

BRAIN *Exercises*



AUTOIMMUNE SECRETS

LEARN AMAZING PRACTICES YOU CAN DO
TO IMPROVE YOUR BRAIN HEALTH



AUTOIMMUNE BRAIN EXERCISES

By Jonathan Otto

Contributions from Nancy Gable, Brittany Escobar, Sarah Potts
and the rest of the Health Secret Team

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BRAIN Exercises

Everyone knows someone or knows of someone with Alzheimer's or dementia. Maybe it's your friend, your family member, or maybe it's you. Alzheimer's is quickly scaling the ladder of deadliest diseases as the sixth leading cause of death in the United States. Alzheimer's or a similar dementia kills one in three seniors, which is more than two of the most common kinds of cancer (breast cancer and prostate cancer) combined. Now, we have learned that the disease does not only affect seniors; as many as 200,000 people under the age of 65 have developed younger-onset Alzheimer's. And did you know that the time it probably took you to read to this sentence, someone living in the United States has already developed Alzheimer's? That is one person in the United States every 65 seconds. For dementia the statistic is even worse: one person every three seconds – and that's not only in the United States. One person in the world develops dementia every three seconds. That is a sobering thought.

However, there is good news; there is a light at the end of this dark tunnel. Did you also know that more and more research is being compiled of exercises you can do to prevent or even reverse Alzheimer's or dementia? This is yet to be proven, but numerous studies have already been completed showing the benefits of staying healthy mentally. And the best part about these exercises: they are simple, do-it-yourself, and many cost absolutely nothing.

WHAT IS NEUROPLASTICITY?

At its simplest definition neuroplasticity is the ability of the brain to change. It "is a process by which the brain encodes experiences and learns new behaviors and is defined as the modification of existing neural networks by adding or modifying synapses"⁽¹⁾. A person's brain plasticity tends to decrease with age, however one of the amazing facts about our brains is that they never stop changing. This means that we always have the ability to modify our brain function.

This may be hard to believe for those of you who have had experience with Alzheimer's or dementia. You may

have seen a loved one or someone close to you repeat the same action again and again multiple times a day without recollection. But what if a simple modification in lifestyle or habit could change that? Well, there is increasing evidence that exercise, both mental and physical, creates a more beneficial environment for your brain to learn, retain, and perform. This means that at the very least healthful mental or physical stimulation may give you a better opportunity to prevent or reverse these debilitating diseases.

For example one study concluded that mental exercises done regularly or consistently significantly "delayed the declines in thinking skills"⁽²⁾. So, while some people may eventually succumb to Alzheimer's, the preventative method of mental exercise decreased the overall lifespan of Alzheimer's.

Another study had their subjects complete consistent 10-hour-long brain-training sessions⁽²⁾ for approximately 35-42 days. In these brain-training sessions the subjects were educated on memory, reasoning, and processing skills⁽²⁾. The follow up showed that the subjects improvement in the skills upon which they were trained, that the improvement "lasted for at least 5 years"⁽²⁾, and lastly, that the training sessions also had a positive effect on other activities in their lives.



10 Incredible Brain Exercises

GET IN YOUR HEAD

So what is going on in your brain when you do these exercises? Your brain cells are strengthened, just like your body is when you do physical exercise. Your brain cells may strengthen their connection to other brain cells; there is a better potential for growth of new nerve cells. In other words the synapses in your brain may become structurally modified.

1

LEARN SOMETHING NEW

Whether it's a new game or a new language, learn something new. For some it may be a musical instrument, for others a new sport. Whatever it is, now is a great time to learn that something that you have always wanted to but never got around to. There may be free classes offered at your local YMCA or neighborhood church. Search the Internet and on popular sites like Pinterest for DIY (Do It Yourself) guides and projects. In this day and age our society has made it incredibly easy to educate yourself. Take advantage of that opportunity to improve your brain health. Here is a great list of new activities to start with:

- **LEARN A LANGUAGE:** *Try out Duolingo, a mobile app, and learn a language on your phone*
- **LEARN TO SEW:** *Popular franchise Joann Fabrics & Crafts offers sewing classes*
- **LEARN TO PLAY AN INSTRUMENT:** *Craigslist has a category for Lessons & Tutoring*
- **LEARN TO FOLD ORIGAMI:** *for free online*
- **LEARN TO SWIM:** *with classes at your local YMCA*
- **LEARN TO GARDEN:** *start by building your own terrarium, a fun DIY project on Pinterest*

2

RESTING

This may sound like it is going against everything previously mentioned, but resting your mind actually serves to improve both short-term and long-term memory. One study even proved that resting specifically improves one's spatial memory. Coined by German psychologists Georg Müller and Alfons Pizlnecker in 1900, memory consolidation states that "new data takes time to fix in the memory"⁽³⁾. That "new data" is best retained when the brain is calm, relaxed, and at a "wakeful rest"⁽³⁾. Psychological scientist Michaela Dewar, a colleague of Müller and Pizlnecker, further states, "Our findings support the view that the formation of new memories is not completed within seconds. Indeed our work demonstrates that activities that we are engaged in for the first few minutes after learning new information really affect how well we remember this information after a week."⁽³⁾

Müller and Pizlnecker conducted numerous experiments to test this theory. Their findings, along with a follow-up study done in 2004, produced astronomical results.

