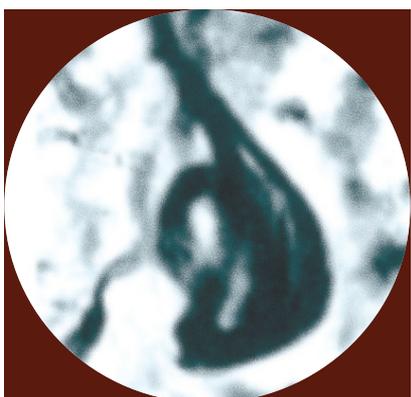
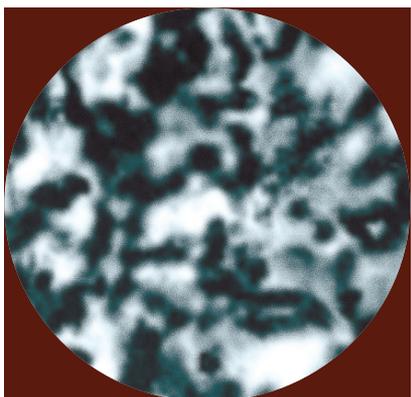
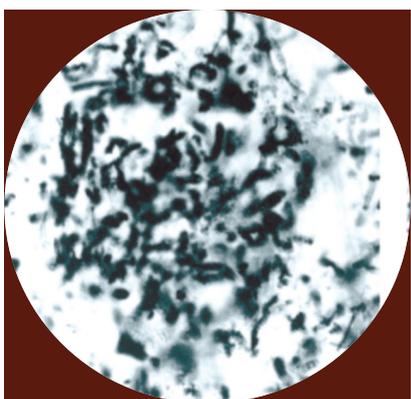


# Alzheimer's Century

On the 100th anniversary of Dr. Alzheimer's discovery, new scientific advances fight a scourge of the 21st century



**What Dr. Alzheimer found when he looked through his microscope at Auguste D.'s brain: the plaques (top two slides) and tangles (bottom) that in 1906 defined a disease.**

In April 1906, Dr. Alois Alzheimer peered through his microscope at a grave new world: twisted clumps and threads of protein riddling the brain of his patient Auguste D. After centuries through which senile dementia was deemed part of normal aging, his autopsy of this 56-year-old German housewife didn't just explain the premature dementia that hospitalized her five years — it revealed what he called “a serious and peculiar disease.”

Today, exactly 100 years after his discovery, what's now named “Alzheimer's disease” has exploded into a scourge afflicting 5 million Americans and 20 million others worldwide. If no preventive treatments are found, those numbers are expected to more than triple by mid-century.

Paradoxically, since age is the biggest risk factor for Alzheimer's disease, the very medical breakthroughs that doubled life spans over the past century have created a demographic time bomb. Now researchers are racing to defuse it by changing the course of the devastating disease that is by far the most common cause of dementia.

At the turn of the last century, it was with a simple microscope that Dr. Alzheimer first identified the disease's hallmarks: plaques of sticky amyloid protein between the brain's nerve cells and tangles of twisted protein threads

destroying cells from within. At the turn of this century, it's with state-of-the-art imaging technology that doctors can detect Alzheimer's disease years before symptoms appear.

Brain scans not only show damage to nerve cells, but also can now measure changes in the way the brain uses nutrients. And these changes in metabolism can now help predict Alzheimer's long before the appearance of structural damage and the resulting memory loss, cognitive decline and other dementia symptoms.

With dementia affecting half of all people over 85 and the population aging as the baby boom generation approaches that age, Alzheimer's disease has become an urgent national research priority. All of which explains the growing emphasis on Alzheimer's research over the past quarter-century.

Such research is now bringing us closer to a full understanding of causes, risk factors, diagnosis, treatment and prevention. That has scientists optimistic about building on recent discoveries to create a brighter future in which the potential for managing Alzheimer's disease, or even preventing it, can become a reality.

Commemorating the centennial of Dr. Alzheimer's discovery, this Special Report explores the latest diagnostic advances aimed at early therapeutic interventions in the fight against the disease named after him.