

# Memory loss – how to prevent dementia

Dr JS Bamrah, FRCPPsych



# #DevoManc



# Normal Aging to Dementia

Normal

Mild cognitive  
impairment

Dementia

Functional Impairment

# Memory loss

- Age
- Physical Health (chronic pain, infections)
- Mental Health (anxiety, depression, stress)
- Lifestyle (alcohol, diet, exercise, smoking)
- Attitudes (self-confidence, positivity)

# Early signs

- Forgetting recent events despite prompting
- Failure to attend appointments
- Repetition of statements or questions
- Frequently losing items
- Word finding problems
- Difficulty understanding conversation
- Getting lost, losing car in the car park
- Confusion

# Signs

- Difficulty handling money or paying bills
- Inability to work gadgets
- Neglect of personal care or home
- Social withdrawal
- Difficulty coping with new events
- Personality changes

# Key points

- 700,000 people are affected in the UK (Alzheimer's Society) with 5% over 65, rising to 20% of the over 80s.
- Dementia is associated with complex needs and high levels of dependency and morbidity.
- Care needs often challenge the skills and capacity of carers and available services.

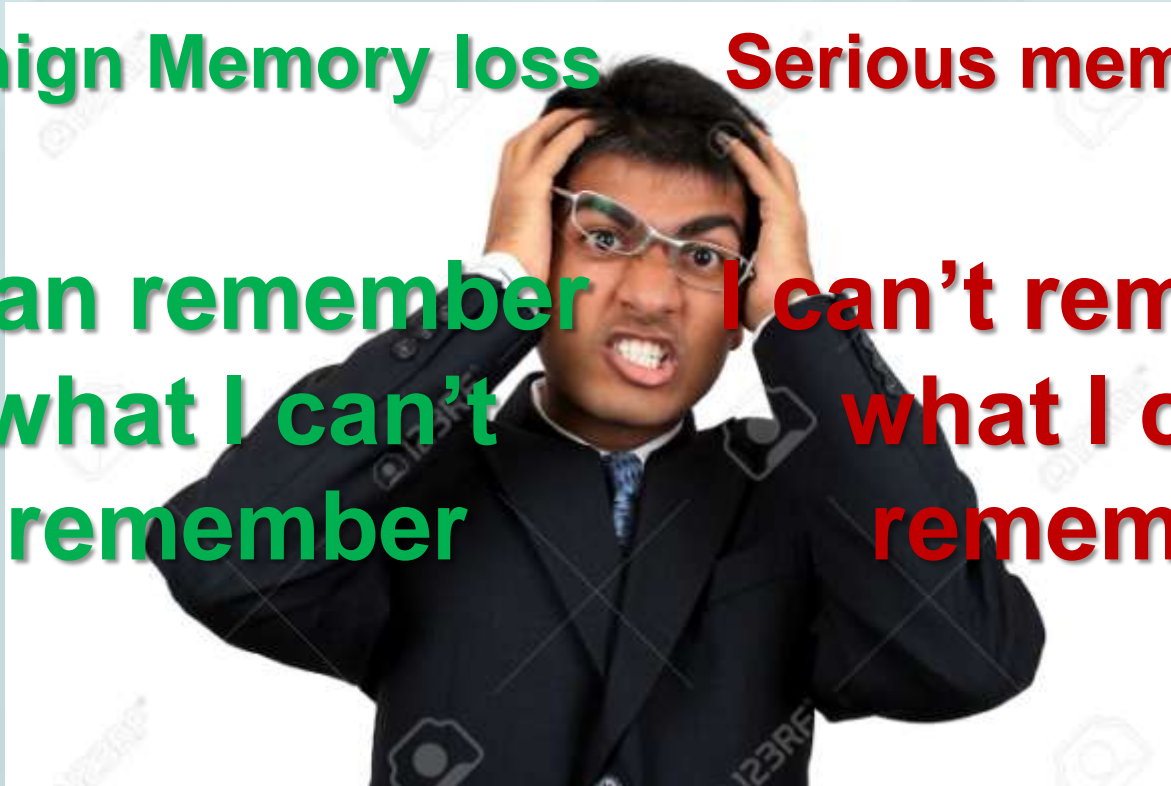
# Making a diagnosis can be very confusing!

**Benign Memory loss**

**Serious memory loss**

**I can remember  
what I can't  
remember**

**I can't remember  
what I can't  
remember**





# Dementia

Dementia is a progressive and largely irreversible syndrome that is characterised by a widespread impairment of mental function.



