

Reclaiming the Mind

Evidence-Based Approaches to Cognitive Decline and Brain Health for Life

PART 1 · INTRO AND NUTRITION

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Workshop Schedule

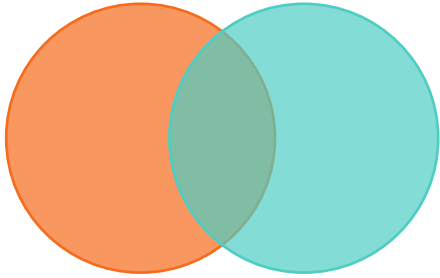
1 - 1:50 pm Quiz 1 and Intro and Nutrition

2 - 2:50 pm Quiz 2 and Exercise, Unwind, Sleep, Optimize

3 - 3:50 pm Quiz 3 and Medical and Behavior Change

Each section opens with a Menti quiz.

Be honest with yourself. There are no wrong answers, only gaps to close.



INTRO

The Challenge

What we are working with, and what we are up against.

The Brain

3 lbs

Total Weight

2% of body weight

25%

Energy Use

of total body energy

87 B

Neurons

1 quadrillion connections

Dementia Prevalence

6.7 M

Americans Living

with Alzheimer disease today

57 M

People Globally

living with dementia

153 M

Projected by 2050

nearly triple

The Cost of Dementia

\$347 B

Current Annual Cost

global, all dementias

\$1 T

Projected by 2050

nearly tripled

Dementia Mortality

Alzheimer disease kills more people than breast and prostate cancer combined.

**1 in 3 older adults dies with Alzheimer disease
or another form of dementia.**

The Caregiver Burden

11 million Americans: **provide unpaid dementia care**

2/3 of caregivers are women

70% of caregivers state that they feel significantly stressed coordinating care

Caregiver are 6x higher risk of developing dementia

Four Myths to Address

- 1. Alzheimer disease cannot be prevented.**
- 2. Alzheimer disease is a purely genetic disease.**
- 3. Alzheimer disease starts with forgetfulness.**
- 4. One medication will eventually fix it.**

Myth 1: Cannot Be Prevented



45-60%

potentially preventable

The 2024 Lancet Commission on Dementia Prevention identifies 14 modifiable risk factors. Nearly half of dementia cases worldwide are tied to these factors.

Myth 2: Purely Genetic

Familial early-onset: less than 1% of cases

Late-onset Alzheimer: 95+ % of cases

APOE ϵ 4 (a risk modifier): increases risk; not destiny

Lifestyle and Genetic Risk

UK Biobank. 196,383 adults over age 60.

Polygenic dementia risk scores plus lifestyle scores.

High genetic risk alone: **2x dementia risk**

High genetic + unfavorable lifestyle: **~3x dementia risk**

High genetic + favorable lifestyle: **32% lower risk than unfavorable**

Myth 3: Starts with Forgetfulness



20-30

years before symptoms

Pathological changes begin decades before any cognitive symptoms appear. By the time forgetfulness shows up, the disease process has been advancing for a generation.

Myth 4: One Medication Will Fix It

Current drugs (donepezil, memantine) ease symptoms.

They do not modify the disease.

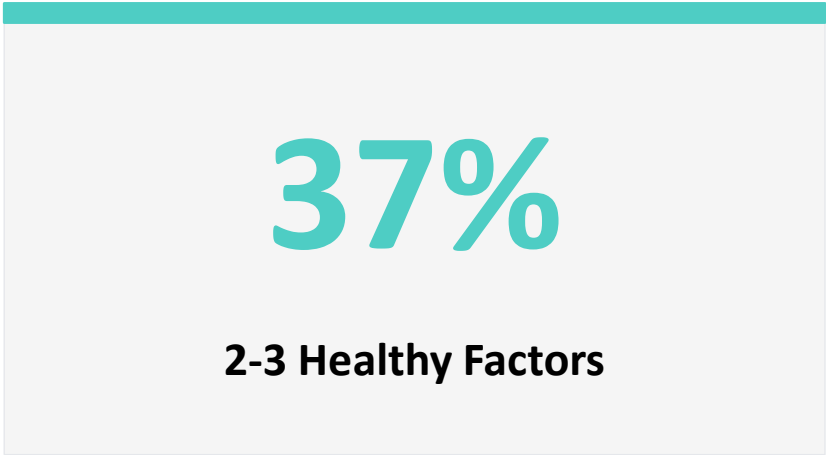
**Anti-amyloid antibodies (lecanemab, donanemab) show
modest effects with serious safety considerations.**

There is no current curative therapy for Alzheimer disease.

Five Healthy Habits, Lower Risk

Chicago Health and Aging Project + Rush Memory and Aging Project.

Score 0-5: nonsmoking, exercise, alcohol moderation, MIND diet, cognitive activity.



37%

2-3 Healthy Factors

vs. 0-1 factors



60%

4-5 Healthy Factors

vs. 0-1 factors

The NEURO Framework

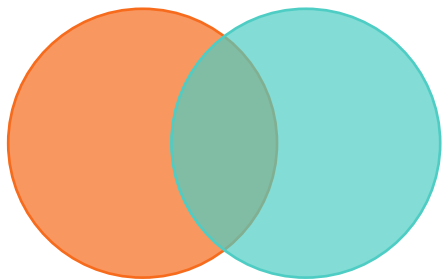
N Nutrition

E Exercise

U Unwind (manage stress)

R Restorative sleep

O Optimize cognitive and social engagement



NUTRITION

Nutrition and Brain Health

The pattern. The foods. The boundaries.

The Dietary Pattern Matters Most

Single nutrients rarely replicate the effect of the whole-food pattern they came from.

Clinical conclusions are about patterns, not supplements.

Plant-Forward Diets and Dementia Risk

92,849 adults across five racial and ethnic groups.

Hawaii and California. Followed over a decade.

**Higher-quality plant-based diets were associated
with lower risk of Alzheimer disease and dementia.**

Three Plant-Based Diet Indices

Overall plant-based (PDI): all plants count

Healthful (hPDI): whole foods only

Unhealthful (uPDI): refined plant foods

Healthful: whole grains, fruits, vegetables, nuts, legumes.

