Dementia Management in Primary Care

Arlene Kelly-Wiggins MD CCFP (COE)
Day In Family Medicine January 2024

Disclosures

No competing or conflicting interests

Founding Member and Current Advisory Role with CBU Centre for Excellence in Healthy Ageing

Principal Investigator in CB for Goal Attainment Study with Ardea Outcomes

———

Objectives

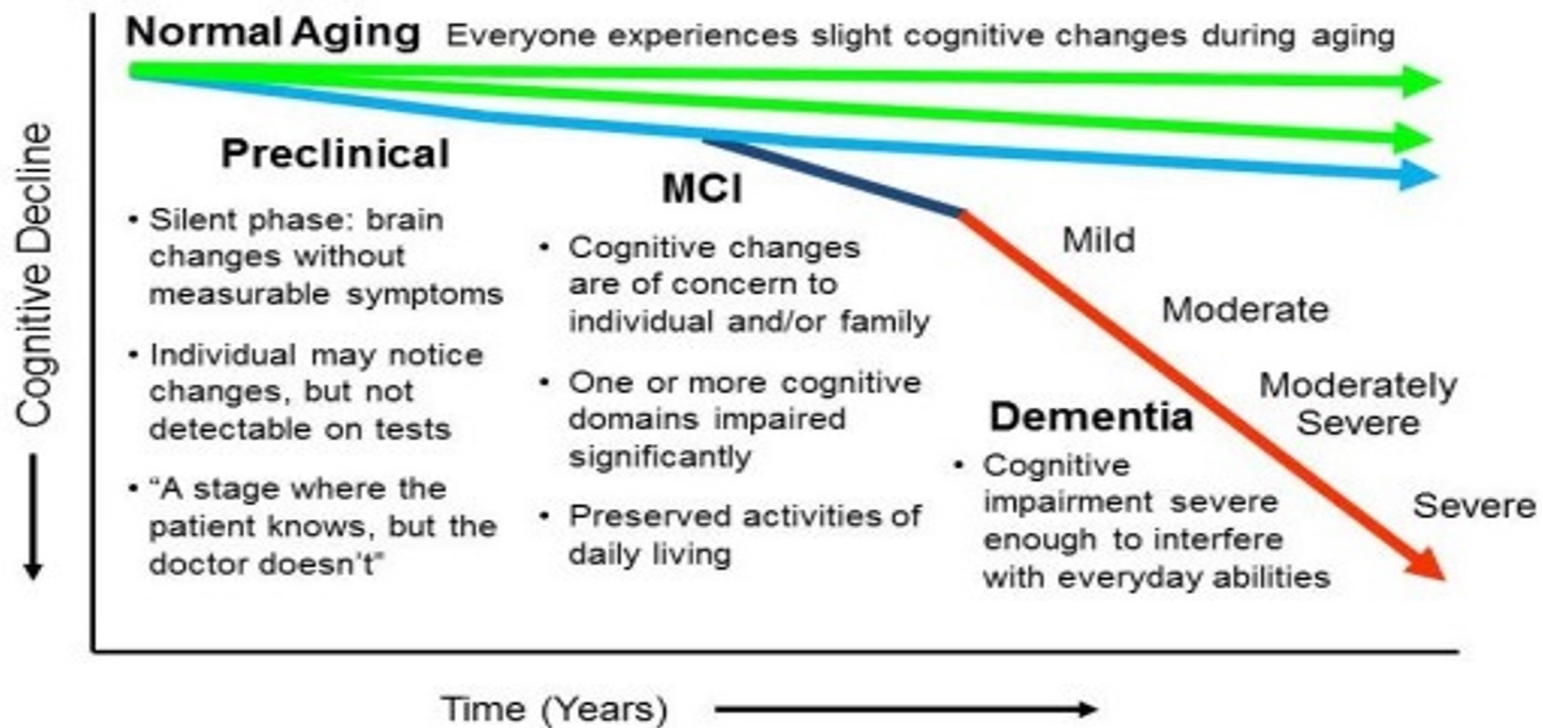**At the conclusion of this presentation, participants will be able to:**

• Understand the role of diagnostic testing and memory assessment in the context of a dementia differential diagnosis.

• Differentiate between various acetylcholinesterase inhibitors and their respective roles when creating a treatment plan.

• Understand the role of geriatric specialists when managing complex cases of dementia and coordinating holistic care.
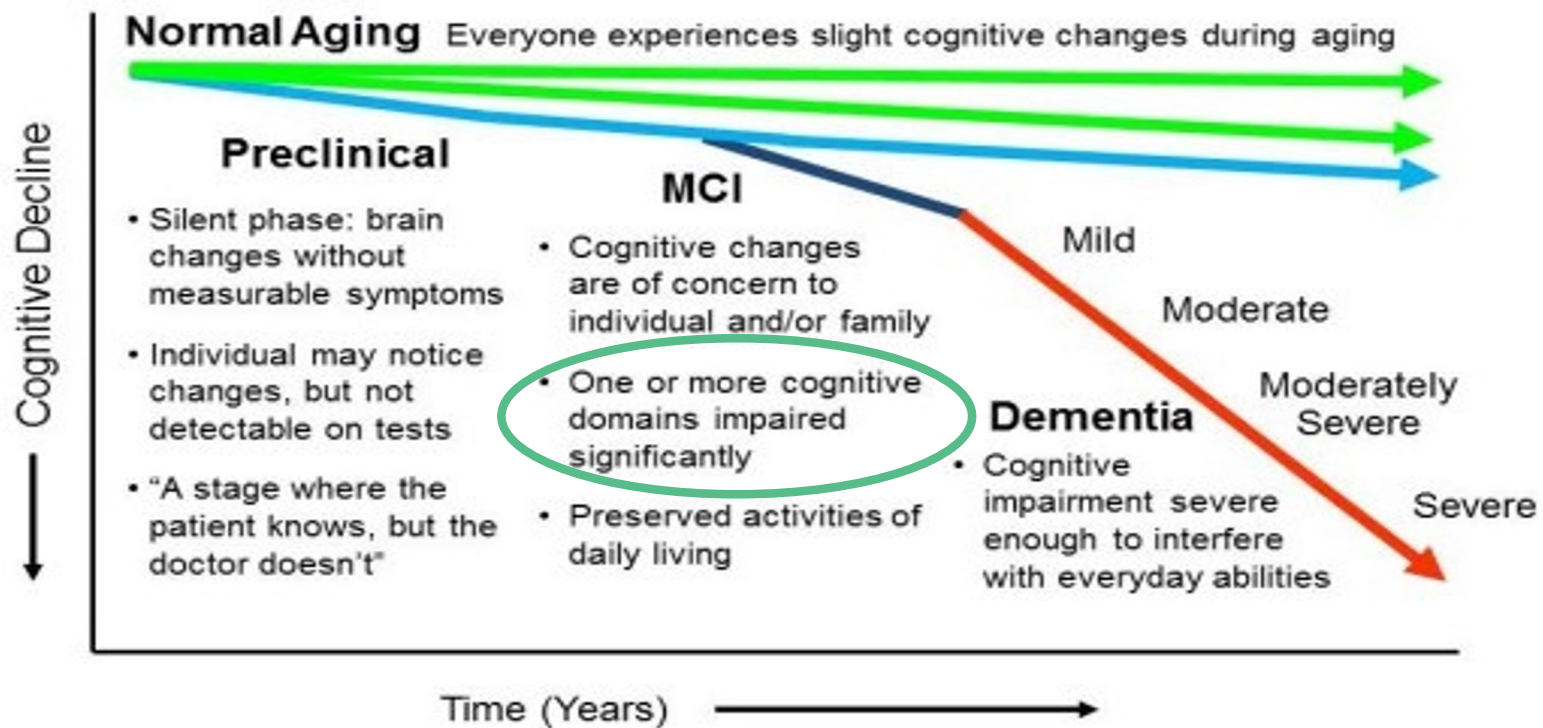
Working Definition: Dementia

