

Goal	Approach	Notes
Optimize diet: minimize simple carbohydrates, minimize inflammation.	Low glycemic, low inflammatory, low grain diets. Eliminate sensitizing foods	Minimize inflammation, minimize insulin resistance.
Enhance autophagy, ketogenesis	Fast 12-14 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 OR lipolyzed GABA 2 sprays qhs; Trp 500mg po 3x/wk if awakening. Exclude sleep apnea.	
Exercise	30-60' per day, 4-6 days/wk	
Brain stimulation	Learn a language, brain games, brain gym, etc.	Online brain training discouraged due to concerns over confidentiality.
Homocysteine <7	Hydroxy-B12, MTHF, P5P; TMG if necessary	
Serum B12 >500	Hydroxy-B12	
CRP <1.0; A/G >1.5	Anti-inflammatory diet; curcumin; DHA/EPA; optimize hygiene	Critical role of inflammation in AD
Fasting insulin <6; HgbA1c <5.5	Diet as above	Type II diabetes-AD relationship
Hormone balance	Optimize fT3, fT4, E2, T, progesterone, pregnenolone, cortisol, DHEA	
GI health	Repair if needed; prebiotics and probiotics	Avoid inflammation, autoimmunity
Reduction of A β	Curcumin, Ashwagandha	
Cognitive enhancement	Bacopa monniera, MgT	
25OH-D3 = 50-100ng/ml	Vitamins D3, (K2 if needed)	
Increase NGF	H. erinaceus or R-lipoic acid	
Provide synaptic structural components	Citicoline, DHA	
Optimize antioxidants	Mixed tocopherols and tocotrienols, Se, blueberries, NAC, ascorbate, R-lipoic acid	
Optimize Zn:fCu ratio	Depends on values obtained	Some zinc supplements if no way to measure serum fCu
Optimize mitochondrial function	CoQ or ubiquinol, R-lipoic acid, PQQ, NAC, ALCAR, Se, Zn, resveratrol, ascorbate, thiamine	
Increase focus	Pantothenic acid	Acetylcholine synthesis requirement
Increase SirT1 function	OPC's, High ORAC chocolate, Resveratrol, etc	
Exclude heavy metal toxicity	Evaluate Hg, Pb, Cd; chelate if indicated	CNS effects of heavy metals
MCT effects	Caprylic acid-Pure C8, +/- coconut oil.	
Biophoton Interference	Avoid bright white LED light	

Preventing and Reversing Cognitive Decline with Aging

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The following material comes from some of the group of physicians who presented at the 2015 Conference on NeuroRegeneration hosted by the Academy of Comprehensive Integrative Medicine (acimconnect.com) in Orlando, Florida. Dr. Miller participated in this work, and spoke at the conference on his work reversing macular degeneration.

We wanted to create a worksheet to offer a ranked list of the things we all felt were important for people trying to reverse, or prevent, cognitive decline. We decided to base our list on some work that one of the doctors had been involved in at UCLA the year before. This was a small study, but was the first to show that memory loss in patients may be reversed, and improvement sustained, using a complex therapeutic program that involves comprehensive changes in diet, brain stimulation, exercise, optimization of sleep, specific vitamins, and multiple additional steps that affect brain chemistry.

All of the interventions used in this protocol were chosen because they had good research showing that they were effective, a high margin of safety, and an understood mechanism of action. The list I offer here is slightly modified from the original study, based on the collective input from the doctors at the 2015 conference.

Nine out of ten people in this study had significant improvements in their memory and cognitive function, some to the point where they were able to return to work. At the time we met, the longest follow-up was over three years, and the improvements were sustained. To put this in context, please realize that billions of dollars have been spent looking for a pharmaceutical to do what this study did, and none of the drugs investigated have had any effect at all.

Half of the people in the study carried a diagnosis of Alzheimer disease.

Legend:

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 (intracellular total); fT3, free triiodothyronine; fT4, free thyroxine; E2, estradiol; T, testosterone; Me-B12, methylcobalamin; MTHF, methyltetrahydrofolate; P5P, pyridoxal-5-phosphate; TMG, trimethylglycine; Trp, tryptophan