



Grey Matters

Precision Health

We are **the** Dr. Dale Bredeesen Clinic

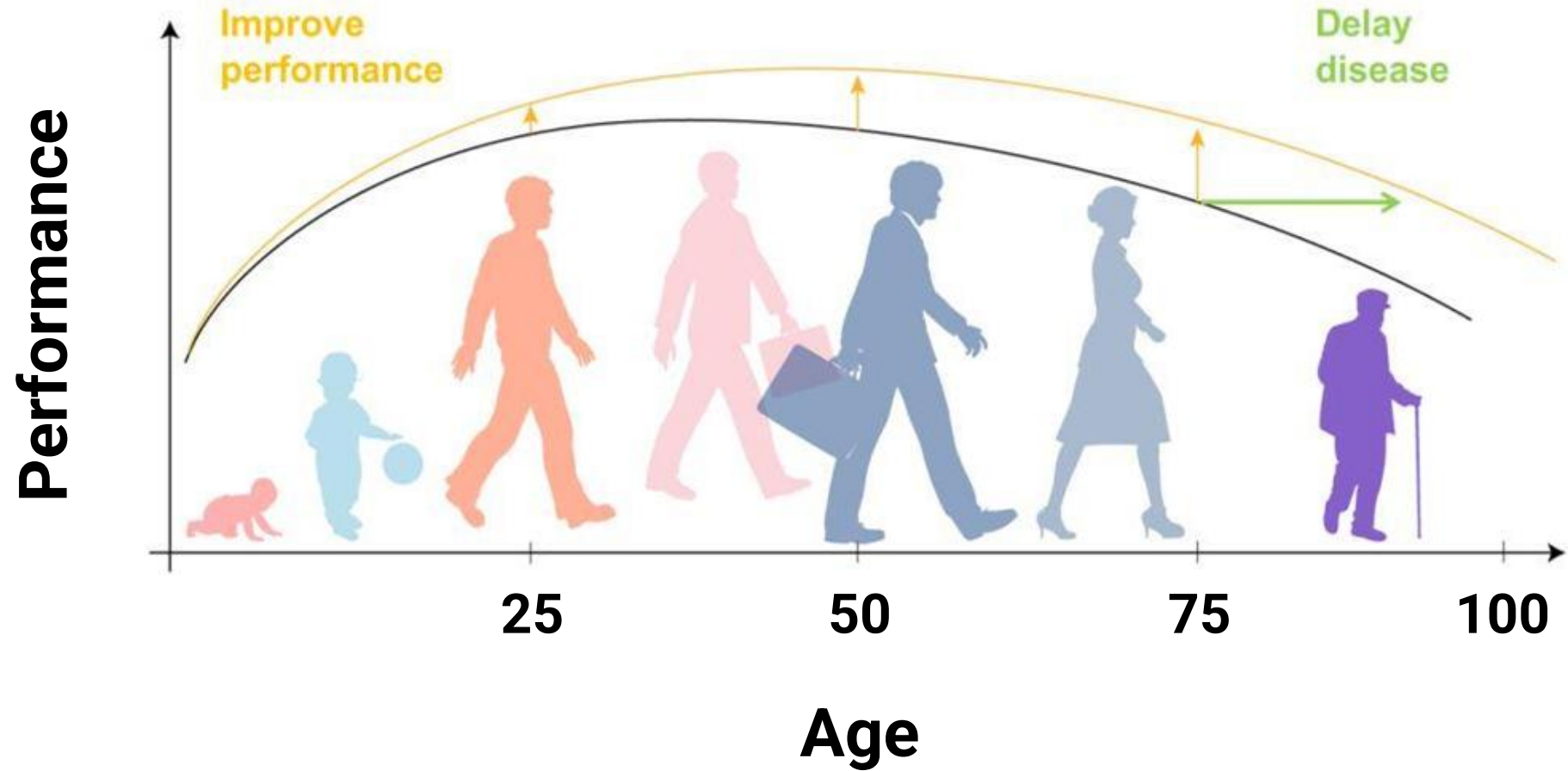
The first comprehensive clinical program for persons with cognitive decline.

Outline



- + What is Brain Fitness and why does it matter?
- + What exactly does the brain do?
- + What is Dementia and how does it happen?
- + Who is Dr. Dale Bredeesen?
- + What is the Bredeesen Protocol?
- + What is the Amyloid Precursor Protein and why does it matter?
- + What are the many causes of Dementia?
- + What can we do to prevent and even reverse Dementia?

Why Brain Fitness Matters



The Human Brain - Alzheimer's Association



Cerebrum

Thinking, planning
Remembering,
speech



Cerebellum

Balance,
coordination



Brain Stem

Automatic functions
Digestion, breathing

Dementia



A chronic or persistent disorder of the mental processes caused by brain disease or injury and marked by memory disorders, personality changes, and impaired reasoning.

Dementia is a general term for loss of memory and other mental abilities severe enough to interfere with daily life. It is caused by physical changes in the brain. Alzheimer's is the most common type of dementia, but there are many kinds.

