CHANGE YOUR BRAIN, CHANGE YOUR LIFE Master Questionnaire

Plus

PREVENTING ALZHEIMER'S RISK ASSESSMENT Questionnaire

And

HOW IS YOUR MEMORY? Screening Questionnaire

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CHANGE YOUR BRAIN, CHANGE YOUR LIFE
Master Questionnaire

The Change Your Brain, Change Your Life Master Questionnaire will be a great start to helping you evaluate the health and well being of your brain. Plus, it will lead you to specific parts of the program that may be most helpful for you.

Think of this tool as the beginning of making your good brain great and having the best brain possible. For many years I have realized that not everyone is able to get a brain scan to check on the health of their brain. So, in order to bring the life-changing information that I have learned through our imaging work to the most people I have developed a series of questionnaires to help predict the areas of strengths and vulnerabilities of the brain.

Feel free to give these questionnaires to your friends and family members. Brain healthy friends and families are happier friends and families.

A word of caution is in order. Self-report questionnaires have advantages and limitations. They are quick and easy to score. On the other hand, people filling them out may portray themselves in a way they want to be perceived, resulting in self-report bias. For example, some people exaggerate their experience and mark all of the symptoms as frequent, in essence saying, "I'm glad to have a real problem so that I can get help, be sick or have an excuse for the troubles I have." Others are in total denial. They do not want to see any personal flaws and they do not check any symptoms as significantly problematic, in essence saying, "I'm OK. There's nothing wrong with me. Leave me alone." Not all self-report bias is intentional. People may genuinely have difficulty recognizing problems and expressing how they feel. Sometimes family members or friends are better at evaluating a loved one's level of functioning than a person evaluating himself or herself. They may have noticed things that their loved one hasn't.

Questionnaires of any sort should never be used as the only assessment tool. Use this one as a catalyst to help you think, ask better questions and get more evaluation if needed. Always discuss any recommendations with your personal physician.

CHANGE YOUR BRAIN, CHANGE YOUR LIFE
Master Questionnaire

Please rate yourself on each of the symptoms listed below using the following scale. If possible, to give yourself the most complete picture, have another person who knows you well (such as a spouse, lover or parent) rate you as well. List other person_____

0	1	2	3	4	NA
Never	Rarely	Occasionally	Frequently	Very Frequently	Not Applicable/known

Other Self

_____ _____1. Trouble sustaining attention
_____ _____2. Lacks attention to detail
_____ _____3. Easily distracted
_____ _____4. Procrastination
_____ _____5. Lacks clear goals
_____ _____6. Restless
_____ _____7. Difficulty expressing empathy for others
_____ _____8. Blurts out answers before questions have been completed, interrupts frequently
_____ _____9. Impulsive (saying or doing things without thinking first)
_____ _____10. Needs caffeine or nicotine in order to focus
_____ _____11. Gets stuck on negative thoughts
_____ _____12. Worries
_____ _____13. Tendency toward compulsive or addictive behaviors
_____ _____14. Holds grudges
_____ _____15. Upset when things do not go your way
_____ _____16. Upset when things are out of place
_____ _____17. Tendency to be oppositional or argumentative
_____ _____18. Dislikes change
_____ _____19. Needing to have things done a certain way or you become very upset
_____ _____20. Trouble seeing options in situations
_____ _____21. Feeling sad
_____ _____22. Being negative
_____ _____23. Feeling dissatisfied
_____ _____24. Feeling bored
_____ _____25. Low energy
_____ _____26. Decreased interest in things that are usually fun or pleasurable
_____ _____27. Feelings of hopelessness, helplessness, worthlessness, or guilt
_____ _____28. Crying spells
_____ _____29. Chronic low self-esteem
_____ _____30. Social isolation
_____ _____31. Feelings of nervousness and anxiety

_____ _____32. Feelings of panic
_____ _____33. Symptoms of heightened muscle tension, such as headaches or sore muscles
_____ _____34. Tendency to predict the worst
_____ _____35. Avoid conflict
_____ _____36. Excessive fear of being judged or scrutinized by others
_____ _____37. Excessive motivation, trouble stopping working
_____ _____38. Lacks confidence in their abilities
_____ _____39. Always watching for something bad to happen
_____ _____40. Quick startle
_____ _____41. Short fuse
_____ _____42. Periods of heightened irritability
_____ _____43. Misinterprets comments as negative when they are not
_____ _____44. Frequent periods of deja vu (the feeling you have been somewhere before even though you haven't)
_____ _____45. Sensitivity or mild paranoia
_____ _____46. History of a head injury
_____ _____47. Dark thoughts, may involve suicidal or homicidal thoughts
_____ _____48. Periods of forgetfulness or memory problems
_____ _____49. Trouble finding to right word to say
_____ _____50. Unstable moods
_____ _____51. Poor handwriting
_____ _____52. Trouble maintaining an organized work area
_____ _____53. Multiple piles around the house
_____ _____54. More sensitive to noise than others
_____ _____55. Particularly sensitive to touch or tags in clothing
_____ _____56. Tend to be clumsy or accident-prone
_____ _____57. Trouble learning new information or routines
_____ _____58. Trouble keeping up in conversations
_____ _____59. Light sensitive and easily bothered by glare, sunlight, headlights or streetlights
_____ _____60. More sensitive to the environment than others
_____ _____61. Snores loudly or others complain about your snoring
_____ _____62. Other say you stop breathing when you sleep
_____ _____63. Feel fatigued or tired during the day
_____ _____64. Feel cold when others feel fine or they are warm
_____ _____65. Problems with brittle, dry hair, or thinning hair
_____ _____66. Problems with dry skin
_____ _____67. Increase in weight even with low calorie diet
_____ _____68. Chronic problems with tiredness
_____ _____69. Require excessive amounts of sleep to function properly
_____ _____70. Difficult or infrequent bowel movements
_____ _____71. Morning headaches that wear off as the day progresses
_____ _____72. Lack of motivation or mental sluggishness
_____ _____73. Feel warm when others feel fine or they are cold
_____ _____74. Night sweats or problems sweating during the day
_____ _____75. Heart palpitations
_____ _____76. Bulging eyes

