



WEILL CORNELL MEDICINE
DEPARTMENT OF NEUROLOGY

What to Expect as a Patient at Weill Cornell Medicine's Alzheimer's Prevention Clinic

A complete guide to patient procedures

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Table of Contents

ALZHEIMER’S DISEASE FAQs	3
WHAT IS ALZHEIMER’S DISEASE?	3
WHAT CAUSES ALZHEIMER’S DISEASE?	3
IS THERE AN ALZHEIMER’S GENE?	3
WHO IS MOST AT-RISK FOR ALZHEIMER’S DISEASE?.....	3
CAN ALZHEIMER’S DISEASE REALLY BE PREVENTED?.....	4
OUR MISSION	5
OVERVIEW	5
CURRENT APPROACH	5
PATIENT PROCEDURES	7
I WAS CONTACTED TO BECOME A PATIENT – NOW WHAT?	7
1. <i>Medical Screening:</i>	7
2. <i>Forms:</i>	7
3. <i>Scheduling:</i>	7
NEXT STEPS.....	8
<i>Following Recommendations</i>	8
<i>Post-visit Surveys</i>	8
<i>Scheduling Next Appointments</i>	8
RESEARCH OPPORTUNITIES	9
WEILL CORNELL’S WOMEN’S BRAIN INITIATIVE.....	9
REFERENCES	10

Alzheimer's disease FAQs

What is Alzheimer's disease?

Alzheimer's disease is the most common type of dementia. Dementia is a broad term for any disease of the brain that results in a decline in mental capabilities severe enough to interfere with daily life. Alzheimer's disease makes up 60-80% of all dementia cases and as of 2022, over 5.8 million people in the US are currently living with the disease¹. This neurodegenerative disease is characterized by changes in memory, reasoning, problem-solving and behavior. Over time, Alzheimer's disease may progress enough to disable patients from performing basic, routine activities.

What causes Alzheimer's disease?

The direct cause of Alzheimer's disease is not fully understood. From a biological perspective, Alzheimer's disease is characterized by an increased deposition of certain proteins in the brain. These proteins are known as amyloid and tau, and create a build-up of plaque and neurofibrillary tangles that negatively affect brain health². Researchers also know of a multitude of risk factors that can lead to Alzheimer's-related cognitive decline.

Is there an Alzheimer's gene?

There is a gene called Apolipoprotein E (APOE), of which the different alleles comprising this gene lead to different prevalence rates of Alzheimer's disease. The e4 allele of APOE is the greatest genetic risk factor for Alzheimer's disease, whereas the e3 allele poses less risk and the e2 allele can be protective of the disease³. Individuals with one copy of the APOE e4 allele are more at-risk for developing Alzheimer's disease by 2-3-fold, and those with two copies are by 8-10-fold³. However, being APOE e4 carriers or non-carriers does not guarantee the development or lack thereof of Alzheimer's disease.

Who is most at-risk for Alzheimer's disease?

The greatest risk factor for Alzheimer's disease is advanced age. Alzheimer's disease is most common in adults aged over 65 and the risk for developing the disease exponentially increases every year thereafter⁴. It is possible to develop Alzheimer's disease before the age of 65. These cases are considered "Early-Onset Alzheimer's disease" and are much less common, making up only 5-6% of all Alzheimer's disease cases⁵. Both early- and late-onset forms of Alzheimer's disease are characterized by deficits in memory and thinking abilities, but the pathology and genetic predisposition may be different.

Alzheimer's disease risk is also dependent upon a family history of or genetic predisposition to the disease. One of two copies of the APOE e4 allele can increase an individual's risk, as well as a history of family members with the disease.

Alzheimer's disease also affects certain demographics more than others. For example, women make up two-thirds of all cases, putting them at increased risk compared to men⁶. Certain minority groups such as Black and Hispanic populations also have higher prevalence rates of Alzheimer's disease. Researchers have found Hispanic adults are one and one-half times more likely, and Black adults two times more likely to develop Alzheimer's disease than non-Hispanic Whites¹.

Can Alzheimer's disease be prevented?

Alzheimer's disease starts to develop in the brain decades before the onset of clinical symptoms⁷. This means there is a wide window of opportunity to make brain healthy changes to lessen an individual's risk for the disease. Researchers have found that up to 40% of all Alzheimer's disease cases may be prevented or delayed by addressing modifiable risk factors⁷. These risk factors include but are not limited to the following: high blood pressure, smoking, diabetes, obesity, lack of physical activity, poor diet, high alcohol consumption, low levels of cognitive engagement, depression, traumatic brain injury, hearing loss, social isolation, and air pollution. By addressing these risk factors, individuals can reduce their risk of developing Alzheimer's disease in the future.

