

### 1 PET/CT SCAN FINDINGS — QUANTITATIVE ANALYSIS

Brain Region	Z-Score	Severity	Function Affected	Targeted Interventions
Precuneus	-6.6	<b>SEVERE</b>	Self-referential memory, visual-spatial processing	40Hz occipital light · KetoneAid K4 · BrainHQ navigation exercises · Visualization meditation
Middle Occipital Cortex	-6.06	<b>SEVERE</b>	Visual processing, object recognition	40Hz occipital NIR panel (direct target) · Beacon40 visual gamma · Antisaccade training
Temporal Lobe	-4.46	<b>MARKED</b>	Verbal memory, language comprehension	BrainHQ word memory exercises · Elevate verbal tasks · Reading aloud · Handwriting journal (motor + language + visual regions simultaneously) · Social conversation daily
Superior Parietal	-4.35	<b>MARKED</b>	Attention, spatial orientation	Antisaccade training · BrainHQ attention exercises · Weighted vest walks · Barre spatial balance · Handwriting (fine motor-spatial integration)
Parietal Lobe	-4.04	<b>MARKED</b>	Sensory integration, navigation	BrainHQ navigation + spatial exercises · Barre proprioception · Walking varied routes
Posterior Cingulate	-4.04	<b>MARKED</b>	Memory retrieval, default mode network	Aerobic exercise (strongest evidence) · 40Hz gamma · Meditation · Handwriting journal + voice recall
Cingulate Gyrus	-2.83	<b>MODERATE</b>	Emotion processing, error detection	Frontal lobe red light therapy · Lexapro (cortisol) · Meditation · Emotional journaling
Hippocampus	-2.18	<b>MILD</b>	New memory formation, spatial navigation	Aerobic exercise #1 priority (BDNF) · Alpha GPC · Bacopa · Magnesium L-Threonate · Theracurmin HP
Amygdala	-2.16	<b>MILD</b>	Emotional memory, fear response	Theracurmin HP (amyloid/tau — UCLA RCT) · Sauna · Social engagement · Positive daily routine

