

NUTRI NEWS



Douglas Laboratories®
Raising the Standard for
Nutrition and Wellness.™

Recent health and nutrition information from Douglas Laboratories

Spring 2005

The Edge Effect: Revolutionary Brain-Mind-Body Science

Bruce Scali and Eric R. Braverman, M.D.

"You know," says Eric R. Braverman, M.D. tongue planted firmly in cheek, "medical science has made a remarkable anatomical discovery. For most people, the head is attached to the rest of the body." And it is with this favorite quip that a renowned M.D. begins *The Edge Effect*, his new book about brain-based medicine. In a format written for the layperson's benefit, Dr. Braverman shares the fruit of his twenty-five years of research and clinical practice: to maintain total health, and reverse illness and disease, one must start the way most of us came into this world-head first. In contrast to long ago when Dr. Braverman was working with other pioneers without recognition in labs at Harvard, incorporating the brain in health assessment has received a lot of attention recently^{1,2,3}. "Sure, there have been a lot of books lately about the brain," Dr. Braverman says. "And they have value. But none tells the whole story. One covers diet, and ignores hormones. Another talks about hormones, but doesn't mention supplements. There are plenty about psychology, with nothing about the underlying brain chemistry. If we are going to treat holistically, it's obvious that we have to include the brain. But we have to include the whole brain: chemistry, electricity, psychology, and cognition." The Edge Effect does just that.

Symptom vs. Cause

Would you rather be treated by multiple specialists who would use multiple drugs and procedures, over multiple visits taking months or years, for symptoms such as irritable bowel, hyperventilation, and clammy hands-or would you rather just take some inositol and B vitamins to restore the brain chemical that is

responsible for these symptoms? Is this an oversimplification? "Not at all," says Dr. Braverman. "Big problems start as small ones.

Brain Codes™ and Corresponding Bioperaments

Codes	Voltage	Speed	Rhythm	Synchrony
Function	Power	Memory	Calming	Rest/Sleep
Brainwave	Beta	Alpha	Theta	Delta
Primary Neurotransmitter	Dopamine	Acetylcholine	GABA	Serotonin
Dominant Temperament	NT	NF	SJ	SP
Attention Measure	Variability	Omissions	Commissions	Reaction Time
Memory Dominance	Working	Immediate	Verbal	Visual
IQ Dominance	Abstract	Creative	Emotional	Perceptual

"Your body is the same. We all have times when we don't feel quite right. We lose our edge, and that can be perfectly normal. But when a condition persists, your body is telling you something, something you shouldn't ignore," Dr. Braverman says.

The Edge Effect cites some examples of how we dismiss symptoms and learn to 'live with' them. If we start forgetting things, we're just getting older; if we're constipated, we just have to eat better; if our sex drive is diminished, it's just stress; if we

Continued on page 2

INSIDE THIS ISSUE

The Edge Effect:

Symptom vs. Cause	.....page 1
Get the Edge	.....page 2
The Evolution of Theory	.....page 2
21st Century Medicine	.....page 3
Personal Programs for Personal Health	.....page 4
Dopamine: The Energy Prescription	.....page 4
Acetylcholine: The Memory Prescription	.....page 6
GABA: The Calm Prescription	.....page 6
Serotonin: The Mood Prescription	.....page 7
A Complete Prescription	.....page 7
The Path to Total Health	.....page 8

"B" Aware of Key Brain Boosting Vitamins ..page 5

experience a series of accidents, that's just coincidence; and it's just those 'changes of life' that are causing increased sweating.

"If you ignore these first signs of what I call a 'sprained' brain, you'll be forced to deal with more serious issues later," Dr. Braverman says. "On the other hand, recognizing and treating them early on is the way to maintain wellness." There are conditions that everyone can be proactive about to delay or avoid the ravages of advanced disease. You can 'bend' your brain back in the other direction. The Edge Effect shows you how."

Get the Edge, and the Effect is Total Health

Perhaps as harmful as ignoring early warning signs of disease is self-medication with quick fixes that make a problem go away temporarily. We all do it-consciously and unconsciously. Need energy? Grab a candy bar. Want to stay sharp? Drink some coffee, or smoke cigarettes. A little anxious? Soothe yourself with some carbs. Can't sleep? A couple of drinks will do the trick.

All of these legal 'medications' work, albeit temporarily, because they target specific brain chemicals. Their long-term effects are harmful, however, because like illegal drugs they trick the brain into shutting down its production of the natural biochemicals that it needs. That is why more and more of a substance-legal or illegal-is

required to achieve the desired effect. The brain literally and figuratively ends up burning itself out. (on MRI, we see bright objects of burnout)

The Edge Effect explains that brain chemicals generate the electricity that carries instructions to the rest of the body, defining life itself (the Brain Code™) and that they are responsible for how we feel and act. Most important, the book is the guide for discovering our own specific chemical deficiencies, for discovering the source of our individual health problems, and for making better choices to balancing brain chemistry to feel right.

