Over 100 Tips and Exercises

A BETTER BRAIN AT ANY AGE

The Holistic Way to Improve Your Memory, Reduce Stress, and Sharpen Your Wits

Sondra Kornblatt

Foreword by Fernando Vega, M.D.

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With love to my husband Howard, who died before seeing this book published. His active brain, loving heart, fatherly care, and deep spirit brought joy to our two decades together.

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Foreword

Annaliese, a forty-two-year-old office manager, made an appointment to see me about Alzheimer's disease. She was sure she had it because she constantly misplaced her purse, forgot meetings, and couldn't remember names when she ran into old friends. While the memory results of her mental status exam didn't indicate serious cognitive loss, we spent some time talking about how Annaliese's brain could work better. I suggested she improve her sleep habits, be mindful of her diet, add some fish oil and other supplements, and examine how stress is created in her life.

The next time Annaliese visits, I will show her *A Better Brain at Any Age*, and she can peruse the hundreds of great ideas it contains—tried-and-true ideas and innovative complementary methods for enhancing the function of the brain.

During more than twenty-six years practicing medicine, I have seen results of practice using treatments that I learned in conventional medicines as well as those I have learned from more alternative practitioners and literature. I know what is sound. In this book, Sondra Kornblatt has created a balanced and holistic view of a healthy brain. All the methods in this book, conventional or alternative, are well researched and easy to understand. She addresses brain development from exercise and energy medicine to memory and meditation. Some of her suggestions are clever reminders for common brain-boosting ideas: exercise, eating vegetables, and getting fish oil. In other areas, she blends nutrition, aromatherapy, energy medicine, and more to compile intriguing ideas for the brain:

- Cinnamon—even a whiff of it—improves learning.
- Body alignment (balanced posture) increases brain blood flow.
- Rooms painted with contrasting colors stimulate learning.
- Volunteering reduces depression and stimulates the same pleasure center for eating and sex.
- Laughter Yoga classes or laughter tapes release healing laughter.
- Swinging arms when you walk works the two hemispheres of your brain.
- Fear can be reduced with psychological acupressure such as Tapas Acupressure Techniques (TAT).
- Creativity can be enhanced by nodding your head.

That's just a start. *A Better Brain* also provides a comprehensive list of toxins to avoid (from treated wood to new shower curtains) and good foods to eat (from saffron to avocado). This book covers the whole range of brain health with humor and respect for the amazing human body.

Studies have shown that attitude is critical in healthy brain function. *A Better Brain at Any Age* will help you support the attitude that respects your brain.

—FERNANDO VEGA, M.D., SEATTLE, WASHINGTON

Acknowledgments

It took a village to raise a brain book: my wonderful community sustained me and my brain durin the writing process. Let me introduce them to you.

The generous and helpful people I interviewed taught me so much more than would fit in thi book. Deepest appreciation to Ragini Michaels, Dr. Fernando Vega, Dr. Joan Borysenko, Sally Kempton (Swami Durgananda), Narayana Granatelli, Dr. Eric Chudler, David Stizhal, Dr. Todd Clements, Dr. James Dalgren, Christopher Mascis, Dr. Ralph Kenney, Sharon Begley, Dr. Eric Maisel, Renna Shesso, and Carrie Lafferty.

My writing community provided sage editorial and expert advice, along with large doses o encouragement, particularly when I struggled with summarizing *emotions* in 250 words. Muc gratitude to Anne Kornblatt, Ann Gonzalez, Jodi Forschmiedt (especially for help editing the fina manuscript), Priscilla Long, Dr. Jean Milican, Sharon Maffett, Auky Van Beek, David Stitzhal editors Caroline Pincus, Pam Suwinsky, and Brenda Knight, and the Seattle public libraries.

My friends and family buoyed me on the journey. Much love to Diane Rodriguez, whose suppor remains after she's gone. Michael Pitrone, Sonja Carson, and the Soiree community helped me laug at myself and my stories. My parents gave support and love on many levels. Love to Howard, Milo and Ella, who got sick of hearing about omega-3s and celebrated completed chapters at the dinin room table.

You've all made my brain so much stronger—not to mention my heart. *Merci*.

Note: Although I used the names of family, friends, and clients in the book, the examples in th book are composites. Even you, Mom. I've tried to accurately represent what my sources have tol me, but I take responsibility for any misinterpretations or inaccuracies. This book does not includ footnotes because they are so distracting. However, in the Bibliography and Resources section at th back of the book, I've listed the sources that I've used in my research.

Introduction: Change Your Brain, Change Your Life

Change is inevitable—except from a vending machine.

—ROBERT C. GALLAGHER

Can't remember the name of your doctor when you see him at the store? Forget your standin appointment for physical therapy? Worried about Alzheimer's?

Chances are, you're not stupid, rude, nor experiencing early dementia. Instead, your brain frazzled: unhealthy habits, aging, long work hours, and information overload. Even with all th stress, you're *not* at a brain-dead end.

That's because your brain is changing. It changes every day, even as you read this sentence. “Th principal activities of brains are making changes in themselves,” says Dr. Marvin Minsky in his boo *Society of the Mind*.

You can support your brain by … changing it more. When you create new connections, your brai becomes stronger. Your neurons (brain cells) get active and your brain stays plastic, able to creat new neural pathways.

How do we know this? From new technology and research. In the past decade, technology such a SPECT (single photon emission computed tomography) scans and functional MRIs (magneti resonance imagings) have shown brainwaves and brain function in action. Scientists have learned tha the brain generates new neurons throughout life, that meditation increases gamma waves, and tha movement changes thoughts.

Just reading about brain research is enough to make your neurons fire.

Researchers have also learned that stimulation keeps your brain engaged and growing. Stimulatio isn't a loud disco arcade of flashing lights. It means doing something different to deepen and creat new brain pathways. Otherwise known as making changes.