_____ _____77. Inward trembling
_____ _____78. Increased pulse rate even at rest
_____ _____79. Insomnia
_____ _____80. Difficulty gaining weight
_____ _____81. Crave sweets during the day
_____ _____82. Irritable if meals are missed
_____ _____83. Depend on coffee to keep you going/started
_____ _____84. Get lightheaded if meals are missed
_____ _____85.Eating relieves fatigue
_____ _____86. Feel shaky, jittery, tremors
_____ _____87. Agitated, easily upset, nervous
_____ _____88. Poor memory, forgetful
_____ _____89. Blurred vision
_____ _____90. Decreased sex drive
_____ _____91. Decreased muscle mass and strength
_____ _____92. Loss of body hair
_____ _____93. Abdominal fat (pot belly)
_____ _____94. Decreased bone mass that may lead to osteoporosis
_____ _____95. Light sensitive and bothered by glare, sunlight, headlights or streetlights
_____ _____96. Become tired and/or experience headaches, mood changes, feel restless, or have an inability to stay focused with bright or fluorescent lights
_____ _____97. Have trouble reading words that are on white, glossy paper
_____ _____98. When reading, words or letters shift, shake, blur, move, run together, disappear, or become difficult to perceive
_____ _____99. Feel tense, tired, sleepy, or even get headaches with reading
_____ _____100. Have problems judging distance and have difficulty with such things as escalators, stairs, ball sports, or driving
_____ _____101. Night driving is hard
_____ _____102. Increased appetite, binge eating
_____ _____103. Winter depressions, mood problems tend to occur in the fall and winter months and recede in the spring and summer
_____ _____104. Diet is poor and tends to be haphazard.
_____ _____105. Do not exercise.
_____ _____106. Put myself at risk for brain injuries, by doing such things as not wearing my seat belt, drinking and driving, engaging in high risk sports, etc.
_____ _____107. Live under daily or chronic stress, in my home or work life.
_____ _____108. Thoughts tend to be negative, worried or angry.
_____ _____109. Problems getting at least 6-7 hours of sleep a night.
_____ _____110. Smoke or am exposed to second hand smoke.
_____ _____111. Drink or consume more than 2 cups of coffee, tea or dark sodas a day.
_____ _____112. Use aspartame and/or MSG.
_____ _____113. Around environmental toxins, such as paint fumes, hair or nail salon fumes or pesticides.
_____ _____114. Spend more than one hour a day watching TV.
_____ _____115. Spend more than one hour a day playing video games.
_____ _____116. Outside of work time, spend more than one hour a day on the computer.
_____ _____117. Have more than 3 normal size drinks of alcohol a week.

CHANGE YOUR BRAIN, CHANGE YOUR LIFE
Master Questionnaire

Answer Key

Place the number of questions you, or a significant other, answered "3" or "4" in the space provided.

_____ 1-10 Prefrontal cortex (PFC) problems, see Chapters 7, 8 in the book, plus PFC sheet.

_____ 11-20 Anterior cingulate gyrus (ACG) problems, see Chapters 9, 10 in the book, plus AC sheet.

_____ 21-30 Deep limbic system (DLS) problems, see Chapters 3, 4 in the book, plus DLS sheet.

_____ 31-40 Basal ganglia (BG) problems, see Chapters 5, 6 in the book, plus BG sheet.

_____ 41-50 Temporal lobe (TL) problems, see Chapters 11, 12 in the book, plus TL sheet.

_____ 51-60 Cerebellum (CB) problems, see CB sheet.

For the 6 above brain systems, find below the likelihood that a problem exists. If there is a potential problem see the corresponding section of the book or summary sheets.

Highly probable	5 questions
Probable	3 questions
May be possible	2 questions

_____ 61-63 Sleep apnea -- If you answered one or more of these questions with a score of "3" or "4"you may have sleep apnea. Sleep apnea occurs when people stop breathing multiple times at night. It causes significant oxygen deprivation for the brain and people often feel tired and depressed. This condition is best evaluated by sleep study in a specialized sleep laboratory. Treating sleep apnea often makes a positive difference in mood and energy. If you suspect a problem talk to your physician.

_____ 64-72 Hypothyroid -- If you answered three or more questions with a score of "3" or "4"low thyroid issues should be evaluated by your physician. Low thyroid problems can cause symptoms of anxiety, depression, memory problems and mental fatigue.

_____ 73-80 Hyperthyroid -- If you answered three or more questions with a score of "3" or "4"high thyroid issues should be evaluated by your physician. Excessive thyroid problems can cause symptoms of anxiety, agitation, irritability and depression.

_____ 81-89 Hypoglycemia -- If you answered three or more questions with a score of "3" or "4"low blood sugar states should be evaluated by your physician. Low blood sugar or hypoglycemia can cause symptoms of anxiety and lethargy. Eating four to five small meals a day, as well as eliminating most of the simple sugars in your diet (such as sugar, bread, pasta, potatoes, and rice) can be very helpful to balance your mood and anxiety levels.

_____ 90-94 Low Testosterone Levels -- If you answered two or more questions with a score of "3" or "4"low testosterone issues should be evaluated by your physician. Low testosterone levels can cause symptoms of low energy, depression, moodiness, and low libido, as well as the other symptoms. Getting this condition properly diagnosed and treated can make a significant positive difference in your life for both men and women.