The Evolution of Theory

From the beginning of recorded history, behavior and symptoms have been classified into four categories. The Babylonians developed astrology, and divided the Zodiac into four primary elements: Earth, Wind, Fire, and Water. Primitive Greeks had the gods Apollo, Zeus, Hermes and Dionysus, and Native Americans their revered Eagle, Buffalo, Bear, and Squirrel. Ancient Greek and Roman physicians used scientific methods and attributed health conditions to four bodily substances, called 'humors': blood, the source of energy; yellow bile, the source of intuition; phlegm, the source of calm; and black bile, the source of rest. Hippocrates and Galen formed the basis of medical science for 1,500 years.

In the 19th century, behavior and physiology were associated with four brain lobes: frontal, parietal, temporal, and occipital. 20th century science linked four brain waves, beta, alpha, theta, and delta, to the four lobes, respectively. Pharmaceutical science then added to our understanding of how the brain works when four primary brain chemicals, called neurotransmitters, were discovered and correlated to the lobes as well. The frontal, parietal, temporal, and occipital lobes are the factories where dopamine, acetylcholine, GABA, and serotonin, respectively, are manufactured. When this final piece of the scientific puzzle was put into place, a clear picture emerged about how we can maintain and restore health.

Why is one person the life of the party, and another a silent observer? Why is one person more fulfilled with a hammer in his hand than a violin, and another more comfortable designing clothes than selling them? Personal brain chemistry provides the explanation.

All of the primary neurotransmitters are at work in every brain, but each of us has a dominant one that defines who we are⁴. Dr. Braverman completes the circle that has been thousands of years in the making by connecting brain chemistry with behavioral temperament. The first symptoms you experience when you start to lose your edge are likely caused by a deficiency in your dominant neurotransmitter. If this is not addressed, other neurotransmitters could start to burn out trying to compensate for the initial deficiency. A domino effect (a negative energy effect) occurs, with parts of the body overworking or shutting down, leading to more symptoms. If you know your temperament you may know your dominant brain chemical:

NUTRI NEWS

Editor In Chief Andrew D. Halpner, Ph.D.

Assistant Editor Michael Traficante

Assistant Editor & Research Natalie Shamitko

Technical Advisors/Contributors: ..James Wilson, Ph.D.

Martin P. Gallagher, M.D., D.C.

Vern S. Cherewatenko, M.D., MEd

Joeseeph Collins, M.D.

Ronald Klatz, M.D., D.O.

Robert Nash, M.D.

Van D. Merkle, D.C.

Contact Us:

NutriNews Inquiries

600 Boyce Road • Pittsburgh, PA 15205

Phone: (412) 494-0122 • Fax: (412) 278-6804

Email: nutrinews@douglaslabs.com

Canadian Inquiries

Toll-Free: 866-856-9954

Email: info@douglaslabs.ca

View back issues of NutriNews online at www.douglaslabs.com

1. Rationalists or Strategic Thinkers

2. Idealists or Dreamers

3. Guardians or Traditionalists

4. Artisans or Dionysians

If you know your temperament, you may know your dominant brain chemical. Rational strategic thinkers frequently have dopamine dominant biotemperaments, but personality may intersect and alter this course. In addition, idealists and dreamers are frequently acetylcholine dominant, as guardians as traditionalists are frequently GABA dominant, and artisans and diynesias are serotonin dominant. Yet many individuals with these types of Myers Briggs (temperament) results have aggressive, narcissistic and driven personalities that intersect to create a biotemperament. For example, an aggressive male with a guardian temperament is still a dopamine dominant biotemperament. A rationalist with a shy personality is often an acetylcholine dominant biotemperament. So the reality is, that a biotemperament is your genetic makeup more so, and is a unique combination of your personality and your Myers Briggs results.

If you don't see yourself in one of the above, there are proven multiple-choice tests that have been developed to identify behavioral dominance. How does this help you stay healthy? Know your brain. Know your life.

The Edge Effect makes it clear that there are 'families' of illnesses related to each of the four dominant brain chemicals. The path to health involves:

- Identifying your dominant neurotransmitter;
- Recognizing any neurotransmitter deficiencies at an early stage;
- providing neurotransmitter-specific remedies.

The Edge Effect unifies anatomy, chemistry, neurology, psychiatry, and internal drive, and shepherds healthcare in a new century.

21st-Century Medicine

"It all starts with brain chemistry," says Dr. Braverman. "When you start to lose your edge, look up your physical symptom and restore the neurotransmitter that is responsible for it."

Brain chemistry is difficult to measure directly. But brain electrical activity, which results from chemical reactions, is now easy to assess with Quantitative Electroencephalography (QEEG), also called brain mapping^{5,6}.