For example in one of their studies, Müller and Pizlnecker set two different groups of people and gave each group a list of random, nonsensical syllables to learn. Then, while one group was given another list of random syllables to learn, the other group rested for six minutes before being given the second list of random syllables. An hour and a half later, both groups were tested on how many syllables from the two lists they could remember. The group that did not rest in between the two lists recalled on average 28% of the syllables, whereas the group that did rest recalled almost 50% on average.





RESTING (CONT...)

The follow-up study done in 2004 by neuropsychologist Sergio Delia Sala and Nelson Cowan produced even more astonishing results. In this study the scientists experimented on a number of people with memory loss from either a stroke or head injury and an equal number of people without memory loss. The ages of the people with memory loss also varied drastically, from 25 to 70 years old. First, all the subjects listened to a list of 15 words read aloud. Then one half of the group took additional tests for ten minutes while the other half rested in a darkened room. The subjects were randomly assigned to these groups. The results were that the group that rested were able to recall three times as many words from the list. Second, the subjects listened to stories and were then again split into two groups. One group was given rest; the other was not. After an hour the subjects answered questions based on the stories they had heard. The subjects with memory loss who did not rest answered only seven percent of the questions correctly, while the subjects with memory loss who did rest answered 79% correctly. Additionally, the subjects with no memory loss who rested answered 30% more of the questions correctly than did their counterparts.

To practice this yourself, “sit in a darkened room, close your eyes, and rest for ten minutes”⁽³⁾ after something you would like to remember has happened. In a world as fast-paced as ours, you may find it difficult at first to rest in a peaceful, quiet area if you are not going to sleep. However, given these studies and the very nature of our brains, see if your memory does not improve once you take time away from the television and the tablet, the traffic and the telephone.

3

CHANGE IT UP

We are creatures of habit. We tend to get comfortable in a routine. Help your brain by changing one of those habits, perhaps a habit that you did not even realize you had. The following is taken from a list on www.rd.com ⁽⁴⁾:

Re-order Your Daily Routine ⁽⁴⁾

Think over your daily routine. Do you always get ready for work in the morning following the same order of tasks? Brush your teeth, let the dog out, make your breakfast? Try changing the order of your morning ritual ⁽⁴⁾: let the dog out first, then brush your teeth. Did you know “brain imaging studies show that novel tasks exercise large areas of the cortex, indicating increased levels of brain activity in several distinct areas” ⁽⁴⁾? Studies also show that “This activity declines when the task becomes routine and automatic” ⁽⁴⁾.



4

NON-DOMINANT ACTIVITIES

Brush Your Teeth with Your Non-dominant Hand⁽⁴⁾

If you're right-handed, brush your teeth with your left hand, and vice versa, from when you open the toothpaste to when you turn off the sink. Did you know "[r]esearch has shown that using the opposite side of your brain...can result in a rapid and substantial expansion [sic] in the parts of the cortex that control and process tactile information from the hand"⁽⁴⁾. This is a great and simple exercise because it gets your brain started on a good track early, even before you leave the house for work!

Shower Sightless⁽⁴⁾

Try turning on the water, getting to the temperature you want, and washing with your eyes closed. You will find that your other senses that are not as prominent come to the forefront. Caution with this exercise! Showers can be slippery. Do only what you think you can do safely.

Eat New Foods⁽⁴⁾

Your sense of taste and smell are powerful. Your olfactory sense links directly "to the emotional center of your brain"⁽⁴⁾, so a certain scent may evoke certain past experiences and memories. Have an adventurous dining experience with flavors and herbs and seasonings you do not usually eat, while keeping within a healthy diet. Activate those senses and prick your brain into action.

Another fun exercise is to taste something you do not know the ingredients to and then to guess each ingredient in the dish. A great meal to try this with is a breakfast smoothie, which can easily hide or mask flavors.

Create New Scent Associations⁽⁴⁾

Get one of your most-loved scents and take a big whiff from it while you're doing different things, like before you get out of bed in the morning or as you come home from work. See what kind of associations you make from that favorite scent.

Exchange Your Change

Looking for a place to keep your spare change? Set a cup in your car with some spare change inside and when you're stopped safely, like at a stoplight, try to identify the coins by feel only, not sight.

5

MAKE THE ORDINARY EXTRAORDINARY

Musical Chairs

Families usually have designated chairs at the dining table or in the living room. Try sitting in a new seat for dinner one evening or on the rug instead of the sofa. Note how your perspective of yourself and the people around you may change.

Open Windows

The easiest way to do this is to open a window in your car while you're driving. Make a point to pay attention to the odors and sounds outside and to identify them without seeing them.

Read Aloud

Read aloud to yourself or with a family member. Reading aloud with someone else has the two-fold benefit of activating your brain differently and spending time with someone you love.

Fun Trivia: Did you know that simply saying something "out loud can increase your chances of remembering it later"⁽¹⁾ between five and 15 percent? Language program Pimsleur primarily uses this method to teach new languages.

