

# Lecanemab (Leqembi™) Information

## What is lecanemab (Leqembi™)?

Lecanemab (brand name Leqembi™) is a drug that was approved in 2023 by the Food and Drug Administration (FDA) for the treatment of Alzheimer's disease in persons with mild symptoms (mild cognitive impairment or mild dementia stage).

## How does lecanemab work?

Lecanemab is an antibody directed at the amyloid protein that builds up abnormally as plaques in the brain when someone has Alzheimer's disease. By binding to amyloid, lecanemab allows the immune system to remove the amyloid buildup.

## How is it given?

Lecanemab is given as an infusion (through a vein) every 2 weeks. The dose is based on the patient's weight (10 milligrams/kilogram).

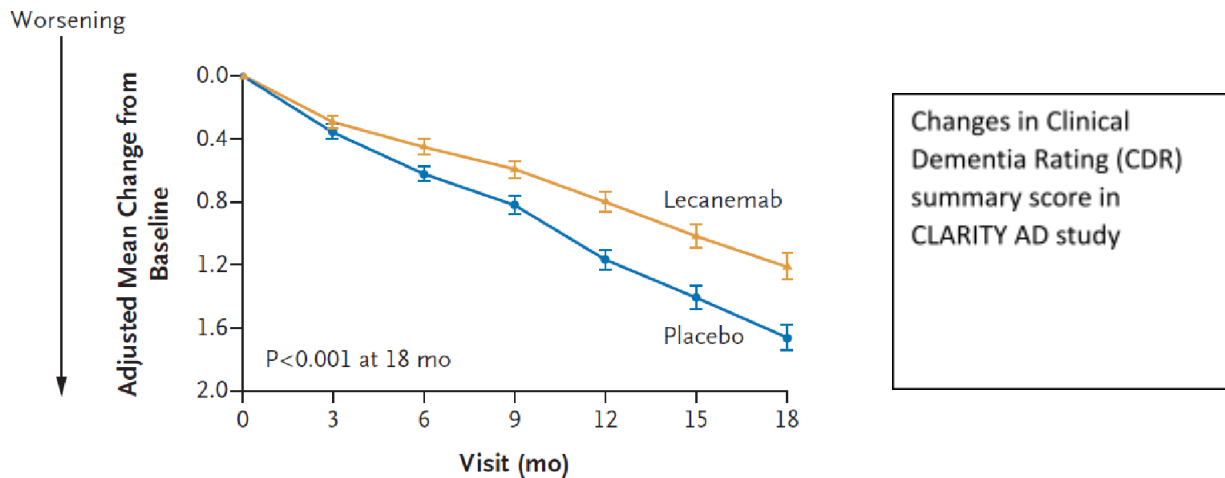
## How can you tell if it is removing amyloid from the brain?

In research studies, specialized brain scans called amyloid Positron Emission Tomography (PET) scans were done before and after treatment with lecanemab. These scans showed that treatment with lecanemab led to removal of brain amyloid.

## BENEFITS AND RISKS

### Does lecanemab help the symptoms of Alzheimer's disease?

Yes, lecanemab appears to slow the progression of Alzheimer's disease symptoms. In a recent large study called CLARITY AD, persons with mild symptoms of Alzheimer's disease received biweekly infusions of either lecanemab or an inactive substance (placebo). Over time, both groups declined in their thinking/daily function, but the decline was less in the lecanemab group. This is shown in the graph below.



### How much does lecanemab slow decline?

For the main measure of symptoms (shown in the graph), the lecanemab group had 27% less decline. At the end of 18 months, the lecanemab group had symptoms similar to those of the placebo group at 12 months. In other words, decline was slowed by about 6 months with lecanemab, but both groups still got worse.

### Does lecanemab have side effects?

Yes. About 1 in 4 persons treated with lecanemab has an “infusion-related reaction,” consisting of flu-like symptoms (such as fever, chills, body aches) at the time of the infusion. Infusion-related reactions occur primarily with the first infusion, but if someone has these symptoms repeatedly, medications such as acetaminophen or diphenhydramine can be given to prevent a reaction.

Another potential side effect of lecanemab is ARIA (Amyloid Related Imaging Abnormalities). There are two types of ARIA. One (ARIA-E) is swelling in areas of the brain. The other (ARIA-H) is small spots of bleeding in or on the surface of the brain, and infrequently larger areas of bleeding. Most people with ARIA do not experience symptoms. However, some people may experience symptoms such as headache, confusion, dizziness, vision changes, nausea, weakness, speaking difficulty, or seizure. Brain Magnetic Resonance Imaging (MRI) scans are done before and during treatment to look for ARIA and to determine if treatment with lecanemab needs to be stopped temporarily or permanently. ARIA-E and any associated symptoms usually resolve over time (months).