A **decline in cognitive function** severe enough
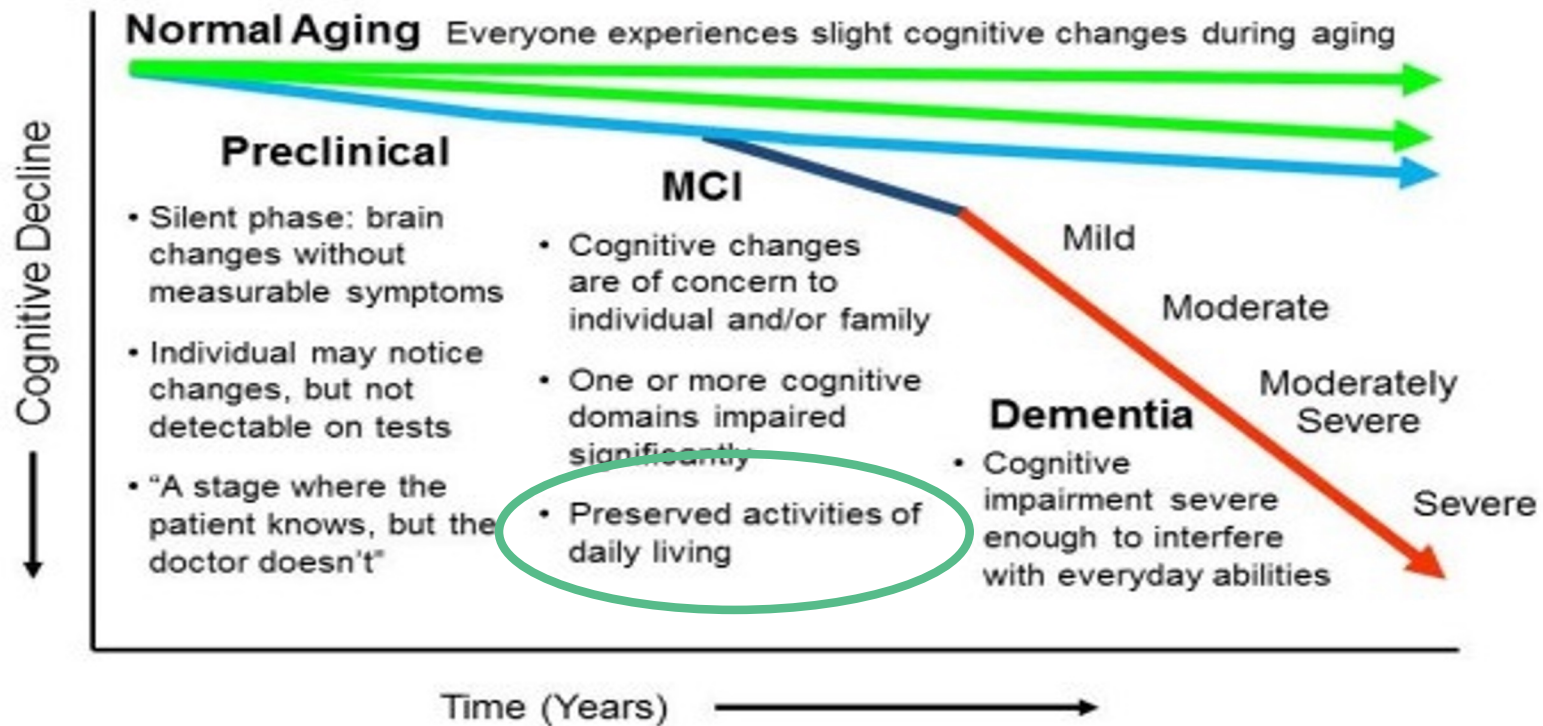
to **interfere with independence** in daily activities.
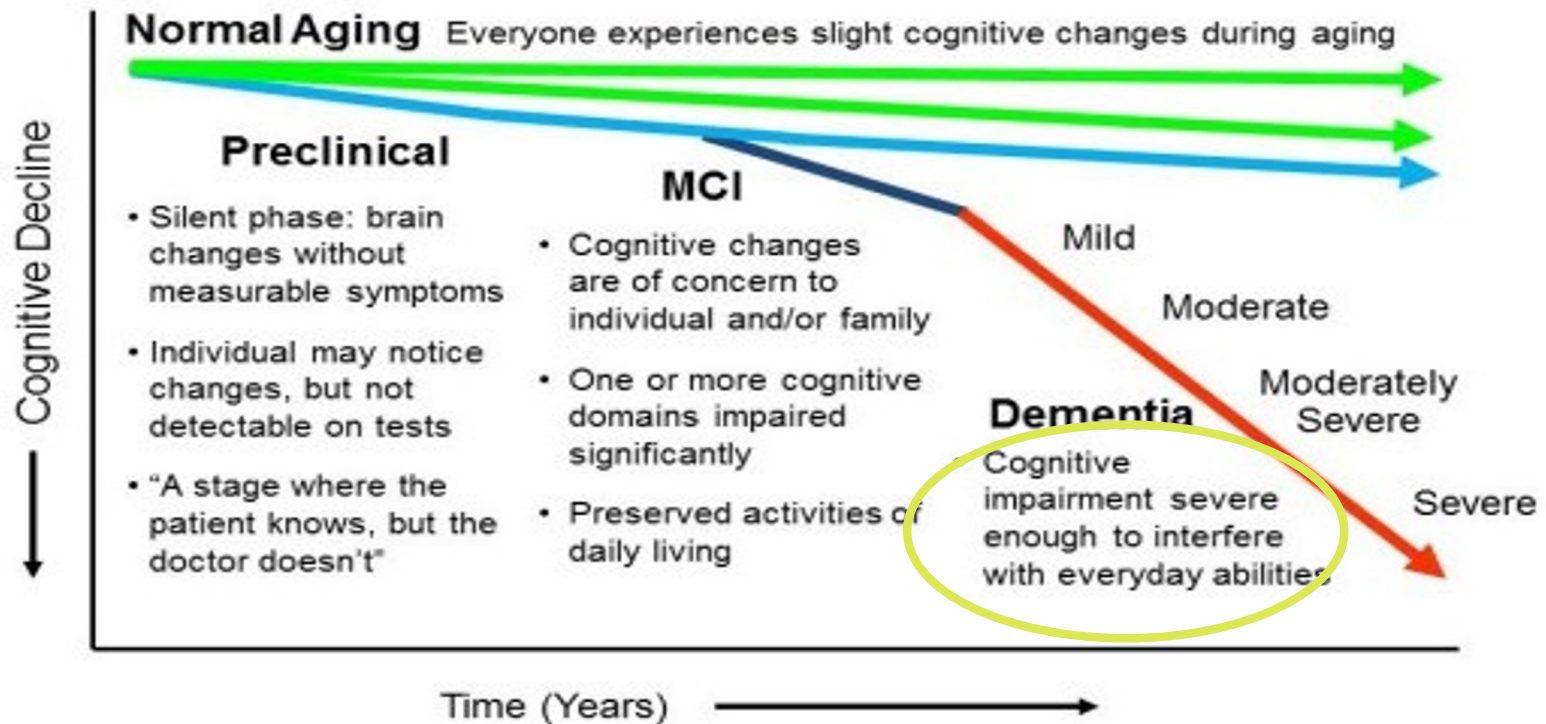
Normal Ageing → MCI → Dementia

Normal Aging Everyone experiences slight cognitive changes during aging

Cognitive Decline

Preclinical

- Silent phase: brain changes without measurable symptoms
- Individual may notice changes, but not detectable on tests
- "A stage where the patient knows, but the doctor doesn't"

MCI

- Cognitive changes are of concern to individual and/or family
- One or more cognitive domains impaired significantly
- Preserved activities of daily living

Dementia

- Cognitive impairment severe enough to interfere with everyday abilities

Mild

Moderate

Moderately Severe

Severe

Time (Years)

Normal Ageing → MCI → Dementia

Normal Aging Everyone experiences slight cognitive changes during aging

Cognitive Decline (vertical axis)

Preclinical
- Silent phase: brain changes without measurable symptoms
- Individual may notice changes, but not detectable on tests
- "A stage where the patient knows, but the doctor doesn't"

MCI
- Cognitive changes are of concern to individual and/or family
- One or more cognitive domains impaired significantly
- Preserved activities of daily living

Dementia
- Cognitive impairment severe enough to interfere with everyday abilities

Mild
Moderate
Moderately Severe
Severe

Time (Years)

Normal Ageing → MCI → Dementia

Normal Aging Everyone experiences slight cognitive changes during aging

Cognitive Decline ↓

Preclinical
- Silent phase: brain changes without measurable symptoms
- Individual may notice changes, but not detectable on tests
- "A stage where the patient knows, but the doctor doesn't"

MCI
- Cognitive changes are of concern to individual and/or family
- One or more cognitive domains impaired significantly
- Preserved activities of daily living

Dementia
- Cognitive impairment severe enough to interfere with everyday abilities

Mild
Moderate
Moderately Severe
Severe

Time (Years) →

Normal Ageing → MCI → Dementia

Normal Aging Everyone experiences slight cognitive changes during aging

Preclinical

- Silent phase: brain changes without measurable symptoms
- Individual may notice changes, but not detectable on tests
- "A stage where the patient knows, but the doctor doesn't"

MCI

- Cognitive changes are of concern to individual and/or family
- One or more cognitive domains impaired significantly
- Preserved activities of daily living

Dementia

Cognitive impairment severe enough to interfere with everyday abilities

Mild

Moderate

Moderately Severe

Severe

Cognitive Decline

Time (Years)

Assessing Function – BADLs/IADLs

Dementia Assessment

- 92% Dx made by Hx + Px, improved accuracy with collateral
- No evidence for screening at population level
- Ask about and document change in function - BADLs + IADLs
- Assess for and treat other medical conditions, delirium, depression
- Recommended Investigations:
  - CBC, Lytes, Cr, Hgb A1c, random glucose
  - TSH, B12, CRP
  - ?Imaging

When to Image?

- Most guidelines recommend CTH at minimum
- Age <60 y
- Rapid decline (<1-2 months)
- Recent head trauma
- CNS symptoms - headache, seizures, lateralizing/localizing features, abN gait
- PMHx malignancy
- Anticoagulation/bleeding disorder
- Unusual cognitive Sx - aphasia
- Urinary incontinence + gait disturbance
  - ?NPH

MRI in more concerning presentations, younger people, atypical symptoms, rapid progression - request coronal views through hippocampus

Cognitive Testing

MMSE

- Orientation, memory, attention, language and visuospatial
- Brief, repeatable
- Language/culture sensitive
- No assessment of executive function or visual memory
- Lower sensitivity
- Education affects performance
- **Cutoff 24/30**

Cognitive Testing

MoCA

- Developed to overcome limited sensitivity of MMSE
- Includes visuospatial and executive function assmt
- **Differentiates MCI from dementia**
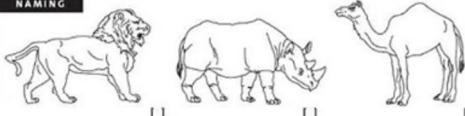- MoCA w/i 4 or 5 pts of MMSE = normal
- **Cutoff 21-22/30**

Cognitive Testing

MoCA

- Developed to overcome limited sensitivity of MM[...]
- Includes visuospatial and executive fu[...]
- **Differentiates MCI from dem[...]**
- Cutoff 21/30-22/30
- Generally 4-5 [...]een MMSE and
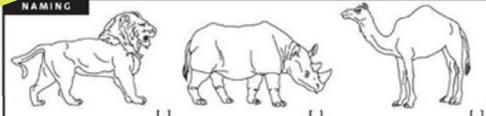
Concern re: training requirements - clinicians can sign disclaimer at mocatest.org

Mini-Cog

- 3 words - BALL, CAR, MAN
- Clock drawing test
- Score 1, 2, or 3 for recall
- Score 0 or 2 for clock
- Positive screen < 3/5
  - Will prompt further testing
- Negative screen ≥ 3/5
  - Cannot rule out dementia
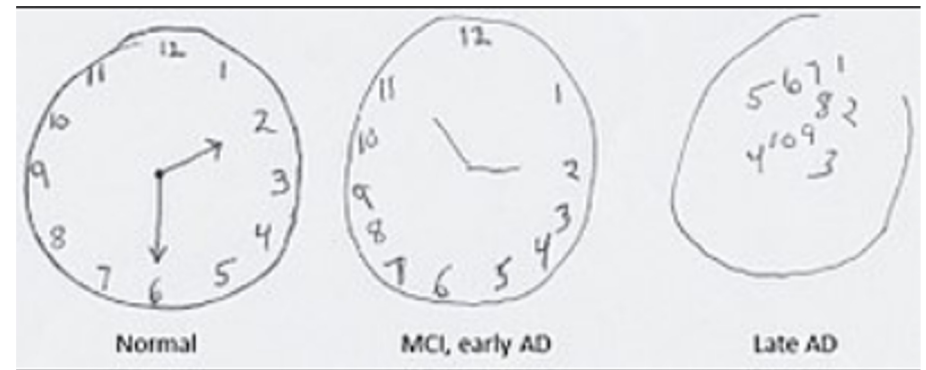
Normal = all numbers present, in order, correct hand placement (11:10) - 2/2

