



Mild Cognitive Impairment (MCI), Dementia & Alzheimer's Disease (AD)

For enquiries and appointments,
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Service Hours

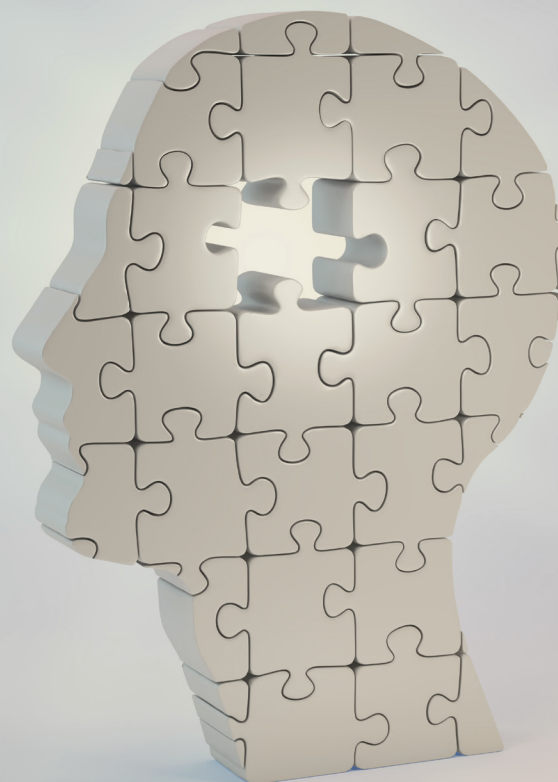
Monday to Friday 9:00 am - 5:00 pm

Saturday 9:00 am - 1:00 pm

Closed on Sundays and Public Holidays

Consultation by Appointment

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養和醫療集團成員 Members of HKSH Medical Group

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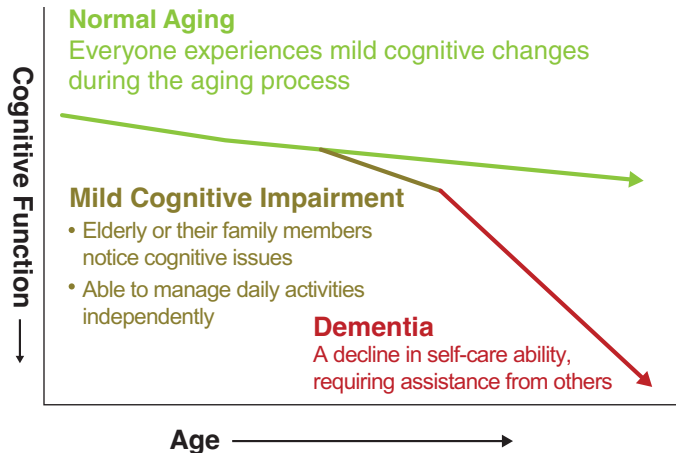
養和癌症中心
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What is Mild Cognitive Impairment (MCI)?

Mild cognitive impairment (MCI) is an early stage of memory loss or other cognitive ability loss (such as language or visual/spatial perception). MCI can cause cognitive changes that are serious enough to be noticed by the affected people, their family members and friends, but do not necessarily affect individual's ability to carry out everyday activities.

MCI can develop for multiple reasons, and some individuals living with MCI may go on to develop dementia, while others will not. For neurodegenerative diseases, MCI can be an early stage of the disease continuum including Alzheimer's disease (AD) if the hallmark changes in the brain are present.



What is Dementia?

Dementia (or senile dementia) refers to a group of neurocognitive symptoms and impairments that are caused by neurological disorders or other diseases damaging the nerves cells in the brain. The decline in cognitive functions is worse than what one may expect during the normal aging process, and the daily lives of patients will be interfered by the impact on areas such as memory, language, orientation, reasoning, planning, temperament and emotion.

Causes

1. Alzheimer's Disease (AD)
2. Vascular Dementia (VD)
3. Parkinson's Disease Dementia
4. Dementia with Lewy Bodies (DLB, also known as Diffuse Lewy Body Disease)
5. Other diseases: HIV/AIDS, syphilis, hypothyroidism, chronic subdural haematoma, normal pressure hydrocephalus, deficiency in Vitamin B12 or folic acid

Symptoms

- Loss of ability to plan and organise daily activities
- Impairment of recent memory
- Disorientation of time and space
- Impaired language, calculation and judgment
- Personality changes, e.g. agitation
- Depression and anxiety
- Paranoia

Diagnosis

1. Clinical Assessment
Doctor will review your medical history and symptoms, followed by a physical examination with neurological evaluation to help identify any functional impairment or cognitive issue.
2. Laboratory Test
It aims to detect any reversible cause that can affect brain functions, such as low thyroid hormone level, vitamin B-12 deficiency or certain infectious diseases. Blood biomarkers and genetic tests can help assess the likelihood of AD.
3. Brain Imaging (CT or MRI Brain)
It can rule out structural brain lesion, e.g. tumour or hydrocephalus.
4. PET Scan with Special Radiotracers
Specific image scanning for AD diagnosis may be useful in selected patients.