You can make huge changes (go back for your degree in speech pathology) or smaller ones (notic your feet in your shoes). Change what you eat, how you move, your environment, memory, learning creativity, and emotions. They all stretch the brain and keep it active.

You'll find hundreds of boosters to transform the brain in the chapters of this book, such as:

- Using your nondominant hand (the left for most of us) to brush your teeth
- Avoiding toxins in smelly plastics
- Cross-crawling (touching your right hand to your left knee and vice versa several times) to link your hemispheres
- Tapping points on your body to help emotions release
- Eating foods that make you smarter
- Imagining giant wacky images to remember your grocery list

Most of these changes are easy to make. However, habits, comforts, and identity may get in th way. You could feel odd or self-conscious when you try something new. You may want to quit before the change becomes a habit. That's just your neurons not knowing each other—yet. Give them a littl time.

Here's some help to make brain changes:

- Don't do all the boosters in the book. First off, you don't have time. Second, practicing one or tw boosters helps deepen your knowledge and ability—a key brain stretcher.
- Explore boosters that intrigue you. They'll feel right, toot your horn, send off fireworks. Stretch, but find a stretch you'll enjoy.
- Feel free to focus on just one chapter, or pick a booster from a few different ones. While it migh be hard to practice three memory stretchers, you might enjoy adding a veggie, playing a word game, and drawing for five minutes at lunch.
- To create a habit, make a note each time you practice the booster. Put a sticker on your calendar write about it in your blog, or form a “Brain Support” group to crow with. After twenty-one days the wisdom goes, it will become more routine.
- When that new booster becomes old hat … it's time to stretch your brain again. Find another one to engage those little neurons. Keep this book in a convenient place—the bedroom, bathroom, o the car. Then it's easy to find new ways to stretch your brain, even when you wait for your children to get out of school.

From boosters to information, this book helps the brain—it changed mine. During months o research, I studied how the emotions, meditation, memory, body-mind environment, creativity movement, and thinking all interact. I talked to many wise scholars and authors, developing a appreciation for the amazing organ under the skull.

Before I added brain-stretchers to the book, I tried them out. While I didn't become a member o Mensa, I found I could shake up my neurons so they connected better. My family will attest to m changes:

- I've become a fish oil fanatic. In fact, my kids cover their ears and say *na-na-na-na-na* when I talk about the power of omega-3s—again!
- I leave the store when I notice an uncomfortable smell. In one case, it was the out-gassing of ne carpet, which is bad for the brain.
- I pace the room to recharge my thoughts and calm stress.
- I appreciate stillness in meditation, to balance the constant movement of thoughts.

As you change your brain, you'll also change your life, by becoming more connected to you senses and feeling more alive. Your awareness will grow, you'll be able to make better, mor informed choices, and even appreciate the beauty you may have forgotten.

What do you change? Focus on three areas:

Body, with smart food, movement, healthy environment, and rest

Emotional response, which changes your perspective on life

Thoughts and beliefs, through imagining new possibilities.

You'll engage the whole function of the brain, to tap into life.

So take your brain for a ride, let it see the sights. You'll appreciate the miracle that lives under th skull. And the gift of being alive.

1: A Short Tour of the Brain

The brain has the storage capacity of 6 million years of the Wall Street Journal.

—GREG ILES, *Footprints of God*

You are the proud owner of the most complex organ in the entire world: your brain. In fact, if th brain weren't so complicated, we couldn't begin to understand it. There are more connections in you brain than there are stars in the universe.

Those connections are all coordinated with each other. So when you hit a rock while riding you bike, your brain notices and acts instantaneously. *Uh-oh, balance is askew, veer the torso in th opposite direction while the foot swings to the ground*. The brain saved your skull, even if yo scratched your leg. Mean-while it generates memories and words so you can tell your coworkers th story.

> There are more connections in your brain than there are stars in the universe.

For millennia, people have wondered how the brain works. Scientists autopsied cadavers, analyze brain injuries, and monitored reactions to brain surgery. They located specific areas—for instanc Broca's area processes speech—but it took until the 1990s to reveal how the whole brain interacted.

Cutting-edge technology—such as functional MRIs (magnetic resonance imagings) and SPEC (single photon emission computed tomography) scans—revealed the brain in action: How exercis and meditation changed brainwaves. How creativity doesn't live just in the right hemisphere. Ho idle brain areas take on new uses after injury.

Keeping up with the new information is a brain booster. However, if you're pressed for time, here' a short and simple tour of the brain. (To delve deeper into how the brain works, check out *A User Guide to the Brain* by John Ratey or Neuroscience for Kids at the University of Washington, a *http://faculty.washington.edu/chudler/index1.html*.)

The Giant Walnut

You have a giant walnut under your skull—only it's pinkish-gray and soft, like custard. It's suspende in membranes and crystal-clear fluid within the hard shell of your skull.

The brain evolved from that of reptiles to mammals to humans, creating three main laye (illustrated in Figure 1.1) that surround and interact with each other.