Abnormal - 0/2

Diagnosis

Clinical Diagnosis

- Based on Hx + collateral information, cognitive testing, physical exam

- Consider the earliest and most prominent impairment - **Domains of Cognition**

Diagnosis - Initial and Most Prominent Impairment

New Learning and Memory:

On History:

- Repetitiveness
- Misplacing objects
- Forgetting appointments and dates
- Any "red flag" events (e.g. leaving the stove on)

On Testing:

- Impaired recall not responsive to cueing i.e., impaired registration
- Impaired orientation
- Attention is usually intact

Most likely Dx:

Alzheimer's Dementia

Treatment is ChEI, and treat comorbid mood D/O

Diagnosis - Initial and Most Prominent Impairment

Visuo-Spatial:

On History:

- Getting lost in familiar surroundings
- Difficulty recognizing objects/faces
- Blurry vision, normal eye exam, difficulty reading, many pairs of glasses
- Can't align objects, cannot stack or replace objects
- Visual hallucinations, mis-interpretations

On Testing:

- Impaired copying, construction, and clock-drawing
- Unable to do Trails

On Exam:

- Parkinsonism, stooped + shuffling gait, tremor, masked facies
- Obvious coordination impairments -

Most likely Dx:

Lewy Body Dementia or Posterior Cortical Atrophy (PCA - variant of AD)

Both conditions warrant trial ChEIs - LBD often responds quickly but not sustained

Diagnosis - Initial and Most Prominent Impairment

Attention:

On History:

- Distractible
- Cannot follow TV shows, movies, conversations
- Repetitive questions but within seconds/minutes

On Testing:

- Impaired/inconsistent word registration
- Cannot spell backwards or do reverse digit span, reverse days of week
- Difficulty attending to/staying on task at hand

Most likely Dx:

- **Acute change: think delirium**
- **Fluctuating attention/cognition also associated with DLB**
- **Anxiety and depression also affect attention**
- **Attention is usually intact in mild-mod AD**

Diagnosis - Initial and Most Prominent Impairment

Language

On History:

- Substituting words:
  - Phonemic - sound alike
  - Semantic - close in meaning/function
- Difficulty with names of people/objects
- Prominent word-finding pauses
- Filler words - whatshisname, whatchamacallit

On Testing:

- Difficulty with naming objects
- Low letter/category fluency
- Impaired pronunciation

Most likely Dx:

Primary Progressive Aphasia (PPA)

Diagnosis - Initial and Most Prominent Impairment

Primary Progressive Aphasia (PPA) Subtypes:

- **Logopenic - AD variant - impaired repetition, prominent word-finding difficulties**
- **Semantic - FTD variant - empty speech, word salad**
- **Non-Fluent, agrammatic - FTD variant - halting speech, cadence is "off"**

Often improvement with SSRIs, logopenic variant is treated with ChEIs

Semantic variant usually has behavioural component and more rapid decline

Diagnosis - Initial and Most Prominent Impairment

Executive Function

On History:

- Difficulty at work learning new systems
- Trouble planning, multitasking, or with judgement
- Impulsivity or restlessness
- New apathy, loss of initiative

On Testing:

- Impaired clock construction, planning, abstracting time
- Impaired Trails and sequencing tasks, set-shifting

Most likely Dx:

Vascular Cognitive Impairment/Vascular Dementia

Symptoms usually respond to SSRIs, often we offer ChEI trial, galantamine has some evidence

Diagnosis - Initial and Most Prominent Impairment

Social Cognition

On History:

- Younger age, <65 y, onset in 40s-50s
- New and concerning behavioural changes
- Often cognition intact
- Impulsive, substance use, hyperorality, hypersexual behaviours
- Table manners often first to go
- Often Dx'd with psychiatric conditions before dementia Dx'd

On Testing:

- Recall, orientation, visuospatial tasks intact - testing can be "normal" for years
- Impaired judgement + insight
- Disinhibited - "F" words

Most likely Dx:

Behaviour Variant Frontotemporal Dementia (bvFTD)

Manage Sx/behaviours with SSRIs, family education

Initial Symptoms	Cognitive Domain	Most Likely Dx	Treatment
Repetitiveness, forgetfulness, misplacing objects, not oriented to time, "amnestic"	New learning and memory	Alzheimer's dementia	Cholinesterase inhibitors
Impaired organization, unable to plan or multi-task, new apathy, loss of interest	Executive function	Vascular dementia	SSRIs
Decline in social graces, behavioural changes, impulsivity, hyper-sexuality, <60y	Social cognition	bvFTD	SSRIs, family interventions
Distractible, unable to focus, fluctuating cognition	Attention	Acute change: ?delirium	Identify and treat cause
Wordfinding, non-fluent speech, empty speech, anomia, acalculia	Language	PPA - semantic, logopenic, non-fluent	Logopenic - ChEI Others - SSRIs
Getting lost, not recognizing faces, objects, % vision changes, changes in hand-eye coordination	Visuospatial	PCA - AD variant DLB - often w VH +/- PD Sx	ChEIs

Staging According to Impairment: CURE + IRAN

STAGE	CURE (COGNITION)	IRAN (FUNCTION)
MILD	CURRENT EVENTS (news, sports, weather, etc)	IADLs (higher order functions)
MODERATE	US PRES/CAN PM (major figures)	REWEARING (personal care)
SEVERE	RELATIVES (forgetting names + relationships)	ADLs (personal care)
VERY SEVERE	EVERY ASPECT OF MEMORY/COGNITION	NON-VERBAL, NON-AMBULATORY

Pharmacological Therapy

Mainstay of AD treatment is cholinesterase inhibitor (**ChEi**)

- Symptomatic treatments - not disease-modifying
- Small but significant effect on global function and cognition
- Contraindications: bradycardia, LBBB, heart block, chronic diarrhea, weight loss/anorexia, prolonged QT
- Now fully covered on NS Pharmacare w/o exception status form

Pharmacological Therapy

- Most common side effects are GI Sx, tend to settle within days
- More severe in pts <50 kg
- Sleep disrupted, nightmares - take in AM with food
- Syncope, bradycardia, QT prolongation espec w SSRIs, antipsychotics
- **Urinary incontinence**, rhinorrhea, sialorrhea, diarrhea, (all the -rrheas)
- Agitation, panic-like state
- ~~Lower seizure threshold - theoretical risk~~ - not seen in practice

Starting Therapy

Donepezil - start 5 mg OD, increase to 10 mg after 4 weeks; +/- food; in AM

Galantamine - start 8 mg OD, increase by 8 mg q4 weeks to max 24 mg OD; with fat-containing food; in AM

Rivastigmine - PO start 1.5 mg BID, add 1.5 mg q 4 weeks to maximum 6 mg BID; with food. TD 4.8 mg/24h, increase to 9.5 mg/24h after 4 weeks

Memantine - not covered by pharmacare, indicated for BPSD in advanced/severe dementia, minimal side effects. Now generic, $65/month

Treatment Effects ChEis+ Memantine

Treatment Effects ChEis+ Memantine

Cognition
MMSE

MMSE 26-30; subjective concerns

MMSE 24-26; onset of MCI

cholinesterase inh.

memantine

MMSE >20
essentially indep

MMSE 18-20

Evidence shows cholinesterase inhibitor treatment will delay severe dementia and LTC placement by 12-18 months, memantine another 6 months