### How common is ARIA?

In the CLARITY AD study, the rates of ARIA were:

	<u>Lecanemab</u>	<u>Placebo</u>
<b>ARIA-E</b> (alone or with ARIA-H)	12.6%	1.7%
<b>ARIA-E with symptoms</b>	2.8%	0.0%
<b>ARIA-H</b> (alone or with ARIA-E)	17.3%	9.0%
<b>ARIA-H alone</b> (no ARIA-E)	8.9%	7.8%
<b>ARIA-H alone with symptoms</b>	0.7%	0.2%

### Are certain persons at higher risk of side effects?

Yes. Some people have a genetic risk factor (apolipoprotein E4 gene) that increases the risk of ARIA, as shown in the table below. Genetic testing is recommended to see if you have this risk factor. This may not be covered by insurance (cost is approximately \$320).

Lecanemab-associated ARIA Rates by ApoE genotype in CLARITY AD study

	Total	Symptomatic
ARIA E (overall)	12.6%	2.8%
ApoE -/-	5.4%	1.4%
ApoE 4/-	10.9%	1.7%
ApoE 4/4	32.6%	9.2%
ARIA H (overall)	17.3%	0.7%
ApoE -/-	11.9%	
ApoE 4/-	14.0%	
ApoE 4/4	39.0%	

In addition, life-threatening brain bleeding has occurred in persons taking anticoagulant blood thinners or treated with thrombolytic (clot-busting) medications while receiving lecanemab. At this time, it is recommended that persons taking anticoagulant blood thinners **not** be given lecanemab, and persons receiving lecanemab **not** be treated with thrombolytics.

**Could lecanemab slow decline in anyone with Alzheimer’s disease?**

Lecanemab has been studied in persons with mild symptoms of Alzheimer’s disease, such as individuals with memory loss who are still able to function independently or with minimal assistance. The effects of lecanemab in persons with more advanced symptoms are not known, but there are reasons to believe that there would be greater risks and less/no benefit.

**AMYLOID TESTING**

**Is a clinical diagnosis of Alzheimer’s disease accurate enough to know that someone has amyloid buildup in the brain?**

No. A clinical diagnosis of Alzheimer’s disease is not 100% accurate. Other conditions can cause similar symptoms but do not have the amyloid buildup that occurs with Alzheimer’s disease. Lecanemab is not an appropriate treatment if there is no buildup of amyloid.

**Can someone with suspected Alzheimer’s disease get a PET scan to determine if they have amyloid buildup?**

A PET scan can be performed to detect brain amyloid buildup. As of October 2023, an amyloid PET scan may be covered by Medicare. Coverage by other insurers varies.

**What else can be done to detect brain amyloid buildup?**

A lumbar puncture (spinal tap) can be performed to measure levels of amyloid in the cerebrospinal fluid. This information can indicate if amyloid is building up in the brain. Insurance coverage varies for cerebrospinal fluid tests.

## TREATMENT ELIGIBILITY

### **Is lecanemab useful in persons with other types of dementia, such as Lewy Body Dementia or vascular dementia?**

Lewy Body Dementia may or may not have brain amyloid buildup. However, lecanemab has not been studied in persons with Lewy Body Dementia to know if it is helpful or safe. Therefore, lecanemab is not recommended for Lewy Body Dementia, even if someone with Lewy Body Dementia has evidence of brain amyloid buildup. Lecanemab is not recommended for vascular dementia or other non-Alzheimer's dementias.

### **Based on the available information, who should receive lecanemab?**

The most appropriate person for lecanemab treatment is someone who is medically similar to the patients in the lecanemab studies and who understands the potential risks and benefits.

### **Who was able to enroll in the CLARITY AD study?**

Patients were age 50-90 and had:

Mild symptoms of Alzheimer's disease (based on several tests of thinking and daily function, including an MMSE of 22-30):

An amyloid Positron Emission Tomography (PET) scan or cerebrospinal fluid result consistent with brain amyloid buildup

Body Mass Index above 17 and below 35

And could not have:

A neurological condition other than Alzheimer's Disease that might be a contributing reason for thinking difficulties

A seizure, stroke, or Transient Ischemic Attack (TIA) in the past year

A significant, unstable psychiatric illness

Significant brain vascular disease or bleeding disorder

Any contraindications to brain MRI

An immunological disorder that is not adequately controlled, or which requires treatment with immunoglobulins, systemic monoclonal antibodies, systemic immunosuppressants, or plasmapheresis

A bleeding disorder that is not under adequate control

### **For patients who choose to receive lecanemab, how long should it be continued?**

The duration of treatment is unknown. The main lecanemab study used a treatment period of 18 months.

## **INSURANCE COVERAGE AND AVAILABILITY**

### **Is lecanemab covered by insurance?**

Medicare part B covers lecanemab. Individuals with Original Medicare will pay the standard 20% coinsurance of the Medicare-approved amount for lecanemab once they meet their Part B deductible. Costs may be different for people with Medicare supplemental coverage or those enrolled in a Medicare Advantage plan. Coverage by other insurers varies.

### **What is the cost of lecanemab without insurance?**

The cost for lecanemab without insurance (the drug only, not including the costs of infusion, brain scans, examinations, and other monitoring) is \$26,500 per year for someone who weighs 75 kilograms (165 pounds).

### **Is lecanemab available at the University of Michigan?**

Lecanemab is now available at the University of Michigan through neurology providers in the Cognitive Disorders Clinic.

Prepared by the University of Michigan Cognitive Disorders Clinic