## 2 DAILY PROTOCOL SCHEDULE

Time	Activity	Notes
7:30–8:00 AM	<b>Morning Coffee + Lion's Mane</b>	1–2g Real Mushrooms fruiting body powder. NGF and BDNF stimulation.
8:20–8:40 AM	<b>Meditation + Frontal Lobe Red Light</b>	Waking Up app with headphones. Platinum Pro LED panel, Mood/Wellness setting, frontal lobe directed. Supports mood regulation and cortisol balance.
8:40–9:00 AM	<b>Occipital Brain Light — 40Hz Pulse</b>	Platinum Pro: 810+830+850+1060nm at 100%, 660nm 50%, Blue off, 40Hz pulse. Back of head 4–6 inches from panel. Targets occipital cortex — most severely affected region (Z -6.06).
9:00–9:30 AM	<b>Morning Supplements</b>	Pill box #1. See Section 3 for complete supplement list.
10:20 AM	<b>KetoneAid K4 — Pre-Elevate</b>	7.5–8ml K4 ketone ester. Take 30–40 minutes before Elevate. Provides alternative brain fuel that bypasses glucose transport failure shown on FDG-PET scan. Peaks at exactly 11:00 AM during cognitive training.
10:00–11:00 AM	<b>Social Engagement</b>	Daily social connection — a primary neuroprotective factor.
11:00 AM–12:00 PM	<b>Elevate App + Beacon40 Gamma Light</b>	Primary cognitive training. Beacon40 Surround lamps flanking iPad — 40Hz visual gamma entrainment during active brain training. Peak neuroplasticity window.
11:30 AM	<b>BrainHQ Training (Posit Science)</b>	29 adaptive exercises targeting memory, attention, brain speed, and navigation. 20–30 min daily. More than 200 peer-reviewed studies. \$96/year — check Medicare Advantage plan for possible \$0 coverage.
2–3x per week with Christopher	<b>Antisaccade Eye Training</b>	Christopher moves finger/light to peripheral vision — Dachele looks immediately in the OPPOSITE direction. Hold 2 seconds. 20–30 reps alternating sides. Directly targets prefrontal inhibitory circuits impaired in AD. Parietal lobe z-score -4.04 on PET.
1:15 PM or 4:15 PM	<b>Barre Class or Neighborhood Walk + Weighted Vest</b>	8–10 lb adjustable vest for osteogenic loading. #1 most important activity. Aerobic exercise is the strongest intervention for BDNF, neuroplasticity, and bone density.
After Barre (2:30 PM or 5:30 PM)	<b>Lunch + Midday Supplements</b>	Pill Box #2 — take immediately after workout. Includes Alpha GPC 2nd dose, Fish Oil, Phosphatidylserine, Bio-Fisetin, Bacopa, AlgaeCal Plus 2nd dose, Lexapro.
3:00–3:30 PM	<b>Reading — Physical Book</b>	Book Club of 1 protocol. One book at a time to completion. Sustained attention training.
6:00–6:30 PM	<b>Dinner + Dinner Supplements</b>	Pill Box #3 — Iron 65mg + Vitamin C + Theracurmin HP 600mg + Magnesium L-Threonate 3 caps. Dinner no later than 6:30 PM.
6:40 PM (sauna nights)	<b>KetoneAid K4 — Pre-Sauna</b>	4ml K4 ketone ester on sauna evenings only (4–5x/week). Take 20 minutes before entering sauna. Sauna dramatically increases cerebral blood flow and BDNF — ketones available at peak during this window maximizes brain fuel delivery.
7:00–7:30 PM (4–5x/week)	<b>Sauna Session — After Dinner</b>	143°F, 15–30 min, no hat. 65% reduced dementia risk (Laukkanen et al.). Heat shock proteins + BDNF.
8:00–8:30 PM	<b>Evening Journal — Handwritten + Voice</b>	Handwrite 3–5 sentences in a physical journal first — activates motor cortex, temporal language areas, and visual-spatial processing simultaneously. Then voice Q&A; via Brain Coach app. Episodic memory consolidation.
8:00–8:30 PM (Fri–Sat: 9:30 PM)	<b>Screen-off + Wind Down</b>	Screens off by 8:00 PM. Side-sleeping increases glymphatic clearance ~25%. Magnesium L-Threonate already taken with dinner.
8:30 PM (Fri–Sat: 10:00 PM)	<b>Sleep — Target 7.5–8 Hours</b>	Sun–Thu: bed 8:30 PM. Fri–Sat: bed 10:00 PM. #2 most important factor.

### 3 SUPPLEMENT PROTOCOL — COMPLETE LIST

All supplements have been reviewed against Lexapro (Escitalopram 10mg) — no clinically significant interactions identified. Patient uses three pill organizers managed by Brain Coach.

#### MORNING COFFEE — Before Breakfast

Ingredient	Amount	Cal	Protein	Fat	Carbs	Key Actives
Fairlife Chocolate Protein Milk	1 bottle (11.5 oz)	150	30g	2.5g	4g / 2g sugar	Calcium 730mg, Vit D 25% DV, lactose-free
Keto Brainz Nootropic Creamer	1 scoop	110	1g	10g	4g	300mg Alpha GPC, 500mg Lions Mane, 250mg L-Theanine, 8g C8 MCT
Real Mushrooms Lions Mane Powder	1–2g powder	~5	0g	0g	~1g	Additional NGF + BDNF stimulation — synergistic with Keto Brainz
Vital Proteins Collagen Peptides	1 scoop (10g)	35	9g	0g	0g	Bone density support; dissolves fully in hot liquid
<b>TOTAL</b>		300 cal	40g protein	12.5g fat	9g carbs	2g sugar — high protein, brain-focused morning fuel