6-12 month range

MMSE ~10
in LTC
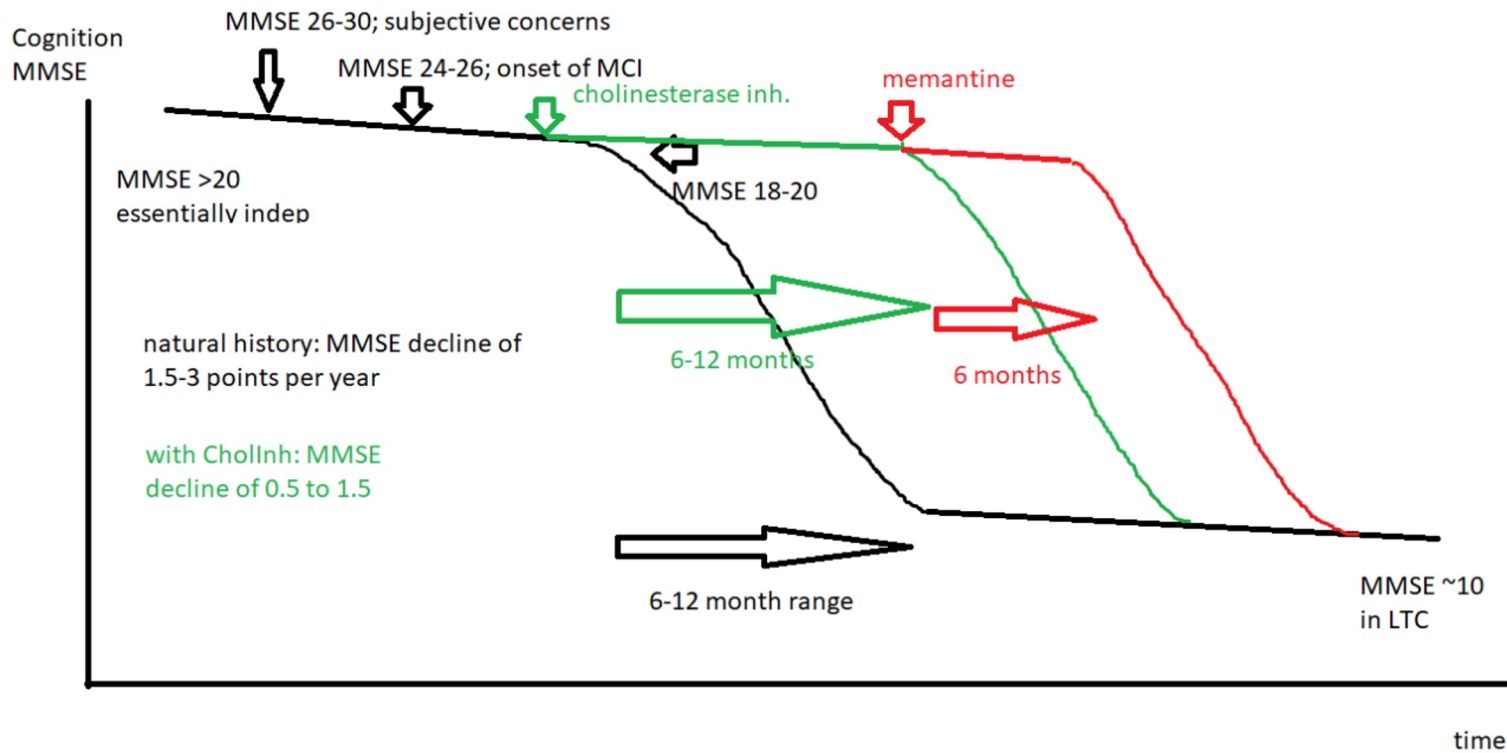
time
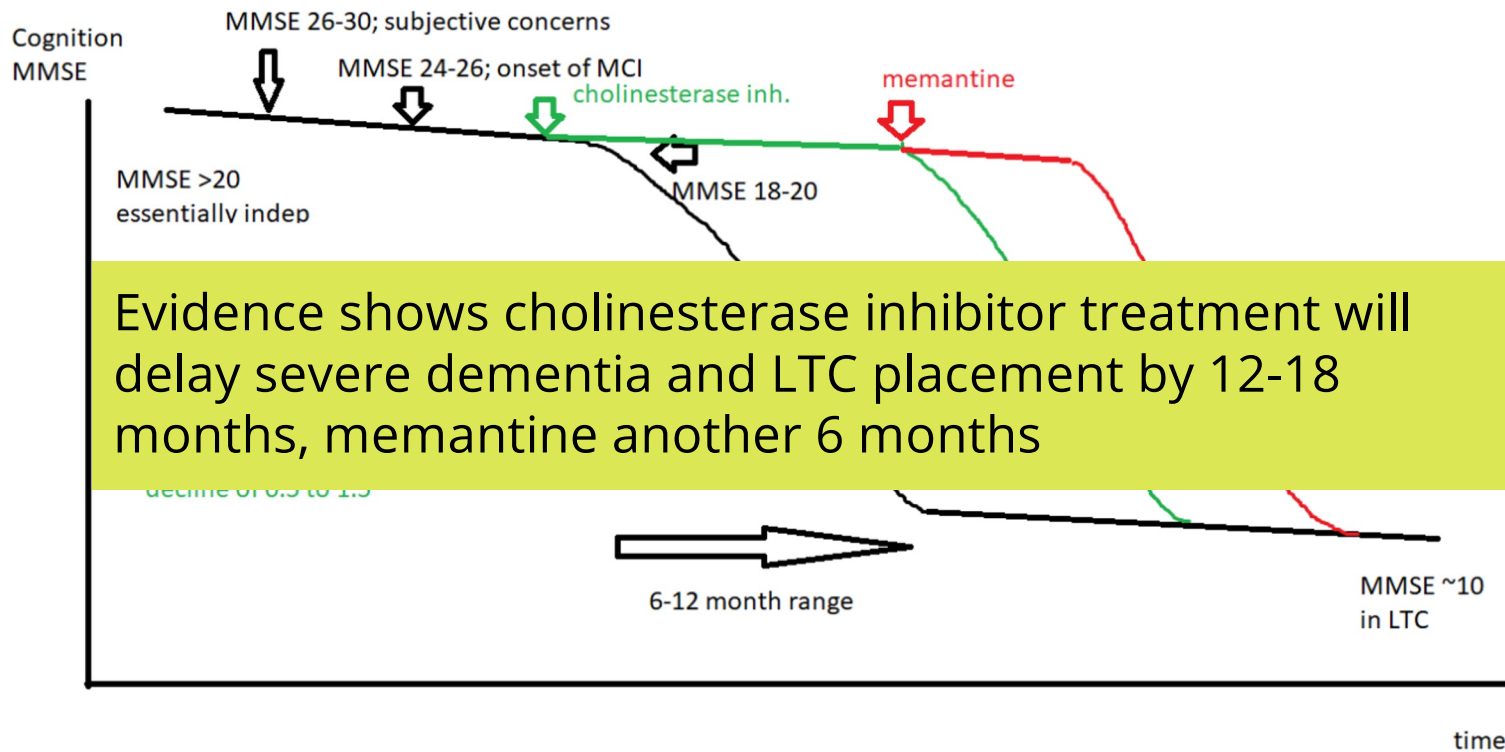
Swedish Dementia Registry Longitudinal Study

ARTICLE **OPEN ACCESS** **CLASS OF EVIDENCE**

Long-term Effects of Cholinesterase Inhibitors on Cognitive Decline and Mortality

Hong Xu, MD, PhD,* Sara Garcia-Ptacek, MD, PhD,* Linus Jönsson, PhD, Anders Wimo, MD, PhD,
Peter Nordström, MD, PhD, and Maria Eriksdotter, MD, PhD

Correspondence
Dr. Xu
hong.xu.2@ki.se

Xu H, Garcia-Ptacek S, Jönsson L, Wimo A, Nordström P, Eriksdotter M. Long-term Effects of Cholinesterase Inhibitors on Cognitive Decline and Mortality. *Neurology*. 2021;96(17):e2220-e2230. doi:10.1212/WNL.0000000000011832

Swedish Dementia Registry Longitudinal Study

Results

The matched cohort included 11,652 ChEI users and 5,826 nonusers. During an average of 5 years of follow-up, 255 cases developed severe dementia, and 6,055 (35%) died. ChEI use was associated with higher MMSE score at each visit (0.13 MMSE points per year; 95% confidence interval [CI] 0.06–0.20). ChEI users had a 27% lower risk of death (0.73, 95% CI 0.69–0.77) compared with nonusers. Galantamine was associated with lower risk of death (0.71, 95% CI 0.65–0.76) and lower risk of severe dementia (0.69, 95% CI 0.47–1.00) and had the strongest effect on cognitive decline of all the ChEIs (0.18 MMSE points per year, 95% CI 0.07–0.28).

Swedish Dementia Registry Longitudinal Study

Results

The matched cohort included 11,652 ChEI users and 5,826 nonusers. During an average of 5 years of follow-up, 255 cases developed severe dementia, and 6,055 (35%) died. ChEI use was associated with higher MMSE score at each visit (0.13 MMSE points per year; 95% confidence interval [CI] 0.06–0.20). ChEI users had a 27% lower risk of death (0.73, 95% CI 0.69–0.77) compared with nonusers. Galantamine was associated with lower risk of death (0.71, 95% CI 0.65–0.76) and lower risk of severe dementia (0.69, 95% CI 0.47–1.00) and had the strongest effect on cognitive decline of all the ChEIs (0.18 MMSE points per year, 95% CI 0.07–0.28).

Swedish Dementia Registry Longitudinal Study

Results

The matched cohort included 11,652 ChEI users and 5,826 nonusers. During an average of 5 years of follow-up, 255 cases developed severe dementia, and 6,055 (35%) died. ChEI use was associated with higher MMSE score at each visit (0.13 MMSE points per year; 95% confidence interval [CI] 0.06–0.20). ChEI users had a 27% lower risk of death (0.73, 95% CI 0.69–0.77) compared with nonusers. Galantamine was associated with lower risk of death (0.71, 95% CI 0.65–0.76) and lower risk of severe dementia (0.69, 95% CI 0.47–1.00) and had the strongest effect on cognitive decline of all the ChEIs (0.18 MMSE points per year, 95% CI 0.07–0.28).
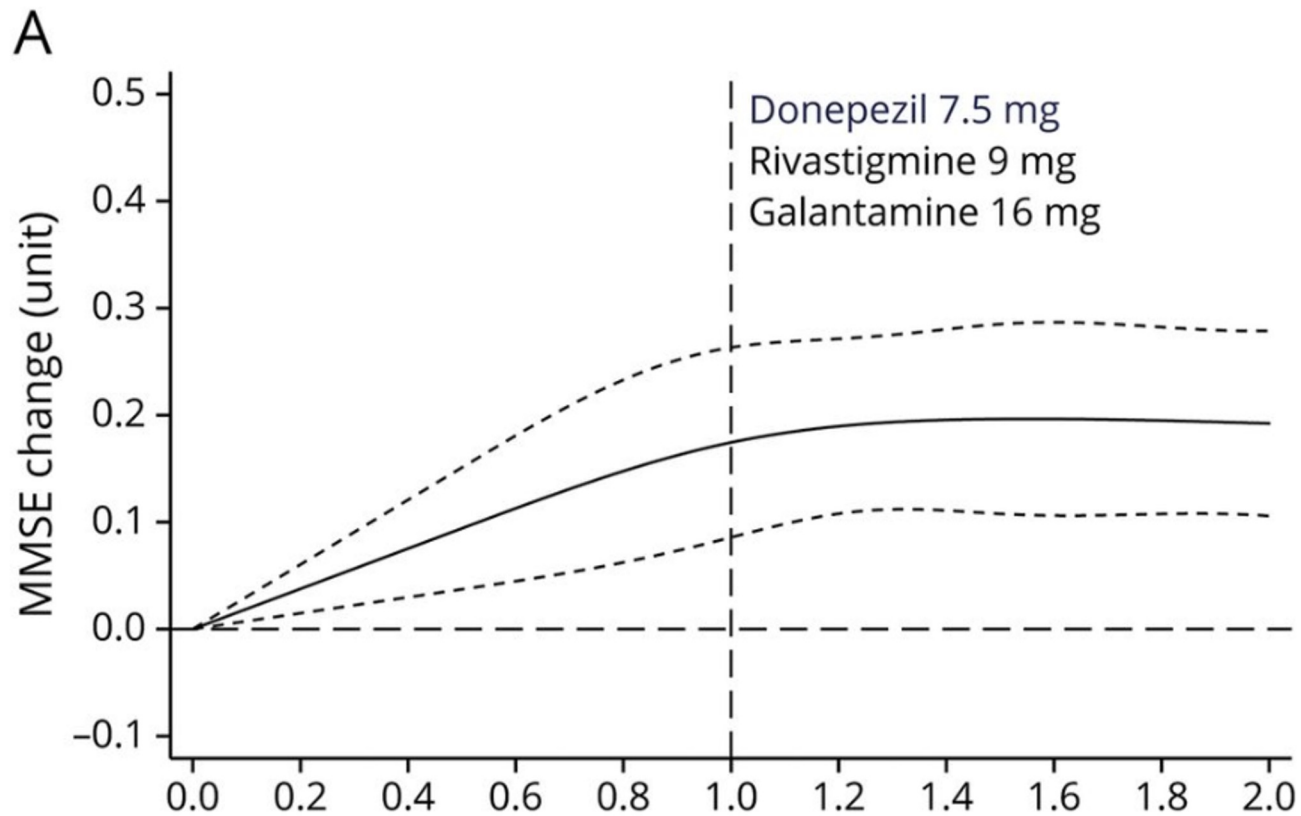
Dose Response: ↑MMSE Scores vs Non-Users