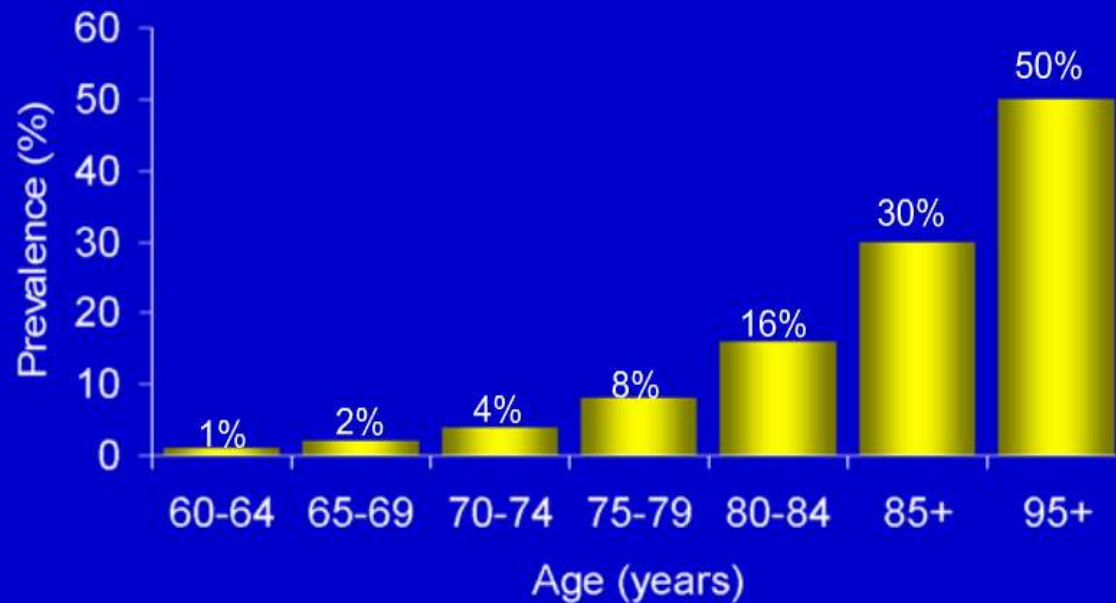
# Dementia

- Alzheimer's Disease (60%)
- Vascular dementia (20%)
- Dementia with Lewy Body (10-15%)
- Fronto-temporal dementia (10%)
- Mixed dementia
- Dementia associated with neurological disease, eg Parkinson's disease

# Causes of dementia



# Prevalence of AD



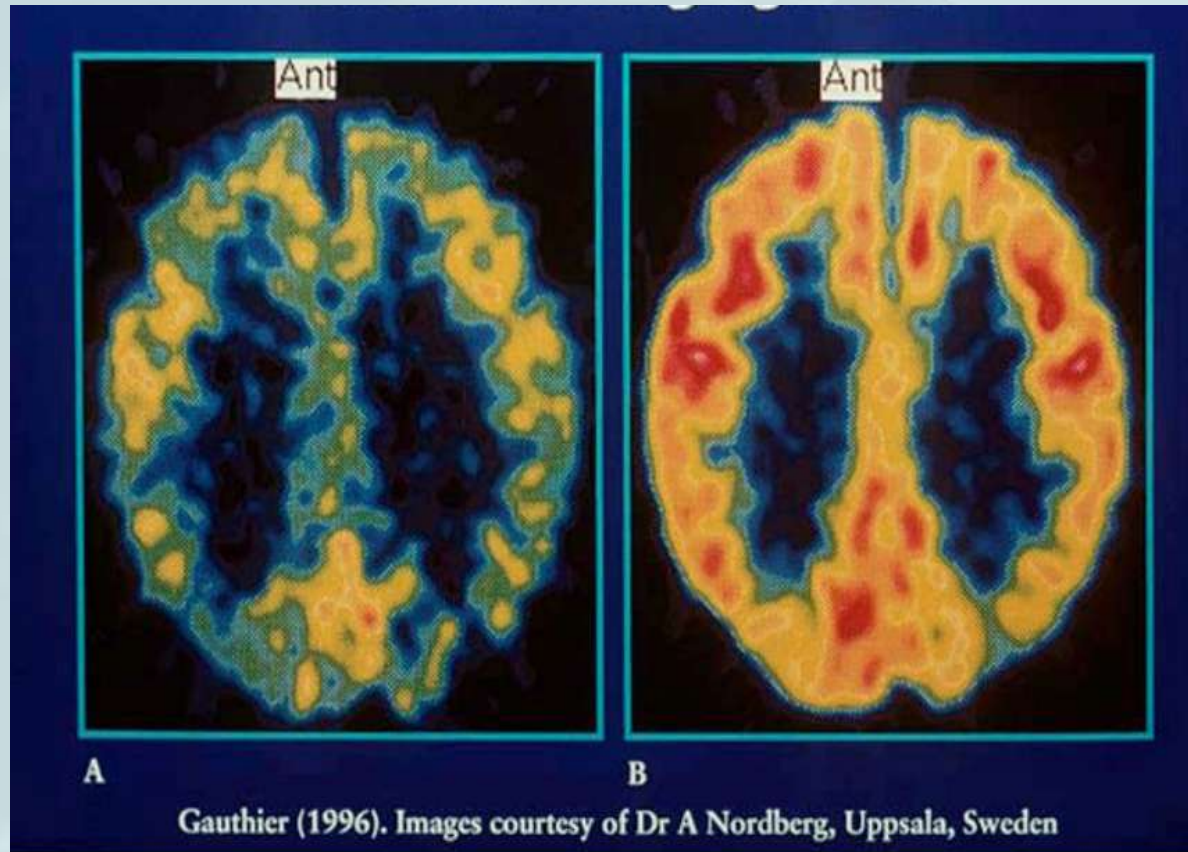
Kurz A. Eur J Neurol 1998; 5(Suppl 4): S1-8  
Wimo A *et al.* Int J Geriatr Psychiatry 1997; 12: 841-56