Treatment and Care of Dementia

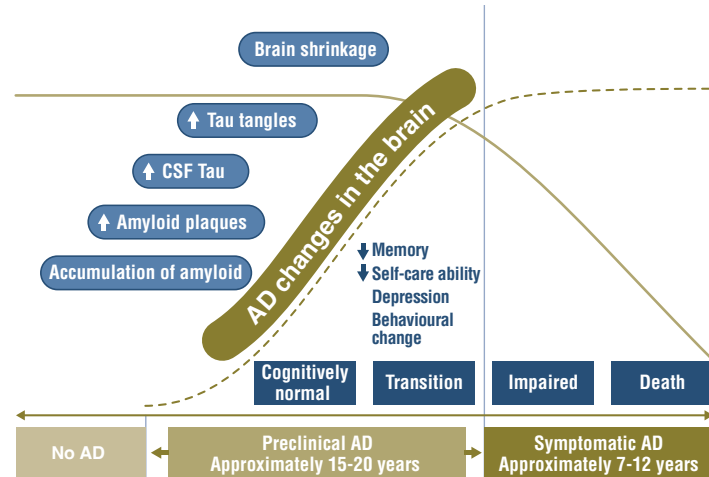
- To treat the reversible cause of dementia (if present), e.g. vitamin B12 replacement if dementia is caused by vitamin B12 deficiency; or if vascular disease is a contributing factor, to achieve optimal control of all vascular risk factors and use appropriate antithrombotic drugs.
- Medications
 - For symptom alleviation: Acetylcholinesterase inhibitor, i.e. Aricept (Donepezil), Exelon (Rivastigmine)
 - Ebixa (Memantine) is a NMDA receptor antagonist which regulates the activity of another chemical messenger called glutamate, which leads to brain cell damage.
- Therapists will train patients in mobility, physical performance, gait balance, self-care, cognitive function, swallowing and speech functions.
- To encourage patients to use notebooks and notepads as memory aids.
- Advanced care planning



Alzheimer's Disease and Advances in Treatment

AD develops as a result of loss of neurons and synapses in brain due to degeneration. With special medical imaging (PET Scan), deposits of protein fragment beta-amyloid (plaques) and twisted strands of protein tau (tangles) may be seen.