_____ 95-101 Scotopic Sensitivity Syndrome -- If you answered three or more questions with a score of "3" or "4"you may have Scotopic Sensitivity Syndrome (SSS). SSS occurs when the brain is overly sensitive to certain colors of light. This can cause headaches, anxiety, depression, problems reading, and depth perception issues. Getting this condition properly diagnosed and treated can make a significant difference for your mental and physical health. To learn more about the diagnosis and treatment of SSS go to www.irlen.com. Most physicians do not know about this disorder, so please do not rely on them for accurate information.

_____ 102 Carbohydrate Cravings -- If you answered this question with a score of "3" or "4"carbohydrate cravings may be a problem. Research has found that some people respond nicely to taking the supplement chromium picolintae, 400-600micrograms a day.

_____ 103 Seasonal Mood Disorder – If you answered this question with a score of "3" or "4"you may have a seasonal mood disorder. Getting outside during daylight hours can be helpful, along with sitting in front of special "full spectrum light therapy" devices for 30 minutes in the morning. See http://www.mayoclinic.com/health/seasonal-affective-disorder/MH00023 for more information.

_____ 104-117 Bad Brain Habit Questions.
For these questions add up your total score, not just the ones you answered 3 or 4.

If you score between 0-6 then odds are you have very good brain habits. Congratulations!

If you score between 7-12 odds are you are doing good, but you can work to be better.

If you score between 13-20 your brain habits are not good and you are prematurely aging your brain. A better brain awaits you.

If you score more than 20 you have poor brain habits and it is time to be concerned. A brain makeover may just change your life!

PREVENTING ALZHEIMER'S RISK ASSESSMENT Questionnaire

As I said in the presentation it is critical to know your specific risk for Alzheimer's Disease. The following questionnaire is based on current scientific research to help you assess your specific risk. Once you know your risk you can do things to improve it.

No matter what your age it is important to establish a baseline. It is useful to establish a baseline against which various preventive strategies can be measured, and establishing a baseline allows earlier detection of any disorders that cause memory loss or dementia, which allows them to be treated in their earliest stage to most effectively prevent or delay their progression.

Preventing Alzheimer's Risk Assessment Questionnaire

The following questionnaire is meant as a general screening tool of cognitive function to indicate whether you should consider further testing. Early screening is essential to take full advantage of the preventive and disease therapies that are now available and can mean the difference between living your life without the symptoms of Alzheimer's disease or living out life in a long-term care facility.

The Preventing Alzheimer's Risk Assessment Questionnaire is the first of two self-administered questionnaires that screens for the risk factors associated with Alzheimer's disease. How Is Your Memory screens for its earliest symptoms. As mentioned, questionnaires of any sort should never be used alone as the only assessment tool. Like an isolated laboratory test result, they are not meant to provide a diagnosis. They are simply catalysts to initiate the process of further evaluation when needed. Both of these questionnaires are useful first steps to help determine whether you or a loved one should do further screening. You can find more information and an online Memory Screening Test should you wish to explore your risk further at www.preventad.com.

Please answer the following questions with a yes or no. For every yes answer circle the number provided in parentheses, add your score at the end of the test for interpretation. To give yourself the most complete picture, have another person who knows you well also answer the questions (such as a spouse, partner, child, sibling, parent or close friend or colleague).

Other Self

_____ _____1.(3.5) One family member with Alzheimer's or dementia
_____ _____2.(7.5) More than one family member with Alzheimer's or dementia
_____ _____3.(2.7) Family history of Down Syndrome
_____ _____4.(2.0) A single head injury with loss of consciousness
_____ _____5.(2.0) Several head injuries without loss of consciousness
_____ _____6.(4.4) Alcohol dependence or drug dependence in past or present
_____ _____7.(2.0) Major depression diagnosed by a physician in past or present

_____ _____8.(10) Stroke
_____ _____9.(2.5) Heart disease or heart attack
_____ _____10.(2.1) High cholesterol
_____ _____11.(2.3) High blood pressure
_____ _____12.(3.4) Diabetes
_____ _____13.(3.0) History of cancer or cancer treatment
_____ _____14.(1.5) Seizures in past or present
_____ _____15.(2.0) Limited exercise, less than twice a week
_____ _____16.(2.0) Less than a high school education
_____ _____17.(2.0) Jobs that do not require periodically learning new information
_____ _____18.(2.0) Within the age range, 65 to 74 years old
_____ _____19.(7.0) Within the age range, 75 to 84 years old
_____ _____20.(38.0) Over 85 years old
_____ _____21.(2.3) Smoking cigarettes for 10 years or longer
_____ _____22.(2.5) has one apolipoprotein E4 gene, (if known)
_____ _____23.(5.0) has two apolipoprotein E4 genes, (if known)

_____ _____ **Total Score** -- Add up the scores in parentheses for all items checked for self and other.

Interpretation:

If the score is 0 - 3, then you have low risk factors for developing Alzheimer's disease.

If the score is 4-7, then you should do annual screening after age 50 years old. Visit www.preventad.com.

If the score is greater than 7, then you should annually screen after age 40 years old. Visit www.preventad.com.

See ways to decrease your Alzheimer's risk on page 14.

HOW IS YOUR MEMORY?
Screening Questionnaire

Place a check mark in the columns corresponding to the questions that apply to you or the person you are evaluating. To give yourself the most complete picture, have another person who knows you well also answer the questions (such as a spouse, partner, child, sibling, parent or close friend or colleague).