Dose Response: HR Death Compared to Population

B

Adjusted hazard ratio for death

Donepezil 7.5 mg
Rivastigmine 9 mg
Galantamine 16 mg

Defined daily dose (DDD) (ChEIs)
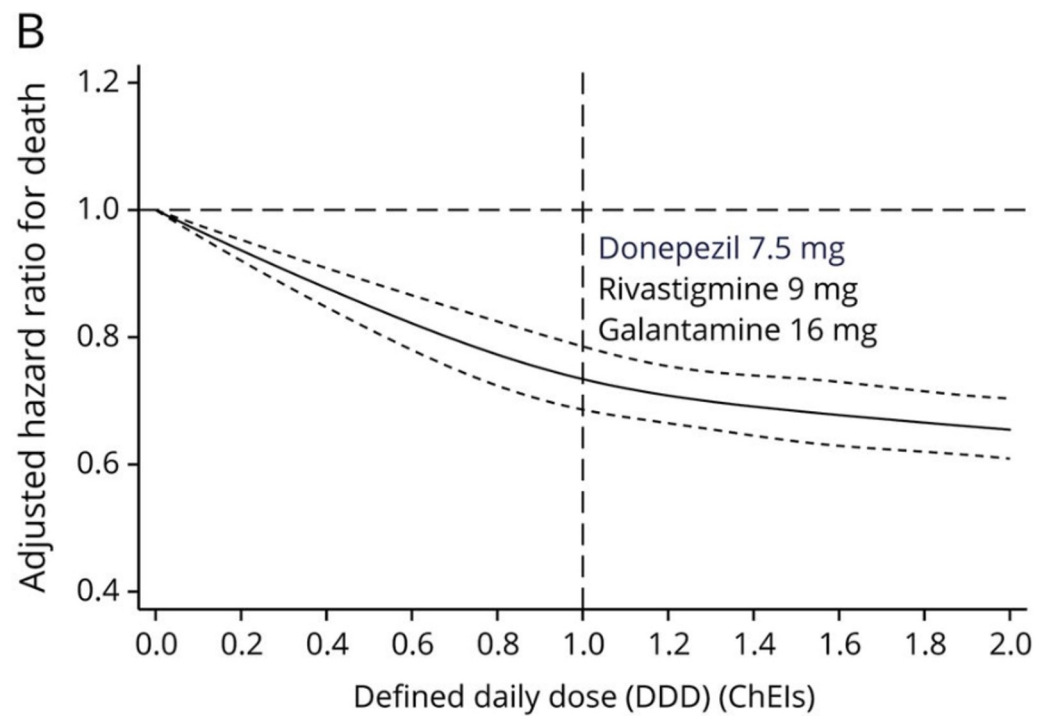
ADUHELM/aducanumab

DRUG THAT DESTROYS DEMENTIA CELLS

HOW IT WORKS

1 Clumps of amyloid protein clog up brain and poison cells
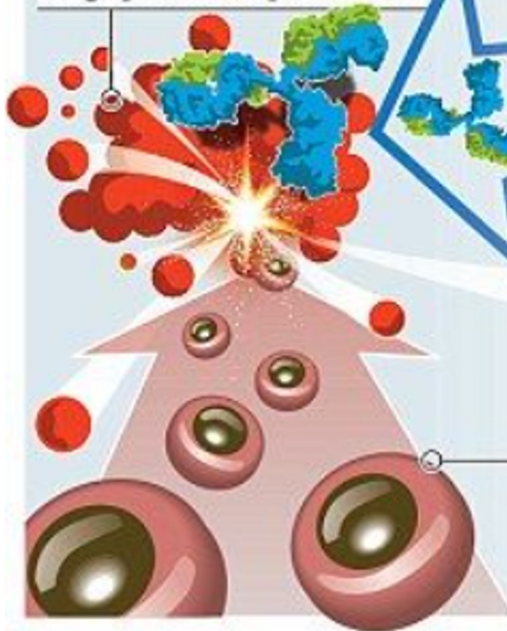
2 Patient given jab packed with antibodies that find and latch on to the clumps

3 This alerts the immune system, which sends in cells able to break up the toxic amyloid and flush it out of the brain.

THE RESULTS
(Danger protein is shown in red)

	Initial scan	One year later
High dose treatment		
Placebo treatment		
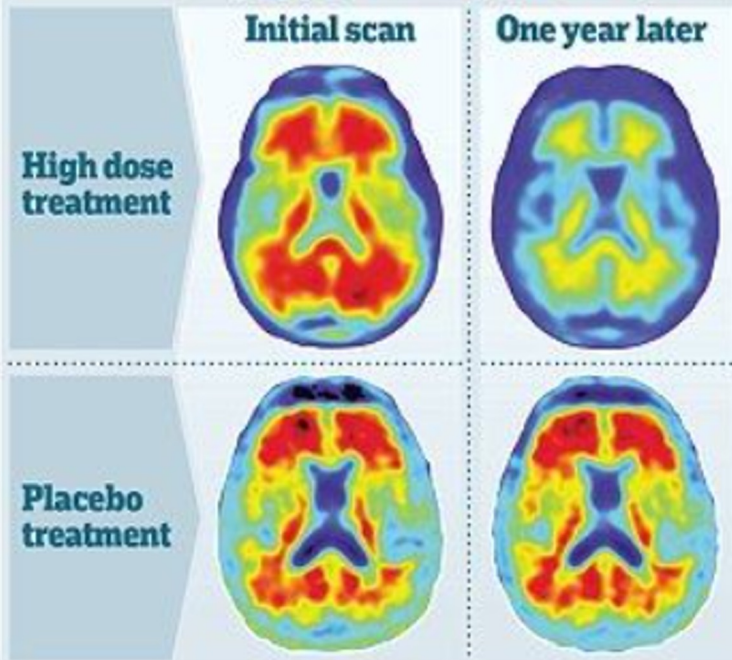
Discontinuing Therapy

- Side effects intolerable, disabling: syncope or bradycardia; weight loss; N/V/D (may consider switch to different ChEI or manage Sx with anti-emetic, anti-diarrheal; cardiology referral, may require PM for bradycardia or heart block)
- Patient non-adherence
- Decline while on treatment greater than before treatment
- Patient/family wishes

Discontinuing Therapy

- Not necessarily when admitted to LTC
- Not based on MMSE alone but consider function
- ?Lack of effectiveness/Loss of response - consider switch to another ChEI
- Donepezil has longest t½ (70h)
- **Patient may decline to stage where they would have been w/o treatment + unable to regain losses once ChEI restarted**

Discontinuing Therapy

Nursing home placement in the Donepezil and Memantine in Moderate to Severe Alzheimer's Disease (DOMINO-AD) trial: secondary and post-hoc analyses

Robert Howard, Rupert McShane, James Lindesay, Craig Ritchie, Ashley Baldwin, Robert Barber, Alistair Burns, Tom Dening, David Findlay, Clive Holmes, Robert Jones, Roy Jones, Ian McKeith, Ajay Macharouthu, John O'Brien, Bart Sheehan, Edmund Juszczak, Cornelius Katona, Robert Hills, Martin Knapp, Clive Ballard, Richard G Brown, Sube Banerjee, Jessica Adams, Tony Johnson, Peter Bentham, Patrick P J Phillips

Discontinuing Therapy

Nursing home placement in the Donepezil and Memantine in Moderate to Severe Alzheimer's Disease (DOMINO-AD) trial: secondary and post-hoc analyses

Robert Howard, Rupert McShane, James Lindesay, Craig Ritchie, Ashley Baldwin, Robert Barber, Alistair Burns, Tom Dening, David Findlay, Clive Holmes, Robert Jones, Roy Jones, Ian McKeith, Ajay Macharouthu, John O'Brien, Bart Sheehan, Edmund Juszczak, Cornelius Katona, Robert Hills, Martin Knapp, Clive Ballard, Richard G Brown, Sube Banerjee, Jessica Adams, Tony Johnson, Peter Bentham, Patrick P J Phillips

Interpretation Withdrawal of donepezil in patients with moderate-to-severe Alzheimer's disease increased the risk of nursing home placement during 12 months of treatment, but made no difference during the following 3 years of follow-up. Decisions to stop or continue donepezil treatment should be informed by potential risks of withdrawal, even if the perceived benefits of continued treatment are not clear.