Unhealthful: refined grains, sweets, sugary drinks, potatoes.

Highest vs. Lowest Quintile

12%

Healthful Plant-Based

lower dementia risk

7%

Mixed Plant-Based

lower dementia risk

6%

Unhealthful Plant-Based

higher dementia risk

Changing Diet at Any Age

25%

Worse Pattern Over 10 Years

higher dementia risk

11%

Better Pattern Over 10 Years

lower dementia risk

Mediterranean Diet, Randomized Trial

447 older adults at high cardiovascular risk.

Barcelona. Median follow-up 4.1 years.

Mediterranean + olive oil or nuts vs. low-fat control.

Mediterranean Trial: Three Arms

Mediterranean + olive oil: 1 L per week

Mediterranean + mixed nuts: 30 g per day

Control: reduce all dietary fat

Mediterranean Trial: Results

The control diet declined significantly.

Memory: Mediterranean + nuts beat control.

Frontal: Mediterranean + olive oil beat control.

Global: Mediterranean + olive oil beat control.

The MIND Diet

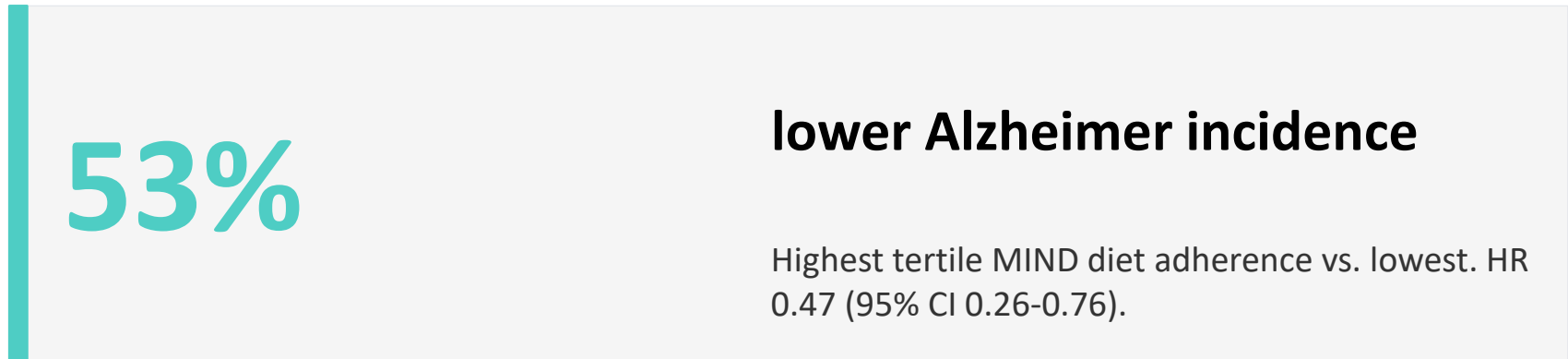
Emphasize: leafy greens, vegetables, nuts, berries,
beans, whole grains, fish, poultry, olive oil

Limit: red meat, butter, cheese, sweets, fried food

MIND Diet and Alzheimer Incidence

Rush Memory and Aging Project.

923 participants, mean follow-up 4.5 years.

A light gray rectangular box with a teal vertical bar on the left side. Inside the box, the text '53%' is displayed in large teal font, followed by 'lower Alzheimer incidence' in bold black font. Below this, in a smaller black font, is the text 'Highest tertile MIND diet adherence vs. lowest. HR 0.47 (95% CI 0.26-0.76).'

53%

lower Alzheimer incidence

Highest tertile MIND diet adherence vs. lowest. HR 0.47 (95% CI 0.26-0.76).

MIND, Mediterranean, and Brain Pathology

581 participants of the Rush Memory and Aging Project.

Mean age at death 91. Autopsied at end of follow-up.

Higher MIND adherence: less beta-amyloid load.

Higher Mediterranean adherence: less beta-amyloid load.

Green leafy vegetables specifically: less Alzheimer pathology.

Leafy Greens and Cognitive Age



11 years

younger cognitive age

Rush Memory and Aging Project. 960 older adults. Mean 4.7 years of follow-up. Highest quintile of leafy green intake (median 1.3 servings/day) compared to lowest.

Blueberries and Strawberries



2.5 years

delay in cognitive aging

16,010 women aged 70 or older in the Nurses' Health Study. Highest vs. lowest categories of long-term blueberry and strawberry intake. General fruit intake was not associated.

Wild Blueberries: Randomized Trial

61 healthy older adults, aged 65 to 80.

King's College London.

One cup-equivalent of wild blueberries daily for 12 weeks.

Improved immediate recall and task-switching.

Anthocyanins cross the blood-brain barrier.

Color Is the Signal

Deep greens.

Deep purples.

Deep reds.

The deeper the color, the more protective compounds.

Coffee, Tea, and Dementia Risk

131,821 adults.

Nurses' Health Study + Health Professionals.

Followed up to 43 years.

**Higher caffeinated coffee intake was associated
with lower risk of dementia.**

Coffee: Two to Three Cups a Day



18%

lower dementia risk

Highest vs. lowest quartile of caffeinated coffee intake. HR 0.82 (95% CI 0.76-0.89). Tea showed a similar association. Decaffeinated coffee did not.

Protein Source Matters

77,000 US health professionals.

Diet measured across two decades.

**Plant protein replacing carbohydrate was the
single strongest signal in the cohort.**

Replacing 5% of Carbs with Protein

11%

Animal Protein

lower odds of cognitive decline

26%

Plant Protein

lower odds of cognitive decline

Foods That Drove the Signal

Beans and legumes: lower risk

Fish: lower risk

Lean poultry: lower risk

Hot dogs: higher risk

Dietary Fiber and Dementia

Rush Memory and Aging Project.

Roughly 1,500 community-dwelling older adults.

Mean age 81. Followed for nearly 7 years.