Severity	**Progression**	**Brain Area Dementia Questions**
Yes, Present Now	A Lot Worse Than 10 Years Ago	**TEMPORAL LOBES**
		Is there frequent difficulty remembering appointments?
		Is there frequent difficulty remembering holidays or special occasions such as birthdays or weddings?
		Is there frequent difficulty remembering to take medications or supplements?
		Is there frequent difficulty finding the right words during conversations or retrieving the names of things?
		Are there frequent episodes of irritability, anger, aggression, or a "short fuse" for little-to-no-reason?
		Are there frequent feelings of suspiciousness, paranoia or hypersensitivity without a clear explanation or reason why?
		Is there a frequent tendency to misinterpret what one hears, reads or experiences?
		Temporal Lobe Severity and Progression Totals (add up the total number of checks for this section in each column)
Yes, Present Now	A Lot Worse Than 10 Years Ago	**FRONTAL LOBES**
		Is there frequent difficulty recalling events that occurred a long time ago?
		Is there frequent difficulty with judgments, such as knowing how much food to buy?
		Is there frequent difficulty thinking things through (reasoning)?
		Is there frequent difficulty handling finances or

		routine affairs that used to be done without difficulty?
		Is there frequent trouble sustaining attention in routine situations (i.e., chores, paperwork)?
		Is there frequent difficulty finishing chores, tasks or other activities?
		Is there frequent difficulty with organizing and planning things?
		Are there frequent feelings of boredom, loss of interest, or low motivation to do things that were previously enjoyed.
		Is there a frequent tendency to act impulsively, such as saying or doing things without thinking first?
		Frontal Lobe Progression And Severity Totals (add up the total number of checks for this section in each column)
Yes, Present Now	A Lot Worse Than 10 Years Ago	**PARIETAL LOBES**
		Are there frequent wrong turns or episodes of getting lost traveling to well known places (direction sense)?
		Are there frequent problems judging where you are in relationship to objects around you (for example, bumping into things in a dark, familiar room)?
		Is there frequently a problem recognizing objects just by their feel?
		Are left and right often confused?
		Is there frequent trouble learning a new task or skill?
		Parietal Lobe Progression And Severity Totals (add up the total number of checks for this section in each column)
		Total Progression and Severity Scores

Questionnaire Interpretation

Add your scores in each area and use the key below to determine their meaning.

Severity Score: The number of abilities or behaviors where there is frequent difficulty.

Severity Score = the number of rows where the left column is checked.

Severity Score = _____

Progression Score: The number of abilities or behaviors that are a lot worse than 10 years ago.

Progression Score = The number of rows where the right column is checked.

Progression Score = _____

Interpreting The Severity And Progression Scores

A. If both the Severity Score and the Progression Score are 0, then there does not seem to be a problem. Have your partner or significant other verify your answers.

B. If the Severity Score is two or the Progression Score is one and neither of them are three or higher, then there may be an early stage problem or this could be normal aging. If there is any concern about a problem by you or others, then proceed with further testing, such as that suggested on www.preventad.com or by your physician. An evaluation for depression should also be done if there is any sad mood or loss of motivation.

C. If either the Severity Score is three or higher or the Progression Score is two or higher, then the chance of cognitive impairment or dementia is increased. This situation should be further evaluated with the tests described at www.preventad.com or by your physician. An evaluation for depression should also be done if there is any sad mood or loss of motivation.

Preventing Alzheimer's Disease
A Step By Step Plan

Alzheimer's disease (AD) is no small problem. It currently affects 5 million people in the U.S. and it is estimated to triple by the year 2030. Nearly 50% of people who live to 85 will develop Alzheimer's disease. One of the sad truths is that everyone in the family is affected by AD. The level of emotional, physical and financial stress in these families is constant and enormous. One of the frightening statistics is that an estimated 15% of caregivers of people with AD have it themselves.

Preventing Alzheimer's disease and other causes of memory loss requires forethought, a well-researched scientific plan (something that will actually work), and a good prefrontal cortex so that you will follow through on the plan. Here is my five step plan to Prevent AD and keep your brain healthy as you age.

Step 1. Know your risk for Alzheimer's disease and related disorders.

See the PREVENTING ALZHEIMER'S RISK ASSESSMENT Questionnaire above.

Step 2. Reduce Your Risk. OK, you have an idea of what risk factors you may have, now, what can you do about it? Here is a list of ways.

Risk: Family member with AD or related disorder or you have the Apo E4 gene.
Reduce: Early screening and take prevention very serious as early as possible.

Risk: Single head injury with loss of consciousness for more than a few minutes.
Reduce: Prevent further head injuries and start prevention strategies early.

Risk: Several head injuries without loss of consciousness.
Reduce: Prevent further head injuries and start prevention strategies early.

Risk: Alcohol dependence, drug dependence or smoking in past or present.
Reduce: Get treatment to stop and look for underlying causes, start prevention strategies early.

Risk: Major depression or ADD diagnosed by a physician in past or present.
Reduce: Get treatment and start prevention strategies early

Risk: Stroke, heart disease, high cholesterol, hypertension, diabetes, history of cancer treatment, seizures in past or present.
Reduce: Get treatment and start prevention strategies early

Risk: Limited exercise (less than twice a week or less than 30 minutes per session).
Reduce: Exercise 3 times a week or more.

Risk: Less than a high school education or job that does not require periodically learning new information.
Reduce: Engage in lifelong learning, such as tuning into PBS.

Risk: Sleep apnea.
Reduce: Evaluation and treatment for sleep apnea

Risk: Estrogen or testosterone deficiency
Reduce: hormone replacement if appropriate

Risk: Work in a hair or nail salon.
Reduce: Make sure there is great ventilation or find a new job. Early prevention strategies are critical to maintaining brain health.

3. Keep your body and brain active

Physical and mental exercise is the best way to keep your brain young. Mental exercise helps the brain maintain and make new connections. Physical exercise boosts blood flow to the brain, improves oxygen supply and helps the brain use glucose more efficiency and helps protect the brain from molecules that hurt it, such as free radicals.