Non-Pharmacological Treatment

- Exercise is associated with improved cognition in both healthy and affected individuals - 150 min/wk of moderate intensity exercise with 2-3 days of resistance training
- Mediterranean diet, MIND diet
- Sleep optimization
- Minimize EtOH
- Social engagement - we saw the results of a natural experiment during COVID-19 lockdowns
- No evidence for nutritional supplements, sudoku, crossword puzzles

ORIGINAL ARTICLE
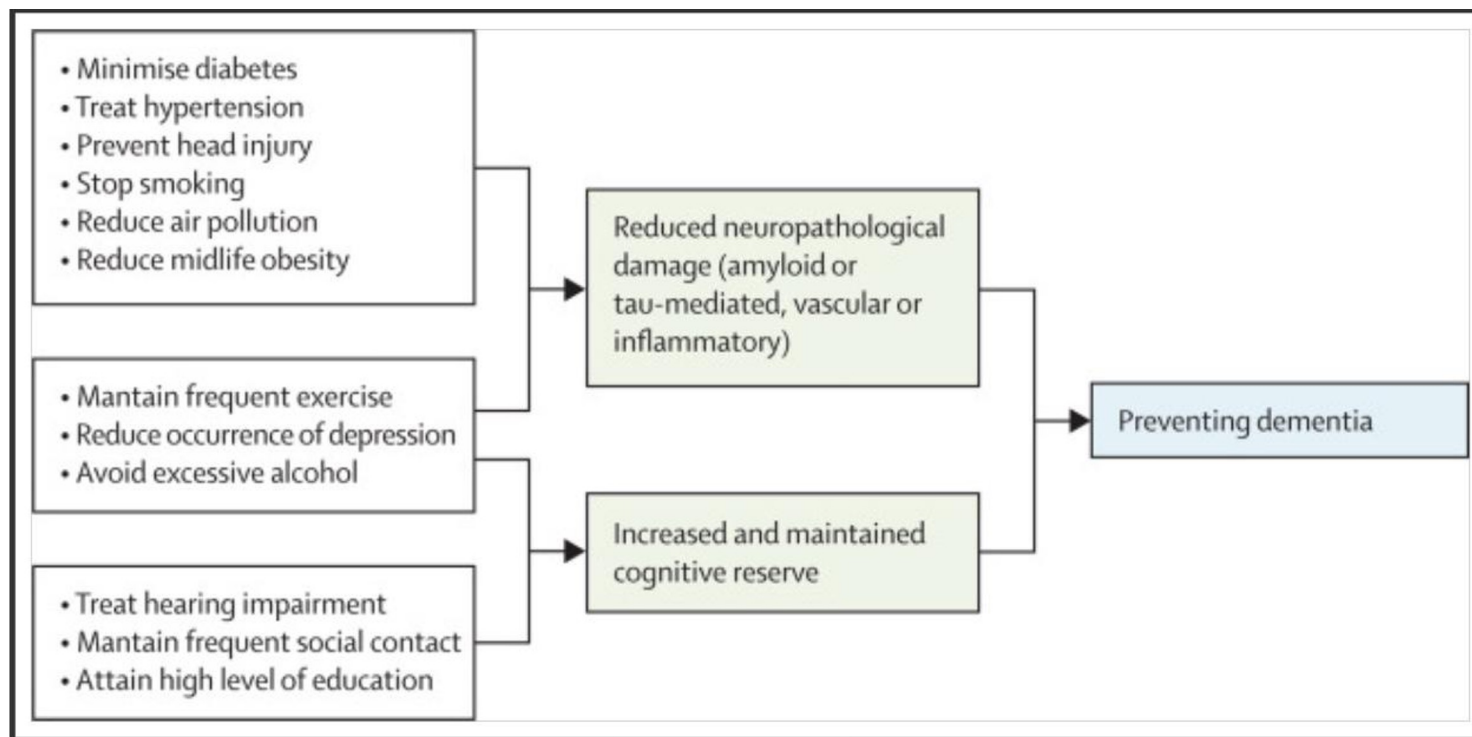
Trial of the MIND Diet for Prevention of Cognitive Decline in Older Persons

L.L. Barnes, K. Dhana, X. Liu, V.J. Carey, J. Ventrelle, K. Johnson, C.S. Hollings,
L. Bishop, N. Laranjo, B.J. Stubbs, X. Reilly, P. Agarwal, S. Zhang, F. Grodstein,
C.C. Tangney, T.M. Holland, N.T. Aggarwal, K. Arfanakis, M.C. Morris,* and F.M. Sacks

CONCLUSIONS

Among cognitively unimpaired participants with a family history of dementia, changes in cognition and brain MRI outcomes from baseline to year 3 did not differ significantly between those who followed the MIND diet and those who followed the control diet with mild caloric restriction. (Funded by the National Institute on Aging; ClinicalTrials.gov number, NCT02817074.)

Take Home Points from Lancet Commision 2020

Rush Memory and Aging Project

Rush Memory and Aging Project

Some people with substantial Alzheimer's disease pathology at autopsy had shown few characteristic clinical symptoms or signs of the disease, whereas others with little Alzheimer's disease pathology have been diagnosed with Alzheimer's dementia.

We aimed to examine whether frailty … moderates the relationship between Alzheimer's disease pathology and Alzheimer's dementia.

The degree of frailty among people of the same age modifies the association between Alzheimer's disease pathology and Alzheimer's dementia.

Rockwood Clinical Frailty Scale

CLINICAL FRAILTY SCALE

1 — **VERY FIT** — People who are robust, active, energetic and motivated. They tend to exercise regularly and are among the fittest for their age.

2 — **FIT** — People who have **no active disease** symptoms but are less fit than category 1. Often, they exercise or are very **active occasionally**, e.g., seasonally.

3 — **MANAGING WELL** — People whose **medical problems** are **well controlled**, even if occasionally symptomatic, but often are **not regularly active** beyond routine walking.

4 — **LIVING WITH VERY MILD FRAILTY** — Previously "vulnerable," this category marks early transition from complete independence. While **not dependent** on others for daily help, often **symptoms limit activities**. A common complaint is being "slowed up" and/or being tired during the day.

5 — **LIVING WITH MILD FRAILTY** — People who often have **more evident slowing**, and need help with **high order instrumental activities of daily living** (finances, transportation, heavy housework). Typically, mild frailty progressively impairs shopping and walking outside alone, meal preparation, medications and begins to restrict light housework.

6 — **LIVING WITH MODERATE FRAILTY** — People who need help with **all outside activities** and with **keeping house**. Inside, they often have problems with stairs and need **help with bathing** and might need minimal assistance (cuing, standby) with dressing.

7 — **LIVING WITH SEVERE FRAILTY** — **Completely dependent for personal care**, from whatever cause (physical or cognitive). Even so, they seem stable and not at high risk of dying (within ~6 months).

8 — **LIVING WITH VERY SEVERE FRAILTY** — Completely dependent for personal care and approaching end of life. Typically, they could not recover even from a minor illness.

9 — **TERMINALLY ILL** — Approaching the end of life. This category applies to people with a **life expectancy <6 months**, who are **not otherwise living with severe frailty**. (Many terminally ill people can still exercise until very close to death.)

SCORING FRAILTY IN PEOPLE WITH DEMENTIA

The degree of frailty generally corresponds to the degree of dementia. Common **symptoms in mild dementia** include forgetting the details of a recent event, though still remembering the event itself, repeating the same question/story and social withdrawal.

In **moderate dementia**, recent memory is very impaired, even though they seemingly can remember their past life events well. They can do personal care with prompting.

In **severe dementia**, they cannot do personal care without help.

In **very severe dementia** they are often bedfast. Many are virtually mute.

DALHOUSIE UNIVERSITY

Clinical Frailty Scale ©2005–2020 Rockwood, Version 2.0 (EN). All rights reserved. For permission: www.geriatricmedicineresearch.ca
Rockwood K et al. A global clinical measure of fitness and frailty in elderly people. CMAJ 2005;173:489–495.

Lancet 2020 Commission – Dementia

The Lancet Commissions

Dementia prevention, intervention, and care: 2020 report of the *Lancet* Commission

Gill Livingston, Jonathan Huntley, Andrew Sommerlad, David Ames, Clive Ballard, Sube Banerjee, Carol Brayne, Alistair Burns, Jiska Cohen-Mansfield, Claudia Cooper, Sergi G Costafreda, Amit Dias, Nick Fox, Laura N Gitlin, Robert Howard, Helen C Kales, Mika Kivimäki, Eric B Larson, Adesola Ogunniyi, Vasiliki Orgeta, Karen Ritchie, Kenneth Rockwood, Elizabeth L Sampson, Quincy Samus, Lon S Schneider, Geir Selbæk, Linda Teri, Naaheed Mukadam
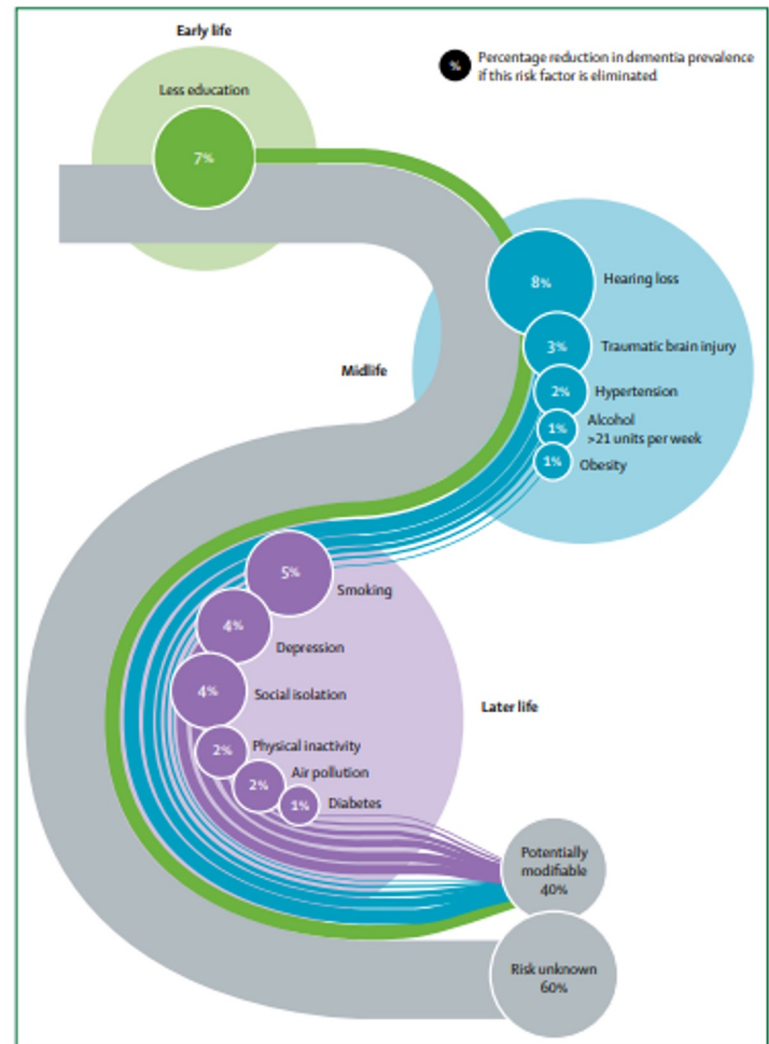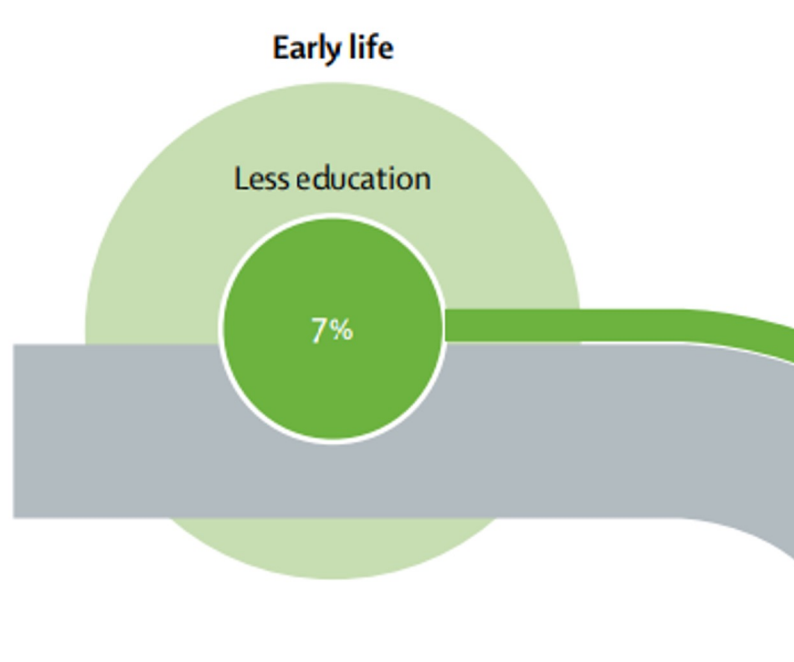
Dementia Risk Factors