Just as an EKG measures electrical activity in the heart, similar electrodes are placed on the scalp and Dr. Braverman uses a computer with special interfaces and software to record and interpret the four key electrical measures of brain health: voltage (or energy), latency (or speed), rhythm (or balance), and synchrony (or symmetry). These measurements reveal the core of what we need to know about dopamine, acetylcholine, GABA, and serotonin levels, respectively⁷.

Brain chemical imbalances are uncovered by specific brainwave abnormalities. But you don't need a sophisticated test to maintain health. Because illnesses are associated with

specific neurotransmitter deficiencies, if you pay attention as soon as the ride gets a little bumpy, treatments can be targeted to the neurotransmitter that is at the source of the complaint. Just as there are families of drugs and families of illnesses, there's a 'family' of treatments for every neurotransmitter.

Selective serotonin reuptake inhibitors (SSRIs) correct the neurotransmitter deficiency responsible for causing depression. Xanax and Klonopin do likewise for GABA-deficient anxiety, Aricept addresses acetylcholine-deficient memory loss, and Dexedrine bolsters the brain's dopamine when chronic fatigue presents⁸. But drugs, as effective as they might be, should be the last-not first-resort. With The Edge Effect, they can be.

Amino acids are the raw material precursors to the neurotransmitters⁹. Tyrosine and phenylalanine are transformed into dopamine; acetylcholine comes from choline, phosphatidylserine and n-acetyl carnitine; glutamine converts to GABA; and tryptophan is the raw ingredient for serotonin. Protein is the source for amino acids, so one can literally eat one's way to health¹⁰⁻¹². But diet has its limitations.

First, food is complex, and an item usually contains multiple nutrients affecting multiple brain chemicals. For example, turkey, which is high in tryptophan, also has a dopamine component. So a food that calms you down could also energize you, or vice-versa. This is sometimes why fad diets do not work long-term. Second, the digestive system is inefficient; during digestion, our bodies do not absorb all of the available nutrients in food. Third, busy lifestyles make proper eating difficult at times. And, finally, brain chemical change through diet takes a long time. Diet is a good foundation to support brain chemicals, but it must be used with other approaches¹³.

Next, there are families of hormones related to each primary neurotransmitter. Like medications, they must be monitored by a doctor. The reason hormone replacement therapy (HRT) has been controversial is because adverse side effects occurred from the use of synthetic hormones, such as estrogen conjugated from horse urine, as opposed to the bio-identical micronized versions that are available from plants and other natural sources¹⁴⁻¹⁶.

"Hormones regulate neurotransmitter production. When hormone levels drop, neurotransmitter levels drop, and then health and quality of life drop," says Dr. Braverman. "If you want to have a strong body, a good mood, and a healthy sex life-no matter if you're 50 or 80-then hormones are part of the equation."

Lifestyle, environment, and technology are the last three ways to support brain chemistry. Exercise is a proven brain chemical booster, as are stress reduction, meditation, and prayer^{17,18}. Games we play, diversions we choose, and avocations we have make us feel good because they do good things for neurotransmitters.

On the other hand, toxic metals, PCBs, acid rain, fertilizers and pesticides, electromagnetic fields (EMF), microwave radiation, and violent films, loud music, and foul language assault our brain health daily¹⁹⁻²¹. One study concluded that the average person has eleven toxic metals

and four plastic poisons in his body. But there are ways to fight back. Technology can be utilized in support of our brain chemicals. Transcutaneous Electrical Nerve Stimulation (TENS) units activate GABA and endorphins, the brain's natural painkillers, and gently stimulate muscles to foster healing. TENS units are commonly used to speed recovery from athletic injuries. Cranial Electrical Stimulation (CES) units are FDA-approved for anxiety, depression, and insomnia, because they provide mild direct current that steps up GABA and serotonin production. If we recognize brain chemical imbalance at an early stage, there is much we can do on our own to reverse it.

Personal Programs for Personal Health

Each of the primary neurotransmitters has a family of symptoms, conditions, and diseases related to its deficiency, and a companion family of treatment modalities to restore it.

The Edge Effect contains a self-administered test developed by Dr. Braverman that identifies a reader's dominant neurotransmitter, referred to as his nature, and points out any other neurotransmitters which may be deficient. This unique test accounts for all of the brain dimensions affecting health: chemistry, electricity, neurology, and psychology. With your test results in hand, you can maintain your strength and strengthen your weaknesses by following one or more of the four programs outlined below. Every American needs to take the Brain Health Check Up Test in *The Edge Effect* book or online at www.pathmedical.com.

General diet selections only are listed here; specific portions and menus are included in Dr. Braverman's book. Environmental recommendations are the same for all four programs, so follow the suggestions mentioned above as part of every program.

Some conditions involve multiple neurotransmitters, so you will see them listed more than once. And each neurotransmitter deficiency causes memory and attention problems, so they are included in every program.