4. Take antioxidants and supplements

There is a lot of information and misinformation about these substances. Knowing what to do is essential, because some vitamins and supplements work. I take antioxidants and supplements to keep my brain young and efficient.

At the Amen Clinics my team and I have developed several supplements to help improve brain health. Here is what I recommend and use myself. You can see them fully described at www.amenclinics.com.

High Potency Multiple Vitamin

NeuroVite – a high potency multiple vitamin. Very few of us eat the minimum of healthy vegetables every day - now there's a pharmaceutical-grade supplement that bridges the gap. NeuroVite provides the equivalent of 2-4 servings of healthy fruits and vegetables a day. NeuroVite is a comprehensive, highly concentrated vitamin and mineral trace element daily supplement containing more than 50 nutritional ingredients, all in a special herbal green food base. NeuroVite contains a potent antioxidant formula that includes natural beta-carotene,

vitamin C, vitamin E, selenium, Lcysteine/N-acetyl-L-cysteine, lutein, lycopene, red wine proanthocyanidins and select extracts and powders from over 25 fruits, vegetables and herbs. NeuroVite has been carefully developed to contain the right proportions of vitamins, minerals, trace elements, and other nutrients. Each ingredient is selected in consideration of its absorbability, competitive relationship with other nutrients, allergenic potential and long-term safety. Certain nutrients such as beta-carotene, vitamin C, vitamin E, and B-complex vitamins are included in high-potency amounts because of the vital roles they play in antioxidant protection, energy production, the maintenance of healthy blood cells, the nervous system, hormonal balance and brain function. Minerals and trace elements are provided in their safest and most bioavailable forms. NeuroVite is made in an herbal green food base containing important phytonutrients such as broccoli, blueberries, cauliflower, garlic, pine bark extract and lemon flavonoids. NeuroVite also contains important digestive enzymes

Fish Oil

NeurOmega is highly concentrated source of health-promoting, omega-3 essential fatty acids from cold water fish-a total of 720 mg EPA and DHA per softgel, the highest level available. NeurOmega supports healthy cholesterol levels already within the normal range and musculoskeletal, cardiovascular, brain, endocrine and immune functions.

NeuroMemory

NeuroMemory was formulated to help support healthy cognitive function by beneficially modulating acetylcholine, the brain neurotranmitter involved with cognition and memory NeuroMemory contains purified Huperzine A and Tocotrienols for nerve cell protection. NeuroMemory was designed to act centrally within the brain featuring nutrients that research suggests may cross the blood brain barrier. NeuroMemory supports a healthy life cycle of neurons and other brain cells.

Brain Vitale

Brain Vitale contains two powerful brain revitalizing nutrients, Acetyl-l-Carnitine and Phosphatidyl Serine (PS), both capable of supporting neuron health. These two ingredients are reinforced with the mind-body nutrient GPC (GlyceroPhosphoCholine). GPC is a unique osmo-protectant, raises choline and generate unique omega-3 phospholipids to build cell membranes, and is a clinically proven brain revitalizer. These three brain supernutrients are assisted by the Phytosome® form of Ginkgo biloba extract, which enhances the brain protection. Along with inositol, another key osmo-protectant and a precursor for second messenger action within the nerve cells, you have one amazing brain formula.

Step 5. Eat to Live Long

You are what you eat. Many people are not aware of the fact that all of your cells make themselves new every 5 months. Food is a drug; intuitively we all know this fact. If you have three donuts for breakfast, how do you feel 30 minutes later? Blah! If you have a large plate of pasta for lunch, how do you feel at 2PM? Blah! The right diet helps you feel good. The wrong diet makes you feel bad. Diet is an extremely important prevention strategy.

The best diet is one that is low in calories (calorie restriction is associated with longevity), high in omega three fatty acids (fish, fish oil, walnuts and avocados), and antioxidants (vegetables). The best antioxidant fruits and vegetables according to the US Department of Agriculture include: prunes, raisins, blueberries, blackberries, cranberries, strawberries, spinach, raspberries, Brussels sprouts, plums, broccoli, beets, avocados, oranges, red grapes, red bell peppers, cherries, and kiwis. Eat your fruits and vegetables! Your mother was right.

This five step plan is simple and effective. Your brain controls everything you do! Love, honor and respect your brain. Your mental health and longevity depend on it.

Real Prevention Starts with Our Children

Many of the risks for AD occur in childhood. If we are sincere about preventing AD we must start with our children. The ApoE4 gene increases the risk of AD. Having this gene plus a head injury dramatically increases the risk further. Many head injuries occur in childhood, especially when playing contact sports or doing other high risk activities. If children are allowed to engage in these activities I think they should first be screened for the ApoE4 gene. If they have it, we should be more cautious with their heads. Children with ADD and learning problems often drop out of school, leaving them at higher risk for dementia. Making sure we properly diagnose and help these children is essential to helping them become lifelong learners. The seeds for depression occur in childhood. Depression often is a result of persistent negative thinking patterns. School programs should be developed to teach children how to correct these patterns, which could help decrease depression. Childhood obesity leads to adult obesity. Educating children on nutrition and exercise can have lifelong benefits. To address these issues, I have developed a high school course, Making A Good Brain Great, to start prevention efforts as early as possible.

Amen Clinic

HEALING THE BRAIN

Quick Reference

Summaries

The following summaries are a compilation of the work done at the Amen Clinics. Please use this as a reference to understand the different brain systems as they relate to function, problems and treatments.

