COWORKING by Corri

A community to help you grow, scale and thrive.

YOUR BRAIN IS IN CHARGE OF EVERYTHING

Boost Brain Power with Calesthenics for the Mind

One hundred per cent of your brain is used one hundred per cent of the time, even while you sleep. Even more amazing are the intricacies of your brain that are stimulated for memories, emotions, communications, creativity, intelligence, imagination, reasoning, individuality, problem solving, and amazing feats of learning and discovery. Your brain is a powerhouse that holds all these possibilities and more.

Anything is possible. You just need to stretch out and ask more of your brain. How do you do that? Let the guide be your starting point to boosting your brain power.

Your Brain is in Charge of Everything

Your brain is the most complex part of your body. It is extraordinarily vigilant and diligent, synchronizing and directing an intimate, complex network of processes that keeps you alive. Your brain interprets all of your senses and keeps your synapses firing, controlling your behaviour and body movement. Even more amazing are the intricacies of your brain that are stimulated for learning, memories, emotions, creativity, intelligence, imagination, reasoning, and individuality.

Your brain is a command centre. It can be likened to having your own agency of knowledgeable, skilled and fastidious specialists working expressly for you.

Your Brain is a Hard-Working Organ

Science shows us that your brain is clearly a hard-working biological, physical organ. It is the command centre of what transpires between your central nervous system and the physiology and biochemistry of your body. One hundred per cent of your brain is used one hundred per cent of the time, even while you sleep.

- Your brain houses the master pacemaker or circadian clock that keeps all physiological functions in your body in sync: oxygen consumption, cardiovascular activation, cell repair and regeneration, core body temperature, renal filtration, digestion, brain wave activity, hormone production, nutrient mobilization, all the metabolic reactions, all the activity of endocrine glands, and any other physiological process critical to maintaining your life.

Your Brain is the Interpreter and Centre of your Intelligence

Your brain interprets all of your senses from outside your body – sight, sound, taste, smell, touch, balance and body awareness and from more than twenty distinct interoception sensory systems – maybe even senses you never really considered before – that detect stimuli from internal organs and tissues and relay signals to your central nervous system about the current state of your body. Signals pass through neurons and the neurotransmitters talk to each other so that your brain can take charge of controlling your sensations, thoughts, feelings, memories, behaviours, and movements.

- Different parts of your brain have specific functions that control such things as thought, vision, language, memory, speech, facial recognition, hearing, emotions, hunger, thirst, emotions, balance, blood pressure, heart rate, breathing, the functions of the organs within your body, and how you respond to stimuli, people, and challenging or stressful situations.
- Your brain is the source of all the qualities that define your humanity and personality. It is because of the of powers of your mind that you recognize, think about, integrate, interpret, put it into context, and respond to external stimuli by linking it up with your memory. Without your brain you cannot learn, reason, remember, predict, plan, or adapt your thinking process to make decisions, have beliefs, behaviors or expectations.

It should be evident that you not only survive, you thrive because of how your brain functions as the command centre of your body, keeping your synapses firing and your mind sharp for amazing feats of learning, discovery, and expanding everything that is interesting about you.

Keep your brain healthy and your mind sharp!

Does it make sense that you need to do more than just take care of your body – although that's crucial too – you need to care for your brain in much the same way that you might work out in the gym to keep your body fit or take your car in for a tune-up?

Your Brain has Capacity for Even More

Scientists once believed that as a human aged the brain stopped developing, that brain cells died off. Through advances in research that assumption has been disproved. Whenever you learn something new, engage in new activities, or even ponder a new concept, your brain makes new neural connections and rewires itself in response. Voilà, cognitive growth. The more you challenge or stimulate your brain, the more it will evolve.

Your brain is just beginning to relinquish its secrets to you!

Every day your brain reveals its mental sharpness, computing power, information storage capacity, precision, and unfathomable power. If this happens under normal circumstances, just think of the possibilities you can gain from doing extra targeted brain stimulation or training.

Your brain is busy, using up 20% of your energy. What else has this 1400 gram wrinkled organ lying in its bony shell and washed by protective fluid been concealing in its tiny structural variations?

Do you need science to tell you

that your brain has no upper limit or that it is more sophisticated than a computer?

Contents

Your Brain's Communication Network

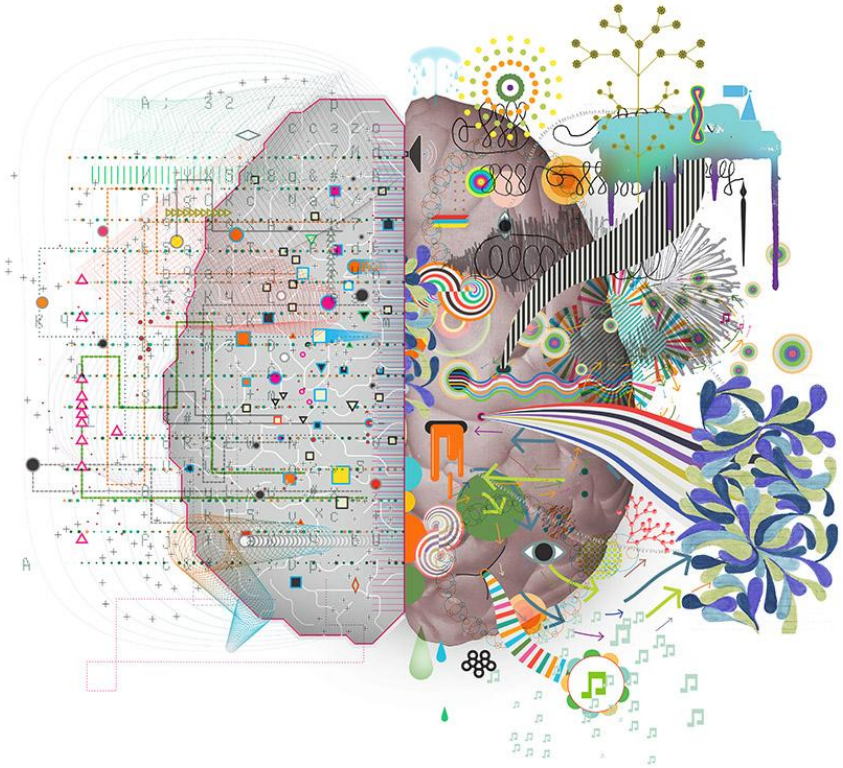
Proper care of your brain requires some basic knowledge about its complex communication network.

Your brain is composed of three primary brain divisions: the brainstem, cerebellum, and cerebrum. Each division has a broad range of specific functions. Within these divisions are smaller substructures that have even more precise roles to play. For instance the cerebrum is composed of left and right hemispheres. Each hemisphere has substructures called lobes. Each division and each substructure has its own processing centre and clear-cut responsibilities.

No Part of your Brain Functions Alone

There is a highly structured set of relationships between the various parts that allows each processing center to share responsibility for the completion of the same brain task. Within your brain, millions of messages are carried along a network of pathways from one side to another, from one to lobe to another, or to other structures found deep in your brain.

Let's explore this messaging system. Your brain is mostly made up of connections or messages being passed between neurons. Neurons are the basic building blocks of your central nervous system (the brain, spinal column, and the nerves connected to them). Neurons are also called nerve cells or brain cells. In the average brain there are about 100 billion neurons. Each neuron is communicating with up to 10,000 other neurons in their own neural network. These neurons process and transmit information to each other through a combination of chemicals and electricity, called electro-chemical signaling or synapses. Each neuron has multiple synapses connecting to multiple other neurons each with their own synapses, all of them firing off millions of bits of information.

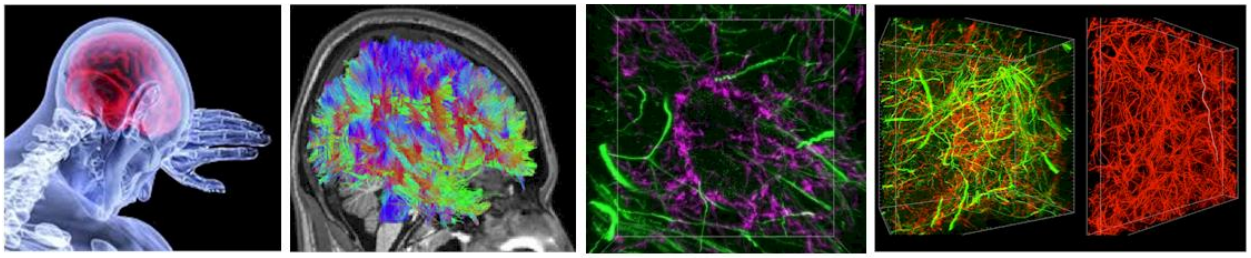


That means that within your brain there can be as many as 1,000 trillion of these synaptic connections – possibly a quadrillion synapses – taking place. This is more sophisticated than a computer with a one trillion bit per second processor. Yes, your brain houses and controls a mind-boggling, intricate messaging system.

One Simplified Example of the Full Power of your Brain's Communication Network

Let's look at one very simplified example of this communication network. Your occipital lobe interprets vision – light, movement, and color. Your temporal lobe carries out brain functions such as understanding language, memory, hearing, sequencing and organization. The information received by your occipital and temporal lobes goes through millions of neurons and synaptic connections to reach your parietal cortex. Your parietal cortex has the job of constantly assembling and integrating millions of messages from all your senses to build a coherent picture of your world, which then allows you to coordinate action or movement within any specific environment.

The purpose of all these trillions of synaptic connections is allow each processing centre of your brain to complement each other as they store patterns of neural activity that are the basis for your sensations, perceptions, cognitions and other important brain functions. This works most effectively when your synapses are working correctly and your neurons are communicating with each other to keep your nervous system functioning the way it should. Your nervous system must function properly in order for you to learn new things, make decisions, retain information, and utilize the full power of your brain.



Getting up Close and Personal with Neurons and other Brain Cells

However, these synaptic connections do not remain static. They change over time. The more signals sent between two neurons, the stronger the connection grows, and with each new fact, experience, or remembered event that you absorb, your brain slightly re-wires its physical structure. This is one of the ways you develop and also change such things as behavioral patterns and muscle memory.

Brain activity occurs because of your synapses and with so many trillions synaptic connections it would surely seem you have a copious amount to spare. However, your synapses do deteriorate through lack of use and aging. Therefore for cognitive growth and to stay sharp, you need to keep your brain making new synaptic connections and keep those connections active. The more you challenge or stimulate your brain, the more it will evolve. You can keep those synapses firing by challenging your brain with activities or exercises specifically targeted for strengthening your mental sharpness and good brain function.

Good brain health is more than the absence of disease or some quick-fix program to prevent cognitive loss among the aged. Good brain health, also known as cognitive fitness, is about retaining mental sharpness for a lifetime and optimizing brain function to embrace learning, thinking, memory, recognition, communication, and sound decision-making. You achieve cognitive fitness through mentally stimulating activities in concert with good body health through nourishment, physical activity, interactions with others, rest, relaxation and sleep.

The strength and resilience of all the millions of connections within your brain is called cognitive reserve which is something you keep building upon as you go through life. Your cognitive reserve is developed by a lifetime of accumulating information through your education, work, curiosity, and activities. This includes trauma, risk, adventure, joy and knowledge experienced over your lifetime.

The alertness of your brain and the capacity of your cognitive reserve are determined by the extent to which your brain is challenged. The more varied or stimulating the input, the more resources your brain has available to be able to think learn, recognize, communicate and make decisions. With a robust cognitive reserve your brain is able to improvise and find alternate ways to get a job done, to cope with challenges or unexpected life events, to function better and for longer and to stave off or counterbalance degenerative brain changes.

Therefore, for long term health of your brain an important goal is for you to strengthen and build cognitive reserve. You do this by enhanced mental workouts to keep your cognitive fitness levels at optimum performance.

Your Brain's Amazing Ability to Change Continually

Scientists once believed that as a human aged the brain stopped developing and that brain cells died off. That assumption has been disproved. Through brain imaging technology, we now know that your brain not only holds on to neurons, it grows new ones and has the ability to adapt and change in response to what is learned because of your environment, behavior, thinking, and emotions. From birth to death your synapses are constantly firing, your brain is continually making connections and reorganizing itself through the millions of electro-chemical signals being broadcast and interpreted per second. That means that, like babies, you can keep growing your brain. Something, as trivial as watching a corny magic trick or following the path of a loose kite, can alter the structure of your brain.

Even though you may have well established ways of processing information and responding to your environment, you can rewire your brain to think differently or more powerfully. This means you can build new brain pathways for developing new skills or new habits, learning new ways of interacting with people, integrating information, or solving problems. It means that you can do brain exercises to elevate your cognitive fitness levels, build cognitive reserve, and in essence protect cognitive functioning as you age.

In most instances, shaking up neural pathways or building new pathways in your brain is not a quick maneuver. Your brain manipulates information and learns more effectively through repetition and practice.
As you well know you are amazing at getting better at anything you practice.

However, for optimum brain performance practice is not enough. Unfortunately, with repetition or mastery your brain tends to get lazy. Once it figures out how to do something it doesn't need to work as hard, so your cognitive energy is redirected.

You can keep growing your brain!

Whenever you learn something new, engage in new activities, or even ponder a new concept, your brain will rewire itself in response to these activities.

You can build new brain pathways to think more powerfully!

If this happens under normal circumstances, just think of the possibilities you can gain from doing extra targeted brain stimulation or training.

