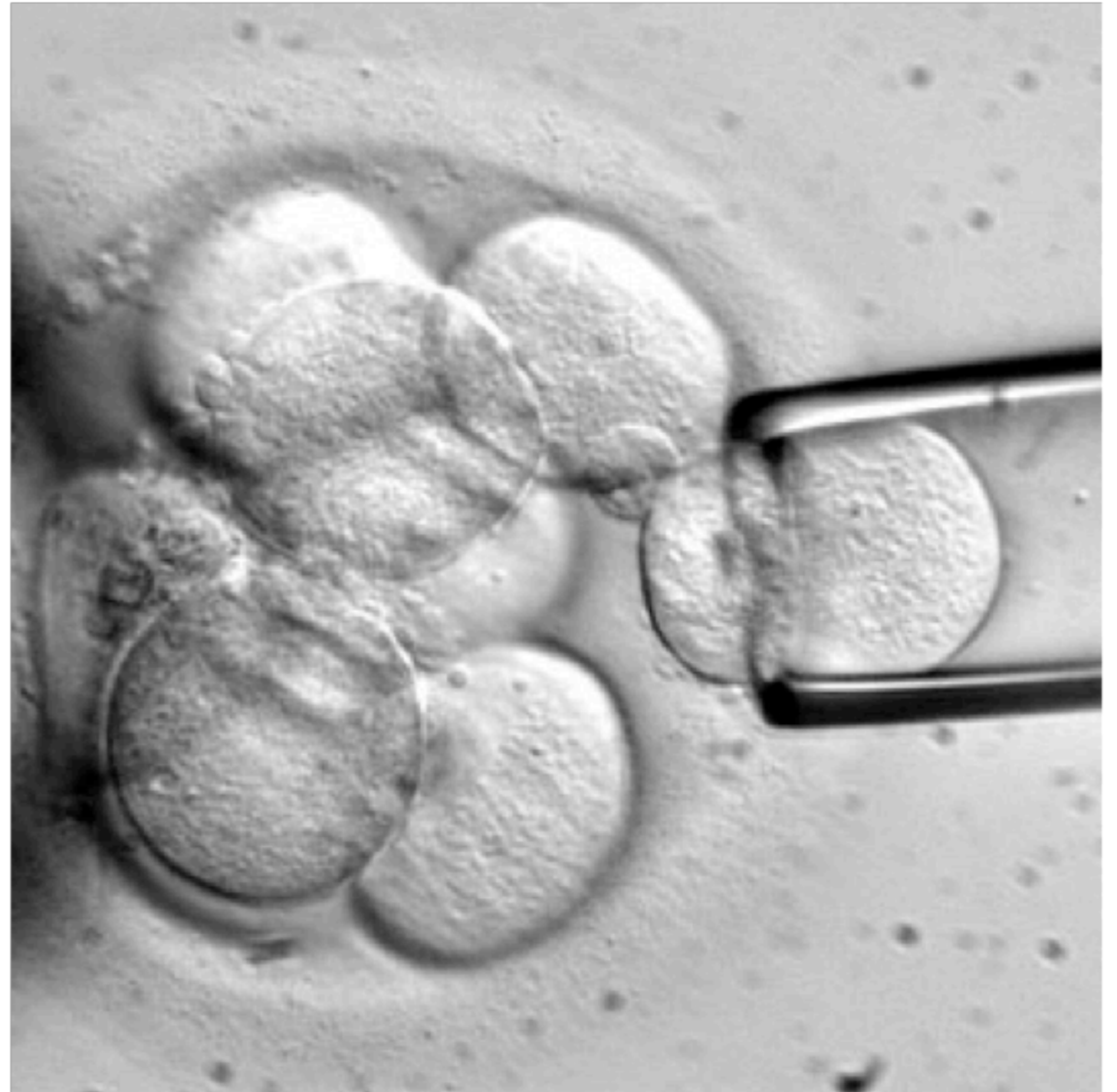


# Psychological Affects of AD

Caring for an individual with AD is a full-time job. The patient often lacks insight about intellectual or physical deficits, requiring close supervision to prevent harm. The patient may forfeit their autonomy when a child or spouse takes over their responsibilities. The patient, in turn, may exhibit frustration and anger, often directed at loved ones.

# What have scientists done to prevent AD?

Researchers have developed a technology using **stem cells** to more accurately model what goes wrong in diseased brain cells of Alzheimer's sufferers.



# Stem Cell Research

- Researchers took skin cells from patients who died from Alzheimer's disease and then turned them into brain cells to replicate those found in living Alzheimer's patients. This process allows scientists to manipulate the diseased cells in the laboratory for what they hope will be a more effective way to study the disease. It is hoped that this research will lead to the discovery of new drugs to treat the disease.
- Mice genetically engineered to have Alzheimer's performed markedly better on memory tests a month after mouse neural stem cells were injected into their brains. The stem cells secreted a protein that created more neural connections, improving cognitive function. The mice with Alzheimer's began to positively progress.
- Scientists have turned human embryonic stem cells into brain cells associated with memory and learning. The finding could help scientists test new ways to keep the cells from dying, and could someday lead to lab-grown stockpiles that could be implanted into the brains of Alzheimer's patients.

# Hopefully...

- Scientists/Researchers can be approved by the government to do more stem cell research
- A cure is found for AD