Executive Brain -- Prefrontal Cortex

Gear Shifter -- Anterior Cingulate Gyrus

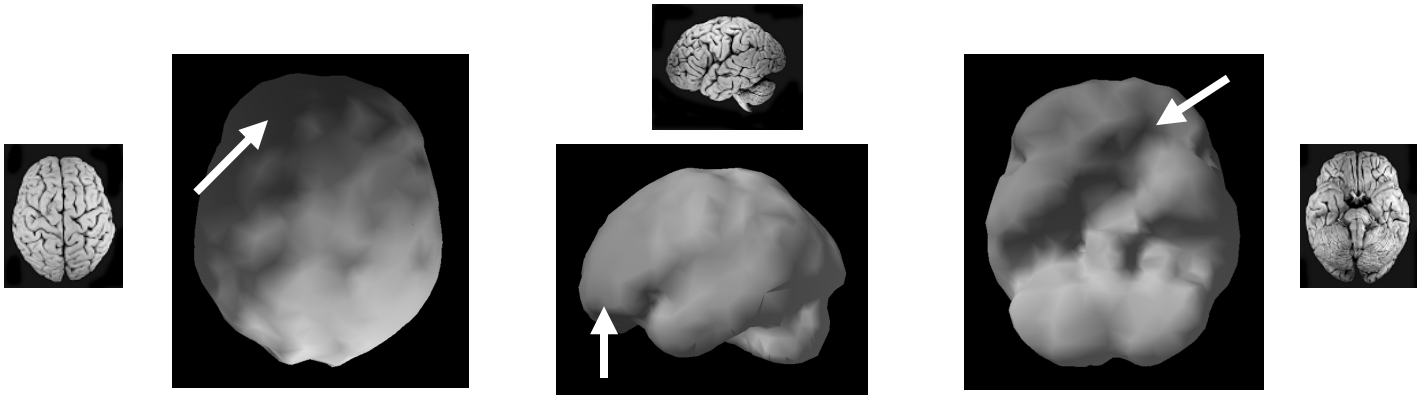
Anxiety and Motivation -- Basal Ganglia

Mood Center -- Deep Limbic System

Memory and Temper Control -- Temporal Lobes

Balance and Organization -- Cerebellum

Executive Brain -- Prefrontal Cortex (PFC)



top down surface view left side surface view underside surface view

PFC Functions

Attention
Planning
Follow through
Impulse control
Inhibition
Judgment
Empathy
Organization
Ethics
Morality

PFC Problems

Inattention
Lack of forethought
Procrastination
Impulsive
Disinhibited
Poor judgment
Lack of empathy
Disorganization
Lack of ethics

Some Conditions Affecting the PFC

ADHD	Depression
Brain Trauma	Dementia
Schizophrenia	Antisocial Personality
Conduct disorders	Borderline Personality

PFC Treatments

Supplement L-tyrosine	Coaching
Organizational help	Intense aerobic exercise
Relationship counseling	Stimulating activities
Higher protein diet	Neurofeedback

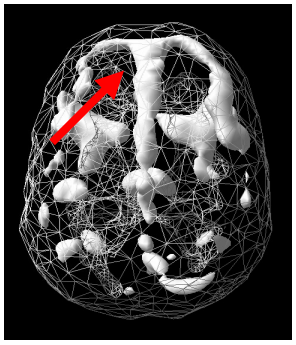
PFC Meds

Stimulants
- Adderall (mixture of amphetamine salts)
- Dexedrine (dextroamphetamine)
- Ritalin/Concerta (methylphenidate)

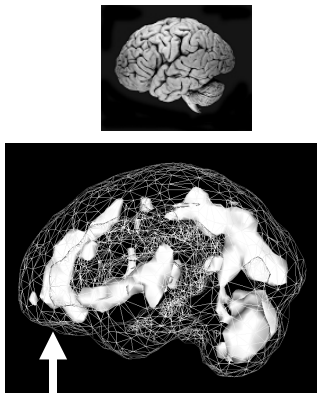
Non-Stimulants: Strattera, Provigil

Trouble in the PFC is often associated with impulsivity, short attention span, distractibility and difficulties with organization and planning. We have seen a strong correlation between this finding and ADHD and ADD. Low activity in this part of the brain can also be seen with depressive disorders. This pattern has also been seen in response to head injuries affecting this part of the brain, and later in life in some dementia processes.

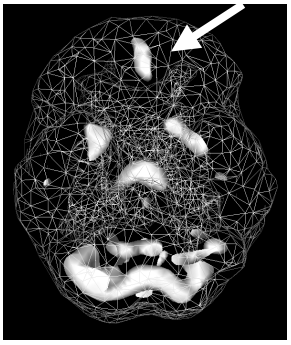
Gear Shifter -- Anterior Cingulate (AC)



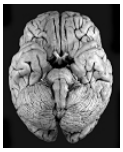
top down active view



left side active view



underside active view



ACG Functions	**ACG Problems**
Brain's gear shifter	Gets stuck, Trouble shifting
Cognitive flexibility	Inflexible, worries
Cooperation	Holds grudges, oppositional
Go from idea to idea	Obsesses
See options	Compulsions
Go with the flow	Argumentative
Error detection	Excessive error detection

Some Conditions Affecting the ACG

OCD	Anxiety disorders
Addictions	PMS
Eating Disorders	Chronic pain
PTSD	Oppositional Defiant

ACG Treatments

Supplements 5-HTP/St. John's Wort
Biofeedback to calm AC activity
Cognitive/behavioral strategies
Intense aerobic exercise
Relationship counseling, anger management
Lower protein/complex carbs diet