**Higher total fiber was associated with
lower incidence of dementia.**

Fiber: Highest vs. Lowest Quintile



34%

lower dementia incidence

HR 0.66 (95% CI 0.45-0.96). Soluble fiber drove the association. Insoluble fiber showed a trend that did not reach significance.

Most Americans Eat Half the Recommended Fiber

16 g

Average US Adult

intake per day

25 g

Recommended

for adult women

38 g

Recommended

for adult men

Saturated and Trans Fat

Chicago Health and Aging Project.

2,560 adults aged 65 and older.

6-year follow-up.

**Higher intake of saturated and trans fat was
associated with greater cognitive decline.**

Two Directions from the Same Cohort

Saturated fat: **faster cognitive decline**

Trans fat: **faster cognitive decline**

Monounsaturated fat: **slower cognitive decline**

Midlife Cholesterol and Later Dementia

Kaiser Permanente Northern California.

9,844 adults, measured at ages 40-45.

Dementia ascertained through age 70 plus.

Cholesterol ≥ 240 mg/dL: **57% higher Alzheimer risk**

Cholesterol 200-239 mg/dL: **50% higher vascular dementia risk**

High LDL: Added to Lancet 2024

The 2024 Lancet Commission added high LDL cholesterol to the list of modifiable dementia risk factors.

Tied with hearing loss at 7% population attributable fraction.

The largest single midlife risk factor by population impact.

The APOE4 Meat Paper

2,157 older Swedes. 15-year follow-up. Karolinska, March 2026.

26% carried APOE ε3/ε4 or ε4/ε4.

Headlines: "Meat protects the APOE4 brain."

What the paper found: 55% lower dementia risk in top meat quintile (sHR 0.45)

But the methodology raises serious questions:

- 49% of lowest-meat APOE4 group died before study ended (vs. 27%). Survivor bias.
- "Meat replacing beans" was protective, but Swedes ate barely 1 serving of beans/week.
- B12 mechanism was post-hoc, proxy-based, not controlled.

Consistent across all cohorts: higher processed meat = higher dementia risk, regardless of APOE.

Omega-3: A New Signal in the Data

Observational analysis of the ADNI cohort.

273 supplement users vs. 546 matched non-users. Median 5-year follow-up.

Findings:

Faster decline on MMSE, ADAS-Cog13, and CDR-SB in supplement users.

No association with amyloid, tau, or brain atrophy.

Signal was specific to glucose metabolism on PET.

Limitations:

Observational, not randomized. No dose, brand, or duration data.

Most supplements were generic fish oil, prone to oxidation.

Same ADNI cohort, analyzed 2023: 64% LOWER AD risk in supplement users.

Liao Z-B et al. *J Prev Alzheimers Dis* 2026;13:100569. | Wei B-Z et al. *Am J Clin Nutr* 2023;117(6):1096-1109. PMID 37028557.

Omega-3: The Wider Picture

THE TOTALITY OF EVIDENCE

24-RCT meta-analysis: mostly null in healthy and MCI populations.

No consistent harm signal across randomized trials.

Dietary omega-3 from fish, nuts, seeds, and algae still associates with lower dementia risk in large cohorts.

Counsel patients: check your levels and adjust accordingly.

Ketogenic Diet in Alzheimer Disease

26 patients with confirmed Alzheimer disease.

Randomized crossover trial. 12-week modified ketogenic diet.

Daily function improved ($P = 0.007$).

Quality of life improved ($P = 0.023$).

Cognition itself did not improve significantly.

Commonly Marketed Nootropics

None currently meet the evidence bar for clinical recommendation.

Supplement	Highest Evidence Level	Key Limitation
Creatine	Small RCTs; mixed signal	Heterogeneous; no MCI/AD trials
Ashwagandha	Small RCTs	Industry-funded; no long-term safety
Curcumin	Small RCTs	Poor bioavailability; underpowered
Polyphenol extracts	Single 28-day RCT	No replication
Walnuts	Observational only	No RCT for cognitive outcomes
Bacopa monnieri	Small RCTs	Limited Western data
Ginkgo biloba	Large RCTs (negative)	No effect on AD or cognition
Quercetin	Preclinical only	No human RCT data
Lion's mane	Animal models only	No human RCT data
Alpha-GPC	Single human study	No replication; no safety data

 Editorial appraisal by The Brain Docs.

Gluten and Cognition

Nurses' Health Study: 13,494 women, 8-year follow-up.

No association between gluten intake and cognitive function.

Gluten and cardiovascular disease: 2.27 million person-years.

No association between long-term gluten intake and CVD.

Gluten matters in celiac disease and NCGS. Not for everyone else.

The Same Signature Across Every Cohort

Whole grains. Legumes. Vegetables.

Fruit, especially berries. Nuts. Omega-3s. Polyunsaturated fats.

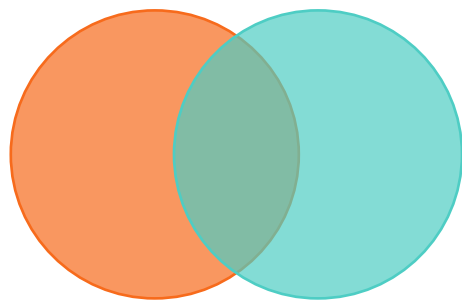
Less refined carbohydrate. Less saturated and trans fat.

Less red and processed meat. Less ultra-processed food.

