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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Table of Contents

Change Your Brain, Change Your Life
Master Questionnaire and Answer Key 3

Preventing Alzheimer’s Risk Assessment
Questionnaire and Scoring Interpretation 9

How Is Your Memory?
Screening Questionnaire and Interpretation 12

Preventing Alzheimer’s Disease:
A Step By Step Plan 14

Amen Clinic Healing the Brain
Quick Reference Summaries 18
  ➢ 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

About the Amen Clinics
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.
### 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_____________________________

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<th>NA</th>
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<tbody>
<tr>
<td>Never</td>
<td>Rarely</td>
<td>Occasionally</td>
<td>Frequently</td>
<td>Very Frequently</td>
<td>Not Applicable/known</td>
<td></td>
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</tbody>
</table>

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. Blurses 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 déjà 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 the 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.

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Number of Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highly probable</td>
<td>5 questions</td>
</tr>
<tr>
<td>Probable</td>
<td>3 questions</td>
</tr>
<tr>
<td>May be possible</td>
<td>2 questions</td>
</tr>
</tbody>
</table>

_____ 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.
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.

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.

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.

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.

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.

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!
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](http://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).

<table>
<thead>
<tr>
<th>Severity</th>
<th>Progression</th>
<th>Brain Area Dementia Questions</th>
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<tbody>
<tr>
<td></td>
<td>Yes, Present Now</td>
<td>TEMPORAL LOBES</td>
</tr>
<tr>
<td></td>
<td>A Lot Worse Than 10 Years Ago</td>
<td>Is there frequent difficulty remembering appointments?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Is there frequent difficulty remembering holidays or special occasions such as birthdays or weddings?</td>
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<tr>
<td></td>
<td></td>
<td>Is there frequent difficulty remembering to take medications or supplements?</td>
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<td>Is there frequent difficulty finding the right words during conversations or retrieving the names of things?</td>
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<td>Are there frequent episodes of irritability, anger, aggression, or a “short fuse” for little-to-no-reason?</td>
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<td></td>
<td>Are there frequent feelings of suspiciousness, paranoia or hypersensitivity without a clear explanation or reason why?</td>
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<td></td>
<td>Is there a frequent tendency to misinterpret what one hears, reads or experiences?</td>
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<tr>
<td></td>
<td></td>
<td>Temporal Lobe Severity and Progression Totals (add up the total number of checks for this section in each column)</td>
</tr>
<tr>
<td></td>
<td>Yes, Present Now</td>
<td>FRONTAL LOBES</td>
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<tr>
<td></td>
<td>A Lot Worse Than 10 Years Ago</td>
<td>Is there frequent difficulty recalling events that occurred a long time ago?</td>
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<td></td>
<td></td>
<td>Is there frequent difficulty with judgments, such as knowing how much food to buy?</td>
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<td></td>
<td>Is there frequent difficulty thinking things through (reasoning)?</td>
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<td>Is there frequent difficulty handling finances or</td>
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<tr>
<td>Routine Affairs</td>
<td></td>
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<td></td>
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<tr>
<td>used to be done without difficulty?</td>
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<tr>
<th>Frequent Trouble Sustaining Attention In Routine Situations (i.e., chores, paperwork)?</th>
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<table>
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<tr>
<th>Frequent Difficulty Finishing Chores, Tasks Or Other Activities?</th>
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<tr>
<th>Frequent Difficulty With Organizing And Planning Things?</th>
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<tr>
<th>Frequent Feelings Of Boredom, Loss Of Interest, Or Low Motivation To Do Things That Were Previously Enjoyed.</th>
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<tr>
<th>Frequent Tendency To Act Impulsively, Such As Saying Or Doing Things Without Thinking First?</th>
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**Frontal Lobe Progression And Severity Totals** (add up the total number of checks for this section in each column)

<table>
<thead>
<tr>
<th>Yes, Present Now</th>
<th>A Lot Worse Than 10 Years Ago</th>
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**Parietal Lobes**

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<tr>
<th>Wrong Turns Or Episodes Of Getting Lost Traveling To Well Known Places (Direction Sense)?</th>
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<tr>
<th>Problems Judging Where You Are In Relationship To Objects Around You (For Example, Bumping Into Things In A Dark, Familiar Room)?</th>
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<tr>
<th>Frequently A Problem Recognizing Objects Just By Their Feel?</th>
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<th>Left And Right Often Confused?</th>
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<tr>
<th>Frequent Trouble Learning A New Task Or Skill?</th>
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**Parietal Lobe Progression And Severity Totals** (add up the total number of checks for this section in each column)

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**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](http://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](http://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 efficiently 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, L-cysteine/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 neurotransmitter 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**

16
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

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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)

**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)**

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-obssessive 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
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)

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 bupron) 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.
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)

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.

Amen Clinics, Inc. (ACI) was established in 1989 by Daniel G. Amen, MD. ACI specializes in innovative diagnosis and treatment planning for a wide variety of behavioral, learning, and emotional problems for children, teenagers and adults. ACI has an international reputation for evaluating brain-behavior problems, such as of attention deficit disorder (ADD), depression, anxiety, school failure, brain trauma, obsessive-compulsive disorders, aggressiveness, cognitive decline, and brain toxicity from drugs or alcohol. Brain SPECT imaging is performed at ACI. ACI has the world’s largest database of brain scans for behavioral problems.

ACI welcomes referrals from physicians, psychologists, social workers, marriage and family therapists, drug and alcohol counselors and individual clients.

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Amenclinics.com is an educational interactive brain website geared toward mental health and medical professionals, educators, students, and the general public. It contains a wealth of information to help you learn about our clinics and the brain. The site contains over 300 color brain SPECT images, hundreds of scientific abstracts on brain SPECT imaging for psychiatry, a brain puzzle, and much, much more.

View over 300 astonishing color 3-D brain SPECT images on:
Aggression
Attention Deficit Disorder, including the six subtypes
Dementia and cognitive decline
Drug Abuse
PMS
Anxiety Disorders
Brain Trauma
Depression
Obsessive Compulsive Disorder
Stroke
Seizures