Common forms of Dementia



- + Alzheimer's Dementia
- + Vascular Dementia
- + Lewy Body Dementia
- + Frontotemporal Dementia
- + Parkinson's Dementia
- + Mixed Dementia

Mixed Dementia - Memory and Aging Project Study

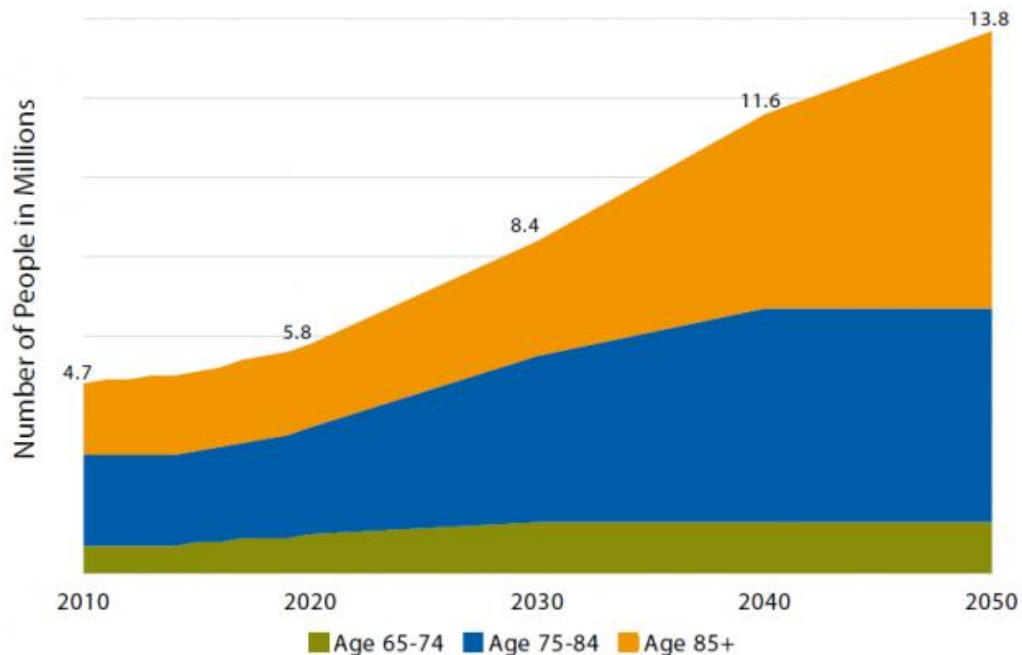


Long-term cognitive assessments followed by eventual brain autopsy:

- + 94% of participants who were diagnosed with dementia were diagnosed with Alzheimer's. The autopsies of those diagnosed with Alzheimer's showed that 54% had coexisting pathology.
- + The most common coexisting abnormality was previously undetected blood clots or other evidence of vascular disease.
- + Lewy bodies were the second most common coexisting abnormality.

Alzheimer's Prevalence - U.S.

Projected Number of People Aged 65 or Older With Alzheimer's Disease, by Age Group, United States, 2010–2050



Source: Created from data in Hebert LE, Weuve J, Scherr PA, Evans DA. Alzheimer disease in the United States (2010–2050) estimated using the 2010 Census. *Neurology*. 2013;80(19):1778–1783.

- + Growing rapidly as population ages - CDC estimates 13.8 million by 2050.