A lazy brain does not build cognitive reserve

Your brain tends to get lazy. You need to energize it, challenge it with new and different things to keep it edgy for achievement or in a constant state of slight discomfort.

Because you fall into a busy routine , you may not every realize that your brain is lazy. Therefore you need to create new opportunities to stimulate, engage, and keep challenging it. They key is to keep it in a constant state of slight discomfort. That means keeping it on edge with engagement with new or different kinds and levels of activity and achievement. Something as simple as rubbing a zipper or soft cloth along your skin is stimulation. Reading, doing puzzles and any kind of new learning is challenging.

The Conundrum of a Seemingly Lazy Brain

Your brain works hard to keep things stable and comfortable. It operates on the principle that it must seek balance and maintain a condition of equilibrium or stability within its internal environment. For example, in order to regulate your body temperature at around 98.6 F (37 C) your body produces sweat to cool off and shivers to produce heat when it is cold. While you sleep your brain works on cell repair and regeneration. It has such a soft spot for the comfort zone it works diligently to regulate your body's internal systems by anticipating needs and preparing to satisfy them before they arise.

However, your brain tries to keep your external environment fixed as well. It would rather ignore new information; it is reluctant to try something new or different and avoids change because it requires concentration and resources which the brain would rather not us up. .

Despite its resistance or fondness for the comfort zone, your brain is designed for complexity. No matter what age you are, your brain thrives on challenge.

What a mystery! What a conundrum! You want a healthy brain working at peak performance and all the while your brain is busy trying to lull you into complacency. Even if your comfort zone is a happy place, if you fall into the complacency trap, your brain becomes bored and sluggish from not being challenged; it may work less effectively, quickly, or sharply.

In key situations, complacency can lead to mediocrity; mediocrity results in an uninspired, unremarkable, and forgettable performance. Allowing your brain to remain lazy can lead to cognitive decline or memory impairment.

Your brain is edging for a challenge and needs you to push it in that direction.

Of course you want a healthy brain as well. There is a relationship between health concerns and cognitive decline or memory impairment. In order to stay smart and keep those synapses firing at peak performance levels, your brain needs a balance of nourishment, physical activities, sleep, rest, relaxation, social interaction, and a regime of stimulating exercises. Let's explore these healthy choices.

Healthy Choice #1 – Nourishment through Hydration, Oxygen, and a Balanced Diet

Your brain gets its nourishment through hydration, oxygen and a nutrient rich and balanced diet:

Hydration

Over 70 percent of your body is composed of water. Every function in your body is dependent on water, including the activities of the brain and nervous system. Therefore, you should stay hydrated with water.

Oxygenation

Your brain has a lot of structure and it needs to be fed. Specifically it needs oxygen which is vital to brain health, function, growth, and healing. Your brain cells are very sensitive to decreases in oxygen levels and do not survive or function well or for very long without balanced oxygenation. In fact your brain uses about three times as much oxygen as the muscles in your body do. How well your blood cells are saturated with oxygen is as vital to your health as other vital signs: body temperature, heart rate, breathing rate, or blood pressure.

- *Breathing* is how you increase oxygen and blood circulation to your brain. How do you breathe? Most of us breathe easily and without thought. Correct or natural breathing is a relaxed belly breath: inhaling through the nose with your mouth closed. The sinuses, oral cavities, and the upper parts of the lung structure hold carbon dioxide and nitric oxide that help with circulation. When you breathe normally and deeply into your belly, you move air and oxygen down to areas of your lungs where most of the circulation of blood is. This is where most oxygen and carbon dioxide exchange takes place. If you do not breathe with your diaphragm muscle, you do not get the proper amount of oxygen into your blood to be carried to your brain and body parts. If you breathe through your mouth, you do not re-breathe the stored carbon dioxide and nitric oxide that help circulate blood to your brain in order to oxygenate brain cells.

- *Save and Restore Energy with Breath - d*id you know that the breath acts like a barometer for how well you are feeling? You can use it like a tool to shift gears or change your mood. When you feel under pressure, deep-breathing and paying attention to thoughts and sensations in a non-judgmental way can be helpful. It is very challenging to talk yourself out of a state of mind. However, if you calm your nervous system, which is what you do with breath, then your mind will start to calm as well. Explore Breathing with Intention for Health

Blood Circulation

You need to do everything you can to get the best blood circulation because your blood carries oxygen and other nutrients to your brain. Moving your body promotes blood flow through the brain, and that blood flow supplies nerve cells with more oxygen and nutrients.

- Standing up activates cerebral circulation. Several times a day stand on both feet, then stand on one foot or the other to increase circulation to different areas of the brain.
- Your brain benefits from walking. Short walks throughout the day increase circulation and oxygen flow to your brain. Longer walks or running may be good, but during intense or prolonged exercise your muscles absorb much of the oxygen. A lower intensity activity like walking effectively oxygenates the brain without expending oxygen on other parts of the body.
- Aerobic exercise expands blood vessels which can increase cerebral blood flow.

Balanced Diet of Healthy Food

There is no substitute for good nutrition to keep your brain healthy. Although your brain makes up only about 2% of total human body weight, it requires 20-30% of your body's energy or daily calorie intake to function properly. That is more energy than any of your organs. Your brain need this energy required to perform the most basic functions even in one very lazy day of no activity. The bulk of your brain's energy supply is used to keep your memory, mobility, and senses functioning normally. A third of the energy is used for maintaining your cell-health.

Energy comes from food, so your food choices do matter. You should avoid foods that restrict blood flow to the brain. The timing, type, combination, and consistency of foods can influence energy levels.

- You should eat three regular nutrient-rich meals per day, wholesome snacks – no skipping meals.
- To maintain a balanced diet you need nutrient-rich foods, representing the five basic food groups.
    - Grains - breads, cereals, rice, pasta, noodles and other grains
    - Vegetables
    - Fruit
    - Dairy - milk, yoghurt, cheese and/or alternatives
    - Protein - lean meat, fish, seafood, poultry, eggs, nuts, soy products, legumes, and vegetarian protein found in peas and beans

Healthy Choice #2 – Physical Activity

Your brain benefits from physical activity or body fitness exercises just as other organs, muscles and bones do. Studies show that exercise increases your ability to learn, handle stressful situations, make clear decisions and recall facts and memories. Scientists see a connection between the amount of exercise a person does and increased brain activity. What really distinguishes low, moderate or high intensity exercises from each other is their effect on heart rate and the overall effort required in performance of the exercise.

- Exercise reduces stress by increasing the feel-good brain chemicals serotonin, dopamine, and norepinephrine.
- Skill-based physical activity requires thinking and thus it stimulates the connections of your synapses and dendrites.
- Regular exercise helps you sleep better.
- Staying physically active does not necessarily mean that you have to engage in intense vigorous exercise, but you should at least participate in activities that cause you to sweat a little and to breathe harder.
- Lower intensity activities include: walking, biking, dancing, aqua fitness, yoga, swimming, stretching routine, and some household chores, like vacuuming, washing windows, mopping, light gardening, yard work or washing the car.

Healthy Choice #3 – Sleep

Your brain needs adequate periods of rest and sleep. Though your brain never actually goes to sleep it must have adequate time to do its work properly while your physical body relaxes, sleeps and rejuvenates. During sleep your mind remains active. Yet, sleep is the only time that your brain can organize everything that has been learned and experienced during your waking hours. Sleep is the only time in which the brain is able to wash away the build-up of the toxic by-products of cell metabolism, the waste protein that has accumulated over the day and can build up and cause dementia. If you have no sleep or insufficient sleep, the critical physiological processes, including those of the brain, are not able to do their work efficiently.

When sleep pressure and circadian rhythm reinforce each other, the result is healthy sleep which helps maintain a healthy mind and body. If you have difficulty sleeping make sure you check with your doctor to determine if you have a sleep disorder that can be treated. People usually are not aware of their breathing and movements while sleeping and do not think to talk to their doctors about issues that might be related to sleep. Learn More about Healthy Sleep

Healthy Choice #4 – Rest and Relaxation

Who can deny that rest and relaxation are rejuvenating? Throughout history people have intuited that puritanical devotion to perpetual busyness does not, in fact, translate to greater productivity and is not particularly healthy. Research on the subject reveals that mental breaks and idleness are vital to the brain for it to remain sharp, replenish attention, solidify memories, encourage creativity, and generate its most innovative ideas? There is no better way than both rest and relaxation to calm your mind. When you let your muscles and organs recover and recharge you reduce stress or anxiety, improve mood and cognitive functioning, boost immunity, and improve your ability to cope with adversity – all of which lead toward a better night's sleep and better brain function.

Is there a difference between rest and relaxation? Yes there is. Rest and relaxation work hand in hand to remove the tightness from your body and the stress from your mind, but there is a difference:

Rest

Rest is a period of physical inactivity when you take time to calm your mind and let your muscles and organs recover and recharge. You do not need to lie down; you can break from the hectic pace and pressure of daily life by simply closing your eyes and quieting your thoughts to give your neurons a break from the busyness of doing, thinking, or being engaged in activity. Rest gives you energy.

There may be days when you can make time to stroll in the park, get away to a quiet corner to eat lunch alone or read, but when time seems at a premium you can still engage in a state of calm by adding some of these one-minute or five-minute calming techniques to your daily routine:

- **Take One:**
  - Do nothing but stare out the window. Study a tree, or see life in high definition or slow motion.
  - Count backwards – choose a number at random and start counting.
  - Perform deep-breathing exercises
  - Close your eyes and massage the edges of your scalp, across your forehead to your eyebrows.
  - Brush your hair
  - Pause to smell some lemons or flowers or coffee
- **Take Five:**
  - Do nothing but be in the sunshine for five minutes.
  - Stretch. Recoup energy with a five to ten minute stretching routine that works for you.
  - Stand tall and proud with a power pose.
  - Satisfy your taste buds. Brew your favorite tea, peel and slice some fruit and savour the taste
  - Listen to music, playing at a slow rhythm.
  - Meditate – two short periods of silent meditation per day is all you need.

Relaxation

Relaxation occurs while you are awake and usually entails engaging in enjoyable activities. Relaxation, be it a spirited time with friends or a quiet game, is rejuvenating. It reduces stress or anxiety, improves mood and cognitive functioning, boosts your immunity and improves your ability to cope with adversity. Even a five-minute relaxation break at various times throughout the day leads you toward a better night's sleep. Make down-time a priority by introducing relaxation strategies into your daily routine.

- Look in the mirror and make funny faces
- Sing a song or listen to music you like
- Dance
- Engage in a hobby
- Play card or board games
- Pamper yourself

Investing in both rest and relaxation will prepare you for a more restful sleep. This is particularly important when you are having a stressful day both mentally and physically.

Stress Reduction through Rest and Relaxation

Your brain takes a heavy hit from chronic stress, persistent overwork, a hectic and energy-draining lifestyle, and anything that lessens your attention span or makes you feel frazzled and dull-witted. You should be attentive to how much stress is caused from hurrying or working too hard.

- Breathing and stretching exercises can calm your frazzled brain and reduce levels of stress.
- Socializing, laughter, and love all reduce stress.
- Being more observant more often helps your mind perceive things from a different or creative perspective.
- Frequent rests and setting aside time for relaxing pursuits alleviate stress.

Healthy Choice #5 – Social Interaction

It turns out that being sociable is just as important as your diet, exercise, and other lifestyle factors. More complex human interaction challenges your brain and increases cognitive function. When you connect and socialize with different people you boost your emotional intelligence.

- Socializing requires complex communication skills that involve different brain functions such as face recognition, memory, focus, attention, listening skills, and language skills. Each of these functions is processing in your brain while you share a joke, discuss the weather, delve into philosophical or political issues, or brainstorm to solve a problem.
- Socializing generates emotions that are important for motivation and helping you find meaning – friends and family give a sense of purpose, bringing structure to your life.
- Interacting with others can lift mood and decrease your chance of depression
- Friends provide an outlet for emotional expression which is good for the body as well as the brain.

Healthy Choice #6 – Mentally Stimulating Pursuits

In addition to a healthy lifestyle, your brain works more efficiently when it is properly exercised or stimulated through activities or mind exercises. Brain imaging on humans shows immediate changes in blood flow whenever the brain is stimulated. Every region of your brain lights up with the simplest of tasks. If you think of intelligence as a quality that can develop and expand then it follows that to enhance the capability of your brain you must stimulate and challenge it. Just as proficiency at playing the piano wouldn't improve if you practiced with only one finger, brain health and brain power will not advance from only one or two types of brain exercise.

The goal is to target specific areas in your brain with a variety of exercises, but at the same time the stimulation exercises should be diverse and challenging to exercise all areas of your brain. Challenge comes from exercising your brain in unexpected ways through curiosity, continuous learning, exploring the unfamiliar, engaging all the senses and different parts of your body in new experiences or pushing yourself to the next level.

The exercises suggested in this guide are a teaser in comparison to the variety of exciting and challenging ways to incorporate brain exercises into your daily life. Let our suggestions guide you to seek out different challenges, or create your own as you learn more about your mental strengths. Think about adding another dimension to any exercise in this guide by doing it with other people, using a blindfold when safe to do so, or using combinations of challenges.

Brain stimulation exercises should not be considered a substitute for a healthy lifestyle, which includes making sensible choices for eating and exercising regularly. Activities that numb the brain like smoking, taking drugs and the excess consumption of alcohol should be avoided. Other risk factors are blood pressure, diabetes, cholesterol, or prolonged period of sleep deprivation.