Serious symptoms and conditions require a physician's knowledge of medications and hormones. Lesser ones require knowledge of The Edge Effect.

Dopamine: The Energy Prescription

Dopamine is like the gas in your automobile. 17% of the world's population thrives on dopamine energy that defines the Rationalist temperament. These individuals are highly self-confident, focus intently on the task at hand, and take

pride in achievement. They are more comfortable with facts and figures, with knowledge and intellect, than with feelings and emotions. Rationalists are better at establishing relationships than nurturing them. When there is a loss of dopamine, brain electrical voltage drops, but there are plenty of outward signs of a loss of energy, and a comprehensive plan to refill the tank:

Symptoms of dopamine deficiency:

- **Physical** – Sugar/caffeine cravings lightheadedness, decreased strength, fatigue, pallor, diarrhea, routine-task difficulty
- **Psychological** – Procrastination, carelessness, decreased libido, diminished self-image, hedonism, isolation
- **Memory Function** – Inability to follow instructions, forgetfulness, inability to process information, poor abstract thinking
- **Attention Issues** – Diminished alertness, failure to complete tasks, poor concentration

Conditions/diseases of dopamine deficiency: Obesity, addictions, chronic fatigue, Attention Deficit Disorder, sexual disorders, thyroid disorders, narcolepsy, Parkinson's disease

Multi-modal treatments for dopamine deficiency:

- **Diet** – Wheat germ, granola, oat flakes, ricotta cheese, cottage cheese, yogurt, eggs, pork, wild game, turkey, fava beans, pinto beans, black-eyed peas, soy, pumpkin seeds
- **Vitamins/supplements** – Chromium (Men: 35mcg, Women: 25mcg), rhodiola (75mg), thiamine (Men: 1.5mg, Women: 1.1 mg), dl-Phenylalanine (300mg), L-Tyrosine (200mg), L-Methionine (60 mg)
- **Lifestyle recommendations** – Power naps, scheduled breaks,

deep-breathing exercises, weight lifting, meditation, relationship self-help books

- **Technology aid** – CES
- **Hormones** – Testosterone, estrogen, DHEA, thyroid, cortisol
- **Medications:**
 - **Allergies** – Sudafed, Claritin
 - **ADD** – Ritalin, Clonidine, Adderal
 - **Cocaine Abuse** – Parlodel, Desipramine, Clonidine
 - **Fatigue** – Effexor, Desipramine, Provigil
 - **Narcolepsy** – Dexedrine, Provigil
 - **Parkinson's** – Eldepryl, Tasmart, Sinemet

Continued on page 6

Natural Brain Humor Treatments

Dopamine System (Energy/Power/Voltage Group)	Acetylcholine System (Youth/Memory/Speed Group)	GABA System (Calm/Level/Rhythm Group)	Serotonin System (Sleep/Rest/Symmetry Group)
Caffeine 1 Guarana 1 Yohimbine 1 Ephedra 2 L-Dopa 2 Nicotine 2 Tyrosine 3 Phenylalanine 3 Rhodiola rosea 3 Thiamine 4 Chromium 4 Folic Acid 4 Ginkgo biloba Pseudoephedrine	Choline 1 Huperzine A 1 Deanol 1/Deaner Nicotine 1 Acetyl-Carnitine 2 Phosphatidylserine 2 Lipoic Acid 3 Fish Oils 3 GPC (Glycerophosphocholine) 3 Manganese 4 CLA (Conjugated Linoleic Acid) 4 Ginkgo biloba	Passion Flower Hops Chamomile Inositol 1 GABA Pentin 1 Alcohol 1 B Vitamins 2 CES Device 2 Glycine 3 GABA 3 Kava 3 Branched Chain Amino Acids 4 Taurine 4 CoQ10 Gallic Acid (EGCG) Homotaurine Gabapentin Valerian	Melatonin 1 Tryptophan 2 St. John's Wort 2 Hydroxytryptophan 3 Vitamin B-6 4 Fish Oils 4 Garcinia cambogia Magnesium Zinc

For a complete description of treatments, including hormonal and pharmaceutical, please contact Path Medical at 1-888-231-PATH, or online at www.pathmedical.com

“B” Aware of Key Brain-Boosting Vitamins

Dr. Ronald Klatz and Dr. Bob Goldman

Science is making amazing discoveries about how vitamins influence our thought processes. In recent years, vitamin supplements have been linked to better moods, higher scores on intelligence tests, more memory, and sharper attention. Of the seven members of the B vitamin family, three are star memory boosters: B1 (thiamine), B6 (pyridoxine), and B12 (cyanocobalamin).

The harm from not getting enough vitamin B has been known for decades. Insufficient intake of niacin can foster pellagra, a disease that looks like mental illness and is characterized by confusion, depression, and hallucinations. People who do not take in enough B1 can become irritable and aggressive, and exhibit personality changes. Deficiencies in B12 have long been connected with pernicious anemia, that can cause a host of neurological problems.