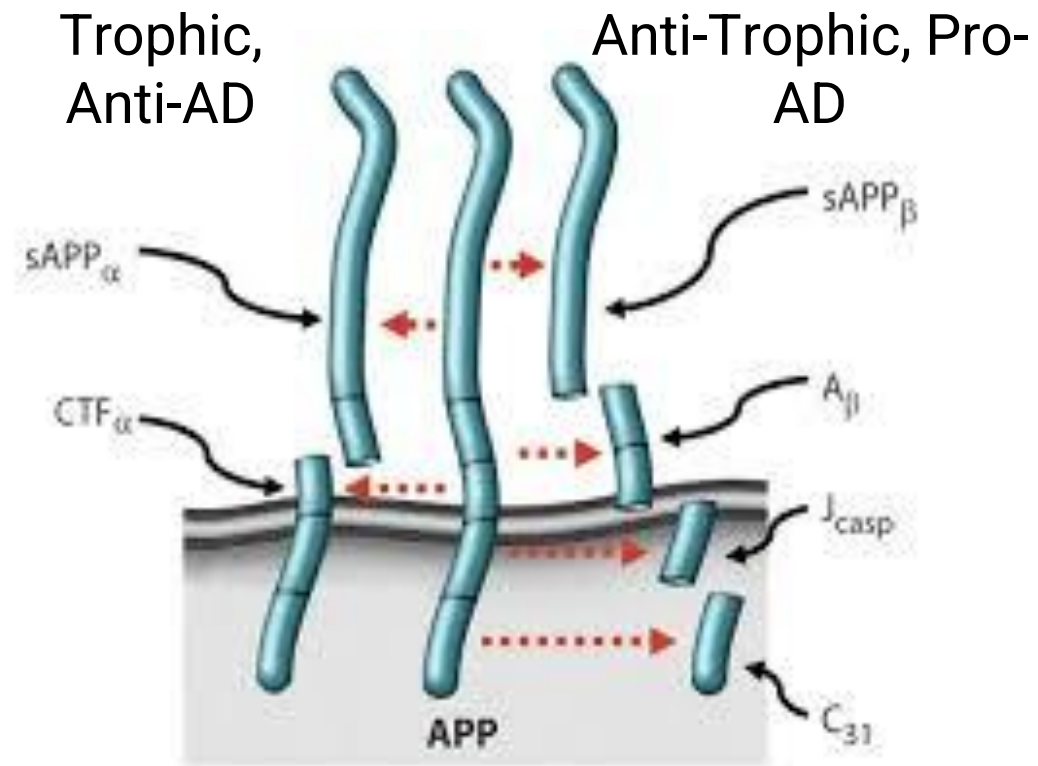
Dr. Dale Bredesen



- Graduated from California Institute of Technology
- M.D. from Duke
- Residency at UC San Francisco
- Researched Alzheimer's for over 30 years