Engage the Brain to Raise the Game

No matter what age you are, your brain thrives on challenge. So how to you challenge your resistant brain? You know you are capable of more, so how do you boost your brain power? You can train your brain to enjoy stimulating activities that strengthen the brain's domains and the connections between them.

Though, your brain surges in performance and benefits most when it engages in complex activities, you do not have to make things super difficult or decide on huge changes in order to challenge that brain of yours. As long as an experience is more challenging or different than previously experienced, your brain's performance will be enhanced.

Some brain stimulation exercises are actually quite enjoyable. Like these three ordinary or familiar examples of complex brain activities that can take place every day: dancing, cooking and conversation or storytelling. They are personally relevant activities and differ with each experience.

To Enhance Brain Performance

- Your brain acts tough in its resistance, but it does require continual stimulation. You have to keep pushing it in that direction.
- Your brain favours challenges that are personally relevant!
- Your brain is energized when its many parts can work at the same time in activities that involves several senses and higher functions such as speech, reasoning, emotions, learning, and fine control of movement.

Dancing is an example of a complex brain activity that is enjoyable. It involves memory, synchronizing coordinated movement with sound, visual spatial skills, attention, creativity, flexibility, bilateral symmetry, social interaction, mood, emotions and control. It is something you can do by yourself or with others. The activity changes constantly with the music, creative moves or partners. Dance requires co-ordination, flexibility, and motor control. Dance focuses attention on eyes, ears and touch as tools to assist in movement and balance and it increases awareness of where all parts of the body are in space.

Cooking is another fine example of a brain exercise. You have to eat, but how often do you view cooking as a complex activity that stimulates your brain. It excites all your senses. When you cook you employ executive functions and skills to create a perfect meal. From recipe and food selection to prepping and plate presentation, your stomach rumbles, your senses are alert to the subtle aromas and sounds that animate the network of neurons responsible for pleasure. The smells tastes, textures and temperatures animate so many parts of your brain you are primed to eat. Everything about cooking – whether you eat by yourself or with others, whether you create a gourmet feast or a satisfactory lunch, even the clean up – overlaps and adds dimension to your cognitive fitness. Each meal is a new experience.

Storytelling – It is one of the oldest forms of both teaching and entertainment. It differs from a simple narrative which is a systemic recitation of events. Storytelling can be part of a conversation but it differs because it is a break in the normal turn-taking flow of a conversation, offering the communicator an extended opportunity to convey a message without interruption.

Storytelling involves a greater depth of skill in both presentation, body language, and linguistics. Whether you are the speaker, the listener, or the reader, your brain surges in performance when it engages in storytelling. A story is usually an emotionally charged event, making it easier to remember and with greater accuracy, because the story activates parts in your brain that link your head, heart and mind. It is an integration that creates understanding, empathy, and bonding. Each telling allows you to turn the story in to your own ideas, experiences and values.

Let's look at other practical activities, many of which you already do, but maybe not nearly often enough. Do any of them daily in the course of your normal routine. Each exercise below and those outlined in the sections that follow can be the basis for a more enduring exercise. Vary when and how you do any exercise to excite your brain in different ways.

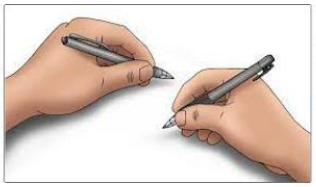
Daily Exercises

- Play with words, such as in puns, word games, and crossword puzzles. Whenever possible, solve puzzles with pen and paper, instead of using a touch pad devices.
- Ditch the calculator. Hone numerical skills by doing calculations in your head, or on paper. Do them out loud from time to time. Using conveniences like using GPS and auto correct in MS-Word are made for a lazy brain.

- Ignore technology, like television or smart phone for mental stimulation because neither source will stimulate or challenge all areas of the brain.
- Use the Japanese art of origami to boost motor skills. Folding paper into fascinating shapes pushes the mind to be more innovative with each attempt.
- Developing nimble fingers is a surefire way to improve brain function. Take up juggling or a hobby that requires fine detail work like painting, knitting, or calligraphy.
- Play board games. Choosing games that have both visual and analytical components will stimulate more areas of the brain. Look for games that involve using fine motor skills. Games with spatial and logical challenges, like jigsaw puzzles or charades should be interspersed with strategy games or those that force you to use math or language skills, like scrabble or Suduko. Playing games with people adds even more stimulation. Playing a board game is a good way to recapture the kind of relaxed concentration that you learned in childhood.
- Learn a new word and its meaning and how to use the word in conversation. Keep track of the words and review them weekly or monthly.

- Read. Even reading as little as fifteen minutes per day is good exercise for your brain. Besides, reading helps improve your language skills while keeping your memory strong. Remember reading is an engagement with storytelling. Reading is cognitively enriching when the content takes effort to understand, or sparks questions, ideas or "aha" moments.
- You can turn watching television or movies into a challenge that exercises your brain. The key is to add another engaging dimension to the experience. You can do that through keen discussion about what you have seen, conducting research to answer questions, or writing about the experience or what you have learned. You can also excite your brain by engaging in active storytelling or daydreaming, tying in aspects of a movie, documentary or news story into your thoughts.
- Writing is accepted as one of the best mental activities for clarifying thoughts and improving memory and powers of logic: make notes after a class or a meeting, write in a daily journal to recount joys or achievements, and don't fret over grammar and style to allow your thoughts to flow.
- Increase your knowledge. Learn a something new every day - a world fact, advance a skill, explore the depth of a brief news story. Share learning and engage in discussion that expands on the subject matter. Become a student again. Take an online tutorial or self-directed course of study. Attend workshops, seminars, and other conferences where knowledge is shared and active learning takes place to augment your professional pursuits, hobbies and personal interests. Master a new skill, preferably one that includes deductive reasoning, like learning a new language or html coding.






- Switch hands to increase brain activity to do things like: brushing teeth, eating, and using the keyboard. Exercising the opposite side of your body wakes up the left side of the brain. Even writing with the opposite hand for a minute or two a day is helpful.
- Explore ways to excite your senses. Take a few extra moments to inhale spices or herbs when you cook. Test your ability to identify different tastes, flavors or aromas. When you do laundry run your fingers along seams, zippers, feel the roughness or smoothness of the cloth or the sharp edges of the seams, stitches or zippers on your forearms, wrists, shoulders.
- Plan and solve a challenge, such as deciding a new or complex route to work or school, creating your own crossword or Sudoko puzzles.
- Rely on memory or logic. For example, when preparing a grocery list, think about the meals and who is being fed. Visualize the contents of the pantry or freezer. Do not rely on the list for shopping until it is time to check out. Then use the list to double-check your purchases.
- Visit museums, historical sites, zoos, art exhibits, cultural events, trade fairs. All these venues help build better cognition. Instead of wandering, read the signage, brochures, absorb the information so you can repeat it during and after the visit.

As you have just read, activities and exercises do not have to be dramatic to be effective at exercising your brain. Keep in mind that once you have done any an exercise enough times that you are operating on autopilot, it no longer challenges your brain. Therefore, you must seek to keep exploring new challenges, take your brain into new territory. It is good to force your brain out of its comfort zone.

Your brain is very rule-based or procedure based, so it generally feels more comfortable when the rules or procedures are clearly defined. Brain training exercises or challenges should begin within a construct that gives the brain its new rules or a direction to feel secure. So before trying a new exercise, activity or challenge familiarize yourself with the process. Mind you, we are quite certain that you will find that many of the exercises in this guide are less about rules. Still you have to notify your brain that you will be exploring a different or unfamiliar challenge. In concept the exercise may not be unfamiliar. Yet, your brain may not have previously experienced it at its different levels of complexity.

For instance, you may rarely indulge in daydreaming or practicing being ambidextrous. Both may be out of your comfort zone. Yet both exercises excite your brain and as you strengthen your skill in either activity your brain will undertake challenges of increasing complexity, expanding from your comfort zone to performance zone.

When you are out of your comfort zone trying something new or challenging your brain reacts by raising anxiety and generating a stress response. That is a good thing. In fact, a great thing! It means you have entered an enhanced level of concentration and focus which can create an ideal brain "performance zone". In the performance zone you experience a feeling of energized focus, full involvement, and enjoyment in the process of the activity. You can become so absorbed in what you are doing that you lose your sense of space and time.

Remember what it was like the first time you learned to ride a bike. It seemed difficult. People encounter similar complexity the first time they play the guitar or use all fingers on the keyboard to write a letter. So many challenges may seem unusual or awkward in the beginning, but later with some repetition or practice it becomes much easier and more enjoyable. Soon people are doing tricks on a bike, playing difficult guitar pieces or typing at ninety words a minute.

However, if you undertake a difficult challenge that causes significant anxiety, there is no optimal performance zone. You should be mindful of whether stress levels are helping or hindering your execution of the challenge. When your brain produces a stress response that hinders focus, your thinking performance deteriorates and you are more apt to resort to more familiar but less challenging thinking strategies, even if they are not helpful anymore. When that happens, it is time to stop and recharge before undertaking the challenge more slowly or possibly in baby steps.

Stretch Out and Ask More of Your Brain

With the flip of a switch you have light. Simply press the right app and you have music. Wouldn't it be great to snap your fingers to think more creatively, to possess insight or a photographic memory, to have advanced communication or problem solving skills, to increase concentration or be more resilient?

Anything is possible. You just need to stretch out and ask more of your brain. How do you do that? Other than dancing, cooking or the daily activities mentioned early how can you shake things up?

In the next few pages we offer many suggestions. Some may be unfamiliar to you. If an activity is unfamiliar, introducing incremental changes does challenge your brain. Just remember do not make it too easy because the exercises or challenges are most effective when you do something your brain is not expecting. The exercises or activities are not scary or difficult. Mostly you choose to do things that are new, varied or more challenging than your daily routine.

You could stretch your thinking or imagination to view an idea or possibility in a different light. You could stretch one minute into five to become more aware or curious of your surroundings or be more engaging with people. Stretching out might be altering just one thing within your environment while performing day-to-day activities. Let's review some recommended "stretching out" strategies:

1) Keep Learning
2) Solve problems
3) Extend Boundaries
4) Day Dream
5) Stretch Idea Generation to the Next Level
6) Learn to Play
7) Be Curious and Stay Curious
8) Practice Creativity
9) Alliteration
10) Stand-Up Comedy
11) Karaoke
12) Dancing or Dance-Like Activities
13) Friends are Good for your Mind
14) Train Those Awareness Muscles by Consciously Choosing
15) Be mindful
16) Listen more Attentively and Actively
17) Be Observant
18) Use Your Mind’s Eye To Conjure
19) Engage in Wondering or Lingering with the Unknown

Stretch out Strategy #1 – Keep Learning

The pursuit of education keeps you brain alert. Keeping mentally active stimulates communication among the various parts of your brain. Learning real life skills is a great way to enhance brain power, but you should not become complacent once you attain proficiency. The only way to continue to stimulate your brain is to expand a learning experience at the next level of difficulty or try something more challenging or entirely different like a new hobby or field of study. . The key is to step out of your brain's comfort zone. Learning languages, playing musical instruments, or engaging in strategy games like bridge or chess are ideal pursuits that keep challenging the brain because there is always more to learn in such activities. Wake up every new day eager to learn something new.

Stretch out Strategy #2 – Solve problems

It is a great stretching exercise to solve problems, complex ones. Not just the problems that you encounter or are tasked to solve, but exploring how to solve problems that exist around you. This challenge forces you to use the logical, analytical, objective, intuitive, and subjective parts of you brain to formulate the optimal solution or multiple solutions. Besides deliberating over these complex problems you can stretch the exercise by mapping out the step of the problem, writing down the details and drawing analytical diagrams or charts.

Every academic subject and all aspects of life involve problem solving skills. Developing problem solving skills instill confidence and independence while stimulating your brain.

- Verbal intelligence problems
- Math & probability problems
- Lateral thinking problems
- Visual spatial intelligence problems
- Logical intelligence problems
- Pattern recognition problems

Stretch out Strategy #3 – Extend Boundaries

You can extend the boundaries of learning and experiences and stimulate those synapses to keep firing by exercising the brain in unexpected ways. Novel, challenging, and complex activities trigger release of dopamine, the "motivation" neurotransmitter, as well as promote the creation of new neurons. Many of the following challenges only take a few minutes:

- Many people have jobs that keep them mentally active. However pursuing a hobby, learning a new skill, or volunteering for a stimulating project where you need to acquire new skills functions much the same way.
- You stimulate mental growth when you challenge your current way of thinking. Challenge your own ideas and long held viewpoints by becoming more analytical or critical to see things in different light. Instead of simply accepting and archiving information passed along to you or allowing your first interpretation to guide you question or probe for deeper insight. Stretch the exercise through writing, rereading and revising these ideas, or probing still deeper.
- Your senses work to engage your attention. The more senses you utilize in learning something new, the more alert you brain is to the details and to retaining the memory. When you explore something new you should try to engage all your senses in non-routine ways.
- You can force your brain to use new neural pathways by doing chores with your eyes closed, without putting oneself at risk: taking a shower, shampooing hair, sorting laundry by feel, doing dishes, putting groceries away.
- You can extend the boundary of any brain challenge by choosing to do things in a more difficult way. You can start by not relying on convenient technology, like calculators, smart phones, or GPS. You can use your brain for spelling, math, finding directions, memorizing addresses and phone numbers, recipes, or lists.
- You can stretch difficult to a new level by hanging things like clocks and calendars upside down or backwards, using the phone or wearing a watch upside down, reading with a mirror or practicing to write backwards, learning to recite the alphabet backwards or sitting on the opposite side of the board to play chess or checkers.
- You stretch out of your comfort zone when you engage in a hobby that is totally out of character to what you normally do, especially if it involves some type of motor skills: needlepoint or origami instead of boisterous athletic activities, learning sculpting or tai chi instead of reading.