Conversely, higher, stronger RDA levels of B vitamins can actually strengthen your mental health. In this article, we will briefly review the benefits of B1, B6, and B12 on thinking and memory skills.

Vitamin B6 was the subject of a study on thinking and memory at the U.S. Department of Agriculture Human Nutrition Research Center on Aging in Boston. Seventy men, aged 54 to 81, were tested in their thinking and memory skills and then measured for levels of various B vitamins in their systems. The men with the highest concentrations of B6 did better on two tests of working memory. Unfortunately, most people fail to get enough vitamin B6. A National Health and Nutrition Survey of 12,000 people between the ages of 19 and 74 revealed that 71% of men and 90% of women do not consume the recommended dietary allowance of B6. In addition, older people are at increased risk of lacking B6, either because they are not getting enough via dietary sources or from supplements, or because their bodies are not absorbing the amounts that are consumed.

Vitamin B12 is also essential for memory and concentration. This vitamin helps stimulate acetylcholine. Japanese researchers at the Gumna University School of Medicine recommend that B12 should be added to diets that lack choline (necessary to produce the vitamin), thereby raising production of acetylcholine by the body. Older people may suffer from atrophic gastritis, a condition in which they no longer produce enough stomach acid to process the vitamin B12 in their food. The result can be a host of symptoms, including memory loss, lack of

coordination, and weakness in the limbs.

Finally, vitamin B1 may sharpen thinking, especially in women. At England's University College Swansea, male and female students aged 17 to 27 were given megadoses of 9 vitamins or a placebo, and tested every 3 months for one year. At the end of the study, the researchers discovered that the thiamine in the vitamin cocktail quickened the attention and mental reaction time in all 47 women in the study. The researchers, led by Dr. David Benton, were surprised by the results, remarking that: "Unlike most previous studies, an unusual feature to the present study is that aspects of cognitive functioning improved only after a year of taking a high dose of vitamins." They also surmised that women showed different results from the men because their bodies responded differently to dietary cues.

Vitamin B6, important for working memory, can be found in wheat germ, sunflower seeds, yeast, tuna, and liver. Vitamin B12, necessary for concentration, mental alertness, and learning, can be found in clams, oysters, kidneys, and liver. Vitamin B1, required for attention and reaction time, can be found in whole grains, oatmeal, wheat germ, oysters, and liver. Some people, especially older folks (whose GI systems may not function optimally to properly uptake vitamins from food sources) may benefit from B-complex supplementation.

Anti-aging physicians and health practitioners employ vitamin supplementation in their treatment of patients who seek to prolong their healthy, vital, fit lifespans.

This article was adapted from an excerpt from Brain Fitness: Anti-Aging Strategies for Achieving Super Mind Power, by Dr. Robert Goldman and Dr. Ronald Klatz (Doubleday, 1999).

Dr. Ronald Klatz and Dr. Bob Goldman are physicians and co-founders of the anti-aging medical movement and of the American Academy of Anti-Aging Medicine (A4M; Chicago, IL USA; www.worldhealth.net), a non-profit medical organization dedicated to the advancement of technology to detect, prevent, and treat aging related disease and to promote research into methods to retard and optimize the human aging process. A4M is also dedicated to educating physicians, scientists, and members of the public on anti-aging issues.

The Edge Effect – Continued from page 4

– Tobacco Abuse – Wellbutrin, Effexor

The dopamine Edge Effect occurs when you maximize your dopamine nature. You are on top of everything you do, and everything is a source of pleasure. You relish your sexual relations, your food tastes fantastic, and you are admired by everyone.

Acetylcholine: The Memory Prescription

Acetylcholine is like your car's accelerator. By providing the insulating layer around brain cells it prevents short-circuits and ensures rapid transmission of nerve signals. Idealists are the 17% of the population who are defined by the neurotransmitter responsible for brain speed. They are quick thinkers, open to new ideas, and thrive on impulsivity, flexibility, and creativity. Idealists take pleasure in anything involving words, concepts, and communication with others. They always take others into consideration while they try to make everything as best as it can be.

When the latency, or delay, increases between a brain stimulus, such as a flash of light or a beep, and your reaction to it, that is a sign that you are losing brain speed and acetylcholine. For most people, the brain slows by 7 milliseconds, or 7 thousandths of a second, at the age of 40, and we typically lose about 7 to 10 milliseconds per decade thereafter²².