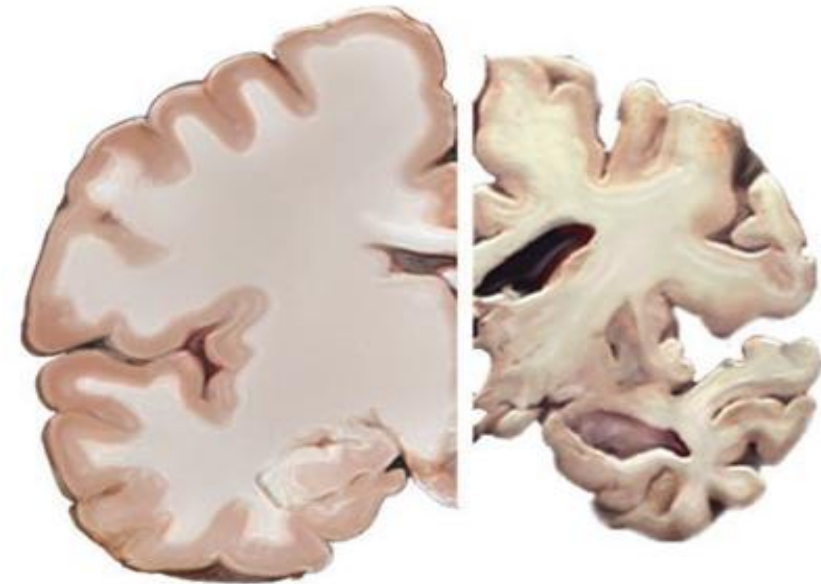


Amyloid Precursor Protein



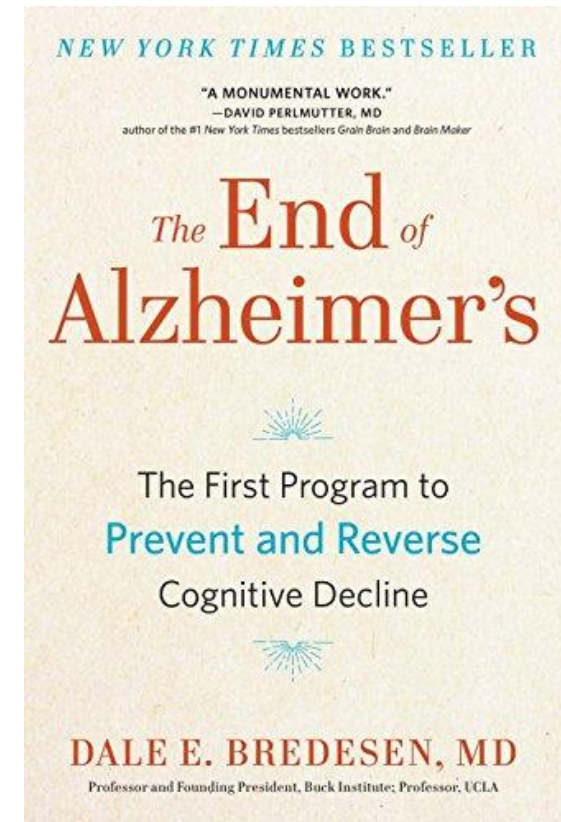
Healthy Brain

Severe AD

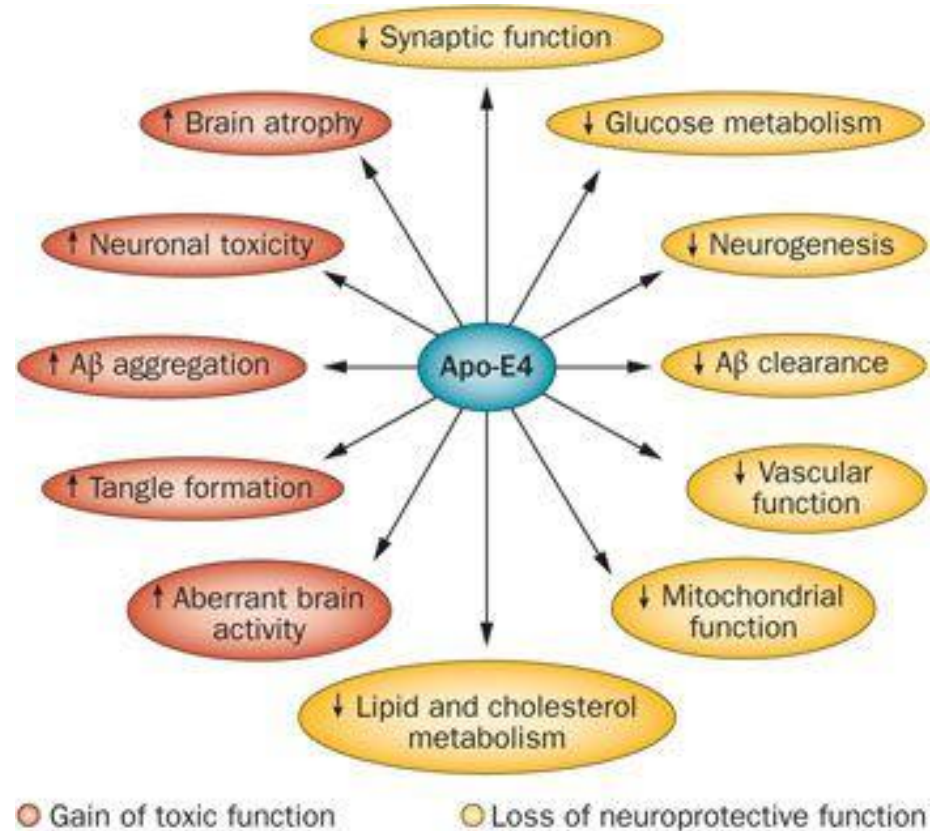


The Bredesen Protocol: Reversal of Cognitive Decline in Alzheimer's Disease

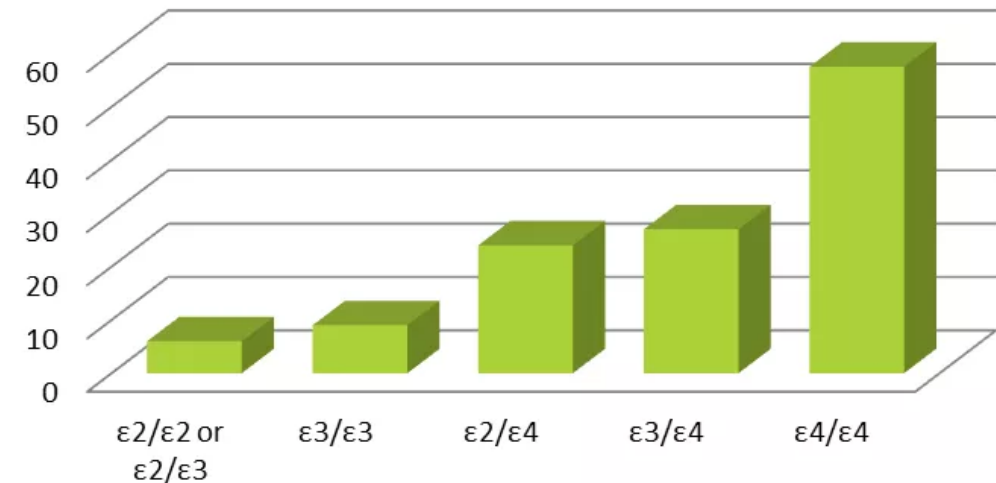
- + Identifies various subtypes of Alzheimer's Disease
- + Inflammatory, Glycotoxic, Trophic, Toxic, Trauma subtypes
- + Addresses the individual with a personalized plan
- + Cognoscopy – Identify Problems early and treat preemptively
- + Treating the Root Cause, Diet, Lifestyle, Supplements