Stretch out Strategy #4 – Make Time for Daydreaming

Numerous regions of your brain are highly active during daydreaming and imagining that anything can happen and anything may be possible. Even the part of your brain associated with complex problem solving shows increased activity when you linger in a world of "what if". Did you know that engaging daydreaming actually inspires productivity?

So abandon your sensible, rational adulthood for a few minutes to engage in a guilt-free adventure where you can ride clouds and catch rainbows and do anything you want. Set aside time for daydreaming. Choose a peaceful place with no distractions so that you can engage in endless dreaming, curiosity, wishful thinking – all of the traits a child would have – that imaginative, boundless type of place where your mind takes you to happy places where the impossible happens.

Try imagining all the things that would make you happy and putting them into a story. Build on the story each time you daydream. Keep your stories, characters, and situations positive.

Stretch out Strategy #5 – Stretch Idea Generation to the Next Level

Aim to do innovative exercises force you to act or think differently.

- Constantly try to improve your ideas. Explore all approaches even when you have found promising ones.
- Challenge your assumptions. Since most first impressions, views, or impulses are biased toward your usual way of thinking, try viewing a situation in at least three different ways to get a deeper understanding. Try arguing your assumption as the devil's advocate to test the strength of your arguments.
- Escalate, accelerate, exaggerate, recreate, moderate – rather than look at a scene or at something look into it, study it, question it, restructure it. Change the construct of what you see, hear, taste, smell, or feel.
- Use brainstorming or creative problem solving techniques to expand your thoughts and ideas. You might coordinate brainstorming sessions within a group or try solitary brainstorming where you list or diagram your thoughts on a subject – try mind maps, free writing, word association, free speaking – then review what you have, make additions or streamline what you have recorded.
- Don't let a good idea get away. Make sure you record all your ideas, even those that seem silly or you don't think you will ever forget. Your mind, alert or at sleep, will use and juggle this collection of ideas into a rich network that your mind can later draw upon for creative innovation.

Stretch out Strategy #6 – Experience Childlike Playfulness

Play is not just beneficial to children so give yourself permission to play every day just for fun.

Play is widely credited as a vital part of human development, with studies linking play to creativity, imagination, cognitive and emotional strength, as well as improving social skills and the way we engage with the world. While there haven't been many studies into playfulness in adults, recent research found playful people were more likely to be good at observing, see things from new perspectives, be more innovative and have lower stress levels.

Uncomfortable? How do you start? Mine your past for play memories. What did you do as a child that excited you? How can you recreate that today? Need a refresher from a child's perspective? Spend time with young children. Get down and play with them to experience the magic of play.

Even if you are not ready to dress up like a clown, start a food fight, or climb trees you can do things that make you laugh. Laughter and playfulness are closely intertwined because laughter is a natural outcome of playfulness. Even if it does not make you laugh spontaneously, assuming there is resonance, any playful activity like giving out gag gifts or playing games loosen you up and energize your mind.

You can get excited about everything just for fun. Ask questions with a big smile on your face, recognize those moments of wonder that where you get to say "aaaah" and "ooooh" a lot.

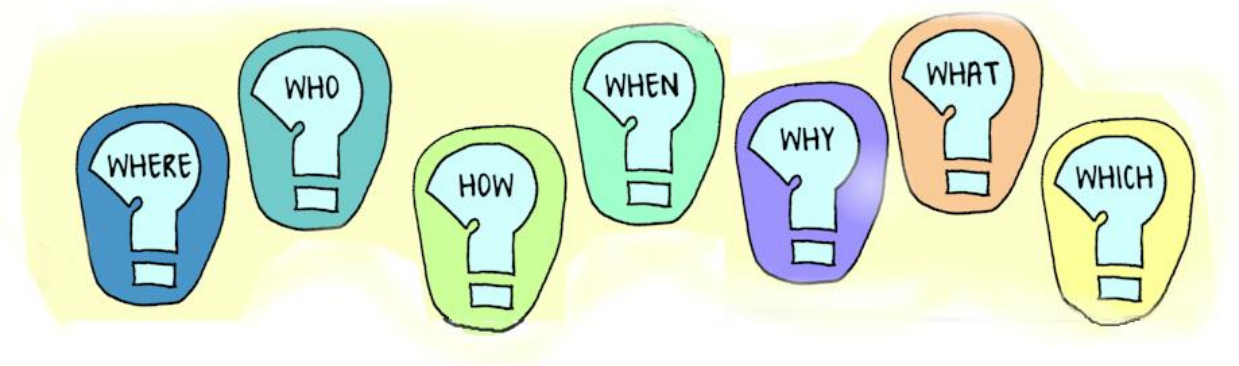
How about any of these playful activities?

- Blow bubbles. Better yet have a bubble-blowing competition.
- Build a sand castle.
- Fly a kite.
- Draw rainbows on cardboard boxes, doodle with colored pencils, draw cartoons on toilet paper, or finger paint in your bathtub. Sing while you do it.
- Dare to be different by wearing two different color shoes or socks.
- Walk barefoot in the grass or better yet jump in a puddle of mud.
- Start a water fight, toy throwing contest, .
- Go on a spontaneous adventure.
- Speak gibberish.
- Pretend you are three years old and seeing an object for the first time, wondering how you could play with it.
- Play a game and make up a new set of rules. Better yet, make up a set of new rules for you day and try to follow them.
- Talk to your pet or get yourself a puppet and play act with it. Dress it up, make up a fantastic tale, try out foreign accents, and sing happy music together.

Stretch out Strategy #7 – Be Curious and Stay Curious

Nonstop curiosity is great exercise for your brain. You can expand how you think or ask questions about just about anything: a news story, career, places, people, their viewpoints, history, or interesting trivia.

Charles Darwin was a master of curiosity and concentration. His tenacious curiosity caused him to spend hours staring at animals and plants, questioning and examining their characteristics and behaviours. He was able to see so many details that others simple didn't notice.



For the most part people are able to decide what they want to focus their attention on. Try this simple experiment to test how staying curious about the object of your attention can prolong your ability to stay focused on it:

- Pick a dot any dot on a piece of paper or wall. Try to focus on that dot. You'll probably find that one of two things will occur. One, you may find your field of vision becomes blurred and you see nothing distinct, or two you may find that you have actually ceased to look at the dot in question and you actually looking at something else nearby.
- The way to remain focused on the dot is to be curious about that particular dot and transform that curiosity into specific questions about it. How big is it? How far away? Is it perfectly rounded or could it be another shape? What shade of color? Is it smooth or bumpy? Why does it have texture? How long has it been there? How did it get there? By thinking about the dot in various ways and associating it with different characteristics you can keep your mind on it for a comparatively longer time.

The more curious you are about a subject, the greater the stamina of your concentration will be.

That is true for any endeavor. Curiosity and focus can enhance other meaningful attributes such as your attention span, powers of observation, patience, and resourcefulness. Curiosity intersects with focus. Focus and curiosity spark insightful questions from which fresh ideas grow. Your ingenuity originates from curiosity.

Stretch out Strategy #8 – Practice Creativity

Typically, when we hear the word "creative" we think about the world of art where the freedom of interpretation and expressions stems from loose rules which are often broken at the artist's discretion to generate drawing, writing, sculpture, photography, music, design, theatre, comedy, dance, you name it. People that demonstrate above average creative skills probably practice more than the average person.

You are born with your creative juices flowing. Creativity is one of the most important characteristics of being human. As a species we thrive through our creative juices. It is one of the main traits that make us successful as individuals and as a species. On some level, nearly everyone falls into the creative spectrum of inventors, entrepreneurs, fine artists and thought leaders. Anyone that can turn an idea into action or exploit opportunities is creative.

You may not feel particularly creative or may not judge yourself as having creative skills. However, at its core creativity exists in many different forms and is fundamentally about your mental capacity to generate novel and useful ideas or solve problems. It is about how you develop, understand and communicate ideas in every realm of your life. The fact is creativity is an integral part of your daily life.

You may not recognize things that are creative in your daily activities: managing a tight budget, planning a party, finding a new route to avoid a traffic jam, choosing the day's wardrobe, furnishing a room, taking a photograph, solving an everyday problem. Anytime you show flexibility in perception or execution of a task or tell a story (factual or fictional) you demonstrates creativity. While some of your creative endeavors may not have a place in a professional setting, they are most definitely stimulated by your creative juices.

Research studies have shown that as young children we are characteristically at about a 98% level of high creativity. As we proceed through our school years we learn non-creative behaviors or can unwittingly get boxed into a specific role that encourages us to think practically instead of creatively. When we stop exploiting our creative mind and talents, our level of creativity can drop from 98% to 12%, so that by the time we are fifteen years old many of us stop practicing creativity. Our synchronized world with rules and regulations is counterproductive to fueling our imagination, daydreaming, or encouraging us to think differently. It has influenced us to frown upon such things as imperfection. Although there is nothing perfect in this world we tend to believe that our ideas, designs, or handiwork must be flawless and worthy of competitive greatness. Against the odds of achieving the idea of perfection our curiosity and creative efforts decline.

Yet, today creativity is a crucial skill for people in all fields and walks of life. Creativity and innovation have become strategic priorities in the modern business world. To encourage resourcefulness, originality, or imagination many global businesses practice the "20% rule" meaning they encourage their employees to set aside twenty percent of their work time to exploring new ideas and thinking creatively. In other words the individuals get to practice creativity.

You should make a point of practicing creativity every day because every creative thing you undertake results in more creative connections in your brain, which leads to more resourcefulness in the future.

Practicing creativity through targeted exercises require no particular talent and it not a competition. The focus is on the creative process, the spirit of exploring creativity rather than focusing on producing a specific creative product or the expectation of producing anything 'good'. It is just exercising your brain to simply think creatively to develop your untapped and underdeveloped creative attributes which allows you to access the full scale of your creative capabilities and unleash new potential.

In any creativity exercise we encourage you to let those creative juices flow to take them someplace, anyplace – break all the rules, create anything, high caliber or questionable. In fact, there are no rules and no passing or failing marks. We ask you to think outside the box, way outside the box, distort any fact or alter any conventional thinking. By thinking outlandishly, by mixing nonsensical and discerning ideas you learn to develop an inspired, inventive, and creative frame of mind. The simple act of thinking differently, unconventionally or from a different perspective excites your brain in new ways.

One starting exercise could be to study things in new ways, as if you were going to repurpose them or reinvent them. For example, you can examine any possession, or object in your environment to figure out how that item can be turned into something interesting, useful, or bizarre. Besides thinking of only reasonable questions, asking illogical questions and coming up with equally bizarre responses stimulates your brain. What else could this become? What else is like this? Can I combine it with another item to create something new? What can be added, subtracted, rearranged, reversed, or altered? Can I change the color, shape, sound, or smell? How can I put this to other uses? What might be puzzling about this object? What's out of place? What analogies can I make? What associations can I make? Could this item represent the solution to any problem? Does this item annoy me? The goal is not to think of obvious things, but to try thinking way beyond the obvious and even be absurd. For example: Can this gravy be used as a glue?

Even when you are just messing around to explore new ways of doing things, even if its use or functionality is questionable you show creativity. One of the best ways to practice creativity is to play. An adult who has lost his or her creative spark can learn to be creative through learning to play again, to retrieve that child's sense of wonder. Children play with ideas to explore them, not for any immediate practical purpose, but just for the enjoyment. Adults can too.

Vary your creative thinking and projects in order to use both your mind and your motor skills. Work on constructive projects that vary in length from a few minutes to a few hours. Your brain benefits from short term creative projects. One day you can dream up some fun lyrics, and the next you can write in your journal, paint, draw, or craft something interesting. Creative projects that involve more planning, preparation or attention to detail may be more dynamically beneficial. Join a drama club, write poetry, or play an instrument. Try woodworking, making jewelry, or scrapbooking. Create a board game, instructional video, or redecorate your space. Many art projects such as painting, model ship building, and jewelry-making demand visual spatial skills, being able to understanding complex designs, follow written instructions or memorize techniques and patterns. Completing a project requires you to concentrate on the activity and use motor skills for physical completion. The key is to stretch your creativity beyond your previous creative experience.

Stretch out Strategy #9 – Alliteration

Try an alliterative challenge. Pick a subject and a letter of the alphabet and create an alliterative sentence or paragraph. Example: The subject is the British musical group the Beatles and the letter is "B". The alliterative result:

> *Beautiful boys, the Beatles, bobbing and bouncing 'bout Britain, to brandish their musical brilliance, before buoyed and buzzing buffs, boldly begging autographs from behind British bobbies.*

It is meant to be a fun exercise. Your creation does not have to be a certain length, be plausible, or meet any literary measurement. Start with short expressions. *Coy Connie collects candy canes.* Relay any thought you desire. Gradually push your mind to search for more and more alliterative words that expand that thought into a story. Add layers to the challenge by conveying the same thought using a different letter. Try rewriting articles from news reports. Turning your exercise into a tongue twisters.

Stretch out Strategy #10 – Stand-up Comedy

If you have the thirst for it, stand-up comedy is a great challenge for your brain. There is pressure, but it can be fun. Even if you never get to deliver your lines on a professional stage, creating a comedy act would be an excellent challenge for your brain.