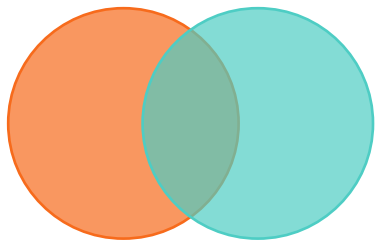
Practical Takeaways

- Unprocessed plant-based or plant-predominant diet
- Adding polyunsaturated fats, reducing saturated fats
- More plant proteins derived from lentils, beans and soy products
- Inclusion of complex carbohydrates
- Focus on increasing fiber
- Omega-3 fatty acids (DHA) from marine sources





Break



Reclaiming the Mind

Evidence-Based Approaches to Cognitive Decline and Brain Health for Life

PART 2 · EXERCISE, UNWIND, RESTORATIVE SLEEP, OPTIMIZE

Dean Sherzai, MD, PhD, MPH, MAS · Ayesha Z. Sherzai, MD, MAS

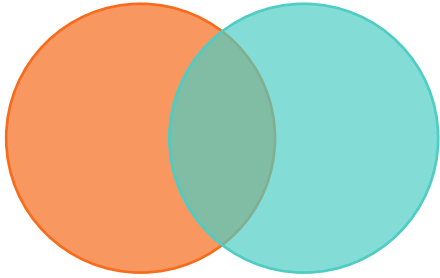
What This Section Covers

E Exercise

U Unwind (manage stress)

R Restorative sleep

O Optimize cognitive and social engagement



E

Exercise

Aerobic, resistance, and the brain.

How Exercise Protects the Brain

Promotes BDNF: the protein that builds new connections.

Increases cerebral blood flow.

Improves insulin sensitivity and glucose metabolism.

Reduces depression, anxiety, and inflammation.

Lowers vascular risk factors that drive dementia.

Low Physical Activity and Dementia Risk



50%

higher dementia risk

Framingham Heart Study. 3,714 adults age 60 or older. Followed over a decade. Lowest physical activity quintile vs. higher quintiles. Lower brain and hippocampal volumes also observed.

Resistance Training and Cognition

Meta-analysis of 18 trials.

Cognitively healthy and cognitively impaired older adults.

**Resistance training significantly improved
overall cognitive function in both groups.**

Leg Strength Drives the Benefit

SMART trial. 100 older adults with mild cognitive impairment.

High-intensity progressive resistance training, 2-3x/week, 6 months.

Strength gains mediated cognitive improvements.

**Lower body strength specifically predicted
better global cognitive function.**

Leg Power Predicts Cognitive Ageing

King's College London. Twins UK cohort.

324 female twins. Average age 55 at baseline.

Tested again ten years later.

The twin with stronger legs at baseline had
a better cognitive trajectory a decade later.

Same Genes. Different Brains.

MRI substudy: identical twin pairs discordant for leg power.

Same DNA. Same childhood. Same parents.

The twin with weaker legs had 26% larger ventricles.

That is the space that opens up when brain tissue shrinks.

Not genetics. The legs.

Even a Little Activity Changes Everything

Johns Hopkins analysis of UK Biobank.

89,667 adults. Wrist-worn accelerometers.

Objective data, not self-report.

Followed for incident dementia.

Dose-response across five activity categories.

The Dose-Response Curve

Under 35 min/week (about 5 min/day): 41% lower dementia risk

35-70 min/week: 60% lower risk

70-140 min/week: 63% lower risk

Over 140 min/week (about 20 min/day): 69% lower risk

The biggest jump is from doing nothing to doing something.

Exercise Prescription

Aerobic: 150+ minutes/week moderate to vigorous

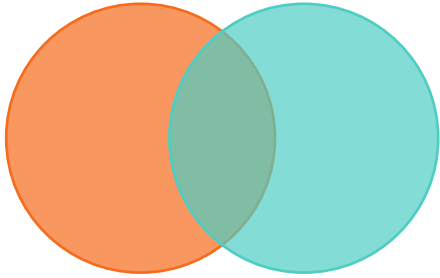
Resistance: 2-3 sessions/week, all major muscle groups, legs

Daily movement: minimize prolonged sitting

Don't Skip Leg Day

Stronger legs.

Stronger brain.



U

Unwind

Chronic stress and the brain.

Chronic Stress and Neuroinflammation

Chronic psychological stress activates microglia.

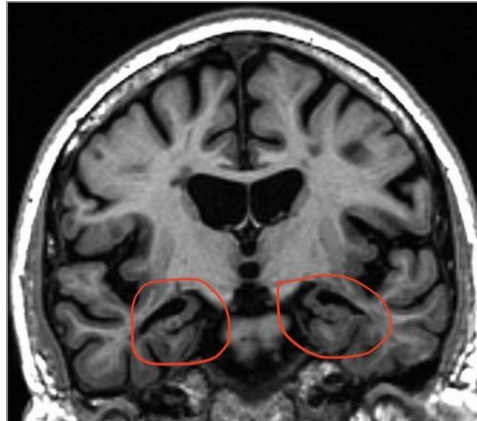
Pro-inflammatory cytokines rise.

Neurodegeneration follows.

Stress impairs the brain's ability to clear
amyloid-beta and tau proteins.

HPA AXIS DYSREGULATION

- Prolonged activation of the **hypothalamic-pituitary-adrenal (HPA) axis** during chronic stress leads to elevated cortisol levels, which have been associated with **hippocampal atrophy**, a critical brain structure for memory, and a hallmark in early dementia stages.



High Cortisol and Dementia Risk

Chronically elevated cortisol is associated with:

Poorer cognitive function.

Accelerated cognitive decline in MCI.

Hippocampal damage, oxidative stress, amyloid toxicity.

High Cortisol and the Risk of Dementia and Alzheimer's Disease: A Review of the Literature

Sami Ouanes^{1,2*} and Julius Popp^{1,3}

¹ Department of Psychiatry, Hospital of Cery, University Hospital of Lausanne, Lausanne, Switzerland, ² Department of Psychiatry, Hamad Medical Corporation, Doha, Qatar, ³ Geriatric Psychiatry, Department of Mental Health and Psychiatry, Geneva University Hospitals, Geneva, Switzerland

Stress Management: What Helps

Mindfulness and meditation: **reduces cortisol**

Regular exercise: **improves stress reactivity**

Social connection: **buffers stress response**

Sleep: **regulates HPA axis**

Good Stress and Bad Stress

GOOD STRESS

Has purpose. Has direction. Has a finish line you can see.

Learning something new.

A meaningful challenge that stretches you.

Purpose-driven effort.

When the why is clear, stress becomes fuel.

BAD STRESS

No purpose. No direction. No end in sight.