OUR MISSION

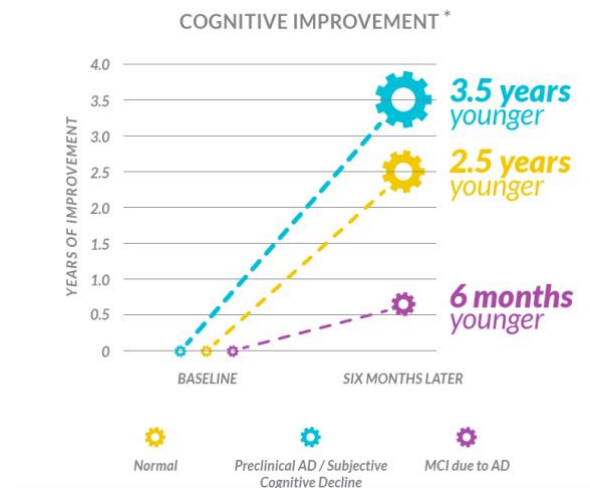
The Weill Cornell Alzheimer's Prevention Clinic is the leading voice on the integrative clinical approach to the prevention of Alzheimer's disease. Our mission is to reduce risk of Alzheimer's disease and other neurodegenerative dementias, while advancing research in the field.

OVERVIEW

Neurodegenerative diseases such as Alzheimer's disease develop decades before the first obvious symptoms begin. While there is no "magic pill" to prevent these disorders, implementing evidence-based, multimodal intervention strategies to enhance brain health before clinical symptoms manifest will yield the best opportunity for successful prevention. It has been estimated that delaying the onset of Alzheimer's disease by just 5 years would reduce the prevalence of the disease by 41%.

In July 2013, Weill Cornell Medical College founded the first Alzheimer's Prevention Clinic in the United States, with the goal of reducing risk for cognitive decline related to Alzheimer's using an individualized multimodal treatment approach. At the Clinic, individuals at risk for Alzheimer's disease, chiefly those with a family history of the disease, receive a personalized preventative plan based on their risk factors, genetics, lifestyle, and past/present medical conditions aimed at lowering their risk for Alzheimer's. Evaluations are repeated every 6 months to evaluate progress and adjust the plan based on test results and desired outcomes.

The Alzheimer's Prevention Clinic is at the very forefront of both providing direct clinical care to individuals at risk for Alzheimer's and also advancing research in this critically important area. Since inception, we have cared for over 800 patients from 32 states and 6 countries. We have authored over 30 scientific papers, including key results published in 2019 demonstrating that our approach improves cognitive measures such as learning, memory, executive function and processing speed, in people with a family history of Alzheimer's (see figure to the right).



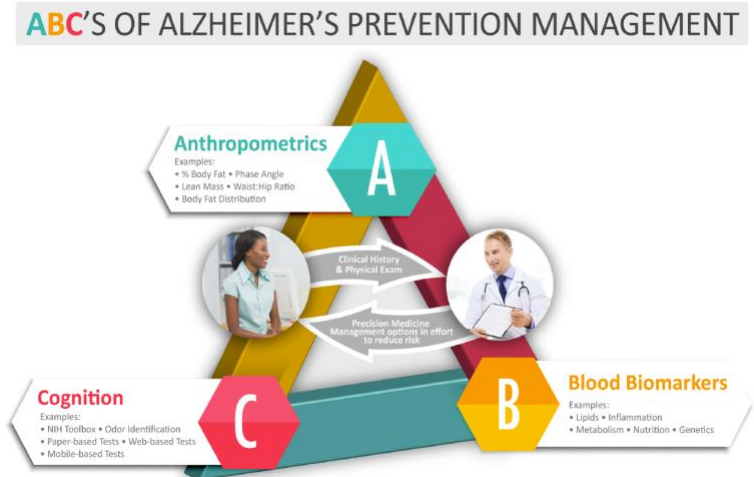
CURRENT APPROACH

The Alzheimer's Prevention Clinic uses a precision medicine approach that applies principles of pharmacogenomics, nutrigenomics and clinical precision medicine to tailor individualized therapies for patients. Personalized recommendations for lifestyle, diet, physical activity, vitamins, supplements, pharmacological management of vascular risk factors, stress

reduction and cognitive engagement are made in effort to reduce risk of Alzheimer's and/or slow progression of dementia symptoms.