Stand-up comedy requires a variety of skills. What seems like a one-sided conversation is really a type of multifaceted conversation because you must orchestrate a routine that anticipates and engages the audience. Besides creating a persona and being able to present yourself effectively on stage, you need to think creatively, select appropriate material, have writing ability, planning and communications skills and a good memory. You have to become cognizant of how your performance might be affected by microphones, cameras, lighting techniques, stage hands, or different sets and locations. To perform to an audience requires playfulness and an intuitive sense of timing. You have to be able to read the mood and reactions of your listeners and think quickly to improvise and think quickly respond to events decisively and effectively. You must be capable of receiving criticism and have the ability to work with different people.

Stretch out Strategy #11 – Karaoke

Singing karaoke exercises different parts of your brain: your memory when you remember the lyrics and the melody; language when you read the lyrics and perform, mood and creativity in your interpretation of the song and in any personal associations or memories the tune might remind you of from previous experience. You can stretch your imagination and creativity by making up lyrics to music that you like.

Stretch out Strategy #12 – Dancing or Dance-Like Movements

The basis of dance is rhythm, but it is first and foremost a stimulating mental activity that connects mind to body. You can dance solo or you can dance with a partner, or in a group. If dancing does not appeal to you there are other forms of human movement that have dance-like characteristics. These include martial arts, gymnastics, tai chi, cheerleading, figure skating, synchronized swimming, yoga, couples yoga, marching bands, color guard, and many other forms of athletics.




They are all complex activities that really work the brain. Here's why:

- Requires co-ordination, flexibility, and motor control.
- Involves an alternation of moves from left to right, forward and backward, rise and fall or bilateral symmetry
- Increases awareness of where all parts of the body are in space.
- Focuses attention on eyes, ears and touch as tools to assist in movement and balance.
- Usually involves a repertoire of coordinated moves.
- Can be theatrical, cultural, or social.
- Choreography in dance requires creativity, memorization, and concentration.
- Requires keeping in time or time-sensitive movements.
- Requires a level of body fitness and breathing techniques.
- Involves creativity, along with an understanding of music and dance techniques to interpret and respond with appropriate moves.
- Can have strict rules or be open to personal interpretation.
- Can tell a story when the dancer responds to the music with a combination of mime, mood and graceful movement.
- Skills are tested with each partner or participant.
- Requires a blend of leadership and cooperation.
- Skills are tested with different tempos, genres, of music, or cadence of another person's moves.

The challenge is learning new techniques, new moves, and applying those skills to different music or scenarios. Add dimension to the challenge by choreographing your own routines.

Stretch out Strategy #13 – Friends are Good for Your Mind

We humans are designed for social interaction. The impact of any brain-building exercise is heightened when you involves social interaction. It turns out that being sociable is just as important as diet, exercise, other lifestyle factors, and cognitive exercises. Friends help keep your brain healthy.

Socializing requires complex communication skills that involve different brain functions such as face recognition, memory, focus, attention, listening skills, and language skills. Each of these functions is processing in your brain while you share a joke, discuss the weather, delve into philosophical or political issues, or brainstorm to solve a problem.

More complex human interaction challenges your brain and increases cognitive function.

- Expose yourself to new situations, ideas and perspectives by stepping out of your comfort zone to seek out others with different interests, careers, ages, or skill sets, or those who are from different social or cultural environments. You can join groups or volunteer to expose yourself to different people and experiences.
- Pick the brains of smart people, hang out with them, study together, or discuss ideas, question popular assumptions, make new discoveries, engage in stimulating discussion, debate, or conversation.
- Share information, ask questions, or instead of promoting one side of an issue, try arguing as the devil's advocate, provoke debate.

Whenever possible, connect and socialize with different people to boost your emotional intelligence.

- Socializing generates emotions that are important for motivation and helping you find meaning – friends and family give a sense of purpose, bringing structure to your life.
- Interacting with others can lift your mood and decrease chance of depression
- Friendship encourages healthy habits.
- Friends provide an outlet for emotional expression which is good for you body as well as the brain.
- Friends offer a great opportunity for attentive listening to help nurture your human interactions to build rapport, understanding, and trust.

Stretch out Strategy #14 – Train Those Awareness Muscles by Consciously Choosing

We go about our lives experiencing our environment through our senses. Exteroceptors detect stimulation from outside of the body. Common examples are smell and taste. Interoceptors receive stimulation from the inside of the body. If you have ever had a headache or a thirst for water or been sexually aroused, it is the workings of your interoceptive sensory system.

Each of your senses has an inherent capability to receive and process stimuli. No one of your senses works in isolation or apart from the other senses. Your senses are continually interacting. What your senses experience makes you feel as though you are awake. Yet, research shows that your conscious brain is physically aware of a very small fraction of the information you could potentially capture if you took the time to train yourselves to be more aware.

Every second tens of millions of bits of data is passing through your sensory organs – eyes, ears, nose, tongue, and skin. It is nearly impossible to imagine that you could ever be consciously aware of such a massive amount of information. Actually, most of that data is filtered out and transferred to the unconscious parts of your brain to keep you from being overwhelmed. The sensory organs and filter are working 24/7. What might you be missing?

To get a gist of the significance, let us look at what you see through your eyes. Research shows that your eyes are exposed to more than 10 million bits of visual data every second. Out of these millions of bits your brain takes in about 40 bits and you consciously notice 16 bits. The difference between what is filtered to the conscious and unconscious parts of your brain is determined by what you consciously decide to let your eyes give attention to. Therefore, it follows that you do not have to take in millions of bits of information to become more consciously aware. You only have to train your visual awareness muscle to take in more than 16 bits. The moment you consciously choose to become aware of something specific within your environment is the very moment the filtering begins to sort through anything and everything associated or connected with your desired intention.

Consciously choosing means you choose differently to expose yourself to the right kinds of information to draw that 16 or more bits of data from the 10 millions bits of possibilities. You consciously zero in on what is important and give that your undivided attention. This is happening every second, which accumulates into significant information when you choose to where to aim your attention, focus and energy.

Learn the True Value of Undivided attention and how to Prioritize Protecting it

Learn more about Attention Management Strategies
to work smarter and reclaim cognitive health

Stretch out Strategy #15 – Be Mindful

When you think about training your awareness muscles and choosing, you simply have to often ask, "Where is my mind?" Ask the question when you are standing in the shower, riding a bus, grabbing your phone for the latest Facebook update, or sipping your morning coffee?

Where is your mind when you are running on auto-pilot? Mindfulness is simply focusing completely on what you're doing, slowing down, and observing all of the physical and emotional sensations you are experiencing in that moment. Basically paying attention to where your mind is.

Mindfulness is staying in the present moment to simply focus on what you are doing, consciously choosing to stretch the sensory awareness muscles. Rather than tune out your surroundings, it means you take a few deep breaths to slow down in order to observe all the physical and emotional sensations you are experiencing in that moment. It doesn't mean judging the experience as good or bad or making comparisons. It's not about revisiting the past or anticipating the future.

You can practice mindfulness several times a day. For example:

- When you walk from one place to another sweep your eyes around your environment, pay attention to the people and objects around you, take in the details.
- While eating take time to really chew your food and concentrate on its flavours and texture; feel the morsels slide down to your stomach; discern the specific moment you become sated.
- When you shampoo your hair, smell the fragrance of your hair products; feel the sensation of the foamy lather or massaging your scalp; notice the splay of your fingers and how rubbing your scalp shifts the skin on your forehead or cheeks. Note the muscle tension in your eyelids, listen to the water spray.

Incorporating short sessions of mindfulness throughout your day is a cognitive exercise that will strengthen and expand your attention span for the times when you really need it.

Stretch out Strategy #16 – Listen more Attentively and Actively

Making an effort to focus all your energy on sounds strengthens your concentration muscles overall.

- In conversation, pay attention to the person speaking, listen for inflections, tone of voice, nuances in language. Focus on the words and the presentation. This exercise is an essential intellectual and interpersonal skill.
- When listening to music, pay closer attention to lyrics, the variety of instruments, sing along or tap out the beat. Experience different genres, seek similarities.
- Listen to nature or the sounds of your street or community.
- Listen to the sounds of appliances or the buzz of electricity.
- Listen at various times of the day or night to experience the differences.

There are several ways to practice attentive listening.
Learn More about Developing Listening Skills

Stretch out Strategy #17 – Be Observant

A person with strong observation skills will notice, analyze, and remember their surroundings. To become more observant take time each day to study your surroundings.

Strengthen your powers of observation with this exercise. Meticulously observe one stationary thing, pay attention to details.

- Study a building, landscape, co-workers desk, single object, or image on a wall or in a magazine.
- Give yourself one minute to scrutinize it for little details.
- Then close your eyes and remember.
- Next, with the object or scene out of your sight, describe those details.
- For realistic results, itemize every aspect in writing, or you can keep your eyes closed and record yourself describing the details.
- As you become more adept in this exercise, reduce your observation time from one minute to seconds.

The point of this exercise is to learn to use the simplest of things to augment your powers of observation. It is a handy exercise that can be done any time and any place.

Example:

Take a look at illustration on the right. We'll use this example to demonstrate an observation exercise and illustrate the power of observation by comparing what three groups were able to recall after one minute of study.

Observer A – describes this image simply:

- a silver pen and black glasses on top of a coiled notepad. It's a desk with a keyboard slide out.

Observer B – recalls more:

- images shows part of a desk and part of a keyboard sitting on a pull out drawer
- a coiled notepad with beige cover sits on the desk with one corner overhanging the keyboard
- resting on the notepad is a pen and pair of glasses
- the pen is a two-toned silver ball point
    - black rimmed reading glasses are folded next to the pen

Observer C: scrutinized the image to provide several more details about each object:

- The pen is silver toned metal. The tip, push button and clip are shiny. The ball point is not visible. The lower portion of the pen below the joint is embossed with rows of aligned circles, eight per row, three rows are visible. The upper portion is brushed metal. The push button is fat.
- The style of the black rimmed reading glasses indicates they probably belong to a lady. The shape of the lenses is oval, narrow upswept almond-shaped. The black rim surrounds the lenses and is plain, no adornments showing. The black arms of the glasses are folded in and the arms extend beyond the widest part of the lenses by at least half an inch.
- The glasses and pen are resting on top of a rectangular shaped notebook with twin loop wire binding on the long side and thin cardboard backing, which is light brown or beige in color. The notebook is closed and laying upside down so the cover is not visible.
- The glasses lay parallel to the binding with the left lens close to the short edge of the notebook and the top of the glasses nearer the binding and slightly less than in the middle of the notebook closer. That is closer to the binding than the opposite edge. The pen is situated at an angle to the book and the glasses so that the point of the pen and the left arm look like they are nearly touching in the middle of the notebook.
- The notebook is plain with has no visible label, marks or writing. It is situated on a light beige or cream colored desk. The desk has a keyboard shelf lower than the surface of the desk. The keyboard on the shelf is a shade of white or beige. It is not an ergonomic keyboard. A fairly large portion of the corner of the notebook is off the desk hanging over the keyboard. The corner of the notebook appears to be over the letters "k" or "u".
- The image centers on the reading glasses and pen. The image does not reveal 100% of the notebook, desk and keyboard, but enough to be recognizable.
- The eyeglasses and pen appear to offer the reflection of a light shining from the left and above the desk.
- Everything in the image is clean. No item in the image appears to be damaged, scratched, worn out, or misused. There is no evident advertising or promotional significance to the image. The keyboard has fuzzy letters and symbols.

The observation powers of the third observer are evidently more practiced and stronger.

You have similar potential. Just practice stretching out to notice things in your environment. Block out other stimuli to concentrate on what one thing that you see, study it and try to recall the details. With practice you will be able to scrutinize the finer points and the image will be imprinted for easy recall.

Stretch out Strategy #18 – Use your Mind's Eye

Using your mind's eye simply means you use the power of your imagination to create a completely new image or experience in your mind from something that you see in from of you. An opportunity presents itself every time something catches your attention. Use that image to synthesize or create a completely new image or experience.

The exercise of using your mind's eye actually incorporates other strategies: #3 extending boundaries, #5 stretch idea generation to the next level, and #8 practicing creativity.

Say you see someone walking. Can you conjure up an image of that person walking a dog, two dogs? Could you imagine the dogs flying? Skating? Changing into cartoons? Other critters? In your mind's eye, what happens next? What can they do next that takes your mind's eye to a new place? Imagine someone seeing the same thing as you and what they could be thinking.

Use your mind's eye deliberately for two to five minutes every day.

You can add a new dimension to any exercise for your brain, or any experience for that matter, by using the power of your imagination to conjure up a mental image that is a variation of your current experience.

For example, using the observation exercise from Strategy #17, you could use your mind's eye to conjure an image of who brought the pen, glasses and notebook to this location. How old is this person? How were the items previously used? Could the notebook belong to a reporter, detective, student, writer, analyst? Imagine the pages within and what secrets or revelations might be written inside? Imagine other uses for these items or how you might wish to use the items.

Who knows where your mind's eye will lead you how your imagination will boost your cognitive powers!

Stretch out Strategy #19 – Engage in Wondering or Lingering with the Unknown

How often do you get to spend time marveling at the world that surrounds you or wondering about the fantastic or unknown.