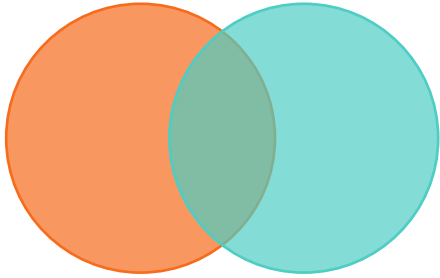
Hours on tasks unrelated to why you took the job.

A family responsibility that never resolves.

Shifting expectations with no clear "done."

Chronic activation. HPA axis stuck on. Cortisol shrinks the hippocampus.

The brain is not designed to run on stress. It is designed to recover from it.



R

Restorative Sleep

The glymphatic system and the brain.

What Sleep Does for the Brain

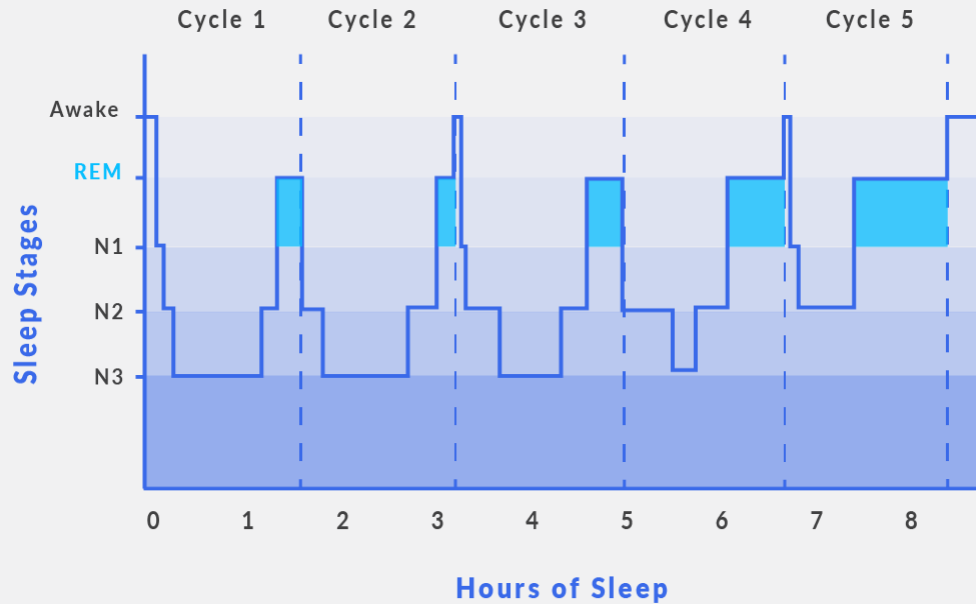
Cleanses the brain through the glymphatic system.

Clears amyloid-beta and tau proteins.

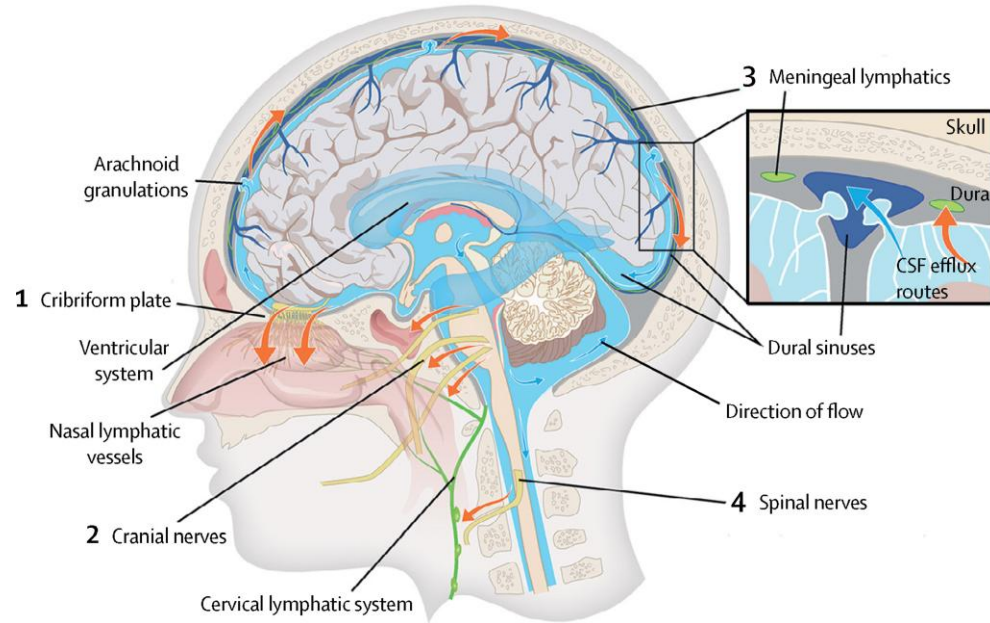
Consolidates memory and learning.

Regulates inflammation and metabolism.

The Structure of Sleep



- Cleanses the brain through **glymphatic system**
- Memory consolidation and organization



Sleep Disorders and Alzheimer Risk

Systematic review and meta-analysis.

Those with sleep problems have significantly higher risk of cognitive impairment and Alzheimer disease.

Approximately 15% of Alzheimer cases are potentially attributable to sleep disturbances.

Severe Sleep Apnea and Short Sleep

Severe OSA in late midlife: **2x all-cause dementia risk**

Severe OSA: **66% higher Alzheimer risk**

Sleep under 7 hours: **2x all-cause dementia risk**

CBT-I Is First-Line for Chronic Insomnia

American College of Physicians 2016 guideline.

Recommended over hypnotics for chronic insomnia.

Z-drugs and benzodiazepines carry independent dementia signals.

CBT-I has lasting effect without that risk.