#### MORNING — With Breakfast (Pill Box #1) | 7 items

Supplement	Dose	Primary Mechanism
Tru Niagen — NAD+	500mg daily	Mitochondrial energy, DNA repair, neuronal survival
Alpha GPC	600mg (1st of 2 doses)	Acetylcholine precursor — first neurotransmitter lost in AD
Methylated B-Complex (Thorne)	1 cap daily	Homocysteine reduction — lowers hippocampal atrophy risk
Mitopure (Urolithin A)	500mg daily	Mitophagy — clears damaged mitochondria in aging neurons
Phosphatidylserine — Now Brand	300mg (1st dose)	Neuronal membrane integrity, verbal memory
AlgaeCal Plus	2 caps (AM dose)	Calcium 360mg + Mg 175mg + D3 800IU + K2 50mcg + Boron 1.5mg — bone density stack
Theracurmin HP (Integrative Therapeutics)	600mg / 2 caps (1st of 2 doses)	UCLA RCT: reduced amyloid + tau in amygdala; memory improvement

#### KETONEAID K4 — Exogenous Ketones | 2 doses (NOT a pill — measure with dropper/cap)

Time	Dose	Why	Notes
10:20 AM (daily)	7.5–8ml	30–40 min before Elevate — ketones peak exactly at 11:00 AM during cognitive training. Bypasses glucose transport failure shown on FDG-PET. Fuels precuneus (-6.6) and temporal lobe (-4.46) which are starved of glucose.	Take straight or dilute in small amount of water. Can be taken with food.
6:40 PM (sauna nights only)	4ml	Sauna increases cerebral blood flow and BDNF dramatically. Having ketones at peak availability during this window maximizes brain fuel delivery at the moment of highest perfusion. Stacks with sauna's BDNF effect.	Optional — sauna nights only (4–5x/week). Half dose to avoid GI load close to bedtime.

Why K4 specifically: KetoneAid K4 contains ketone monoester (50% KME) — the strongest formulation available, producing blood BHB of 0.5–1.5 mM. Her morning C8 MCT in Keto Brainz peaks at 9–9:30 AM. K4 at 10:20 AM steps in as MCT fades — providing continuous alternative brain fuel from 7:30 AM through the entire Elevate session.

**LUNCH DRINKS — Before Pill Box #2 (mix in water, not pills) | 2 items**

Supplement	Dose	Primary Mechanism
Creatine Monohydrate (Thorne)	5g — mix in water or juice	Brain ATP production, memory, processing speed — taken as a drink with lunch
Metamucil / Psyllium Fiber	2 tsp — mix in water	Reduces A1c and LDL; gut-brain axis support — taken as a drink with lunch

**LUNCH — With Food (Pill Box #2) | 7 items**

Supplement	Dose	Primary Mechanism
Alpha GPC	600mg (2nd dose)	Sustained acetylcholine support throughout day
Fish Oil — DHA+EPA (Nordic Naturals)	2g daily	Neuronal membrane structure, neuroinflammation reduction
Phosphatidylserine — Now Brand	300mg (2nd dose)	Synergistic with Alpha GPC for membrane repair
Bio-Fisetin (Life Extension)	1 cap daily	Senolytic — clears senescent brain cells driving neuroinflammation
Bacopa — Toniiq	500mg (45:1 extract)	Verbal memory; inhibits acetylcholinesterase — same target as AD drugs
AlgaeCal Plus	2 caps (PM dose)	2nd daily dose — calcium, magnesium, D3, K2, boron
Lexapro (Escitalopram)	10mg — Rx	Prescribed by Dr. Bowes — cortisol regulation and hippocampal atrophy protection