The spirited part of conversation, your sense of wonder, using your imagination or paying attention to your thoughts is lost when you or someone else acts on impulse to use a smart phone for an easy answer. Once you know or have an answer, if you are like most busy individuals, you move on. Thus you can end up constantly moving from one thing to the other and never lingering long enough to engage in astonishment, admiration, doubt, conjecture, questioning, guessing, or dwelling on our own thoughts. It only takes a few extra moments to explore all the secret places your mind might take you.

To do that you must stretch yourself in the opposite direction of your adult goal-oriented and measurement-driven productivity cycle for a few minutes to pursue reflecting on the unknown.

- Delay your need to know. Cultivate the habit of wondering about questions instead of immediately looking them up.
- Linger and dwell in a moment of wonder to seek inspiration from within yourself. You can do that when you don't know. Maybe you will realize that you did know the answer and just needed time or lingering in thought to remember it. Maybe you will discover that you are able to arrive at an answer through logic. Or you may be delighted by the results of your creative thinking.
- Encourage conversation that allows for wondering and conjecture. Ask people to ignore their impulse to use the phone.

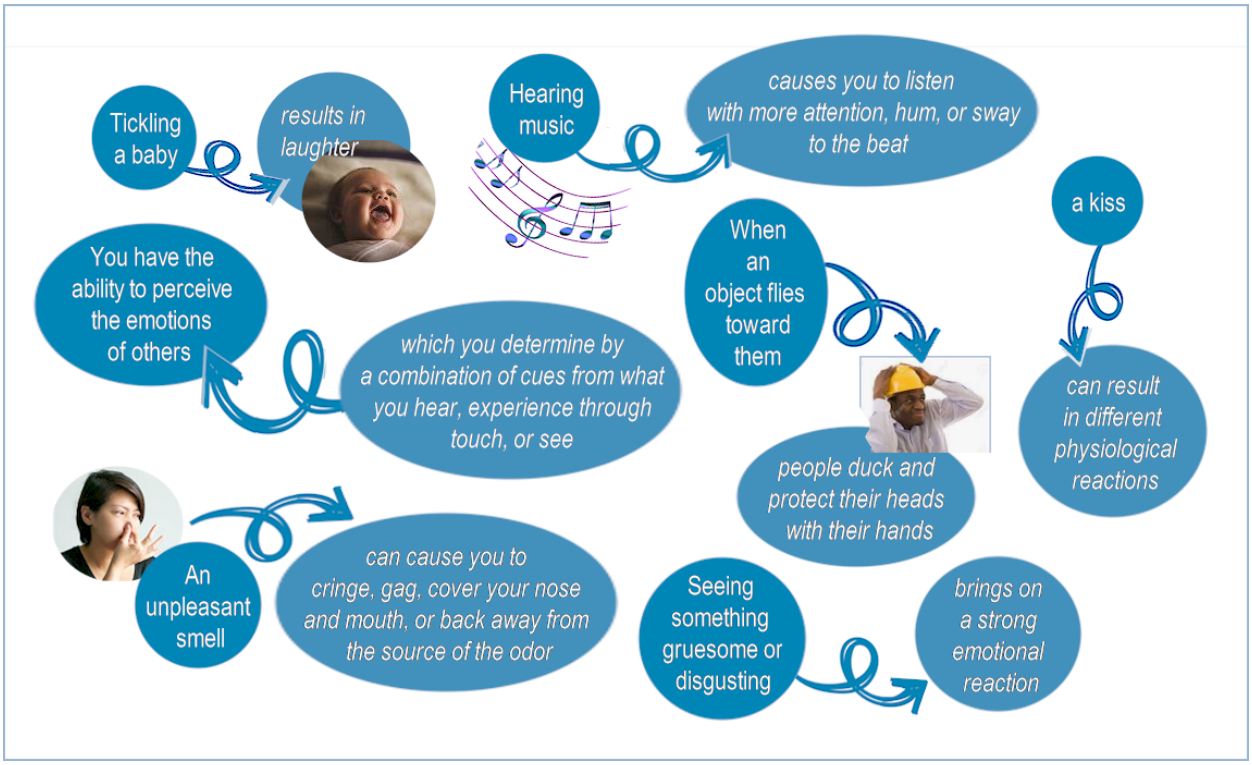
You know that your brain is the command centre of what transpires between your central nervous system and the physiology and biochemistry of your body. Your brain receives, processes, interprets, and integrates the stimuli from all your senses. All your senses are continually receiving information and interacting. Messages within your brain are carried along a network of pathways from one side to another, from one to lobe to another, or to other structures found deep in your brain.

Your central nervous system has a specific sensory system dedicated to each sense. Once the message is received and interpreted, your central nervous system produces an instantaneous chemical or physical response. Yet no one of your senses works in isolation or apart from the other senses and no part of your brain functions alone. In this way there is a shared responsibility for the completion of any task.

Your Senses are the Perfect Tools

You function in a complex and dynamic sensory environment within which many events must be detected, interpreted, and acted upon. Your senses are the perfect tools; they are superconductors bringing in messages from the physical world to the realm of your mind where you decode the information and discriminate between different kinds of stimuli to perceive the world. There is such depth and constancy to the connection between your mind and body through your senses and all of it happens so quickly and unconsciously, imperceptible and subliminal, the process is difficult to grasp.

Think how the following examples exemplify collaboration, cross-talk, or overlapping of your sensory modalities.



Despite the importance of these superconductors and their connections in your life, how well do you understand how your sensory modalities work, how they interact with each other to provide a coherent awareness of your environment, and how they affect you? Do you take your senses for granted? You might go through your day and scarcely pay attention to what your senses are telling you. How can you remember when you never registered the sensory input?

The skills sets you use to accomplish great feats of learning, achievement, decision making and problem solving utilize multiple senses at a time so you do make excellent use of your powerhouse. Yet, you are capable of more. You can exercise your superconductors to use your powerhouse more efficiently and effectively.

To be more alert or mindful to the sensory input can you exercise your elementary physical sensations? For sure!

First, to use your powerhouse efficiently and more effectively you should want to be more mindful to how all your sensory modalities work, how they interact with each other to provide a coherent awareness of your environment, and how they affect you.

The goal of understanding your superconductors is to train your attention to create stronger links between your thoughts, emotions, and physical sensations across multiple senses and intelligences.

Second, you can exercise your superconductors to develop your body and mind as an integrated unit so that you are more keenly aware of how and when any one sensory pathway heightens to a point where it automatically activates, alters, influences, or suppresses one or more of your other senses.

Identifying more closely with your body and senses is central to being your conscious self and key to developing your body and mind as an integrated unit which helps you to use your powerhouse more efficiently and effectively.

Since no one of your senses works in isolation or apart from the other sense, we are going to take a brief look at your sensory systems so that you have a better framework to understand your senses and your body's responses to varied stimuli. This will help you delve into brain stimulation exercises that are good for you.

Your biological senses are divided into external (exteroception) and internal (interoception) sensory systems.

Exteroception Systems

You are very aware of your sensations produced by your traditional external senses of seeing, hearing, tasting, smelling, and touching produced by your sensory organs: eyes, ears, inner ear, nose, mouth and skin. Your body state can change in ways that are noticeable. Therefore, you may be acquainted with two other of your external sensory systems – balance, temperature.

Equilibrioception - the proper term for your sense of balance is equilibrioception. This sensory modality allows you to sense body movement in order to control posture and coordinated movement. It is your sense of balance that keeps you from falling over when walking or standing still. Sense receptors in your inner ear distinguish head position, head movement, whether your body is in motion, along with the direction of gravitational force. Your eyes focus on your body position in relation to its surroundings and send visual signals to your brain. From that input your brain sends spatial orientation messages to your muscles to keep your body balanced.

Thermoception - Temperature or thermoception is the sense that distinguishes heat or the absence of heat (cold). Thermoreceptors in your skin and internal skin passages discern changes in environmental temperature which result in thermal comfort or discomfort, which triggers certain behaviors. These same receptors help you detect wind direction. Thermal cues help you to perceive and recognize the material properties of everyday objects and surfaces which is a fundamental aspect of your visual perception, which enables you to interact with a world full of new objects and scenes. The thermoceptors in your skin are quite different than the interoceptors in your brain which provide feedback on internal body temperature.

Interoception Systems

Through research and brain imaging, neurologists have identified more than twenty distinct interoception sensory systems – maybe even senses you never really considered before – that detect stimuli from internal organs and tissues and relay signals to your central nervous system about the current state of your body.

Certain sensory systems are important for you to maintain optimal functioning of your body and for facilitating self-awareness. You are aware of pain because of a sensory system but you may not be aware of the sensory receptors that detect levels of oxygen in certain arteries of your bloodstream. Before speaking in public, your body may let you know that you are feeling a bit nervous: your breathing may be shallow, your heart may race, your muscles may feel shaky and your stomach may feel fluttery. However, you may not be consciously sensitive to many of the subtle sensations produced by other physiological aspects of your internal sensory systems.

Some interoceptive senses require no explanation:

- Hunger
- Thirst
- Suffocation
- Itch
- Internal temperature
- Breathlessness
- Emotions
- Sexual arousal

We rely on interoceptive senses about which we know little:

- Pain - an interoceptive sense that has its own unique sensory system called nociception which translates into physiological pain in response to harmful or potential harmful stimuli. There are three types of pain receptors: cutaneous (skin), somatic (bones and joints), and visceral (body organs). Your pain receptors trigger physiological and behavioural responses which usually result in you experiencing some level of pain. The main function of pain is to attract your attention to dangers so you can avoid them. If you never experienced pain you would do dangerous things without being aware of the dangers. For instance, you likely tend to avoid hot flames because your senses detect heat and send warning signals. Pain is a distinct sensory experience that intertwines with all of your other senses. The pattern of stimulation is more crucial in pain than in any other of your senses.
- Pulmonary stretch receptors within the lungs control respiration rate.
- Chemoreceptors in the circulatory system measure salt levels and promote thirst if they get too high; they can also respond to high sugar levels in diabetics
- Cutaneous receptors respond to touch, pressure, and temperature and increase blood flow in the body to tissues that need it most, to produce blushing, itching, pain, or goosebumps.
    - Tension Sensors: These are found in such places as your muscles and allow your brain to monitor muscle tension.
    - Stretch receptors in your gastrointestinal tract sense gas distension that may result in colic pain.

- Stimulation of sensory receptors in your esophagus result in sensations felt in the throat when swallowing, vomiting, or during acid reflux.
- Sensory receptors in pharynx mucosa similar to touch receptors in the skin, sense foreign objects such as food that may result in a gag reflex and related gagging sensation.
- Stimulation of sensory receptors in the urinary bladder and rectum may result in sensations of fullness that indicates needing to go to the bathroom.
- Stimulation of stretch sensors that sense dilation of various blood vessels may result in pain, for example headache.
- Chemoreceptors have distinct trigger zones in the brain to measure:
    - Levels of carbon dioxide and oxygen levels - a low amount of carbon dioxide will cause a feeling of suffocation
    - Inputs from blood-borne drugs or hormones to communicates with the vomiting centre as a reflex to remove the toxins
- Temporal sense or chronoception is the sense of time passing. While there is no 'organ' responsible for chronoception, you do have a particular area of your brain responsible for it, allowing you to perceive time. The mechanism you use for this seems to be a distributed system involving more than one area of your brain. the cerebral cortex, cerebellum, and basal ganglia.
- Magnetoreception is the ability to sense Earth's magnetic field. There has been speculation about humans being able to sense magnetic fields, but magnetoreception research to prove it is ongoing and inconclusive at this time. This sense is highly evolved in birds, bats, turtles, ants, sharks, and some bacteria to name a few. If magnetoreception is part of our evolutionary history, it may be a human man's primal sense. Some studies into magnetoreception point to stray electromagnetic noise affecting any human compass – not dissimilar to the disruption with AM radio broadcasts.

- Proprioception, or body awareness taken as a whole includes balance, coordination and agility. It is your ability to sense stimuli within your body regarding position motion and equilibrium. Your brain receives tactile feedback from the sensory neurons in your inner ear and stretch receptors in your muscles, ligaments, and fascia to tell where your body parts are, relative to other body parts. Then the brain uses internal messaging to detect your body position and produce coordinated movement.

  Proprioception is much easier to demonstrate than explain. For instance, even blindfolded you know through your sense of body awareness whether one of your arms is hanging by your side or outstretched in front of you. Body awareness allows a baseball player to catch a ball, or it is how you steer a car without looking at your hands or how you can use the accelerator or brake pedals without looking at your feet. How you clap your hands, type a letter or dance is due to the proprioception sensory receptors located in your muscles, tendons, and joints.

The term proprioception often is used interchangeable with kinesthesia, although, there is a distinction. Proprioception provides feedback solely on the status of your body internally. Kinesthesia is the consciousness of how you move, which gives your body the ability to coordinate motion. Muscle memory is a kinesthetic concept. Kinesthetic awareness and proprioception work as partners to get you through the movements of your life from the inside and the outside of the body. Kinethesia can be classified as a subset of proprioception.

Exercise your Superconductors

What does it take to become a better scholar or problem solver? Do you need to engage in grueling cognitive training? If cognitive training alone is not the secret to improving cognitive function could it be that strengthening certain brain networks between body and mind or environment and mind could be the key to a better brain? What is the key to high levels of motivation, self-awareness, amazing feats of learning or discovery? Your brain is a powerhouse that holds all these possibilities and more.

To use your powerhouse efficiently and more effectively, stay tuned into your fundamental senses. Stimulate and strengthen your senses by fixating on each sense with specific challenges.