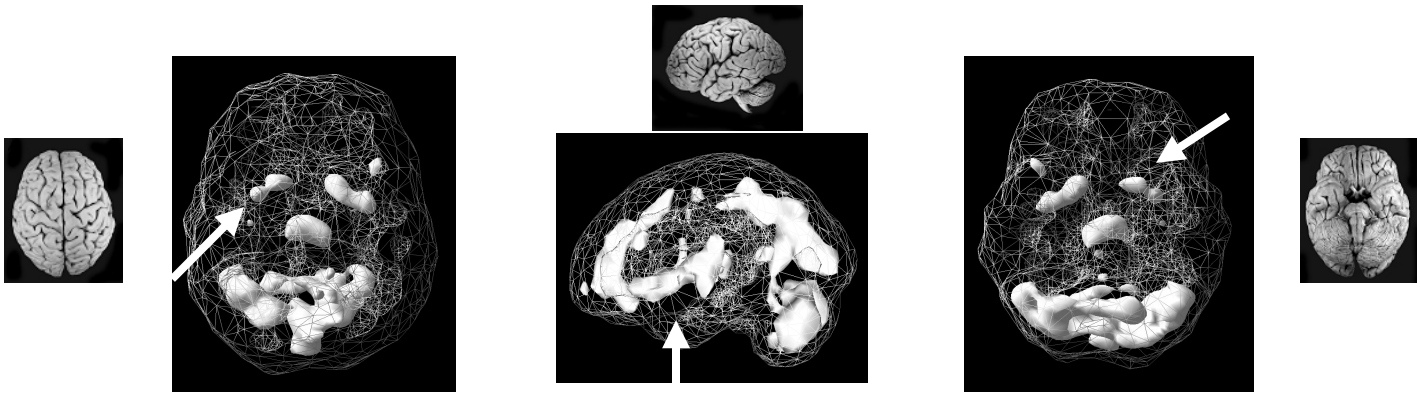
ACG Meds

SSRIs (Paxil, Zoloft, Celexa, Prozac, Luvox)
Effexor, use XR prep and start slowly
Atypical antipsychotics in refractory cases
St. John's Wort may help

Increased activity anterior cingulate gyrus activity is often associated with problems shifting attention which may be manifested by cognitive inflexibility, obsessive thoughts, compulsive behaviors, excessive worrying, argumentativeness, oppositional behavior or "getting stuck" on certain thoughts or actions. We have seen a strong association with this finding and obsessive-compulsive disorders, oppositional defiant disorders, eating disorders, addictive disorders, anxiety disorders, Tourette's syndrome and chronic pain. If clinically indicated, hyperactivity in this part of the brain may be helped by anti-obsessive antidepressants or supplements that increase serotonin. Certain forms of behavior modification techniques have also been found to help lessen activity in this part of the brain. When this area is low in activity it is often

associated with low motivation and verbal expression.

Anxiety and Motivation -- Basal Ganglia (BG)



top down active view left side active view underside active view

BG Functions

Sense of calm
Sets anxiety level
Conflict avoidance
Motor related
Mediates pleasure
Motivation

BG Problems

Tension, nervousness
Anxiety/panic
Predicting the worst
Tremors/tics
Addictions
No motivation

Some Conditions Affecting the BG

Anxiety Disorders
OCD
Movement disorders
Tourette's/tics
PTSD

BG Treatments

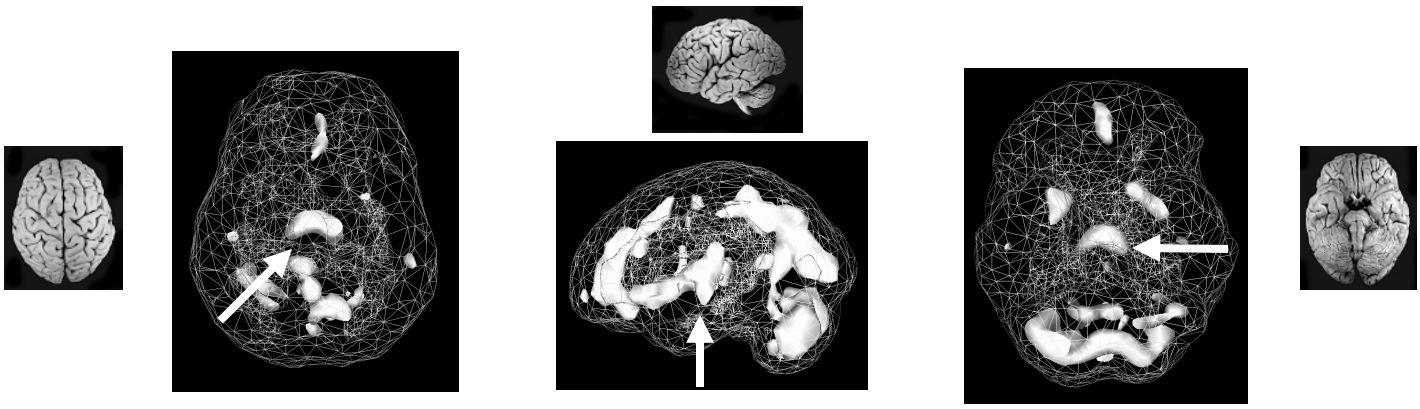
Supplements Valerian
ANT therapy
Relaxing music
Limit caffeine/alcohol
Body biofeedback
Hypnosis, meditation
Assertiveness training

BG Meds

Antianxiety Meds
  benzodiazepines (low dose, short time)
  Buspar (buspirone)
Antidepressant Meds
Anticonvulsants
Blood pressure meds such as propranolol

Increased basal ganglia activity is often associated with anxiety. We have seen relaxation therapies, such as biofeedback and hypnosis, and cognitive therapies help calm this part of the brain. If clinically indicated, too much activity here may be helped by antianxiety medications, such as buspirone.