A human being reacts to light in about 50 milliseconds, to sound in about 100 milliseconds, and thinks in about 300 milliseconds. When thinking slows to 400 milliseconds a person is totally senile, so the difference between a healthy person and an Alzheimer's patient is only 1 tenth of a second²³! There is an abundance of signals of an acetylcholine loss well before senility sets in, and a host of ways to keep the pedal to the metal

Symptoms of acetylcholine deficiency:

- **Physical** – Fat cravings, dry mouth, slowed reflexes, sexual dysfunction, speech problems, vision problems, problems with urination, involuntary movements
- **Psychological** – Confused thinking, indecisiveness, personality changes, mood swings, rebelliousness
- **Memory Function** – Memory lapses, loss of visual and verbal memory, memory disturbance
- **Attention Issues** – Difficulty concentrating, diminished comprehension, impaired creativity, reading/writing difficulties

Conditions/diseases of acetylcholine deficiency:

Dyslexia, learning disorders, arthritis, osteoporosis, glaucoma, diabetes, hypo-arousal, stroke, senility, Alzheimer's, Multiple Sclerosis

Multi-modal treatments for acetylcholine deficiency:

- **Diet** – Grape juice, eggs, blueberries, wheat germ, peanut butter, cheese, fish, chicken, broccoli, cabbage, iceberg lettuce, celery, fava beans, caviar, cod roe, cauliflower, soy beans, tofu, orange, almonds, hazelnuts

- **Vitamins/supplements** – Choline (Men: 550 mg, Women: 425 mg), Glycerophosphocholine (1000 mg), Phosphatidylcholine (25mg), Phosphatidylserine (100mg), Vinpocetine (5mg), lipoic acid (200mg), huperzine-A (5mg), N-acetyl L-Carnitine (50 mg), conjugated linoleic acid (1000mg), fish oil (5g)
- **Lifestyle recommendations** – Scheduled quiet time, occasional solitude, reading, meditation, aerobic exercise
- **Technology aid** – TCMS
- **Hormones** – Growth hormone, insulin, vasopressin, DHEA, calcitonin, parathyroid, erythropoietin
- **Medications:**
 - **Memory Dysfunction** – Exelon, Vinpocetine, Galantamine, Piracetam
 - **Memory Enhancement** – Vinpocetine, Piracetam
 - **Muscle Weakness** – Mestinon
 - **Senility/Alzheimer's** – Aricept, Prostigmin, Tacrine, Reminyl
 - **Urinary Disorders** – Bethanechol
 - **Visual Disorders** – Pilocarpine

When your thinking is crystal clear, when you are not at a loss regarding what to do and how to do it, and when others are motivated along with you, the acetylcholine Edge Effect is in full force.

GABA: The Calm Prescription

GABA functions like your car's brakes which ensure a steady ride and prevent crashes. Almost 50% of the population is defined by the neurotransmitter that calms us down by keeping all of our brainwaves in balance. Guardians are dependable individuals who can be counted on to be where they should and do what they say. They are characterized by equanimity in the face of chaos. Setting goals, and organizing plans and schedules to achieve them, are first nature for GABA-dominant Guardians.

When there is a GABA deficiency, brainwaves lose rhythm, or balance with each other. Rhythm disturbances show up in more ways than any other neurotransmitter deficiency, and there is a complete program at your disposal to reline your brakes:

Symptoms of GABA deficiency.

- **Physical** – Carbohydrate craving, flushing, butterflies in stomach, lump in throat, ringing in ear, muscle tension, trembling, twitching, numbness or tingling in fingers, hyperventilation, blurred vision, abnormal sense of smell, abnormal odors, unusual allergies, night sweats, tachycardia, chest pain or discomfort
- **Psychological** – Restlessness, feelings of dread, emotional immaturity, short temper, phobias
- **Memory Function** – Poor verbal memory
- **Attention Issues** – Impulsivity, disorganization

Conditions/diseases of GABA deficiency: Tinnitus, anxiety, hypertension, chronic pain, cystitis, irritable bowel

and other gastro-intestinal disorders, PMS, seizures, stroke, bi-polar disorder

Multi-modal treatments for GABA deficiency:

- **Diet** – Caffeine-free herb teas, banana, rice bran, citrus fruit, whole grains, brewer's yeast, brown rice, broccoli, molasses, liver/organ meats, halibut, lentils, baked or mashed potatoes, tree nuts
- **Vitamins/supplements** – Inositol (650mg), Thiamine (Men: 1.5mg, Women: 1.1 mg), Riboflavin (Men: 1.7mg, Women: 1.3mg), Branched chain amino acids (BCAA, By body weight: isoleucine: 12mg/kg, valine: 25mg/kg, leucine: 16mg/kg), GABA (100mg), Glycine (50mg), Kava (60mg), Valerian root (200mg), Passion flower (500mg)
- **Lifestyle recommendations** – Relaxation, non-scheduled activities, delegate tasks, aerobic exercise
- **Technology aid** – CES, TENS, VNS
- **Hormones** – Progesterone, cortisol, pregnenolone
- **Medications:**
 - **Anxiety** – Xanax, Ativan
 - **Hypertension** – Verapamil, Calan
 - **Muscle Pain** – Oxycontin
 - **Muscle Spasm, Twitching** – Klonopin
 - **Neuropathic Pain** – Neurontin, Dilantin, Tegretol
 - **Seizures** – Gabitril, Lamotrigine, Mysoline

When you are in your element, methodically accomplishing daily tasks and helping others to do likewise, without being the center of attention, you are experiencing the GABA Edge Effect.