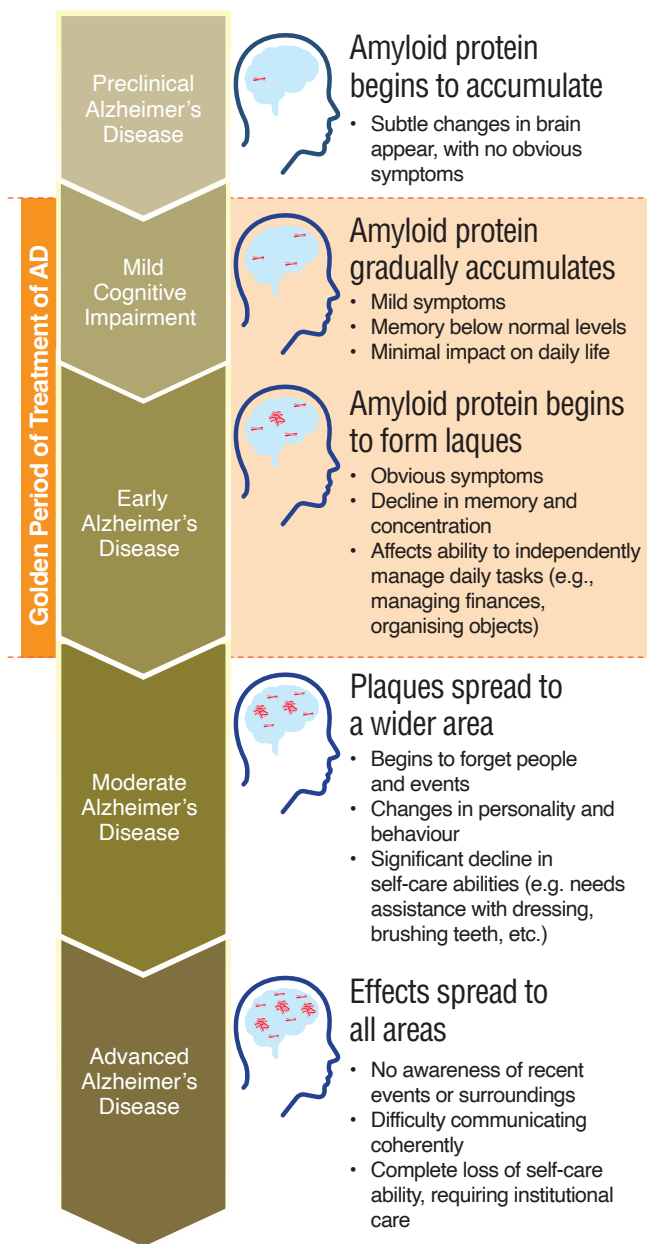
Course of Alzheimer Disease



Reference :
Day GS. Diagnosing Alzheimer Disease. Continuum (Minneapolis). 2024 Dec 1;30(6):1584-1613.

AD is a multi-stage disease. While symptoms are not obvious in the very early stage, these changes may lead to noticeable memory loss and other cognitive problems over time, marking the onset of AD symptoms. In the late stage, patients may develop psychological and behavioural problems in addition to severe cognitive impairment.

Stages of Alzheimer Disease



Reference:

1. Hampel H, et al. Mol Psychiatry. 2021 Oct;26(10):5481-5503.
2. Johns Hopkins Medicine. Stages of Alzheimer's Disease. <https://www.hopkinsmedicine.org/health/conditions-and-diseases/alzheimers-disease/stages-of-alzheimer-disease> [Accessed 1 August 2025].
3. Vermunt L, et al. Alzheimers Dement. 2019 Jul;15(7):888-898.
4. Brück CC, et al. J Alzheimers Dis. 2021;84(4):1515-1522.

Anti-Amyloid Treatments

For patients with early stage AD, anti-amyloid treatments can help slow down the disease by removing harmful amyloid plaques (abnormal protein buildup) in the brain and preventing new ones from forming. Starting treatment early may help delay worsening memory and thinking problems.

Treatments are scheduled on a 2-week or monthly basis, for a total of 18 to 39 sessions.

Screening at Family Medicine Centre

- Blood test (pTau217 + APOE4)

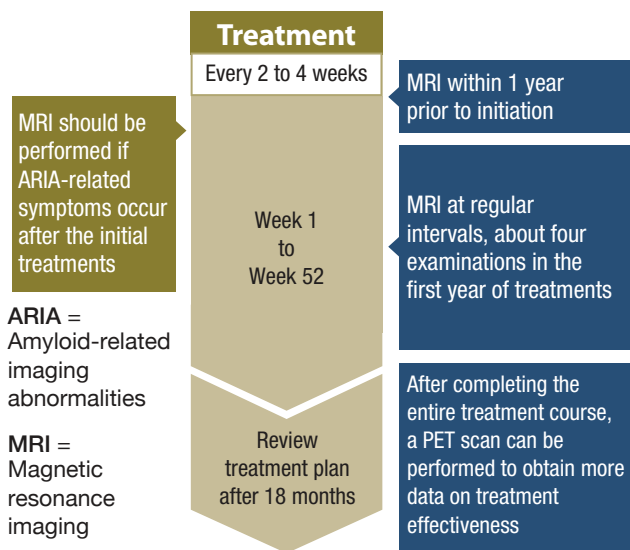
Consultation by Specialist

- Clinical neurological examination
- Clinical cognitive assessment
- Other blood tests (for selected patients)

Inpatient Treatment

- Intravenous (IV) anti-amyloid medications

Radiology Monitoring During Anti-Amyloid Treatments



Reference:

Cummings J, Apostolova L, Rabinovici GD, Atri A, Aisen P, Greenberg S, Hendrix S, Selkoe D, Weiner M, Petersen RC, Salloway S. Lecanemab: Appropriate Use Recommendations. J Prev Alzheimers Dis. 2023;10(3):362-377.



Prevention

- Train your brain to stay sharp, e.g. by reading books and magazines, doing crossword puzzles, sudoku and learning new things that are different from your daily routine
- Exercise regularly
- Maintain a healthy and balanced diet
- Quit smoking
- Avoid excessive alcohol consumption
- Prevent brain injury: minimise risks of head injury due to accidents and maintain cerebrovascular health with good control of blood pressure, blood glucose and cholesterol. Regular physical checkups are also recommended



Reference:
<https://continuum.aan.com/doi/10.1212/CON.0000000000001507>
<https://pubmed.ncbi.nlm.nih.gov/39620836/>