# Structural imaging for diagnosis

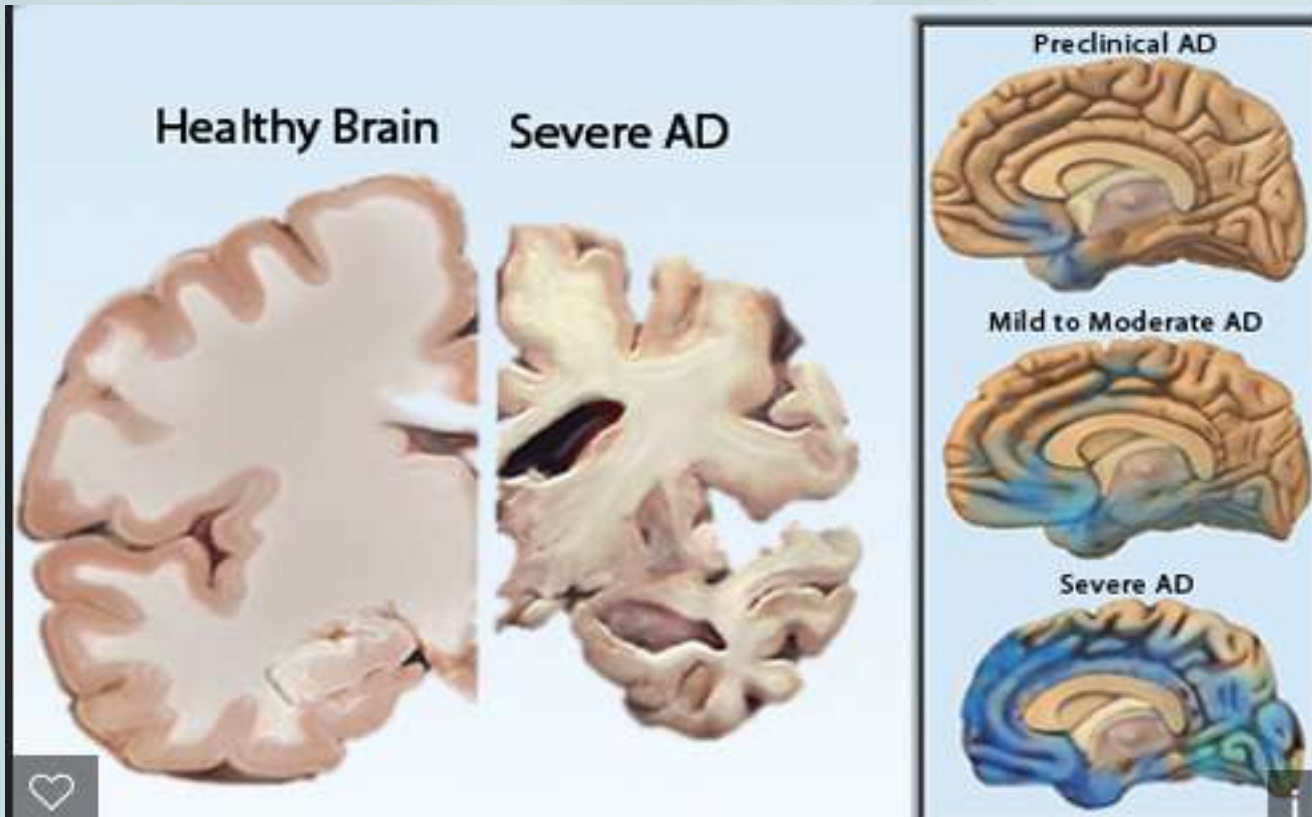
- Structural imaging should be used to assist in the diagnosis of dementia, to aid in the differentiation of type of dementia and to exclude other cerebral pathology.
- Magnetic resonance imaging (MRI) is the preferred modality to assist with early diagnosis and detect subcortical vascular changes, although computed tomography (CT) scanning could be used.