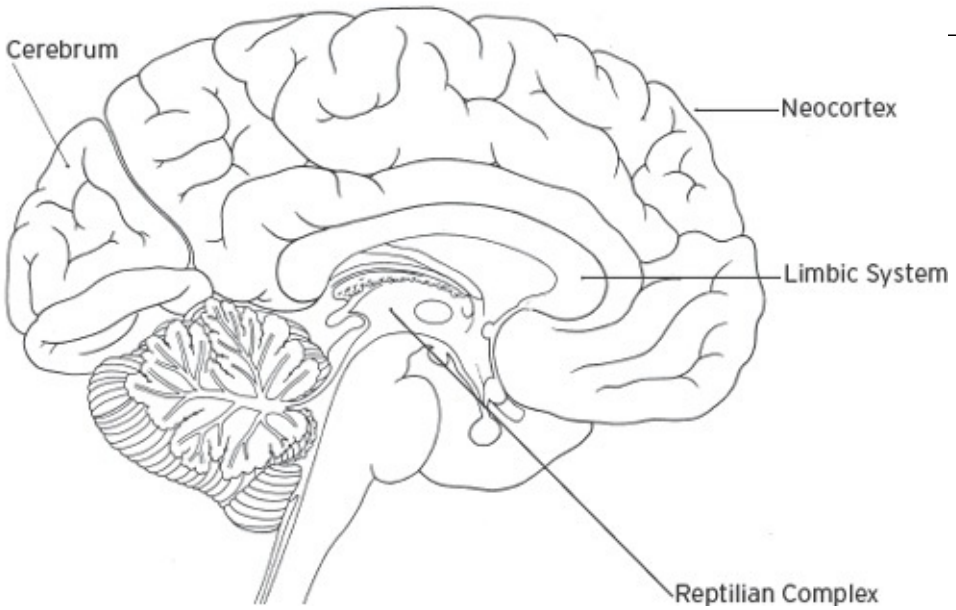

Figure 1.1 The three layers of the brain

- The primitive or reptile brain (reptilian complex) is the first level, at the bottom. It includes the brain stem and the cerebellum, a strawberry-shaped clump of cells just below the cerebrum. Thi part controls sleep, waking, breathing, temperature, and basic automatic movements (such as heartbeat, balance, even bike riding). It also acts as a way station for sensory input—it helps evaluate safety and determine the need for quick response.
- The mammalian or limbic brain (limbic system) is the second level. It develops memory and emotions for social interactions through the hippocampus, which looks like two seahorses, one o each side of the brain. Severe damage to the hippocampus can cause amnesia. The limbic systen also coordinates movements and promotes group survival.
- The third level is the neocortex, including the two large cerebral hemispheres, right and left. It finetunes the lower functions, creates abstract thinking, consciousness, and creativity. It's able t plan as well as react to new challenges.

The neocortex is the top layer, or gray matter, of the brain. It evolved most recently and is onl found in mammals.

The Anatomy of the Brain

Within these three levels are specialized structures that work in concert.

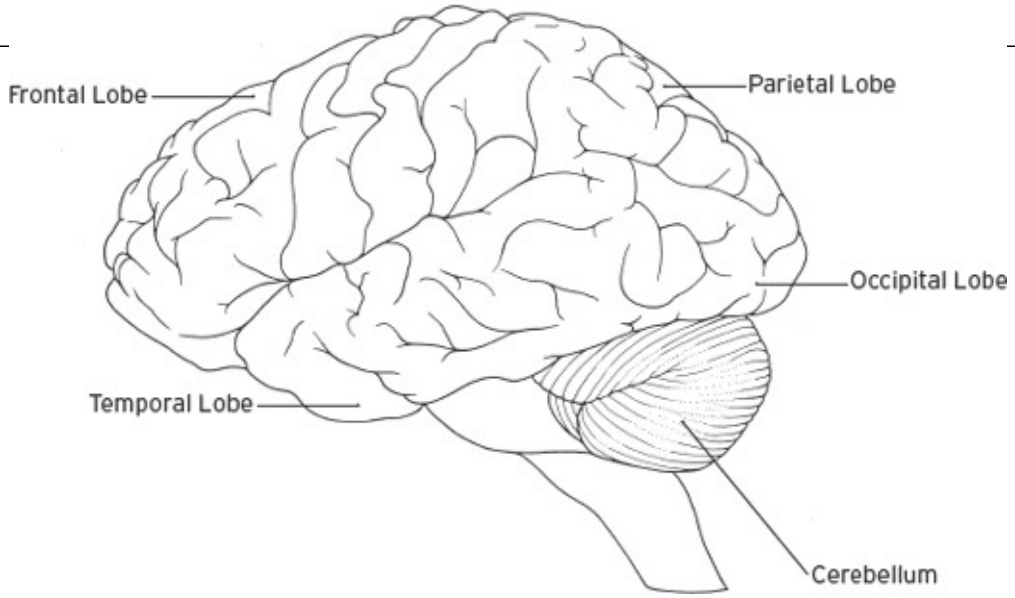

Figure 1.2 The anatomy of the brain

- The **cerebellum** at the base of the brain keeps the action, emotions, language, and memories in tune.
- The cerebrum divides its function into four **lobes**, illustrated in Figure 1.2. The **occipital lobe** is the visual processing center. The **parietal lobe** coordinates sensory and special information to make sense of the world around you and to monitor how you relate physically to others. It interacts with language, math, body image and function, and drawing. The **frontal** lobe behind the forehead has intricate connections to other areas in the brain. It regulates emotions, thought, sense of self, verbal activity, and problem solving, to name a few. It produces and evaluates speech, expressions, empathy and genuineness. The **temporal lobe** is the auditory processing center; it makes meaning of speech and vision and is involved in memory formation. It contains the *hippocampus*, the brain's memory indexer.
- The **limbic** system focuses on emotions and social bonds.
- The **cingulate gyrus** in the midbrain directs our response to others.

Brain Components

Why is your brain shaped like a walnut? To maximize the thinking area. The cerebrum (the larges part of the brain) and the cerebellum (which coordinates movement and lies below the cerebrum) ar coated with gray matter called the corte (Latin, meaning “bark”). The **cerebral cortex** (the oute layer of the cerebrum) is where most of the information processing (thinking) takes place. Th cerebral cortex is huge. If you stretched it out flat it would be the size of several sheets of newspape Folded and wrinkled, it fits those clever neurons under your skull. The folds in the cerebral corte increase the available surface area and gray matter, so that more information can be processed.