Sleep Hygiene Fundamentals

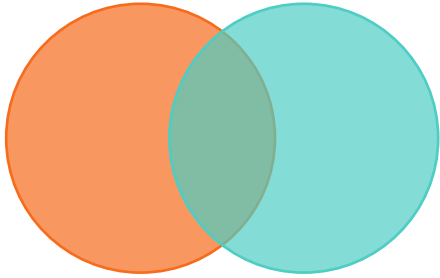
Environment: cool, dark, quiet

Schedule: consistent sleep and wake times

Pre-sleep: limit caffeine, alcohol, late meals, screens

Persistent insomnia: CBT-I before medication

Screen for OSA: snoring, witnessed apnea, daytime sleepiness

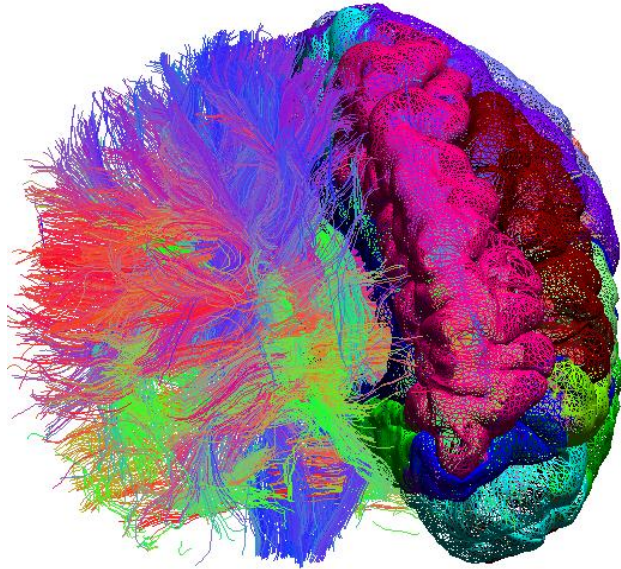


O

Optimize

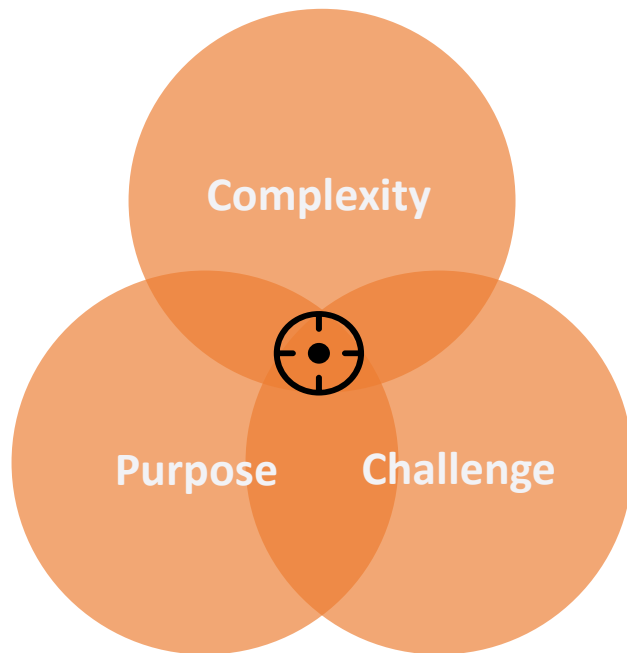
Cognitive engagement, social connection, hearing, and vision.

Cognitive Reserve



- **Synaptic connections** are your protection
- **Cognitive reserve** is the source of resilience
- **Complex activities ('idea density' and job complexity)** associated with increased brain capacity and size

What Kind of Cognitive Activities are Proven to Be Best for Brain Health?



Cognitive Activities: What Works

Complexity: novel, challenging tasks

Purpose: activities tied to meaning and identity

Challenge: progressive difficulty over time

Crossword puzzles alone do not build reserve.

Learning new languages, instruments, or skills does.

Social Participation and Dementia



30-50%

lower dementia risk

Observational studies show that sustained social participation across the life course is associated with substantially lower dementia risk through cognitive reserve, stress reduction, and cerebrovascular health.

Bilingualism and Cognitive Reserve

**Early observational findings suggested bilingualism
delayed dementia onset by 4-5 years.**

Larger, better-controlled cohorts have not consistently replicated this.

Effect size is smaller than initially reported.

Bilingualism is one of many reserve-building activities.

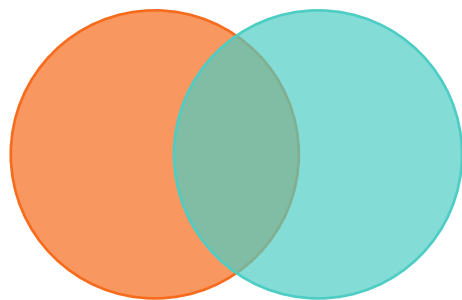
Loneliness and Dementia Risk



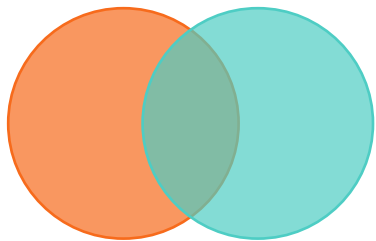
26%

higher dementia risk

Meta-analysis of 10 longitudinal studies. 37,339 individuals. Loneliness is a modifiable psychosocial risk factor distinct from objective social isolation.



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PART 3 · THE MEDICAL FACTORS

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Where Medicine Meets Prevention

The vascular trio: blood pressure, lipids, glucose.

Statins and dementia risk.

Deprescribing as prevention.

The reversible workup.

Menopausal hormone therapy.

Intensive Blood Pressure Control

SPRINT-MIND substudy. 9,361 adults at high cardiovascular risk.

Intensive SBP target <120 mmHg vs. standard <140 mmHg.

Significant reduction in the composite endpoint of

MCI + probable dementia.

Dementia-alone endpoint did not reach significance.

LDL: A Brain Factor, Not Just a Heart Factor

Midlife LDL elevation predicts Alzheimer risk three decades later.

57% higher Alzheimer risk in those with cholesterol ≥ 240 mg/dL.

The 2024 Lancet Commission added high LDL cholesterol to the modifiable risk factor list.

Tied with hearing loss at 7% PAF.