#1 Tune In to your Fundamental Senses

For best results, you will need at least five minutes for this first exercise. Take a few slow breaths to start. Aim your focus on each one of your senses by asking yourself the questions below. To strengthen your senses and their neural pathways and gain the most benefit, conduct this exercise in different environments and different times of the day.

Concentrating on one sense at a time, ask yourself:

1) What are three things I can hear? (my own breathing, people talking in the next room, a police siren)
2) What are three things I can see? (the tree outside my window, the couple holding hands, a glass of water)
3) What are three things I can feel? (the keyboard under my fingers, the cool, my hair tickling my ears)
4) What are three things that I can smell?(the shampoo in my hair, food cooking, locker room odors)
5) What are three things I can taste? (my gum, salt on my lips, toothpaste)
6) How am I aware of my body position at this very moment?
7) Which of my 600 muscles is flexed? (from your toes and calves to your jaw and eyes)

You will quickly find this exercise becomes quite easy. When that happens challenge yourself to identify the barest of signals or make it 4, 5 or 6 things. You can make it more challenging by setting out to zero in on things that are distinctive, curious, unidentifiable, or barely perceptible for each sense.

#2 Stimulate and Strengthen your Sensory Memory

Scents and sounds do form powerful and long-lasting memories. Still, your brain is largely an image processor. In fact, 90% of information you transmit to your brain is visual and creates visual memory. When you activate your sensory memory, you engage in the processes of attention and perception which you need to carry out cognitive tasks. The thing is the most vivid details of sensory memory seem to fade quickly. Obviously, if you could retain the information for longer it would be beneficial.

Here's an exercise to help keep your sensory memory razor sharp. It is an exercise that has been traditionally practiced by actors. We are suggesting that you use a different object every day.
Let's start with a coffee mug:

Try it. Hold the cup and study its characteristics: recognize its structure and design; memorize its height, color, ridges, contour, ridges, smoothness and how it reflects light. Next engage your other senses: How does it feel in your hand? How heavy is it? What does the object feel like when you run your finger along the edges or against your lips? What sound does it make when you put it on the desk or tap it with your fingernail? Does it have a detectable odor? How does the cup balance on a surface or on your hand? Now put down the cup and close your eyes. With those characteristics imbedded in your mind, recreate the experience of exploring the cup.

When you activate your sense memory you utilize the same brain circuits as you did when exploring the actual object.

It's always stimulating to explore an object that interests you, but you may find it even more challenging to characterize and memorize details of objects to which you have paid very little attention or things that you cannot hold in your hands. Vary the type of items you explore: small, large, thin, thick, granular, fluid; things that have significant details and require deeper focus or time, things with texture, flexibility or movement. Whether you explore a postage stamp, feather or wheel of a car each object you recreate in your mind provides your brain with a new experience and new challenges.

Some objects will provide you with distinct memory markers. For example, a takeout cup or plastic bottle will have a distinct odor or even taste. Coffee grounds will feel different than dried rose petals, metallic objects may be more reflective than paper items. In any object you choose, one or more sense markers may be difficult to detect. Of course, you may have to exercise caution because you simply might not wish to taste everything or it may not be safe to touch everything. In which case, employ your imagination and remember that.

#3 Exercise One Sense at a Time to Keep your Superconductors at Peak Performance

Like all muscles in your body, your senses can be strengthened through exercise. You won't need a gym full of equipment for these next exercises. Each section that follows is dedicated to one sense. Beyond the suggestions we have in the next few pages, explore other avenues of exercising your individual senses and training yourself to be more acutely aware of each one.

Exercise your Vision

Exercises for your eyes, not only enhance cognitive function they can help to ensure that the two eyes work together effectively. When you exercise your vision you stimulate your entire brain. Are you making full use of your potential visual acuity? How adept are you at tracking movement, using peripheral vision, reading small text in the distance, depth perception, or focusing?

Research shows that there is a high degree of correlation between great acuteness of vision and athletic success or decision making ability. Your brain sees before your eyes. The better the quality of information reported by the eye, means the brain is faster at triggering the appropriate subconscious response.

There are so many exercises. Here are just six to get you started.

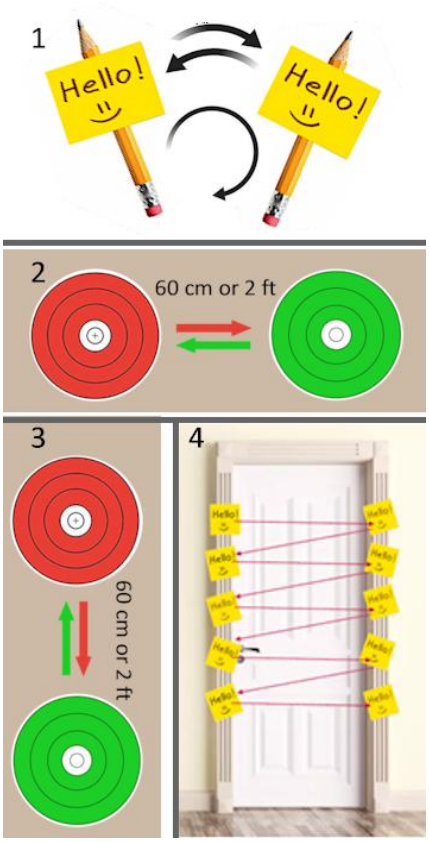
1) Keep your vision sense mentally sharp by making rapid eye adjustments to track movement. This type of exercise helps you to anticipate and make predictive decisions based on an interpretation of what you see.

   A. Attach a button or a sticky note to the end of a pencil or popsicle stick. Write something on the sticky note that can be a target for your eyes and easily kept in focus.

      Hold the end of the pencil with one hand and fully outstretch your arm. Keeping your head still and moving only your eyes, your goal is to track the target. You will move the target

      - in a horizontal plane from side to side
      - in a vertical plane up and down
      - in circles.

      Start slowly and gradually increase the distance. Do not move the target beyond the point where you can no longer maintain focus.



2) Place two targets spread out horizontally or vertically roughly 60 centimeters or two feet apart. Stabilize your head and quickly jump your eyes back and forth between the two targets.

3) Using sticky notes, make 10-12 targets (see diagram). Evenly space the targets along on each side of a door frame (5-6 per side). Stand about 5 feet from the targets. Again keep your head still. Use quick eye movements to jump from target-to-target in a zig-zag pattern from top to bottom, then bottom to top.

4) Use music or a metronome to pace any of these eye exercises. You can increase speed to increase difficulty. Add a new dimension to any vision exercise by covering one eye.

5) Massage your temples and frontal lobe and the bridge of your nose. Warm your eyes with your palms. Roll your eyes. Blink furiously and then slowly. A blinking exercise may involve closing the eyes, pausing for two seconds, then opening them again. While the eyes are closed, the eyelids can be consciously squeezed tight for extra stimulation.

6) How observant are you? Try looking around right now at all the things you may not have noticed inside, and outdoors too. You may have been looking at the things that were right in front of you rather than observing what was above, behind, beyond, or under your feet. Take notice to identify things that might be shrewdly placed to appear almost hidden. Then close your eyes and list everything you can you remember?

Strengthen your powers of observation by doing this exercise

7) Challenge your brain to identify everything in your peripheral vision. Call out what you see, but do not move your gaze. Note how your judgement of size or color contrast may be different from one visual field to the next.

Exercise your Hearing

How sharp is your ear for the sounds of everyday things and discerning what is going on around you? You might be amazed at how many things in your environment sound one way or can be barely detectable from across the room, but sound quite different when placed close to your ear.

Here's an exercise you can do anytime. Right now, try it. Stop and listen. What do you hear? Make a point of doing this often. It is particularly good to do this exercise while lying in bed before you go to sleep.

Incorporate one or more of these exercises into your sensory workouts:

1) Talk to yourself and don't forget it is okay to do so out loud. Motivational self-talk and instructional self-talk can help you clarify thoughts, reduce stress, and send different alerts to your brain, all of which help you to focus and speed up cognitive abilities in relation to problem solving and task performance.

2) Sharpen your sensitivy by spending a couple minutes each day to differentiate the various sounds you are hearing. You may be able to detect the distinct sounds in nature such as trees rustling or bird songs. How many individual hums, echoes, swishes, and reverberations can you separate from the cacophony of sounds in your environment.

3) Listen to music includes a variety of instruments (eg. big band or symphony). Try to pick out each instrument. Keeping that type of harmony in mind, is it possible that you can perceive that type of synchronization in the cacophony of your daily environment, too.

4) Take your hearing exercise to a new level by listening for sounds that might imitate something else. People with razor sharp hearing skills can detect everyday sounds that can replicate the sounds of other things. For example, you can imitate the sound of a crackling fire by crumpling a piece of paper. Special effects in movies were often created this way.

5) Listen to detect emotion in a human voice. Listen closely for emotions conveyed in your day to day encounters with people. You can practice this exercise. Instead of just watching a movie, close your eyes, and listen to the human voices to determine what kind of emotions are conveyed to you by the intonations or cadence of the voices and the expressions they use. Then rewind and watch the same segment to assess your first experience.

6) Close your eyes. Hold your hand in front of your face and blow against the palm of your hand. Listen for how the sound of your blowing stops when it hits your hand. You can challenge your sense of hearing even further by standing in front of a wall and blowing out your breath to hear and feel your breath stopped by the wall. Try your voice at difference distances instead breath.

7) Try this exercise to train yourself to navigate with sound alone. Put on a blindfold, spin around on a swivel chair, and stop. Try to determine which way you're facing based on what you hear rather than what you see or feel. For best results put the chair in the middle of a room so that when it stops you are unable to touch anything identifiable with your hands or feet.

Exercise your Sense of Smell

Despite the fact that our noses keep us safe, we humans have developed a bias about smell. We tend to shy away from most smells, and not only the ones we do not like. Because of this bias, our noses tend to be weak and do not sense aromas very accurately. Our noses are complex and should be able to detect about 100,000 different odor qualities, but we detect a small percentage of that number. To make it even more complicated, unlike our ability to tell the difference between sights and sounds, many people cannot discriminate tastes from smells. They assume everything that is sensed in the mouth is due to taste. But the fact is our sense of smell plays a significant role in how we taste things. The nose and mouth are connected by airways. Bits of everything that we chew or swallow take a direct route to the olfactory system. Eighty percent of what we experience when we eat or drink is olfactory stimuli not flavor.

The bottom line is you need your nose and your inability to smell well can be a handicap. Fortunately, the olfactory neurons in your nose are designed to renew themselves periodically. Your nose is a powerful muscle, and it can be strengthened through exercise. When you enhance your sense of smell you are doing more than exercising those superconductors you are actually increasing the size of your olfactory bulb (the part of the brain that processes scents) and helping your olfactory system in its repair process. While you may not require that your sense of smell reach the levels of a professional perfumer or expert tracker, it's still good for your brain to exercise your nose to rise above the average. You certainly can benefit from a highly evolved nose. After all, a keen sense of smell enhances your taste sensations.

1) To enhance your sense of smell start a daily routine that begins by deliberately breathing deeply through your nose. Do that often throughout the day.

2) The next part of the routine you do twice a day. Sniff four different aromas for 30 seconds each. Begin with aromas that you enjoy. This will help you get over your disdain or bias for smells. Do this for one week; then switch to a different set of smells. Sniffing something with a strong fragrance helps your system create new neural pathways for heightened smell sensitivity. After three weeks introduce an odor that is unfamiliar or that you do not find appealing. Force yourself to sniff it for 30 seconds and reward yourself with a more pleasant 30 seconds of sniffing something you like. Eventually you will be practiced at overcoming the more obnoxious scents. As you progress in the following weeks, progress to less powerful scents. The key with any sniffing exercise is to breathe in the aroma and engage with it so that you can describe it in words. You will probably end up articulating many of the descriptions with words associated with tastes and textures.

3) During the normal course of your day you can practice being more aware of scent by focusing on the aromatic things around you: teas, coffees, chocolate, olive oil, fruits in the grocery aisle. Take ten seconds to sniff a bit more of anything that has an odor: mint, lemon, eucalyptus, cinnamon, rose, strawberry, cloves. Inhale strong scents when you pass by a flower garden, restaurant, perfume counter, fish market, locker room, or spice aisle. Even unpleasant odors stimulate the brain, so don't shy away at the first whiff of smelly sneakers.

4) The variety of herbs and spices in your pantry are excellent for stimulating your superconductors. Savour these aromas for at least 30 seconds to a minute when you are cooking before and after they are mixed with other foods or beverages.

Commit time to sniffing an array of spices. You don't need much. To expand the variety in your pantry, beg a few fragments from friends or a chef simply for this type of exercise. Crush the spices lightly and keep them in tightly sealed containers. Every few days, deeply inhale from each container. Let the scent settle into your nostrils, let it linger until it disappears before you open the next container and repeat the process. Note if the odor sweet, toasty or citrusy? Does it feel cooling, or pleasantly warm?

Challenge your sense of smell by wearing a blindfold and have someone else open the containers. Experiment with fresh and dried herbs so that you eventually can tell the difference by scent alone. If you have plenty of spices have someone mix a few choices and challenge yourself to identify which ingredients are in the mix.