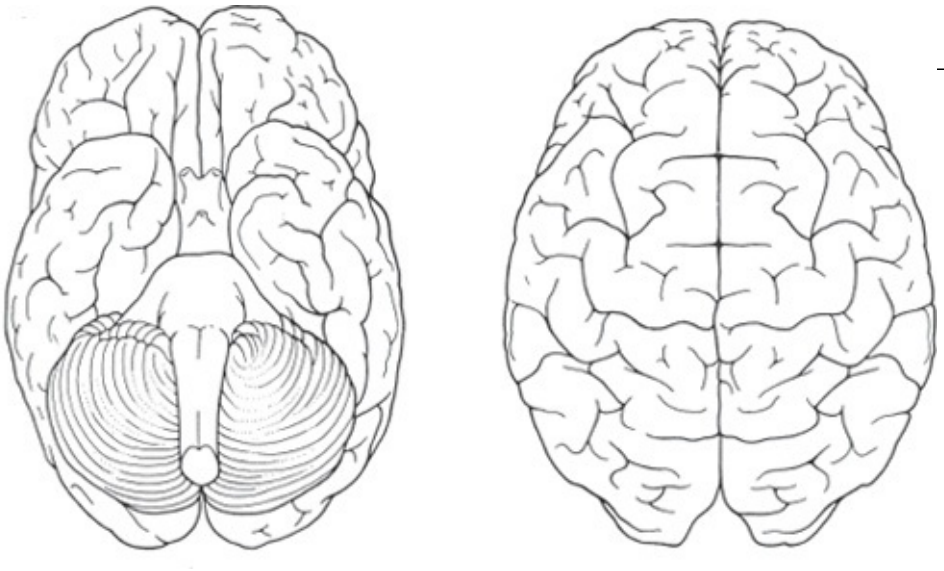

Figure 1.3 The two cerebral hemispheres

The cerebrum has two hemispheres (see Figure 1.3), each with some specialized functions. The le hemisphere is more analytical, specializing in language, math, and logic. The right hemispher specializes in spatial abilities, music, visual imagery, and recognition. However, the hemisphere interact much more than was once thought. The pathway between them is the *corpus callosum*, a ban of 200-250 million nerve fibers.

Brain Cells

Good connections make the brain work well. Connections are made by neurons (nerve or brain cells which transmit information through an electrochemical process. Neurons are shaped like a saplin tree: a branch of dendrites at one end receives information and an axon at the other end send information. (See Figure 1.4.) The brain contains more than a hundred billion neurons, each with on axon and as many as 100,000 dendrites (communication transmitters and receivers). Electrica impulses release chemicals called neurotransmitters, which trigger or inhibit actions, and determin the strength of your emotional responses. Neurotransmitters flow across a synapse—a gap betwee neurons.

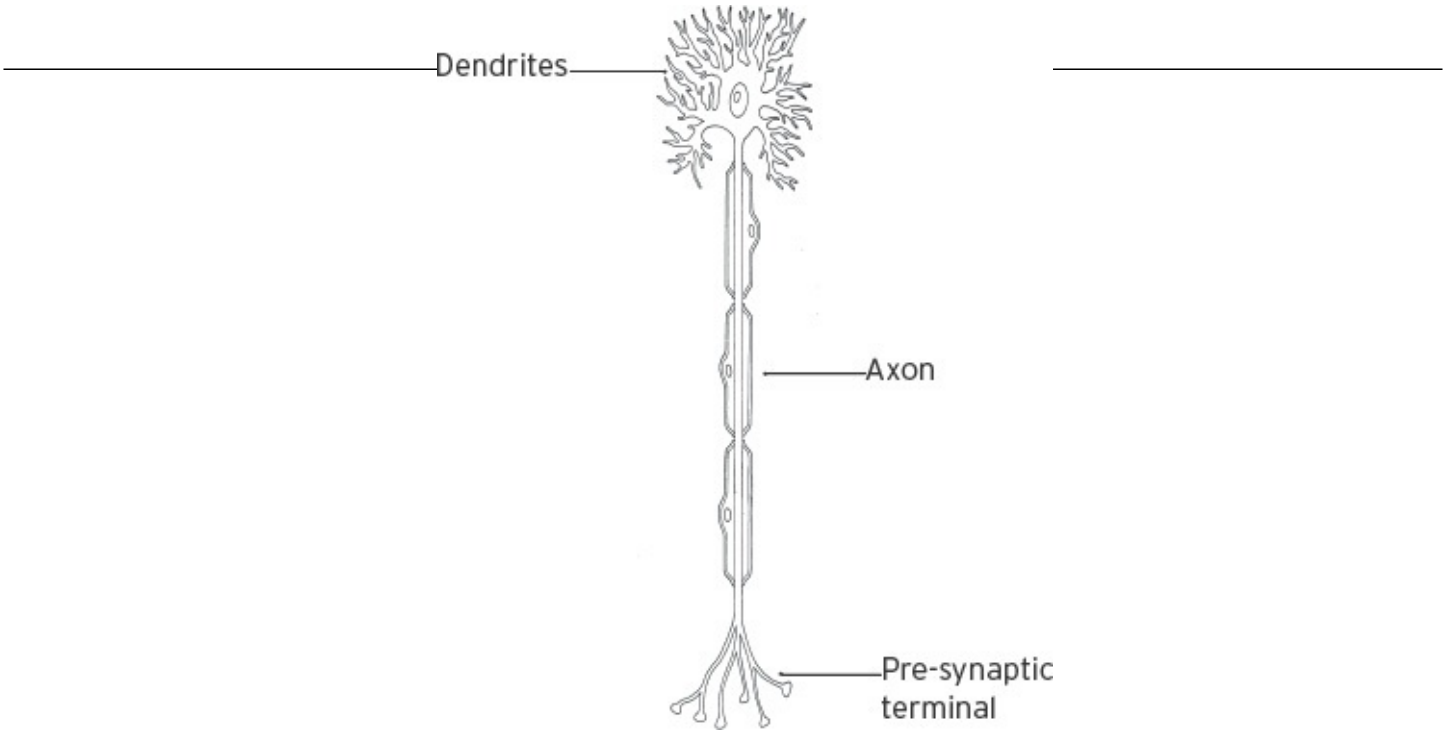

Figure 1.4 Illustration of neuron, showing axon and dendrites

A series of individual connections create a route through your brain called a neuropathway. Th more you practice something, the more you deepen neuropathways as you strengthen skills, habit and memories—which could apply to a Bach minuet or nail-biting. When you learn something new or when you make a change, you create new pathways. Your brain becomes more flexible an resilient.