Triglycerides and Glucose: Lower Thresholds

For dementia risk, the triglyceride and fasting glucose thresholds are lower than the standard cardiovascular thresholds.

Mild elevation that would not trigger CVD concern can still elevate dementia risk.

Reframes the routine midlife metabolic panel.

Statins and Dementia Risk

Systematic review and meta-analysis of observational studies.

36 studies on dementia.

21 studies on Alzheimer disease specifically.

Statin users had significantly lower risk of both dementia and Alzheimer disease compared to non-users.

Statins: Pooled Risk Reduction

20%

Lower Dementia Risk

OR 0.80 (CI 0.75-0.86)

32%

Lower Alzheimer Risk

OR 0.68 (CI 0.56-0.81)

Statins: Subgroup Analyses

Risk reduction was similar between men and women.

Lipophilic and hydrophilic statins showed similar effects.

High-potency statins showed a 20% reduction in dementia risk.

Low-potency statins showed a 16% reduction.

No signal of cognitive harm from statin treatment.

Hearing Loss and Dementia

Mild hearing loss: **2x dementia risk**

Moderate hearing loss: **3x dementia risk**

Severe hearing loss: **5x dementia risk**

Address hearing loss early. Hearing aids may help in higher-risk patients.

Air Pollution and Dementia

**Long-term PM2.5 exposure was added to the
Lancet 2024 modifiable risk factor list.**

Consistent dose-response across cohorts.

Rarely discussed in primary care.

Indoor air filtration is one of the few patient-controllable levers.

Anticholinergic Burden

**Cumulative exposure to strong anticholinergics
is associated with persistent dementia risk.**

Not just acute confusion.

**Common offenders: first-generation antihistamines,
TCAs, bladder antimuscarinics, some antipsychotics.**

Deprescribing is prevention.

Coupland CAC et al. JAMA Intern Med 2019;179(8):1084-1093. PMID 31233095.

Benzodiazepines and Z-Drugs

Long-term benzodiazepine use is associated with elevated dementia risk in older adults.

Z-drugs (zolpidem, eszopiclone) carry similar concerns.

Both are commonly prescribed for chronic insomnia.

CBT-I is first-line. Medication is not.

Proton Pump Inhibitors and Dementia

Observational studies show mixed signals on PPIs and dementia.

Confounding by indication is substantial.

No randomized trial has established causality.

Reasonable clinical move:

review chronic PPI use at the annual visit.

Deprescribe where the indication has resolved.

B12 Deficiency in the Reversible Workup

**Untreated B12 deficiency can present as
potentially reversible cognitive impairment.**

**Often accompanied by neurological signs:
paresthesias, gait disturbance, depression.**

Plant-forward dieters are at higher baseline risk.

Always part of the reversible workup for new cognitive complaints.

Vitamin D Supplementation and Cognition

Observational data: low vitamin D associated with cognitive decline.

**Randomized trials: supplementation in non-deficient adults
has not shown cognitive benefit.**

Test if clinically indicated. Replace if deficient.

Do not assume supplementation alone protects cognition.

Depression and Dementia Risk

Meta-analysis of 23 prospective community cohort studies.

Late-life depression and incident dementia.

All-cause dementia: 85% higher risk (HR 1.85)

Alzheimer disease: 65% higher risk (HR 1.65)

Vascular dementia: 152% higher risk (HR 2.52)

CLINICAL POINT

Screen for and treat depression in midlife. It is among the most under-recognized modifiable risk factors.

Menopausal Hormone Therapy

**No major society currently recommends MHT
for dementia prevention.**

**MHT is prescribed for vasomotor symptoms
based on standard risk-benefit assessment.**

Aging and menopause are not the same condition.

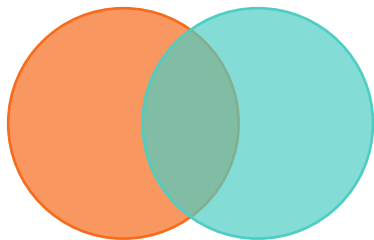
The Science Is Settled

The behavior is not.

Everything we just covered fails without one thing:
the patient actually doing it.

That is the hardest part of medicine.

And it is the only work that actually changes outcomes.



Reclaiming the Mind

Evidence-Based Approaches to Cognitive Decline and Brain Health for Life

PART 4 · THE FOUNDATIONS OF BEHAVIOR CHANGE

Dean Sherzai, MD, PhD, MPH, MAS · Ayesha Z. Sherzai, MD, MAS

The Hardest Part of Medicine

Not the diagnosis. Not the treatment. Not the data.

**The hardest part is getting another human being
to do something different tomorrow than they did today.**

That is the work no one trained us for.

And it is the only work that actually changes outcomes.

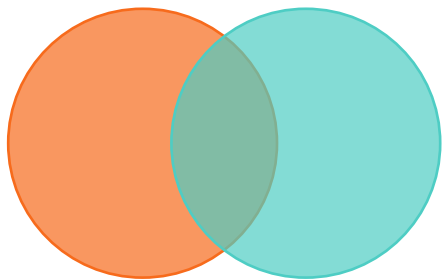
The Science Is Settled

The behavior is not.

14

modifiable risk factors

Nearly half of dementia cases worldwide are tied to fourteen modifiable risk factors. Every one of them is a behavior.



01 WHY CHANGE FAILS

Where We Lose Our Patients

Not because we don't care. Because no one taught us the other half of medicine.

Six Reasons Behavior Change Fails

1. The Information Illusion

Knowledge alone does not cause change. Information is the floor, not the engine.

2. The Righting Reflex

The instinct to fix and persuade strengthens resistance. Pushing harder backfires.

3. The Dual-System Brain

Most daily behavior is automatic. Even motivated patients are run by cues they did not design.

4. The Stage Mismatch

We deliver Action-stage interventions to Pre-contemplation patients.

5. Motivation Is Not Willpower

Lasting change is autonomous. Pressure, fear, and shame crush motivation.