Serotonin: The Mood Prescription

Serotonin is like the alternator in your car, recharging your brain and body so it is able to handle a new workload every day. The remaining 17% of the population are Artisans, defined by the neurotransmitter responsible for mind-body connection.

Artisans are always in the moment, always seeking tangible immediate results for their actions. Self-worth is perceived from short-term accomplishment rather than long-range goal attainment. Artisans play at work, with tools and equipment or by conceiving new ways to do repetitive tasks. They usually have excellent hand-eye coordination. Artisans are intensely loyal, engage in passionate relationships, but avoid being tied down.

A serotonin deficiency will show up as diminished brainwave symmetry-there is a disconnect between the right and left sides, a breakdown in the mind-body connection. A depleted battery in your body has distinct signals, and there are many ways to recharge it:

Symptoms of serotonin deficiency:

- **Physical** – Salt cravings, backache, headache, cold or clammy hands, shortness of breath, drug reactions, premature ejaculation, yawning, sleep disturbances

- **Psychological** – Impulsiveness, hypervigilance, high pain/pleasure threshold, depersonalization, lack of common sense, rage
- **Memory Function** – Visual memory deficiency
- **Attention Issues** – Slow reactions, restlessness, lack of concentration
- **Conditions/diseases of serotonin deficiency** – PMS, phobias, insomnia, depression, Obsessive-Compulsive Disorder (OCD)

Multi-modal treatments for serotonin deficiency:

- **Diet** – Caffeine-free herb teas, cottage cheese, granola, oat flakes, swiss cheese, lox, banana, salmon, turkey, cornish hen, duck, pheasant, blue fish, mackerel, pork, beets, brown rice, avocado, baked or mashed potatoes, sunflower seeds
- **Vitamins/supplements** – St. John's Wort (300mg), fish oil (5g), Thiamine (15mg), Niacinamide (25mg), Folic acid (300mcg), Vitamin B-12 (250mcg), Pantothenic acid (25mg), 5-Hydroxy Tryptophan (100mg), Melatonin (1mg), SAMe (200mg), Vitamin B-6 (200mg)
- **Lifestyle recommendations** – Scheduled activities, increased future planning, introspection, deeper relationships, aerobic exercise
- **Technology aid** – CES, TENS
- **Hormones** – Progesterone, pregnenolone
- **Medications:**
 - **Depression** – Paxil, Zoloft, Celexa, Prozac
 - **Insomnia** – Trazodone, Serzone
 - **Memory Loss** – Hydergine
 - **Migraine** – Triptans
 - **OCD** – Anafranil, Fluvoxamine
 - **Sleep Disorders** – Antihistamines

Feelings of serenity throughout the day, even when performing work tasks that others would consider dangerous, represent the serotonin Edge Effect. Everything, from accomplishment on the job to connection to others to personal enjoyment is within your grasp.


A Complete Prescription

In the last sections of The Edge Effect Dr. Braverman shows how his program addresses several major health complaints, such as obesity and sexual dysfunction. He then offers a comprehensive anti-aging strategy, called the Pause Model, which outlines twenty-five early ways, from head to toe, that health can break down, similar to a woman's hormonal changes in menopause. "You are only as young as your oldest part", Dr. Braverman always says. Finally, he provides invaluable counsel about how everyone can improve destructive behavioral traits, for better personal-and interpersonal-health.

The Path to Total Health

Modern medical science has placed an abundance of alternatives at everyone's disposal for healthier living. But with so much to choose from, in vitamins and supplements alone, anyone could get confused and make wrong, or even harmful, choices. Or just be overwhelmed and do nothing. The Edge Effect is an easy-to-follow guide that makes sense for personal control over personal health.

"If you pay attention to early signs, you can use diet, supplements, and CES, along with lifestyle changes, exercise, and meditation, to hone your edge and stay sharp, on the job, at play, and in relationships," says Dr. Braverman. "You can have a peaceful Zen mind, a powerful and healthy body, and a fulfilled soul.

"With The Edge Effect, Eastern philosophy meets Western technology on a new path to total health." 