Mood Center -- Deep Limbic System (DLS)



top down active view left side active view underside active view

DLS Functions

Mood control
Motivation
Attitude
Appetite/sleep
Bonding
Sense of smell
Libido

DLS Problems

Depression
Poor motivation
Poor attitude
Sleep/appetite issues
Tends to isolate
Lack of smell
Negativity, guilt
Hopelessness

Some Conditions Affecting the DLS

Depression
Cyclic mood disorders
Pain syndromes

DLS Treatments

Meds to increase norepinephrine/dopamine/serotonin
Supplements DL phenylalanine, SAMe, L-tyrosine
Cognitive-behavioral strategies
Biofeedback, increase left prefrontal activity
Intense aerobic exercise
Relationship counseling
Increased protein diet – The Zone

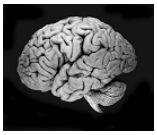
DLS Meds

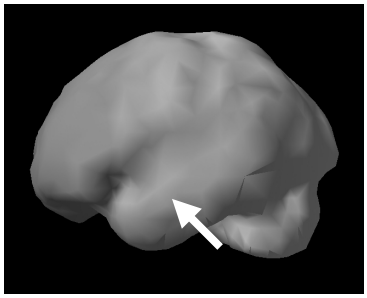
Antidepressants
- Wellbutrin (buprion)
- Effexor (venlafaxine)
- SSRIs (if ACG present)

Anticonvulsants/Lithium for focal increased activity or cyclic mood changes

Increased activity in the DLS is often associated with depression, dysthymia and negativity. It can also be associated with irritability and sadness. In our experience we have seen DLS overactivity can be associated with cyclic mood disorders. If clinically indicated, diffuse increased DLS uptake is often helped by antidepressant medications. If there is also increased anterior cingulate activity consider a serotonergic antidepressant. If there is not increased anterior cingulate activity consider an antidepressant which increases either dopamine (such as buprion) or norepinephrine (such as imipramine or desipramine). We use anticonvulsants or lithium to help with focal DLS hyperactivity when a cyclic mood clinical pattern is present.

Memory and Temper -- Temporal Lobes (TLs)





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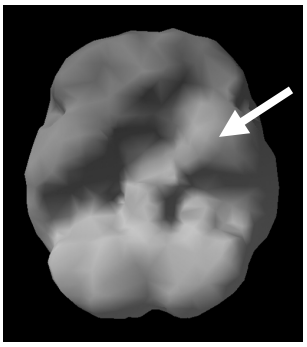
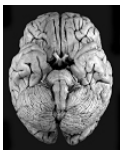




underside surface view

TL Functions	**TL Problems**
Emotional valence	Emotional reactions
Mood stability	Moodiness, irritability
Temper control	Anger, anxiety, fears, Phobias, dark thoughts
Memory	Forgetfulness
Language	Trouble finding words
Listening	Processing problems
Reading	Poor reading
Read social cues	Poor social skills
Rhythm, music	Rhythm problems
Spiritual experience	Unusual experiences
Recognize facial expression	Trouble recognizing social clues

Some Conditions Affecting the TLs

Head injury	Dissociation
Anxiety	Temporal epilepsy
Amnesia	Serious depression

Left side – aggression, dyslexia
Right side – autistic spectrum disorders

TL Treatments

Supplement GABA
Biofeedback to stabilize TL function
Relationship counseling, anger management
Increased protein diet
Memory enhancing supplements or medications

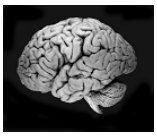
TL Meds

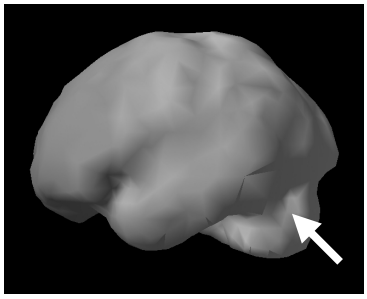
Anticonvulsants
- Neurontin (gabapentin)
- Trileptal (oxcarbazepine)
- Topamax (topiramate)
- Depakote (divalproate)
- Tegretol (carbamazepine)
- Lamictal (lamotrogine)

Memory Enhancer Meds
- Aricpet (donepezil)
- Exelon (rivastigmine)
- Reminyl (galantamine)
- Namenda (memantine)

Abnormal TL (either increased or decreased) activity may be associated with mood instability, irritability, memory struggles, abnormal perceptions (auditory or visual illusions, periods of deja vu), periods of anxiety with little provocation, periods of spaciness or confusion, and unexplained headaches or abdominal pain. Left sided problems are more associated with irritability and dark thoughts, right sided more with anxiety and social struggles. Anticonvulsant medications often help with TL problems. Decreased activity in the left temporal lobe, in our experience is often, although not always, associated with language learning problems, especially reading and auditory processing problems. Memory loss is often associated with decreased activity in the temporal lobes.

Coordination and Organization
Cerebellum (CB)





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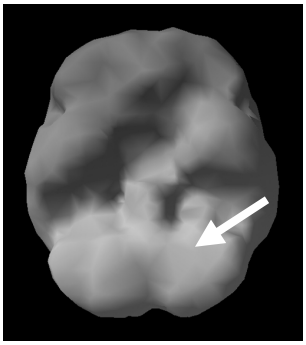

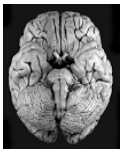

underside surface view

CB Functions
Motor control
Posture, gait
Executive function, connects to PFC
Speed of cognitive integration (like clock speed of computer)
Organization

CB Problems
Gait/coordination problems
Slowed thinking
Slowed speech
Impulsivity
Poor learning
Disorganization

Some Conditions Affecting CB
Trauma
Alcohol abuse
Autism, Asperger's
ADHD

CB Treatments
Prevention of brain injury
Stop alcohol use or other toxic exposure
Occupational Therapy
Maximize brain nutrition
Coordination exercises, such as dance or table tennis

When the cerebellum is low in activity it has been associated with ADD, autism, brain trauma, toxic exposure, and judgment, disorganization or impulsivity issues.

Amen Clinics, Inc.

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