Tips and Tricks:

- When every possible perform your sniffing exercises before you are satiated by your meal. Your body is more attuned to smells when you are hungry.
- If you have difficulty detecting a scent, it could be because a strong fragrance lingers from something such as a strong shampoo, mouth wash, hot sauce, cologne, or strong coffee. Take some deep whiffs of the fresh air or allow some time pass.
- For an instant olfactory reboot, take a whiff of most familiar smell you can possibly sniff. Your own body. The best way to do this is to bury your nose in the inside of your elbow and take a couple of drags. It's a trick used by wine tasters.
- You may have to get closer to the source to makes it easier for your nose to perceive some smells.
- If you still have difficulty with your sense of smell, a little bit of higher energy exercise can be just what you need. Researchers have found that our sense of smell heightens, even from a five to ten minute walk.
- Your nose will not operate in cold, dry air as well as it can when the air is warm and has some humidity.

Exercise your Sense of Taste

When you first bite into food your tongue senses the first taste of sweet, sour, bitter, salt, or savory. When you chew food the vapors rise in your mouth. At the same time the more complex but conventional smells rise up the nostrils. Both meet at the same place higher up behind the nose to create flavor. It goes without saying that since your olfactory and taste systems are so closely intertwined, enhancing your sense of smell will help you improve your sense of taste.

Every time you eat food or sip a beverage you have an opportunity to exercise your sense of taste.

1) The slower you chew the more crucial the stimulus for senses and for your brain.

2) Concentrate on your food as you chew, mentally thinking about its texture and the subtle flavors.

3) Try chewing food with volatile aromas while pinching your nose and then compare that taste with sensing the flavor without pinching your nose.

4) Add variety to your diet. Try different foods, spices, herbs, unfamiliar ingredients, recipes, cooking methods, and ways of enjoying the food.

Cooking is an Excellent Exercise for Enhancing Cognitive Function

5) Test your ability to identify different tastes or flavors.

6) To have the best taste experiences you do not want to overwhelm your palate. If you do not already do so, make a point of using a palate cleanser so you can enjoy more subtle flavors of a meal without interference and with a fresh perspective.

   A palate cleanser is a neutral-flavored food or drink that helps remove food residue from your tongue. Palate cleansers stimulate appetite, improve digestion and help to avoid heartburn. Bread and crackers are common palate cleansers because they absorb the natural oil residues of spicy foods. Tortilla chips are used for that purpose. In cultures where diversity of flavors in dishes is customary, bread, biscuits and crackers are not the only preference.

   You can remove the lingering aftertaste of food and reset your taste buds during any meal with just a couple mouthfuls of any of the following palate cleansers:

   - Pickles, apple, banana, celery, or a tart citrus flavour (unsweetened).
   - Traditional choices such as fruit sorbet, pickled ginger, a sprig of parsley, or raw fruits and vegetables served with a squeeze of lime or lemon juice can also be considered an essential component of flavourful dishes.
   - Very lightly flavoured citrus water can sharpen the palate, but may not remove the food residue of some foods.

Exercise your Sense of Touch

Might you be taking your sense of touch for granted? Being more conscious about what you're touching in awakens your brain and stimulates your sensory recognition pattern. Deliberate touching exercises may seem silly or extraneous but to your brain it is diversified and exciting sensory input. When you gently touch the tips of your hair can you feel it tickle your scalp? Did you know that your brain experiences fireworks when you do that? Same when you tap your keyboard or run your hands across the texture of your garments.

Learn to pay closer attention to the sensation of how everything feels with these four exercises:

1) Touch everything with more conscious deliberation.

   Linger in touching, rubbing, or grasping things to really feel every ridge contour, fold, fragment, crumb or facet: fabrics, different woods, metals, ice, grains, leaves, grass, bark, or oils to name but a few. Do not shy away from touching unfamiliar things. Touch things with your fingertips, whole hand, a palm, knuckles, lips, toes, feet, heels. Touch things to your hair, neck, or other parts of your body. Feel the differences when you use one hand versus two hands, your feet, or both together. Try touching things while wearing gloves, socks, and shoes too. With each touch, note the variations in the different sensations and listen for the sounds that are made.

2) Challenge yourself further by using an extension of your hands and fingers. Note that when a tool such chopsticks are used, your perceptual experience is transparently transferred to the end of the tool. You can almost feel the texture of whatever the tool touches. Run the eraser end of pencil over objects to feel the curvature, sharp edges, softness, or hardness. Try the same exercise holding a lighter flexible extension like a rolled up piece of paper or clutch something longer, thicker, or harder, such as a broom handle, stapler, or book. Note the sensation and sound differences with each tool.

3) An excellent time to exercise your sense of touch is when you do laundry. Wet and dry – make time to run your fingers and palms over the fabrics, the seams, and zippers. Feel the roughness, softness, sharp edges, or delicate stitching on your forearms, wrists, neck, or shoulders.

4) This next touching exercise is good to do as you wind down before you go to bed at night. You could choose one thing per day to touch in a variety of ways, using any the suggestions above. As you do so, pay attention to what other senses are being activated in your body. These are just some of the sensations you might become aware of when you touch an object.
    - Take an extra moment to think about how your body responds to each kind of touch.
    - Do you flinch from something cold, even when you know it could be cold?
    - Do parts of your body react differently to touch? For instance do you flinch less when something cold is touched by your hand than by your cheek or inner arm?
    - Pay close attention to the amount of tension in your muscles or the flexibility required to do the touching. Note when your body tenses in anticipation of what will be touched or if it tenses after the touch, and for how long?
    - Does your body relax when you touch some objects?
    - Does a touch trigger familiar emotional sensations or memories?

Exercise Vestibular and Proprioceptive Senses

Vestibular: Your vestibular system is your body's internal GPS system or balance centre. It includes the parts of your inner ear and brain that are stimulated by the position of your head and tells your brain how or if you are moving. Your vestibular sense helps control your equilibrium, eye movement and spatial orientation to help keep you stable and upright. It enables you to use both sides of your body at the same time. You experience your vestibular system at work when you know that you are moving in an elevator and when you know, that you are lying down, standing up, or walking on a balance beam.

Proprioception is your sense of space. More specifically, it is your ability to sense stimuli within your body regarding your body position in relation to the environment. Your brain constantly receives tactile data from the sensory neurons in your vestibular system and the stretch receptors in your muscles, ligaments, and fascia to detect where your body parts are and how they are moving, relative to other body parts. Your brain uses this steady flow of information to produce simultaneous coordinated movement and regulate your emotional responses without the need for you to stop to think, see, or feel every aspect of that movement separately. It is much easier to demonstrate proprioception than explain.

You fire up your proprioceptive sense every time you move, stretch or bend your joints. This sense sends your feet and hands to the right place. You can walk or climb stairs without looking at your feet. Blindfolded you can confidently brush your hair or clap your hands with just the right amount of pressure. You quickly react to catch something that is knocked off a table. Without staring at your hands or feet, you can coordinate your movements to run and dribble a basketball or drive a car. You experience proprioception every time you move around obstacles or detect small deviations, such as rocks or depressions in the ground when you walk on a path.

You can sharpen these senses through attentive body-mind integration techniques like swimming, rock climbing, karate, tug of war, and cartwheels. If vigorous athletic activities are not to your liking, you can rock in a hammock or do body position poses in yoga. Household chores like sweeping, vacuuming, dusting, and washing windows are great proprioceptive input, too.

Even without over stimulation less strenuous but attentive exercises like the ones that follow can help you feel more alert while providing good proprioceptive input for your brain:

1) Dancing – any kind of dancing: The basis of dance is rhythm, but it is first and foremost a stimulating mental activity that connects mind to body. It involves memory, synchronizing coordinated movement with sound, visual spatial skills, attention, creativity, social interaction, mood, and emotions. It is something you can do by yourself or with others.

2) Tai chi is a graceful, relaxed, and fluid type of martial art that looks like a slow-motion dance.
3) Jumping rope – whether you jump with two feet, run in place or advance to any kind of fancy footwork jumping rope helps you with hand foot coordination to maintain rhythm and control.
4) Stork standing:
    - Starting position – stand with your feet hip-width apart and your hands on your hips.
    - Shift your weight onto your left foot and lift your right a few inches off of the ground.
    - Stand in this position for 30 seconds and switch sides.
    - Repeat 2–3 times. Try the same exercise with your arms outstretched.
5) One-leg balance – same starting position as stork standing:
    - Stand on your left foot and lift your right foot in front of you a few inches off of the ground. Hold for 2–5 seconds and return to the starting position.
    - Lift your leg to the side of your body, hold and return to starting position
    - Extend your leg behind you hold and return to starting position. Switch sides and repeat.
    - As your balance improves, lift your foot higher or hold the position longer. Add dimension to any type of proprioceptice exercise by closing your eyes, because the eyes give invaluable feedback to establishing the moment to moment information of balance.

6) Tightrope walk – repeat this 3-4 times and make sure you are doing this on a level floor.
    - Tape a straight line about (1–2-meters) long on the floor. Alternatively, you can follow the line of your flooring or walk along any straight edge.
    - Stand with your feet hip-width apart and your hands on your hips.
    - Place one foot on the line or beside whatever straight line you are adhering to. Then, place your other foot directly in front of it as if you're walking a tightrope.
    - Walk to the end of the line without stepping off to the side. Turn around and walk back.

7) Hand-eye coordination drills strengthen eye muscles, require strong motor skills, and focus on objects that cross from one side of the body to another and thus work both sides of the brain. Juggling is an advanced example of this kind of drill. Our drills are less complicated using a small ball, balloon or bean bag to train your reaction time, spatial location and efficient movement.

   - Balloon bump – toss a balloon in the air, bump it with two hands follow it to keep it in the air. Bump it gently to keep it near or bounce it further away. Bump it with both your hands, or alternate hands. Progress to tracking it and using your knees or feet or head. Two balloons or a bean bag adds another degree of difficulty.

   - Catching challenge - toss a small ball or bean bag in the air and catch it with one hand. Switch hands. Catch it with your palm upturned as well as with your palm facing away from you. Practice tossing at different heights and distances in front or to the side of your body. Practice tossing different shaped objects such as a set of keys, plastic golf ball, pencil, elastic band, or crumpled paper. Catch a ball in your hat or in a smaller receptacle such as a plastic cup.
   - Toss a ball against a wall and catch it with two hands. Switch to catching with it one hand and then alternate tossing and catching with your left and right hands. Change the angles from which you aim for the wall to change the predictability of the way the ball returns to you so that you have to move to catch it. Work on throwing the ball from different distances and aiming for different points on the wall, or aim for the floor so that the ball bounces off the wall. Catch the ball when it is high and catch it just before it hits the floor. Try catching it off the wall in a plastic cup. Playing with another person instead of using a wall can cause the path of the ball to be less predictable.
   - Practice dribbling a small ball with one hand. Play with different speeds and distances from the ground or switch back and forth between hands.
   - Target practice – set up three targets on a wall. Aim a beanbag or plastic golf ball to hit a target. Start close to the target. As your accuracy increases, progressively move further away from the target and play with smaller targets. Try standing at different angles rather than directly in front of the target. You can add another level of difficulty by turning away, then quickly turning and aiming for the target. Change the height of the targets. Hit them in a specified order.
   - Small balls and small targets are good for hand-eye coordinated activities. Vary the type of ball and distances to make exercises less predictable. Use your non-dominant hand to develop both sides of your body and brain. Remember that when an exercise is too easy it is no longer challenges your brain.

As you see, there is no end to the list of activities that can energize your brain and keep your synapses firing fast and furiously, but to keep your brain sharp and at its peak performance level you need to balance intense brain performance with periods of moderate brain activity. Choose brain exercises wisely and vary when you do them, how often, and at what intensity. Just because a brain exercise is fun or presents a tough challenge doesn't mean you should stay up all night to do it. A brain under constant stimulation or running on overdrive becomes stressed and suffers from reduced cognitive ability.

Vary brain exercises to stimulate both sides of your brain. Your right and left brain hemispheres experience the world very differently. Both sides of your brain are necessary to perform most tasks; each side might use different mental skills to do it. When combined, these mental skills enable you to be rational and spontaneous, analytical and creative. Of course, you want both sides of the brain to be sharp and coordinated.

Summary

Your brain synchronizes and directs an intimate, complex network of processes to keep you alive and healthy. What can you do to keep your brain and mind alert, fit, and prepared for amazing feats of learning or discovery, high levels of motivation, and self-awareness? To keep it sharp and evolving to its peak performance level your brain requires exercise to keep it stimulated, mentally challenged and receptive for learning, memories, emotions, imagination, reasoning, and individuality.

Challenge comes from exercising the brain in unexpected ways through curiosity, continuous learning, new experiences, utilizing all the senses, and stretching the boundaries of learning and experience.

Exercises for the brain should vary in intensity and duration, be balanced with stress reducing rest and relaxation as well as a healthy lifestyle that includes, physical activity, a balanced nutritious diet, sleep and human engagement. If you can incorporate these lifestyle changes with varied calisthenics for your brain and sustain these practices over the long term, it will have dramatic effects not only on your cognitive fitness, but also on your overall health.

The earlier you start the better. Evidence suggests that the more cognitively fit you are throughout your life, the better armed your brain will be against the assaults of aging – including illness and any stressful events you might face. You may even be able to prevent certain brain problems from occurring in the first place, rather than having to combat them when they arise.

Inspired and Committed, We Celebrate Your Journey

At Corro, we believe in the power of people. We are inspired to expand humanity's capacity for wisdom, compassion, and courage.

In our commitment to helping you achieve long-term personal development and use your organizational platform for positive impact, we celebrate your journey of lifelong learning while fostering an all-inclusive community driven environment of meaning, personal connection, and fun.

Corro is not just a Work Space – Our Aim is Helping the Community Thrive through People Success