For more information about The Edge Effect, contact PATH Medical in New York City, 1-888-231-7284, www.pathmed.com

References

1. Goldman R, Klatz R, Berger L. Brain Fitness: Anti-Aging Strategies for Achieving Super Mind Power. New York, NY: Doubleday; 1999.
2. Howard P. The Owner's Manual for the Brain, 2nd Ed. Marietta, GA: Bard Press; 2000.
3. Rudin R. The Craving Brain. New York, NY: HarperCollins; 1997.
4. Kiersey D, Bates M. Please Understand Me. Del Mar, CA: Prometheus Nemesis Book Company; 1978.
5. Nuwer M. Assessment of digital EEG, quantitative EEG, and EEG brain mapping: report of the American Academy of Neurology and the American Clinical Neurophysiology Society. *Neur*. 1997;49:277-292.
6. Duffy FH, Hughes JR, Miranda F, Bernad P, Cook P. Status of Quantitative EEG (QEEG) in clinical practice. *Clin Electroenceph*. 1994;25(1):VI
7. Mochizuki M, Oishi M, Takasu M. Correlation between P300 components and neurotransmitters in the cerebrospinal fluid. *Clin Electroenceph*. 1996;29(1):7
8. Hammond EJ, Meador KJ, Aung-Din R, Wilder BJ. Cholinergic modulation of human P3 event related potentials. *Neur*. 1987;37:346-350.
9. Braverman E. The Healing Nutrients Within, 3rd Ed. New Canaan, CT: Keats Publishing; 2003.
10. Lesser M, Kapklein C. The Brain Chemistry Diet. New York, NY: G.P. Putnam's Sons; 2002.
11. Ross J. The Diet Cure. New York, NY: Penguin Group; 2000.
12. Geisler MW, Polich J. P300, food consumption, and memory performance. *Psychophys*. 1992;29(1):76-85.
13. Disease Prevention and Treatment, 3rd Edition. Ed. Segala M. Hollywood, FL: Life Extension Media; 2000.
14. Regelson W, Colman C. The Super Hormone Promise. New York, NY: Simon and Schuster; 1996.
15. Reiss U, Zucker M. Natural Hormone Balance for Women. New York, NY: Pocket Books; 2001.

16. Pierpaoli W, Rogelson W, Colman C. The Melatonin Miracle: Nature's Age-Reversing, Disease-Fighting, Sex-Enhancing Hormone. New York, NY: Pocket Books; 1996.
17. Lennox SS, Bedell FR, Stone AA. The effect of exercise on normal mood. *J Psychosom Res*. 1990;34(6):629-636.
18. Yagi Y, Coburn KL, Estes KM, Arruda JE. Effects of aerobic exercise and gender on visual and auditory P300, reaction time, and accuracy. *Eur J Appl Physiol*. 1999;80:402-408.
19. Braverman E, Smayda R, Richard J. Chronic lead poisoning as a cause of bulimia: hair analysis and Brain Electrical Activity Mapping (BEAM) as diagnostic aid. *J Orthomol Med*. 1992;7:53-55.
20. Bradeur P. Currents of Death: Power Lines, Computer Terminals and the Attempts to Cover Up Their Threat to Your Health. New York, NY: Simon and Schuster; 1989.
21. Modan B. Exposure to electromagnetic fields and brain malignancy: a newly discovered menace? *Amer J Ind Med*. 1988;13:625-627.
22. Barajas JJ. The effect of age on human P3 latency. *Acta Otolaryn*. 1991;476:157-160.
23. Polich J. P300 in the evaluation of aging and dementia. *Electroenceph Clin Neurophys*. 1991; 42(S):304-323. The Edge Effect/Scali2

About the Authors

Bruce Scali

Mr. Scali is a graduate of Penn State University and has diverse writing and editing experience, and is a frequent contributor to *Life Extension* magazine. His most recent article on alternative approaches to managing and reversing diabetes appears in the July 2005 edition.

Eric R. Braverman, M.D.

Dr. Braverman graduated Summa Cum Laude from Brandeis University and graduated with honors from NYU Medical School. He performed post-graduate work in internal medicine at a Yale Medical School affiliate and conducted pioneering research at Harvard Medical School on staff at Cabrini.

Dr. Braverman is one of the foremost experts in Integrative Medicine, and recognizes the brain's global impact on illness and health. He has published over 100 research papers and abstracts, and is the author of numerous books on vitamins, supplements, and alternative medicine.

In addition to maintaining a private medical practice in N.Y. City, Dr. Braverman is Director of PATH Foundation, a nonprofit research organization established to collect and analyze information concerning the diagnosis, prevention, and treatment of all aspects of brain biochemical disorders.

Dr. Braverman lectures regularly at major medical conferences, and has trained hundreds of physicians and healers in his brain-based approach to healthcare. He hosts a weekly radio show on WOR covering diverse health issues, and has been a guest on *The O'Reilly Factor*, *Larry King Live*, PBS, America's Health Network as well as local news programs.

NN-008

© 2005 Douglas Laboratories. All Rights Reserved.

Douglas Laboratories
600 Boyce Road
Pittsburgh, PA 15205

PRSR STD
U.S. Postage
PAID
Permit #12
Indiana, PA