Early life

Less education

7%

Percentage reduction in dementia prevalence if this risk factor is eliminated

Midlife

8% Hearing loss

3% Traumatic brain injury

2% Hypertension

1% Alcohol >21 units per week

1% Obesity

5% Smoking

4% Depression

4% Social isolation

2% Physical inactivity

2% Air pollution

1% Diabetes

Later life

Potentially modifiable 40%

Risk unknown 60%

Figure 7: Population attributable fraction of potentially modifiable risk factors for dementia

Dementia Risk Factors

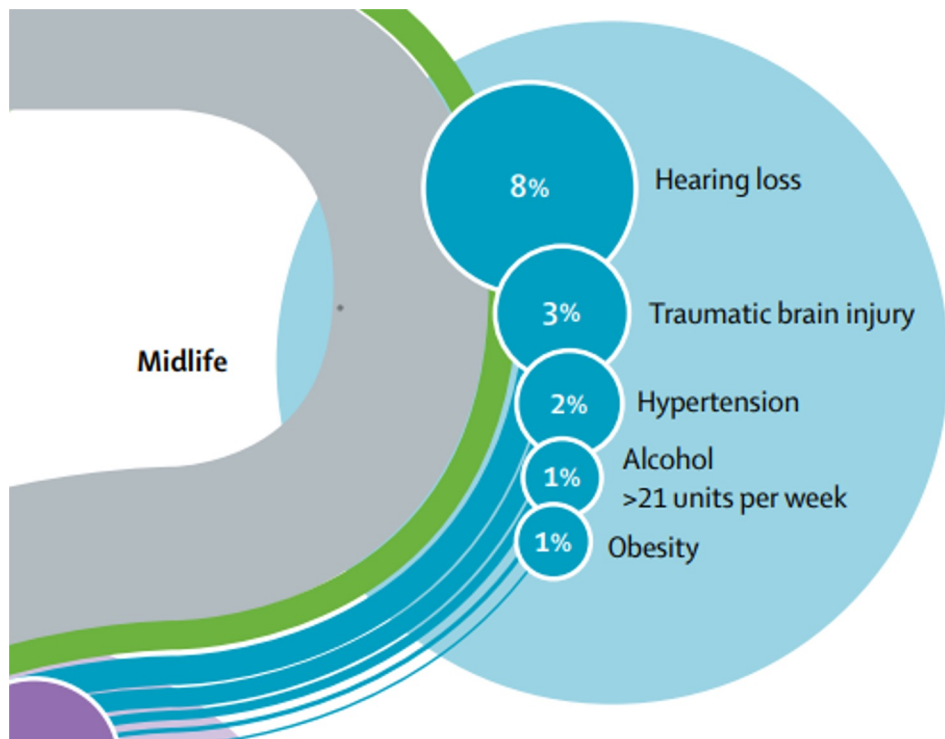**Early Life**

Genetic: ApoE ε4 = 7%

Low Education - 7%

Dementia Risk Factors

Midlife
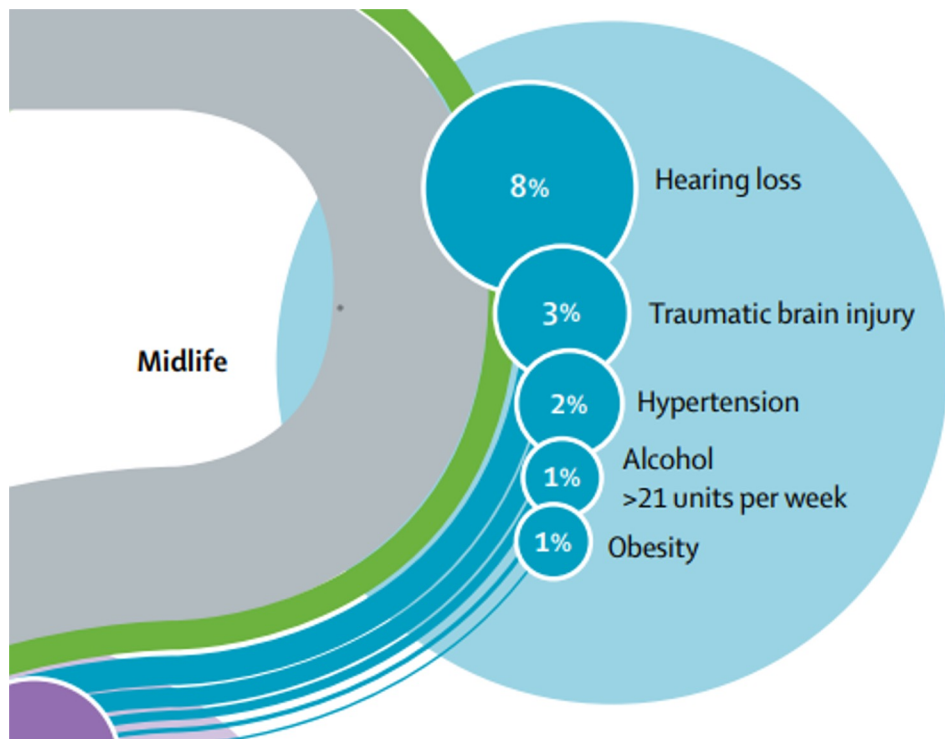
Hearing Loss 8%

TBI 3%

HTN 2%

EtOH > 21 units/wk 1%

Obesity 1%

Dementia Risk Factors
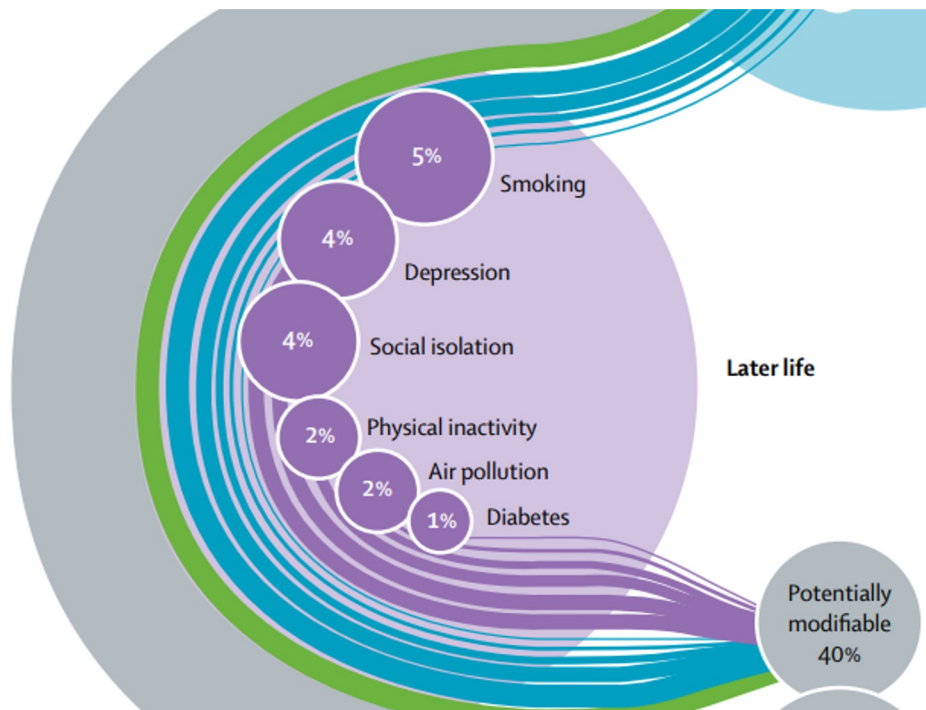

Midlife

Hearing Loss 8%

TBI 3%

HTN 2%

EtOH > 21 units/wk 1%

Obesity 1%

Dementia Risk Factors

Later Life

Smoking 5%

Depression 4%

Social Isolation 4%

Physical Inactivity 2%

Air Pollution 2%

Diabetes 1%

Dementia Risk Factors
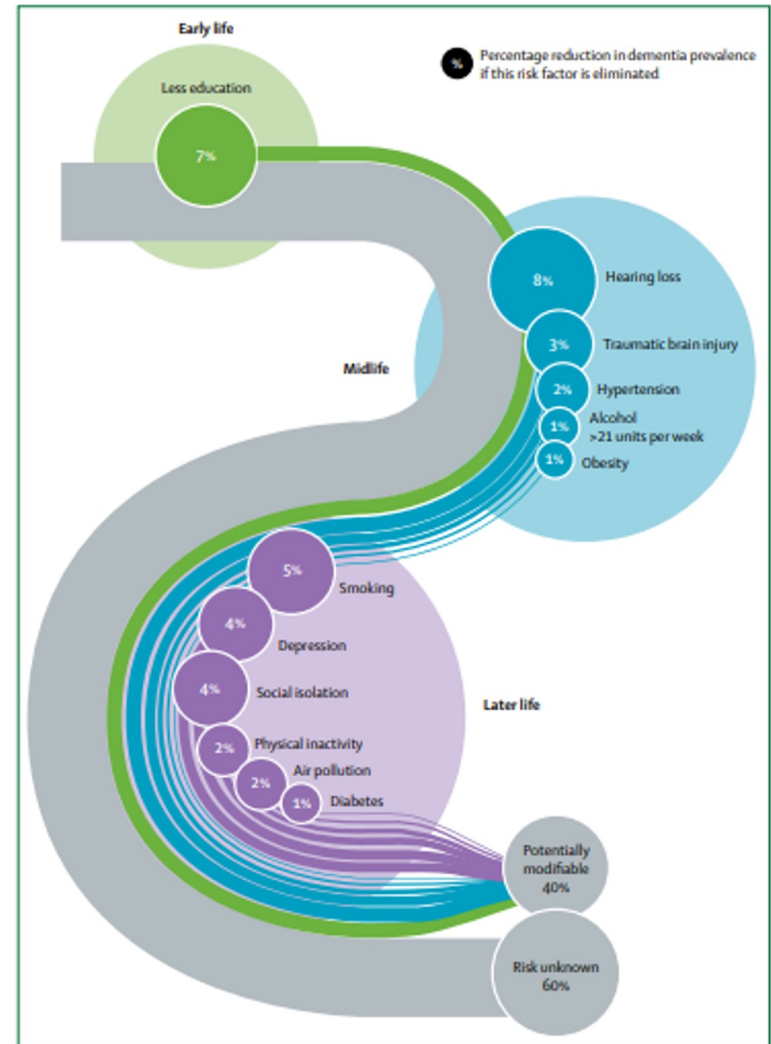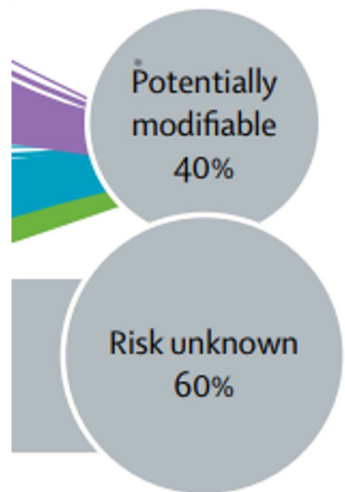

Figure 7: Population attributable fraction of potentially modifiable risk factors for dementia

Relative Risk

Risk Factor	AD	VaD
DM	1.46	2.28
Midlife HTN	1.61	1.59
Midlife Obesity	1.60	1.33
Physical Inactivity	1.82	1.61
Depression	1.65	2.92
Smoking	1.59	1.26
Low Education	1.59	2.75

Relative Risk

Risk Factor	AD	VaD
DM	1.46	2.28
Midlife HTN	1.61	1.59
Midlife Obesity	1.60	1.33
Physical Inactivity	1.82	1.61
Depression	1.65	2.92
Smoking	1.59	1.26
Low Education	1.59	2.75

Take Home Points from Lancet Commision 2020
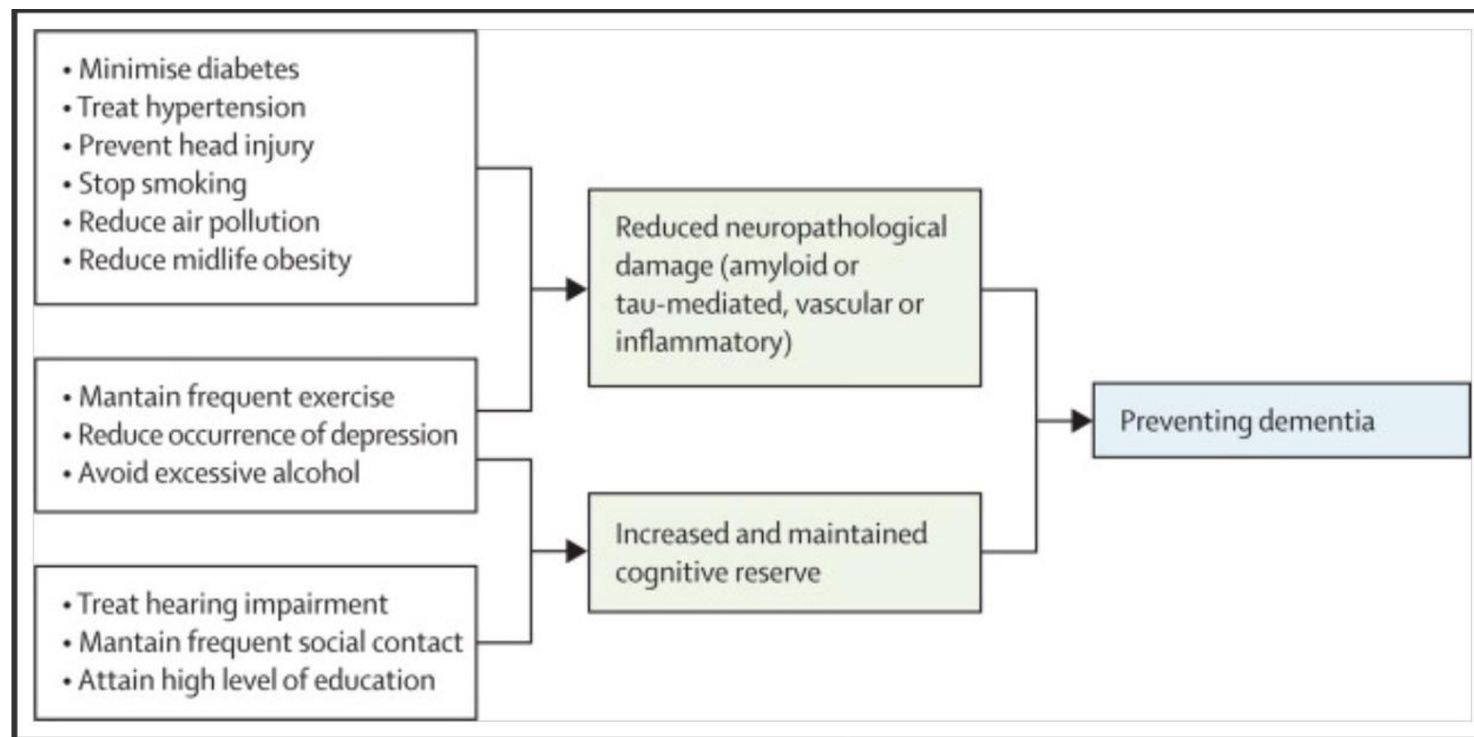
Take Home Points

Dementia prevalence is increasing

Incidence is declining in high income countries

It is a big part of primary care

FPs have been managing dementia patients

successfully for many years

Be aware of Beer's Criteria, effect of Rx on

cognition - benzos, pain meds, EtOH

Take Home Points

Must assess function to diagnose dementia

Start AChEIs at diagnosis and monitor for improvements and side effects