Mirror neurons fire when you see someone performing an action—including the action of having feeling. These mirror neurons make emotions contagious, according to Daniel Goleman in *Socia Intelligence*, so even non-baseball fans get excited when their city's team goes to the World Series.

Brain Activity and Brain Waves

As your brain moves through different activities, from concentrating to sleeping, it produce electrical fluctuations. Scientists have measured those rhythmic electrical fluctuations of the brai with electroencephalogram (EEG) and correlated them to various activities. The cycles per secon are labeled with Greek letters, such as beta (active and busy) to alpha (relaxing) to gamm (meditating monks).

Neurogenesis

Until the 1990s, scientists thought your brain stopped generating new neurons as an adult. If a brai cell gave its life, these scientists said, there were no replacement parts. Now we know that at ag seventy-five, you still have all the neuron connections you did at twenty-five, though lack of menta exercise may make those connections slower. Your brain continues to grow new neurons (in a proces called *neurogenesis*), 500 to 1,000 each day.

At age seventy-five, you still have all the neuron connections you did at twenty-five.

The brain also includes trillions of *glia*, or supportive cells. They feed, guide, coat, and suppo neurons. The brain also has many vascular cells for its large blood supply that keep the neuron pumped with oxygen and glucose.

Most of these components have been know for centuries or decades. What's new is understandin how these components function.

The Working Brain

Back in the old days (when Ronald Reagan was president) scientists imagined the brain as a series c containers—like a silverware divider. Each task had its own little slot. Thinking stayed separate fron feeling, memory, language, and movement.

In the 1990s, scientists used functional MRIs to detect changes in activity in the brain. Researcher discovered that the brain is more like an ecosystem than a stagnant silverware divider. All the part interact with each other.

In fact, the brain is a self-operating system, says Dr. Nancy Andreasen in her book, *The Creatin Brain.* A self-operating system operates like a flock of starlings: the whole group instantaneousl veers to one side, then the other, without stopping for a meeting to decide what to do.

That's just what your brain does when you're falling off your bike.

Through a rapid-fire series of connections, the structures of your brain talk to each other an produce an instantaneous response that is intelligent, even though you don't have to think about i Thanks to your brain, you can walk away from the accident with your skull intact.

How to Protect Your Brain

Movement can help or hurt the brain. Consider how delicate the brain is, crammed into the hard skull. An injury can occur even without the loss of consciousness.

Dr. Daniel Amen recommends some boosters for protecting it:

- Think about your brain before you do activities that might put it at risk—even for a mild concussion.
- Wear protective gear while playing sports (especially important for kids). Don't hit a soccer ball with your head.
- Fasten your seatbelt. Avoid motorcycles.
- Wear a helmet when you ride a bike.
- Walk facing automobile traffic, so you and the driver can see each other.
- Use ladders to reach something high—not chairs or countertops.
- Protect the brains of babies and toddlers: don't shake these small children. Use appropriate car seats.
- Protect young children from falling down stairs.

Respecting and understanding your brain pays homage to the amazing organ it is. So the two of you can keep each other around for a long time.

2: Not All in Your Head
The Body-Mind

Lost in thought. (Please send rescue party.)

—SLOGAN ON A T-SHIRT

Barbara was on a mad quest for her keys. She hunted in her pocketbook, on the counter, in her coa pockets, beneath the car seat, and in the front door. “I had them when I came in … or was the doo unlocked?” She checked her pocketbook again.

Her mind was racing. She imagined random places she had been as she came into the house. Sh chastised herself for being disorganized and late to her meeting. Then back to the lost keys. Barbar was disconnected from her body and couldn't focus.

“I've lost my mind.”

But maybe she was so caught in her mind, she couldn't access the wisdom of her body.

What is the mind? Is it your thoughts, brain, unconscious beliefs? We usually don't think about th mind; we just take it for granted. We have to, in order to get anything done.

Still, it's worth looking at the mind, whatever you consider it to be. When you understand th mind, you navigate it better, learn more, and strengthen the brain through your increase consciousness.

We consider the ‘mind’ a *thing*—but it's not. Instead, the mind is a verb, says Dr. Karl Priban neuropsychology professor at Stanford Medical School. The mind is a process of mental activities feeling, planning, remembering. And the process goes beyond the brain. The mind uses the body t function.

In fact, you have a “second brain” in your gut, with more nerve endings than you have under you skull.

The mind influences the body (you think you screwed up at work and you get a headache). Th body influences the mind (a yoga class calms worried thoughts).

Here's proof of the body-mind connection: Imagine reading erotica about a hot, deep kiss. Whethe it's romantic novels or porn, thoughts and images about sexuality clearly cause the body to respond.

The body also responds to thoughts about improving healing, athletic ability, and attitudes towar life. Images and attitude can lessen diseases such as irritable bowel syndrome, protect against hea disease, and help with the side effects of chemotherapy.

This chapter looks at the mind, the body, and how they work together.

The Mind of the Body-Mind

You can't see the mind. But people have been dissecting it for years, in philosophy, religion, an psychology. They've discovered and labeled

- Conscious mind
- Unconscious mind

- Ego
- Personality or id
- Identity
- Intellect
- Self-critic
- Inner child
- Drama queen
- Creative muse

You could also notice and label the time-twit or do-gooder in your own mind.