# Functional MRI images



# Brain images in AD



# Cholinergic deficit underpins memory loss

## Cholinergic deficit

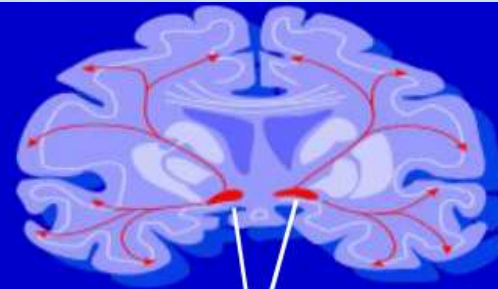
- progressive loss of cholinergic neurones



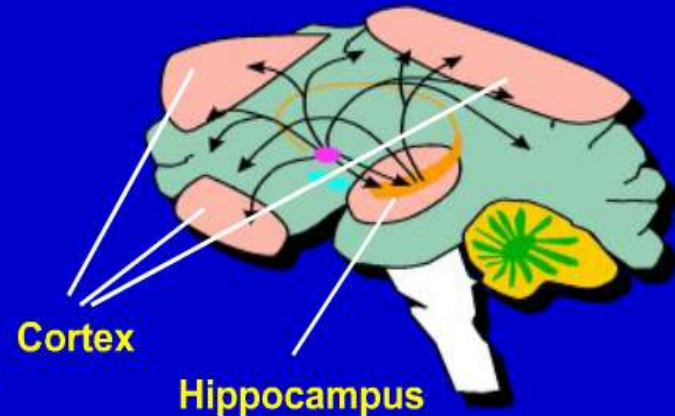
- progressive decrease in available ACh



- impairment in ADL, behaviour and cognition



N. basalis Meynert



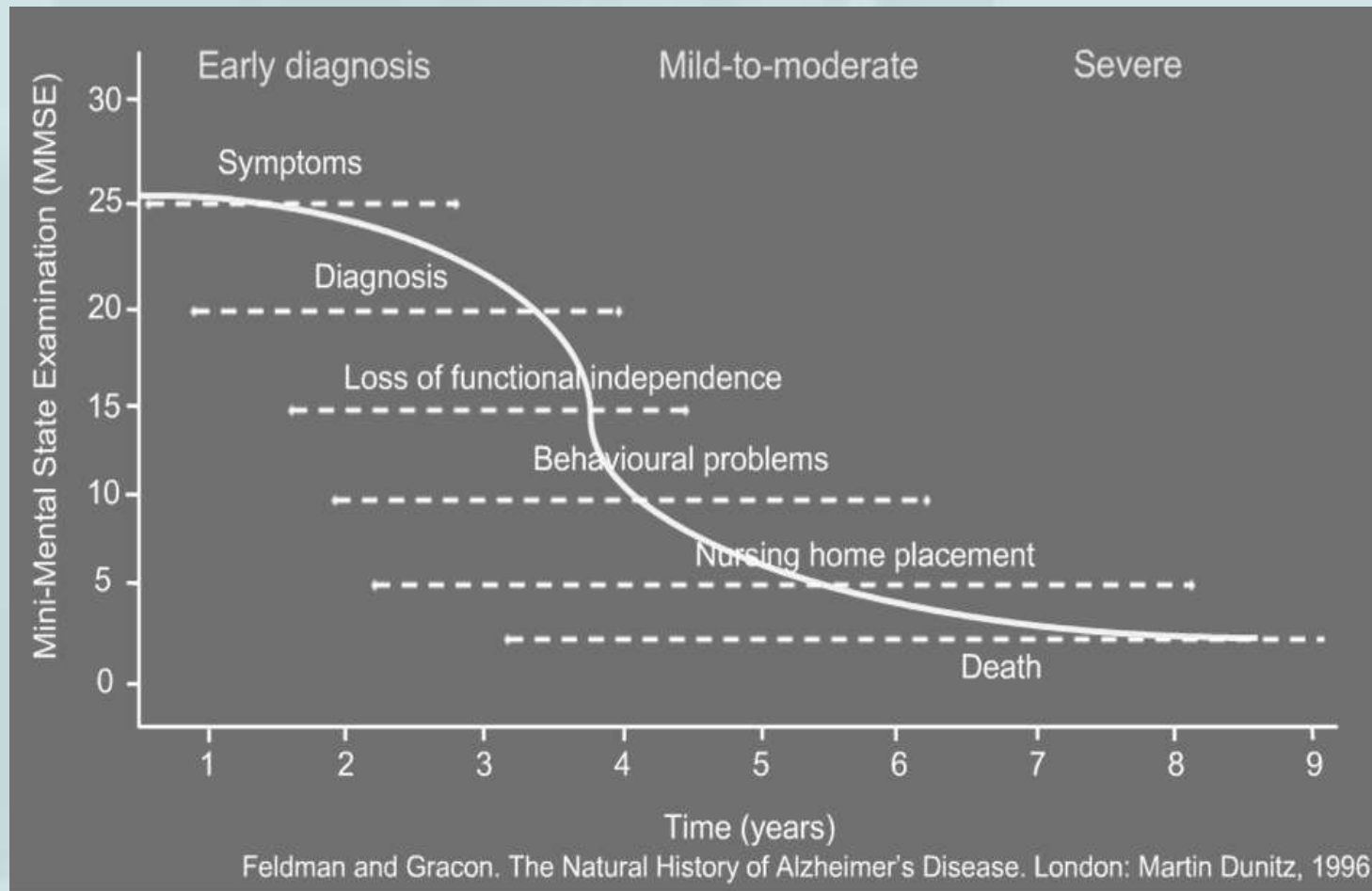
Cortex

Hippocampus

Bartus et al., 1982; Cummings and Back, 1998, Perry et al., 1978



# Natural history of AD



# Risk Factors for Dementia

<b>Age</b>	<b>Risk goes up with advancing age</b>
Genetics	Certain genes carry risk of dementia
Smoking and alcohol use	Smoking and alcohol both increase risk
Atherosclerosis	Interferes with blood supply to brain
Cholesterol	High LDL has been shown to increase risk of vascular dementia
Diabetes	High risk of AD and Vascular Dementia
Mild Cognitive Impairment	Significantly increases risk in some individuals
Down syndrome	Brain shows similar characteristics to AD in middle age and carry high risk of AD

# Treatment strategies

- Offer cognitive stimulation programmes for mild to moderate dementia of all types.
- Vascular dementia: do not use acetylcholinesterase inhibitors or memantine for cognitive decline except as part of properly constructed clinical studies.
- Mild cognitive impairment (MCI): do not use acetylcholinesterase inhibitors except as part of properly constructed clinical studies.

# Medication for Alzheimer's Disease



# Don't want to go there?



# Prevention is better than cure

**Stay social.** People who aren't socially engaged with family and friends are at higher risk for memory problems than people who have strong social ties.

**Exercise regularly.