ApoE Gene and Alzheimer's Disease



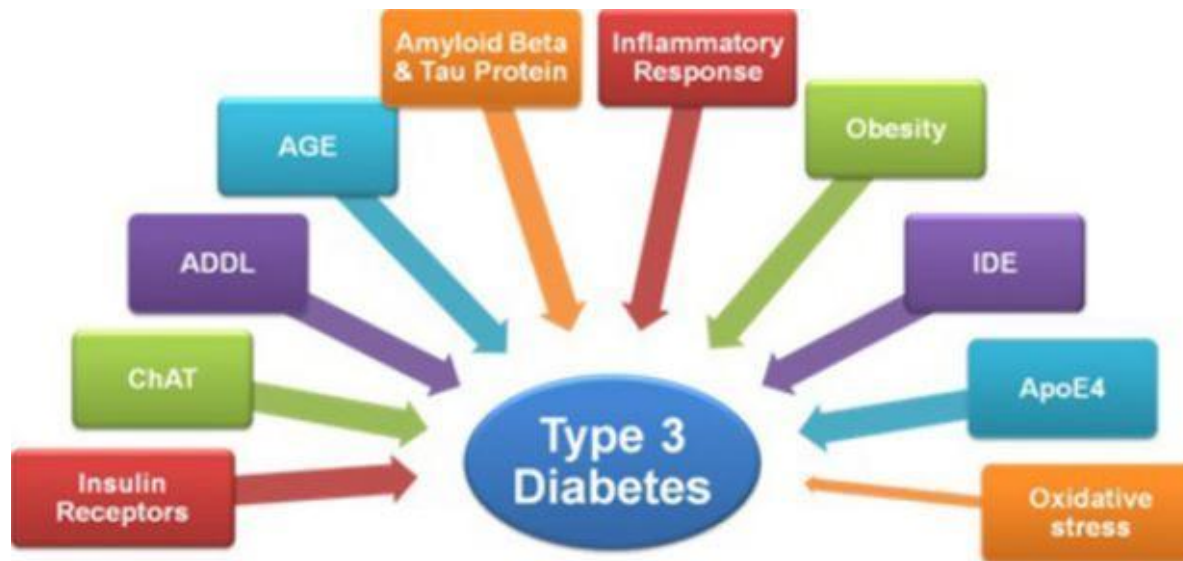
Approximate Lifetime Risk (%) of Alzheimer's Disease Based on ApoE Genotype*



Inflammatory, Trophic and Toxic Substances



Alzheimer's Disease - Type 3 Diabetes?

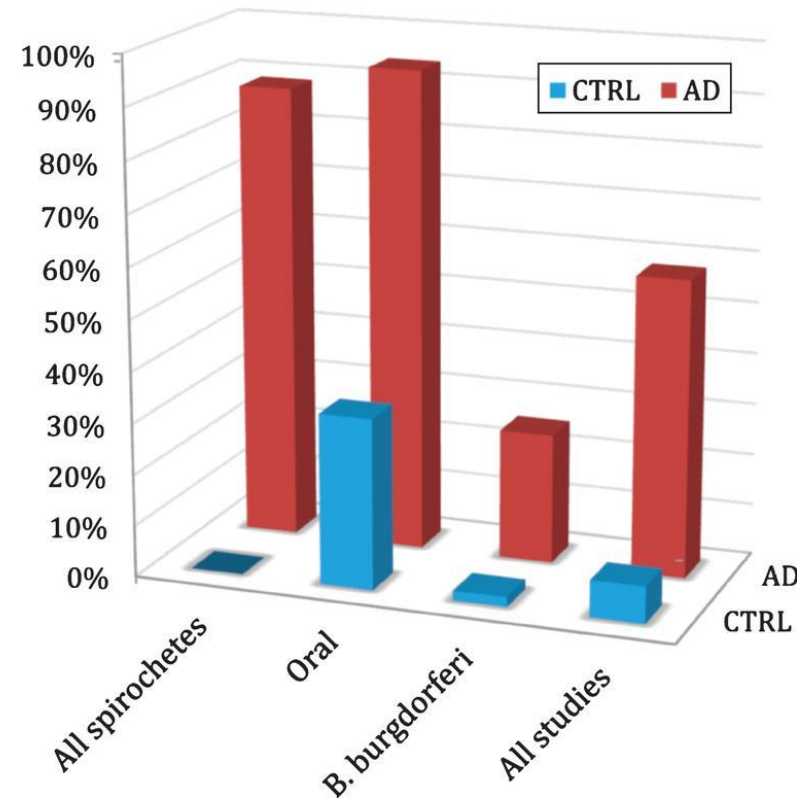


80% of people with Alzheimer's have insulin resistance or type 2 diabetes



Infections and Alzheimer's Disease

- + Herpes Virus
- + Lyme Disease
- + Oral Bacteria
- + H. Pylori



Heavy Metal Toxicity



Mold Toxin and Alzheimer's Disease

Inhalational Alzheimer's & Mold Illness



The Perfect Alzheimer's Drug Would:

Reduce APP β -cleavage, reduce γ -cleavage, increase α -cleavage, reduce caspase-6 cleavage, reduce caspase-3 cleavage, prevent oligomerization, increase neprilysin, increase IDE, increase microglial clearance of A β , increase autophagy, increase BDNF, increase NGF, increase netrin-1, increase ADNP, reduce homocysteine, increase PP2A activity, reduce phospho-tau, increase phagocytosis index, increase insulin sensitivity, improve axoplasmic transport, enhance mitochondrial function and biogenesis, reduce oxidative damage and optimize ROS production, enhance cholinergic neurotransmission, increase synaptoblastic signaling, reduce synaptoclastic signaling, improve LTP, optimize estradiol, progesterone, E2:P ratio, free T3, free T4, TSH, pregnenolone, testosterone, cortisol, DHEA, and insulin, reduce inflammation, increase resolvins, enhance detoxification, improve vascularization, increase cAMP, increase glutathione, provide synaptic components, optimize all metals, increase GABA, increase vitamin D signaling, increase SirT1, reduce NFkB, increase telomere length, reduce glial scarring, enhance repair, etc.

Dale Bredesen 2014

Drugs for Alzheimer's Disease



Thus far unfruitful.