These concepts help you make sense of the mind. In turn, the mind makes sense of the world b creating … concepts. Otherwise known as stories.

Stories keep stimulation from overwhelming you—or they give meaning to it. When you'r waiting for a bus and searching for your bus pass, you might not see the red lights. But when you'r crossing the street, those red lights are guides to your personal safety.

Stories can be true objectively or can feel true subjectively. Both forms involve physica sensations. Ever get rapid heartbeat and increased perspiration when you're *sure* your boss won't lik your proposal? That story makes your adrenaline pump. The reality makes you smile when your bos approves the idea.

Problems arise when emotions and thoughts limit the mind. Limits can be "anxiety, negativ fantasies, pessimism, and even identity with certain ideas of who we and others are," says Dr. Joa Borysenko, former director of Harvard's Mind-Body Clinic and author of *Minding the Body, Mendin the Mind*.

However, you can change your mind. You can create new synaptic pathways in the brain, helpin its long term health. Key to changing your mind—and brain—can be focused on these three areas:

1. Alter your **emotional response**, which transforms the feeling of truth about a story.
2. Shift your **thoughts and beliefs**, substituting new images for fears and limits.
3. Change your **body** through exercise, sleep, and even laughter.

☆ Boosters: Change Your Mind ☆

These boosters engage the mind's perspective. Some attend to changing thoughts. Others work wit emotions and the unconscious mind. Many are addressed in more depth in chapters 3, 4, and 8.

Cognitive Behavioral Therapy

Cognitive behavioral therapy (CBT) experts say that thoughts trigger emotions and behavio though others debate whether thoughts automatically come first. However, CBT tools can alte automatic negative thoughts (often called ANTs), give new perspectives, and release mental tension It may take a few months of practice to alleviate an "irrational thought process," say CB practitioners.

- Track and change your thoughts by **keeping a diary**. Note events that trigger uncomfortable feelings, thoughts, and behaviors.

- **Reframe** incidents to provide a new perspective. Reframing is a natural process you move through as external circumstances and inner stories change. For example, if you have a small itc on your head, no big deal. But if your daughter's friend has head lice, each small itch becomes a fear of finding pests imbedded in your fingernails. Reframing can also be a conscious choice, giving more options in life. If you worry that your house is messy, reframe from seeing yourself as a slob to someone who cares; you spent time to read to your daughter instead of cleaning.
- **Snap a rubber band** on your wrist when you notice a thought pattern you want to change. Then remind yourself to substitute a more comforting thought.

Self-Talk

Have a dialogue with yourself. Talk back if you find yourself sunk in a negative story. Create positive to balance the negative rather than trying to defeat it.

- Remind yourself that you are great, **everyone has personality quirks**, and you are loveable.
- Talk to your **inner child** or fearful self. Remind it that you are capable and can get help from others.

Address judgments and blame. Blame is a spiral of thoughts that perpetuates ongoing anger an frustration. Since you can't change others, focus on changing your own point of view. Ask yoursel questions to determine if blame is a distracting story of your mind. These questions, based on th work of Byron Katie, are detailed in chapter 4.

Practices

Notice what you let into your mind. Buddhist meditation teacher Sally Kempton says that when w dwell on a lot of negative thoughts, we tell “ourselves stories about everything that's wrong with u and the world.” It's not fun to live in that kind of world. Change the hold negative ideas have on you mind. Replace them with their opposites. For instance, if your father-in-law drives you crazy wit nit-picking, remember that he is kind to his grandkids.

- Another method is to spend 20 minutes repeating positive thoughts, in a technique called **Metta** or **Loving-Kindness Meditation** in Buddhist practice. You wish peace for yourself and those around you, even people in the news with whom you get upset.
- **Short-Term Dynamic Therapy** is intensive psychotherapy that addresses blocked emotions and limiting beliefs. Techniques focus and intensify traditional psychotherapy, achieving structural changes in briefer time periods.
- Change the inner logic of the mind using **neurolinguistic programming** (NLP). NLP is an interpersonal communications model and an alternative approach to psychotherapy, based on modeling the exceptional behavior and communication abilities of three successful psychotherapists. NLP techniques use reframing, visualization, and body-mind strategies to change ingrained patterns of emotions, behavior, and responses.
- **Meditation** creates space around thoughts—no coincidence that it's called *mindfulness*. (See chapter 7 for more on meditation techniques.)

The Body of the Body-Mind

To get another perspective on the mind, let's look at the mind through the body's perspective. Hav you heard of phantom limb syndrome? That's when someone still feels itching, pain, and sensation of a limb that's been lost.

Turns out, it's not just the desire for the missing arm or leg. When the brain no longer receives th sensory input from the missing limb, it reprograms the underused area. It's a slow process, but even few neurons make a big difference, according to Vanderbilt University. A Vanderbilt doctor did sensory tests on a blindfolded patient who had lost his arm. When the doctor dribbled water down th left cheek, the patient swore his missing arm got wet.

The changing brain had responded to the body by reorganizing idle neurons.

You can use your body to change your thoughts, emotions, and beliefs as well as by expanding th connections in the brain. These boosters show you how.

☆ Boosters: Humor and Laughter ☆

The response to humor—especially laughter—releases stress, aids immunity, changes moods for th better, helps you think, and improves memory.

Found on T-shirts:

Instant human—Just add coffee.

Protons have mass? I didn't even know they were Catholic.

They say I have ADD but they just don't underst … Oh look! A chicken!

If you chuckled, that's good for your brain.

> Laughter releases stress, aids immunity, changes moods for the better, helps you think, and improves memory.