** Regular exercise boosts brain growth factors and encourages the development of new brain cells. Exercise also reduces the risk for disorders that lead to memory loss.

**Manage stress.** Cortisol, the stress hormone, damages the brain over time and can lead to memory problems. But even before that happens, stress or anxiety can cause memory difficulties in the moment.

# Preventing dementia

**Get plenty of sleep.** Sleep is necessary for memory consolidation, the process of forming and storing new memories so you can retrieve them later. Sleep deprivation causes problems with memory, concentration, and decision-making.

**Cut down on alcohol.** Drinking in moderation is the rule, no more than 21 units a week with one dry day at least a week.

**Don't smoke.** Smoking heightens the risk of vascular disorders that can cause stroke and constrict arteries that deliver oxygen to the brain.

# Diet and dementia

- **Watch what you eat** Eat plenty of fruits, nuts, olives and vegetables and drink green tea as these foods contain antioxidants in abundance, which can keep your brain cells from “rusting.” Foods rich in omega-3 fats (such as salmon, tuna, trout, walnuts, and flaxseed) are particularly good for your brain and memory.
- **Restrict salt** Limiting the amount of salt in your diet to no more than six grams a day can also help. Too much salt will increase your blood pressure, which puts you at risk of developing some types of dementia.



# Cholesterol and fat conundrum

- Current evidence is confusing
- There is no evidence that lowering cholesterol lowers risk of dementia
- Statins are too widely prescribed in my view
- Risk of saturated fat in food has been exaggerated
- A balanced diet is best!

# My Right to Choose

<https://www.youtube.com/watch?v=TnnCxUiCpYU>