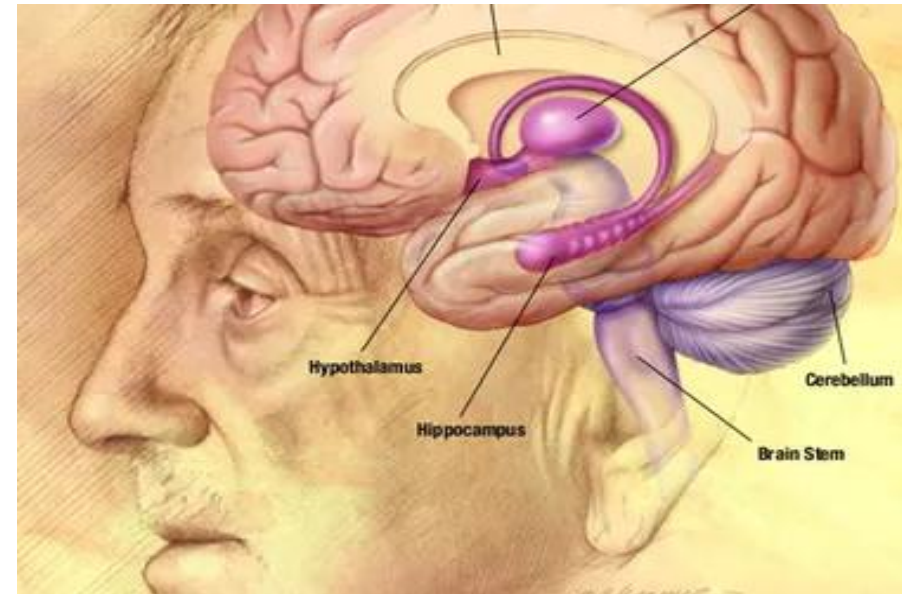
Removing the Amyloid Plaques doesn't help
and in many cases makes the patient worse.

Vitamin E, Antioxidants vs. Saturated / Trans Fats

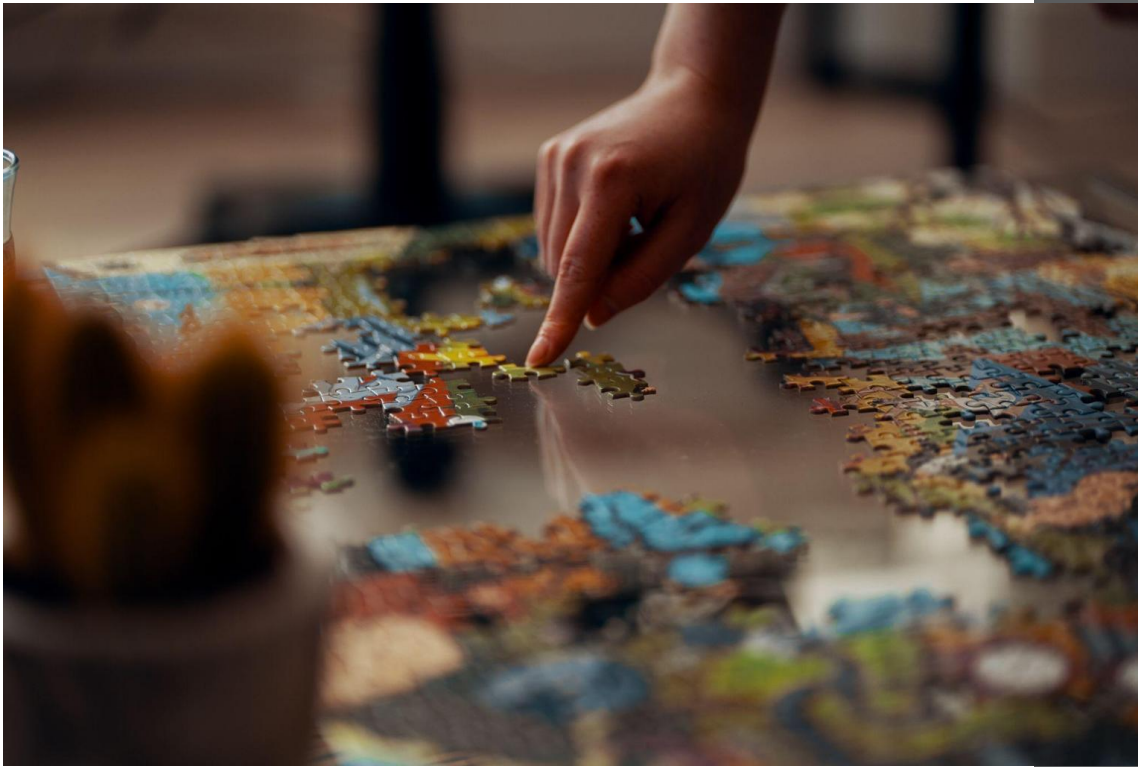


Exercise your Body for your Brain

The antidepressant effect of running is associated with increased hippocampal cell proliferation.