Longitudinal measures currently assessed in the clinic include anthropometrics (e.g., %-body fat, waist circumference), cognition (via a highly sensitive computerized testing battery as well as and pen and paper tests), and a host of blood biomarkers (e.g., lipid, inflammatory, metabolic, nutritional) and genetic markers (e.g., APOE4, MTHFR). Longitudinal measures assessed via surveys include knowledge of Alzheimer's, behavioral intent, self-reported compliance with personalized interventions, and validated Alzheimer's /Cardiovascular disease risk scores.

The Alzheimer's Prevention Clinic includes a team of clinical and research staff working to create targeted approaches for Alzheimer's disease prevention. Patients are examined for Alzheimer's disease-related biomarkers of risk and individualized preventative interventions are given by our providers. Here at the APC, we understand that no two patients are alike, so each patient is recommended different targeted interventions based off their unique risk profile. Using a multimodal approach, our clinical staff collaborates with different fields of medicine and focuses on the impact that preventative action can have in protecting an individual's brain health.



Patient Procedures

I was contacted to become a patient – now what?

1. Screening:

The first step to becoming an official Alzheimer's Prevention Clinic (APC) patient is to go through a brief medical screening with our administrative staff, which you may have already completed. Here, we ask for a few pieces of clinically relevant demographic and medical information to ensure our services are the most effective for you.

2. Forms:

You will be sent the following documents to sign ahead of your initial visit. Please try to fill out all this information more than a day in advance of your initial visit so our providers have ample time to review everything:

- a. Estimated cost with insurance provider
- b. Pre-Visit Questionnaire

3. Scheduling:

As a new patient, your first time coming to the clinic will involve three separate onsite visits scheduled as below. You can reach out to our administrative secretary at (212) 746-0226 to schedule appointments:

a. Day 1: New Patient Visit

The provider will go through a detailed history as well as a neurological evaluation. Our provider will also be able to answer any questions you may have about the clinic process here (60-90 mins).

b. Day 2: Cognitive Testing and Labs (1-7 days within New Patient Visit)

- i. Cognitive testing involves going through a battery of testing which will measure certain aspects of cognition such as memory, processing speed and executive function (~90 mins).
- ii. Labs include a comprehensive blood and hormone panel, as well as vital signs, anthropometrics and InBody scale testing (~20 mins). The InBody machine is a non-invasive machine that populates information on specific body composition such as dry lean mass and water composition in various areas of the body.

***Note: Day 1 and Day 2 visits can be combined into a single day visit**

c. Day 3: Follow-up Visit (2-3 weeks after Cognitive Testing and Labs)

This is the visit that your provider will review all the results from the tests you previously took. They will provide you with a series of recommendations and interventions for you to implement before your next visit (~60 mins).

Next Steps

Following Recommendations

You completed your first visits to the APC and the provider has given you recommendations for you to implement in your daily life. Some of these changes may be more difficult than others, but the most important thing is that you just try the best you can. The provider should have indicated which things are most important for you specifically to try and work on and as you continue to return for follow-up appointments, we will continue to adjust recommendations based on what works for you.

Scheduling Next Appointments

The provider will either recommend you come back for a follow-up visit ~6 months or ~1 year from your baseline evaluation. You can reach out to our administrative secretary at (212) 746-0226 to schedule appointments. All follow-up visits will be comprised of the following:

1. **Day 1: Cognitive Testing and Labs**

- a. Cognitive testing involves going through a battery of testing which will measure certain aspects of cognition such as memory, processing speed and executive function (~90 mins).
- b. Labs include a comprehensive blood and hormone panel, as well as vital signs, anthropometrics and InBody scale testing (~20 mins). The InBody machine is a non-invasive machine that populates information on specific body composition such as dry lean mass and water composition in various areas of the body.

2. **Day 2: Follow-up Visit (2-3 weeks after Cognitive Testing and Labs)**

This is the visit that your provider will review all the results from the tests you previously took. They will provide you with a series of recommendations of interventions you will have to implement before your next visit (~60 mins).

Research Opportunities

As a patient at the APC, we always encourage Alzheimer's disease research participation. As a research participant, you make meaningful contributions to the advancement of medical science. The data you contribute will help fight against Alzheimer's disease for generations to come.

There are also benefits to participating in the APC's sister lab Weill Cornell's Women's Brain Initiative (WBI). This research involves undergoing various MRI and PET imaging, of which the results may be clinically useful to your provider at the APC.

The mission of the Weill Cornell Women's Brain Initiative (WBI) is to discover sex-based molecular targets and precision therapies to prevent, delay, and minimize risk of Alzheimer's disease.

For further information regarding the WBI please visit:

<https://neurology.weill.cornell.edu/research/womens-brain-initiative>

Or email:

wbi-research@med.cornell.edu

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