The new field of *gelotology* is exploring the benefits of laughter. It was brought to public awarenes in Norman Cousins's memoir *Anatomy of an Illness*. Cousins found that comedies, like those of th Marx Brothers, helped him feel better and get some pain-free sleep. That's because laughter helps th pituitary gland release its own pain-suppressing opiates.

More on Laughter

Laughter also:

- Lowers blood pressure
- Increases vascular blood flow and oxygenation of the blood

- Gives a workout to the diaphragm and abdominal, respiratory, facial, leg, and back muscles
- Reduces certain stress hormones such as cortisol and adrenaline
- Increases the response of tumor- and disease-killing cells such as Gamma-interferon and T-cells
- Defends against respiratory infections—even reducing the frequency of colds—by increasing immunoglobulin in saliva
- Increases memory and learning; in a study at Johns Hopkins University Medical School, humor during instruction led to increased test scores
- Improves alertness, creativity, and memory

Humor and creativity work in similar ways, says humor guru William Fry, M.D., of Stanfor University, by creating relationships between two disconnected items, engaging the whole brain.

Humor works quickly. Less than a half-second after exposure to something funny, an electrical wav moves through the higher brain functions of the cerebral cortex. The left hemisphere analyzes th words and structure of the joke; the right hemisphere "gets" the joke; the visual sensory area of th occipital lobe creates images; the limbic (emotional) system makes you happier; and the moto sections make you smile or laugh.

Increase your brain workout with some giggles:

- **Find out what's funny.** Something's funny when you snort milk out of your nose—but what makes you laugh? Absurd humor replaces the familiar with the unexpected. Wile E. Coyote chases Road Runner after being smashed by a piano. Superior humor—like lawyer and blonde jokes—rearrange life's hierarchies. In dark humor, you laugh at what scares you.
- **Laugh without a joke.** Laughter may also be about relationships, says Robert Provine, professo at the University of Maryland. In fact, you may be "tuned" for laughter from family and culture. It helps you cope with life—or a rude in-law—by relieving mental and physical tensions.
- **Immerse yourself in humor.** Check out comedy books, movies, and tapes at the library or store
- **Trigger laughter.** Our mirror neurons trigger humor by hearing others laugh. Just like yawning, but more fun. *Ha*. Start smiling when you listen to this Web site of different recorded laughs: *http://www.psy.vanderbilt.edu/faculty/bachorowski/laugh.htm*. *Ha ha*. Or buy a laughter CD—60 minutes of chuckles. *Ha ha ha*. Great background noise for a party.
- **Read the comics** in your newspaper or online. From the traditional to the odd—*Baby Blues*, *Betty*, or *Bizarro*, they're a daily dose of humor.
- **Try laughter meditation**, consisting of stretching, laughing, and silence. It can transform your energy and mood.
- **Join a laughter club** or a Laughter Yoga class. Participants playfully imitate breathing and sounds of laughter, until simulated laughter turns into the real thing. They receive healing, company, humor, and the physical sensation of deep laughs.

☆ Boosters: Energy Medicine ☆

Energy is in breath, cells, and even chemicals of emotions and thoughts. Can touch or intentio change your energy (and your emotions and thoughts)? Energy techniques, both centuries old an

newly developed, say “Yes.”

According to acupuncture, *qi gong* (methods focusing on the body's life force), and other ancien techniques, energy flows in “rivers” of energy called *meridians*. Some call this force of energy you *biofield*. Energy practitioners say changing this energy allows you to learn, relax, and heal—all goo for your brain.

Although recent studies have shown the positive affect of acupuncture on health, there haven't bee effective scientific measurements of energy fields. However, many people, including your autho have vouched for the effectiveness of energy techniques. See if these ways of changing energy in th body will work for you.

- **The crown pull** clears your head and mind, says Donna Eden in *Energy Medicine*. It also tingles the skull surrounding the brain. Put your thumbs at your temples and your fingertips on the bridge of your nose. Slowly, and with some pressure, pull your fingers apart to your thumbs—a little brow massage. Place your fingers in the middle of your forehead and pull to your thumbs. Repeat this pull by moving your fingers up your scalp all the way to the back of your head. Stretch your fingers out as you pull over your hair.
- **Yank on your ears**. It stimulates meridians that connect to the rest of your body. It can also loosen the interplay of bones surrounding your brain, according to craniosacral therapists. Gentl tug all around the ears and the lobes, pulling along the natural lines of the ear. (For example, pul up at the top, back at the sides, and down at the lobes.) Hold the cartilage closer to the center, rather than the edges, if you feel pinched. You can do this very softly and still have good results
- **Scratch your scalp** to bring blood flow to the brain. Lightly scratch the base of your head just above where the spine ends. Move to the side of your head and scratch your fingertips in an arc back and forth just outside your ears. The tingle lasts a few minutes after you're done.
- **Visit an energy medicine practitioner**. Energy therapies include acupuncture and acupressure (needles or pressure to relieve pain and treat conditions), BodyTalk (hands-on healing through helping body parts communicate), *qi gong* (body life force system), energy psychology (stimulating points on the skin to shift emotions), Reiki (transmit healing energy through the hands), Therapeutic Touch (nonsectarian laying-on of hands), Applied Kinesiology (muscle-strength testing to diagnose and determine treatment), medical intuitives (using intuition to find the cause of a physical or emotional condition), and intercessory prayer (prayer as a medium of healing). Get recommendations from friends or doctors, or find a teacher in the field. Trust your intuition as well, to determine if the practitioner or type of therapy is a good fit.

Energy Psychology

While acupuncture and acupressure have calmed and healed bodies for more than 5,000 year psychological acupressure is just decades old. In these techniques, you touch or tap places on in you body—on Chinese meridians—while you focus on body sensations. Don't worry about getting th exact spots right as you start. Repeating phrases helps change your thoughts and emotional reactions Start by identifying the emotion and intensity, so you can compare your feelings at the end of th technique.