Brain Power - Use It or Lose It

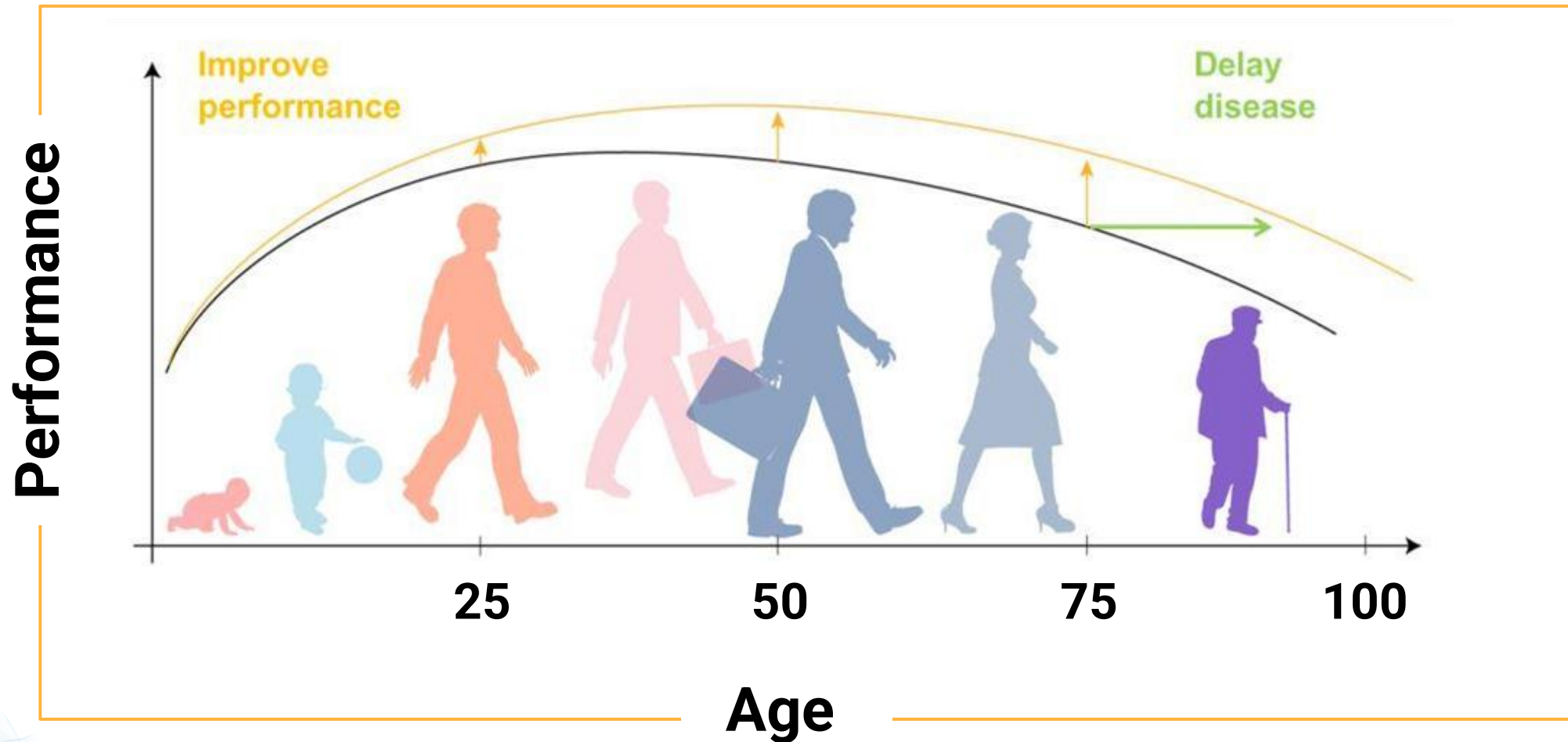


- + Brain HQ
- + Dual-task Training

Sleep



Get Your Cognoscopy



Patient Receives



Patients receive -

- Advanced diagnostic tests to identify risk factors
- Unique, comprehensive care plan
- Ongoing support from experts

Identifying and treating risk factors not only improves brain health, but it also reduces chances of other chronic illnesses and promotes an overall healthier lifestyle.