6. Time Is Not the Constraint

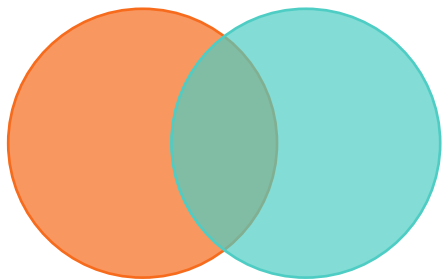
Brief MI encounters of 15 minutes move outcomes. The constraint is method, not time.

Why It Actually Fails

Behavior change is not failing because patients are broken.

**It is failing because we are using the wrong tools,
at the wrong moment, with the wrong assumptions.**

The science is now clear about how to do this right.



02 THE MAP

The Stages of Change

People do not change in one step. They move through stages.

The Five Stages of Change

- | | | |
|---|--------------------------|--|
| 1 | Pre-contemplation | <i>"I don't have a problem."</i> |
| 2 | Contemplation | <i>"I know I should, but..."</i> |
| 3 | Preparation | <i>"I'm ready to try something."</i> |
| 4 | Action | <i>"I've been doing it for two weeks."</i> |
| 5 | Maintenance | <i>"This is just how I live now."</i> |

Diagnose stage by pillar, not by person. A patient can be in Action for exercise and Pre-contemplation for nutrition. Prochaska & DiClemente, 1983. PMID 6863699.

What Works in Each Stage

Stage matching is the entire game.

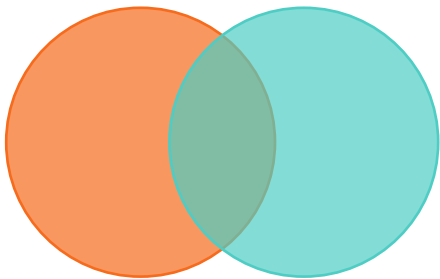
Stage	Do This	Avoid
Pre-contemplation	Raise awareness with curiosity. "What do you notice about your energy?"	Lecturing, scaring, pushing a plan.
Contemplation	Explore ambivalence. "What's the cost of staying the same?"	Jumping to a plan. They are not there yet.
Preparation	Co-design ONE micro-action. Make it absurdly small.	Complicated plans. Multiple changes at once.
Action	Reinforce identity. Celebrate wins. Anticipate relapse.	Upping the goal too fast. Complacency.
Maintenance	Consolidate. Add the next NEURO pillar. Build self-coaching.	Assuming they are done. Relapse risk is real.

The Insight That Changes Practice

**Most clinical failures in behavior change
are not failures of effort or compassion.**

They are failures of stage matching.

**We give Action-stage interventions to Pre-contemplation patients,
and then blame the patient for not complying.**



03 THE ENGINE

How Change Actually Happens

The stages tell you where to meet them. The engine tells you what to do once you are there.

Four Frameworks. One Integrated System.

THE CONVERSATION

Motivational Interviewing

OARS: Open questions, Affirmations, Reflections, Summaries.

THE DIAGNOSIS

COM-B

Capability, Opportunity, Motivation. Diagnose what is missing.

THE DESIGN

Fogg Model

B = MAP. Make the behavior tiny. Anchor it. Engineer the prompt.

THE ARCHITECTURE

Nudge and Environment

Willpower is finite. Environment is continuous.

Motivational Interviewing

48

randomized trials

9,618 patients. MI showed a significant advantage over advice-giving, even in brief encounters.

O Open questions

A Affirmations

R Reflections

S Summaries

COM-B: Diagnose Before You Design

Capability: do they know how? Can they cognitively and physically do it?

Opportunity: does their environment (home, work, family) support it?

Motivation: do they want it, both reflectively and automatically?

Almost every failed intervention targets the wrong one of the three.

Make It Tiny. Engineer the Environment.

FOGG MODEL · THE DESIGN

$$B = M \cdot A \cdot P$$

Low motivation? Connect to values.

Low ability? Shrink the behavior.

Missing prompt? Anchor to a routine.

NUDGE · THE ARCHITECTURE

Environment > Willpower

Reorganize the pantry.

Move the phone out of the bedroom.

Add friction to bad cues. Remove it from good ones.

Autonomous Motivation Is the Substrate

Across 184 health studies, three psychological needs
predicted lasting behavior change:

Autonomy: they chose it.

Competence: they can do it.

Relatedness: they are not alone.

These three are not soft. They are the foundation of every lasting change.

The Integrated Play

Diagnose the stage (Prochaska).

Meet them in conversation (Motivational Interviewing).

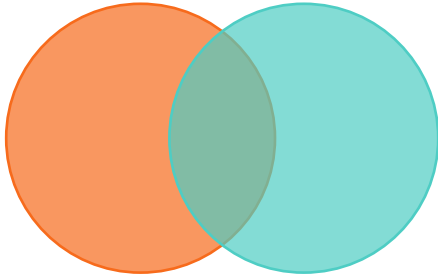
Locate the barrier (COM-B).

Shrink the behavior (Fogg).

Redesign the environment (Nudge).

Protect autonomy, competence, relatedness (SDT).

That is the engine. That is what we teach.



04 TEN QUESTIONS

Not About Your Patients. About Us.

Pull up Menti on your phone. No wrong answers. No judgments.

Behavior Change Is a Discipline

**It is the place where every clinician fails,
because no one taught us.**

It is not a personality. It is not a gift.

It is a discipline.

And we can teach it.

WE DON'T NEED MORE MOTIVATION.

We need a method.

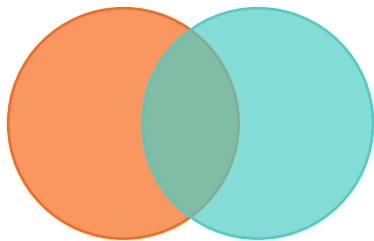


SCAN

Take the Communication Scorecard

10 clinical scenarios. 2 minutes. Find out where your communication skills are strongest and where the gaps are.

neuroacademy.com/plate



We Don't Need More Motivation.

We Need Method.

THE NEURO COACHING MODEL

A behavior change methodology built for clinicians, validated in practice, and designed for the patients others gave up on.

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