- In Callahan's **Thought Field Therapy** (TFT) or Craig's **Emotional Freedom Technique** (EFT) you tap—touch your fingertips like gently tapping a table—7 to 10 times on the inner points of your brows, the sides of your eyes, under the eyes, middle of chin, under the inner collar bone,

under your arms where a woman's bra would be, on your liver (4–6 inches under the right nipple
While you're tapping, you repeat a phrase such as, "Even though I have this ____ feeling, I fully
and deeply accept myself."

- **Eye rolling**. TFT and EFT both have additional techniques that involve engaging the voice, logi
and rolling the eyes. Other eye-movement therapy techniques such as EMDR (Eye Movement
Desensitization and Reprocessing) has effectively treated Post-Traumatic Stress Disorder.
Rolling your eyes *slowly* in one direction, then the other, may help create release.
- **Tapas Acupressure Technique.** Gently touch your forehead with one hand and the bottom back
of your head with the other. Repeat a phrase such as "I feel angry and I'm okay." Focus on the
physical sensations as they get stronger and then abate. The touch on the head is a comforting
support as the emotions release.

More information on these techniques and other psychological acupressure tools are on the Web a
http://www.tatlife.com, *http://www.tftrx.com*, and *http://www.emofree.com*.

☆ Boosters: Body Alignment ☆

Evolution helped us stand up straighter—and get smarter. Theories abound that alignment support
the brain, reduces stress, eases emotions, and helps cognitive thinking.

When the body is tense, you trigger the "fight or flight" adrenaline response. Muscles compensate fo
misalignment, reducing blood flow to the brain. Research at the University of Leeds confirmed tha
bad posture can raise heart rate and blood pressure.

Alignment doesn't mean throwing your shoulders back and standing like a soldier in old cartoons.
means finding balance as you move.

Many ways help support the alignment of the body: Feldenkrais Method (movement reeducation t
increase levels of vital energy), osteopathy (holistic medicine focusing on musculoskeleta
alignment), chiropractic (spinal adjustment to improve bodily function), Rolfing (hands-o
connective tissue manipulation), massage, yoga, Alexander Technique (teaching improved posture
ballet, Trager Approach (receptive and active body realignment), and others.

Some work on the bones, muscles, and tendons. Others are "somatic education," training the body t
move differently. For instance, the Feldenkrais Method focuses on how the body is organized, usin
movement and self-awareness.

While you may want to visit a practitioner to expand your body's horizons, you can increase abilit
and awareness on your own. These boosters come from experience with Feldenkrais, yoga, and othe
practitioners, as well as the information from Dr. Pat Ogden, a pioneer in somatic psychotherapy.

- Notice places of relaxation, numbness, and tension in your body.
- Focus on one body part and play with how it moves. Are your shoulders independent of the ches
Does changing the tilt of the head affect the pelvis? Subtle shifts have large impact on the body.
- Observe the posture and movement patterns of others. Where do they lean or swerve when they
walk? What parts are tense, smooth, or efficient?
- Imitate another walker. Notice how changing your alignment feels.
- How do you sit, drive, talk on the phone, and work on the computer? Does one side feel heavier,
more tense, relaxed, or efficient?
- Notice how you balance when you stand. While the "perfect" posture shows the head-pelvis-and

heels in line, bodies have idiosyncrasies and habits. Perhaps you tilt your pelvis to compensate for a head jutted forward (typical computer posture). Or you're a little twisted—if you look from above, your shoulders and hips make an X.

- Experiment with what posture allows you to breathe the fullest and easiest.

☆ Boosters: Move Your Brain ☆

In a favorite comic, Betty and her friend start off to run. “Exercise produces the feel-good hormon *end*-orphins,” says Betty.

“Why doesn't exercise have *begin*-dorphins?” her friend whines.

You might feel resistance when starting to exercise, but once you're moving, the body is happier. It' common knowledge that exercise strengthens the heart, lungs, and muscles and increases you metabolic rate.

New information shows that exercise also makes your brain happier. That's because “movement i fundamental to the very existence of the brain,” says Dr. John Ratey in *User's Guide to the Brain*. I fact, brains are found only in organisms that move from place to place.

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Movement helps you think. The brain's cognitive and movement functions work side by side, sharin the same automatic process. When you solve a problem, you imagine moving through the step That's why you end up in the kitchen and forget what you're looking for—you remembered the actio not the item. In addition, exercise stimulates the production of brain chemicals, such as BDN (brain-derived neurotrophic factor), which encourages growth of new nerve connections.

Women who walk regularly will be less prone to memory and cognitive loss. For every extra mil walked per week, said Dr. Kristine Yaffe at University of California in San Francisco, “there was a 1 percent less chance of cognitive decline.”

Movement helps you feel better, too, by releasing those endorphins, among other hormones.

If you already exercise, keep going. The Centers for Disease Control recommend that adults shoul engage in **moderate intensity** physical activity (increase in breathing and/or heart rate where you ca still have a conversation) for at least 30 minutes on five or more days of the week. Or engage i **vigorous intensity** physical activity (large increase in breathing or heart rate where conversation i difficult or “broken”) for 20-plus minutes on three or more days per week.”

If you exercise reluctantly, add variety to reengage yourself. If you don't exercise, begin with a singl step: park two blocks from the store and walk the distance. The invigoration and joy of movemen will build over time.

What kind of exercise can you do? For your bones, strength, and balance, pump your muscles wit weights, Gyrotonics (an exercise system to improve flexibility, balance, and muscle strength), yoga For your heart rate, blood pressure, and endorphins, do some aerobic activity: running, walking swimming—even rowing crew, ultimate Frisbee, and Parkour (a combination of gymnastics, running and balance through park structures). Befriend your body and move. These suggestions may help.

- **Plan.** An exercise routine creates a pattern in your body and mind. Sign up for a class, schedule