Treatment Plan Options

Therapeutic System 1.0

Goal	Approach	Rationale and References
Optimize diet: minimize simple CHO, minimize inflammation.	Patients given choice of several low glycemic, low inflammatory, low grain diets.	Minimize inflammation, minimize insulin resistance.
Enhance autophagy, ketogenesis	Fast 12 hr each night, including 3 hr prior to bedtime.	Reduce insulin levels, reduce A β .
Reduce stress	Personalized—yoga or meditation or music, etc.	Reduction of cortisol, CRF, stress axis.
Optimize sleep	8 hr sleep per night; melatonin 0.5mg po qhs; Trp 500mg po 3x/wk if awakening. Exclude sleep apnea.	[36]
Exercise	30-60' per day, 4-6 days/wk	[37, 38]
Brain stimulation	Posit or related	[39]
Homocysteine <7	Me-B12, MTHF, P5P; TMG if necessary	[40]
Serum B12 >500	Me-B12	[41]
CRP <1.0; A/G >1.5	Anti-inflammatory diet; curcumin; DHA/EPA; optimize hygiene	Critical role of inflammation in AD
Fasting insulin <7; HgbA1c <5.5	Diet as above	Type II diabetes-AD relationship
Hormone balance	Optimize fT3, fT4, E2, T, progesterone, pregnenolone, cortisol	[5, 42]
GI health	Repair if needed; prebiotics and probiotics	Avoid inflammation, autoimmunity
Reduction of A-beta	Curcumin, Ashwagandha	43-45
Cognitive enhancement	Bacopa monniera, MgT	[46, 47]
25OH-D3 = 50-100ng/ml	Vitamins D3, K2	[48]
Increase NGF	H. erinaceus or ALCAR	[49, 50]
Provide synaptic structural components	Citicoline, DHA	[51].
Optimize antioxidants	Mixed tocopherols and tocotrienols, Se, blueberries, NAC, ascorbate, α -lipoic acid	[52]
Optimize Zn:fCu ratio	Depends on values obtained	[53]
Ensure nocturnal oxygenation	Exclude or treat sleep apnea	[54]
Optimize mitochondrial function	CoQ or ubiquinol, α -lipoic acid, PQQ, NAC, ALCAR, Se, Zn, resveratrol, ascorbate, thiamine	[55]
Increase focus	Pantothenic acid	Acetylcholine synthesis requirement
Increase SirT1 function	Resveratrol	[32]
Exclude heavy metal toxicity	Evaluate Hg, Pb, Cd; chelate if indicated	CNS effects of heavy metals
MCT effects	Coconut oil or Axona	[56]

CHO, carbohydrates; Hg, mercury; Pb, lead; Cd, cadmium; MCT, medium chain triglycerides; PQQ, polyquinoline quinone; NAC, N-acetyl cysteine; CoQ, coenzyme Q; ALCAR, acetyl-L-carnitine; DHA, docosahexaenoic acid; MgT, magnesium threonate; fT3, free triiodothyronine; fT4, free thyroxine; E2, estradiol; T, testosterone; Me-B12, methylcobalamin; MTHF, methyltetrahydrofolate; P5P, pyridoxal-5-phosphate; TMG, trimethylglycine; Trp, tryptophan

Patient Testimonials



“I’m 67 years old, in good health and am always looking for ways to improve my health and quality of life. I had the best experience as I took several online cognitive tests and had some bloodwork done in order to determine what my current brain health was. My PreCODE results showed that I was at risk for several things. My experience with Grey Matters helped me develop my lifestyle plan to stay healthy and age with a quality of life.”

“Grey Matters has treated me as a human being, not as a patient, with a real opportunity to get better. I feel like a totally different person, even my family members have noticed a difference in my behavior. We feel like we have someone who is really taking care of us.”

“Medication is something you take in hopes of seeing results, this is not medication. This is a team working together to recover the perspective of how beautiful life is, a team that supports you while you work on achieving a better life.”

“I can’t imagine where I would be without ReCODE... I can actually see a light at the end of the tunnel.”

Patient Progress



We track patient progress through the MoCA assessment which looks at a patient's cognitive functions. MoCA Scores range from 1-30

Patient 1: 24/30 -> 26/30 in 4 months

Patient 2: 26/30 -> 27/30 in 14 months

Patient 3: 27/30 -> 30/30 in 4 months


Patient 4: 25/30 -> 28/30 in 7 months

Patient 5: 23/30 -> 28/30 in 12 months

Patient 6: 25/30 -> 28/30 in 4 months

Options for Cognitive Decline



- 
- 1) Do nothing-
 - Research shows that 50% of individuals who do nothing for cognitive decline will have some sort of dementia diagnosis by the time they turn 80
 - 2) Rely on pharmaceuticals-
 - May provide symptomatic relief for some, but has limited long-term benefits
 - Has been found to slow decline, instead of prevent/reverse it
 - Clinical trials have high dropout rate due to adverse side effects- up to 50% of participants in some studies stopped taking medication
 - 3) Bredesen Protocol-
 - Studies show that implementing the Bredesen Protocol can improve cognitive abilities in up to 84% of patients

Medicare GUIDE Model Program for Dementia!



Grey Matters is one of only 97 providers in the nation initially selected as an Established Program for the new Medicare GUIDE Model

- (GUIDE = Guiding an Improved Dementia Experience)

Effective July 1, 2024, under the GUIDE Model, Grey Matters receives a monthly management fee for providing assessments, care planning, care management, caregiver support and wrap-around service navigation to Medicare Part B beneficiaries diagnosed with dementia symptoms.

Grey Matters is the only GUIDE Model provider in Sarasota and one of few in Jacksonville. There is no recognized clinical dementia provider in the U.S.

What does GUIDE Model provide?

If you qualify, your **Grey Matters Care Navigator** will help you receive:

- Assessments and care plans
- 24/7 access to a team member or help line
- Meals and transportations through local organizations
- Caregiver respite services
- Training on caring for loved ones living with dementia



Grey Matters

Precision Health

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Thank You!