Consider most prominent symptom/impairment for Dx

Phone a friend if you are not sure.

References

Robinson, L., Tang, E., & Taylor, J.-P. (2015). Dementia: timely diagnosis and early intervention. *BMJ: British Medical Journal*, *350*. https://www.jstor.org/stable/26522042

world health organization. (2021). Dementia diagnosis, treatment and care. In *Global status report on the public health response to dementia* (pp. 141–180). World Health Organization. http://www.jstor.org/stable/resrep48405.14

Kales, H. C., Gitlin, L. N., & Lyketsos, C. G. (2015). Assessment and management of behavioral and psychological symptoms of dementia. *BMJ: British Medical Journal*, *350*. https://www.jstor.org/stable/26520133

Mittelman MS, Ferris SH, Shulman E, Steinberg G, Levin B. A family intervention to delay nursing home placement of patients with Alzheimer disease. A randomized controlled trial. JAMA. 1996 Dec 4;276(21):1725-31. PMID: 8940320.

Xu H, Garcia-Ptacek S, Jönsson L, Wimo A, Nordström P, Eriksdotter M. Long-term Effects of Cholinesterase Inhibitors on Cognitive Decline and Mortality. *Neurology*. 2021;96(17):e2220-e2230. doi:10.1212/WNL.0000000000011832

References

Wallace LMK, Theou O, Godin J, Andrew MK, Bennett DA, Rockwood K. Investigation of frailty as a moderator of the relationship between neuropathology and dementia in Alzheimer's disease: a cross-sectional analysis of data from the Rush Memory and Aging Project. *Lancet Neurol*. 2019 Feb;18(2):177-184. doi: 10.1016/S1474-4422(18)30371-5. Erratum in: Lancet Neurol. 2019 Mar;18(3):e2. PMID: 30663607.

Howard R, McShane R, Lindesay J, Ritchie C, Baldwin A, Barber R, Burns A, Dening T, Findlay D, Holmes C, Jones R, Jones R, McKeith I, Macharouthu A, O'Brien J, Sheehan B, Juszczak E, Katona C, Hills R, Knapp M, Ballard C, Brown RG, Banerjee S, Adams J, Johnson T, Bentham P, Phillips PP. Nursing home placement in the Donepezil and Memantine in Moderate to Severe Alzheimer's Disease (DOMINO-AD) trial: secondary and post-hoc analyses. *Lancet Neurol*. 2015 Dec;14(12):1171-81. doi: 10.1016/S1474-4422(15)00258-6. Epub 2015 Oct 27. PMID: 26515660.