**DINNER — With Food (Pill Box #3) | 4 items**

Supplement	Dose	Primary Mechanism
Nature Made Iron	65mg	Separated from calcium by 6+ hours for full absorption — always take with Vitamin C
Vitamin C	500mg	Always paired with iron — doubles absorption; never take iron without it
Theracurmin HP (Integrative Therapeutics)	600mg / 2 caps (2nd dose)	Clinical dose requires twice daily — 1,200mg total daily for full therapeutic effect
Jarrow MagMind — Magnesium L-Threonate	3 caps (2,000mg Magtein)	Only Mg to cross blood-brain barrier; inhibits tau; improves deep sleep architecture

## 4 LIGHT THERAPY DEVICES — SPECIFICATIONS

Device	Mechanism	Protocol	Target
Platinum Pro BioMax (LED Nano Panel)	Photobiomodulation (transcranial NIR)	810+830+850+1060nm at 100% 40Hz pulse, 10–15 min/day	Occipital cortex directly (highest skull penetration region)
Platinum Pro BioMax (Frontal Lobe)	Transcranial photobiomodulation	Mood/Wellness setting Frontal lobe directed 15–20 min	Mood regulation, cortisol balance, frontal BDNF
Beacon40 Surround (2-lamp synchronized set)	Visual gamma entrainment (40Hz retinal flicker)	Flanking iPad during Elevate 1 hr/day, off by 6:00 PM	Gamma oscillation restoration Amyloid/tau clearance

## 5 LIFESTYLE PROTOCOL — THE FIVE PILLARS

### EXERCISE

Barre class at 1:15 PM or 4:15 PM + neighborhood walking with 8–10 lb weighted vest. Daily aerobic exercise is the single strongest intervention for BDNF, neuroplasticity, and bone density. 40% reduction in dementia risk in consistent exercisers (meta-analysis, 2024). Weighted vest adds osteogenic loading — critical given DEXA-confirmed osteoporosis (T-score -2.7).

### SLEEP

Target 7.5–8 hours nightly. Sun–Thu bed 8:30 PM; Fri–Sat bed 10:00 PM. Sleep is the brain's primary amyloid and tau clearance mechanism via the glymphatic system. Side-sleeping increases glymphatic flow approximately 25% vs back sleeping. Magnesium L-Threonate taken with Dinner Pill Box #3. Eight Sleep pod tracks nightly quality and stages.

### COGNITIVE STIMULATION

Elevate app 1 hr daily (11 AM–12 PM) with Beacon40 40Hz gamma lamps. BrainHQ (Posit Science) 20–30 min daily — 29 adaptive exercises targeting memory, attention, brain speed, and navigation — backed by 200+ peer-reviewed studies. Antisaccade eye training 2–3x/week with Brain Coach — look opposite direction from moving target, 20–30 reps — directly targets prefrontal inhibitory circuits and parietal lobe regions shown hypometabolic on FDG-PET. Daily social engagement. Reading physical books. KetoneAid K4 30 minutes before Elevate. Evening journal — handwrite 3–5 sentences in a physical journal first (activates motor cortex, temporal language, and visual-spatial areas simultaneously), then voice Q&A; via Brain Coach app.

### NUTRITION & SUPPLEMENTATION

40g protein morning coffee. C8 MCT for ketone production. Theracurmin HP 1,200mg/day (UCLA RCT). Alpha GPC 1,200mg/day for acetylcholine. NAD+ for mitochondrial repair. KetoneAid K4 pre-Elevate and pre-sauna — alternative brain fuel bypassing PET-confirmed glucose transport failure. Calcium 1,650mg/day from supplements + Fairlife for osteoporosis management.

### HEAT THERAPY & RECOVERY

Sauna 4–5x/week, 143°F, 15–30 minutes after dinner. 65% reduced dementia risk in sauna users 4–7x/week (Laukkanen et al., 20-year Finnish cohort). Heat shock proteins protect neurons from protein aggregation. KetoneAid K4 4ml taken 20 minutes before sauna on sauna evenings — maximizes ketone availability during peak cerebral blood flow window. Brain Coach engagement and emotional connection are primary neuroprotective factors.

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