High- and Low-level Marketing ⁽⁴⁾

Did you know supermarkets strategically place their more expensive items at eye-level, since consumers commonly look straight ahead when shopping? The next time you are marketing, look at the shelves from top to bottom instead. Do not automatically head for your go-to items. Choose an item you have not seen before, and choose it with care and deliberation.



6

BRAIN GAMES

While many of these exercises can be done without cost, the following brain games are particularly easy and completely free. You do not need anyone else in order to play; you do not need to purchase anything. You just need you, your brain, and for some of these games a few items you already have in your home.

Turn Household Objects Upside Down ⁽⁴⁾

This is a great exercise to do at home. Activate your “right” brain by handling and looking at common household items upside down. Grab anything in sight, and see how your brain reacts to these usual items not looking so usual anymore.

Function Fun

Thinking of alternatives to items that are usually routine is a great way for your brain to stay active. For example take an ordinary household item and think of ten different uses for it. A fork from your kitchen drawer could also masquerade as a comb, a back scratcher, or a toothpick. Try the exercise out on your hat, a lamp, or a step-stool.

Phone Numbers

In today’s world of smartphones, memorizing phone numbers may seem like a thing of the past. But memorizing new phone numbers is a simple and practical way to train your brain. Plus you can impress your friends at the same time ⁽¹¹⁾.



BRAIN GAMES (CONT...)

Mnemonic Phrases

Med students often use this helpful device when memorizing those storehouses of information during med school. And you can do it too! A mnemonic is a pattern of letters or other associations created to recall something. Mnemonics are commonly used in music to remember the order of notes on the lines and the order of notes on the spaces on the staff; they are also used in history and government studies, like to remember the order of the first eight presidents of the United States. Remembering something important becomes much easier when you have a method, and it's a fun way to practice committing certain things to memory, even when you do not have to.

PQRST is a mnemonic created especially for brain health in processing written information⁽¹⁾. For example PQRST is useful when sitting for written exams. It stands for:

- **PREVIEW** the material (in other words skim the material)
- **QUESTION** the document's main points
- **REREAD** the document
- **STUDY** the answers to your questions
- **TEST** yourself



7

BE CREATIVE

Arts and Crafts

Doing art is a great way to activate certain parts of your brain that for many often do not get primarily used, and it is an even better activity when done with friends or family. In fact try gathering the family together to all participate in creating a handcrafted gift for another family member's birthday. Stores like Michaels and Hobby Lobby have a plethora of choices for the DIY shopper.

Draw A Map

Fun Trivia: Did you know that London taxi drivers need to successfully recall 25,000 streets and 20,000 landmarks in order to obtain a license? Due to the nature of their occupation, London taxi drivers were shown to "have significantly larger hippocampi, [the] regions of the brain that store and organize memories"⁽¹¹⁾.

Draw a map of an area that is familiar to you completely by memory (no Google Maps allowed). See how many street names and landmarks you can remember.





8

LET'S HAVE A SOCIAL

Be intentional about interacting with other people during the day. In this burgeoning age of technology, it is easy to go days without face-to-face contact with more than a handful of people. Seek out ways to make more interpersonal connections. If there is a manual way to do something, choose that instead of the digital way. It will more than likely bring you into contact with another living, breathing soul, instead of a screen.

Be A Good Listener

Everyone wants to be heard, but is anyone willing to listen? If "[t]he average person meets three new people a day"⁽¹²⁾, then there exists three opportunities for you to train your brain in learning something new about that person. When that person is talking, listen intentionally and then choose something that that person has said and repeat it in your head⁽¹⁰⁾. This will increase your opportunity of remembering that something later on.

Be A Good Observer

This simple brain exercise is for your interactions with others. As you run your errands throughout the day or go to work, choose four details to memorize about the people you meet. For example choose four items of clothing or accessories that a person is wearing, and try to remember them later.

9

MINDFUL SWIFT WALKING FOR PARKINSON'S

Parkinson's disease or PD is a well-known neurodegenerative disorder wherein the nerve cells in the brain that produce dopamine are affected. The symptoms and signs vary, however dementia is known to be one of the more common results as the disorder worsens.

A highly recommended exercise for Parkinson's is called Mindful Swift Walking ⁽⁵⁾. There are several factors to practice with deliberation and intention in Mindful Swift Walking. They are as follows ⁽⁵⁾:

Be mindful of your form as you walk - Before beginning to walk, stand as straight as an arrow, as though there was a string from the top of your head all the way to your feet, and someone was pulling up on that string. Make sure that your chin is parallel to the ground and that you are not looking down at the ground but straight in front of you. Begin to walk, leading with your chest. Be cognizant of your posture as you walk. Pause if your posture has declined, straighten yourself back up, as straight as an arrow, and then continue.

Be mindful of your purpose for walking - This walk is a treatment for your disorder. Approach it as a type of training, not as a type of recreation. The speed and intensity of your walk will change with this approach. Note that your form always takes precedence over your speed.

Be mindful of the duration of your walk - At the start of your training, walk for 20 minutes. Your goal is to be able to practice Mindful Swift Walking for one hour straight. Note that this time can vary dependent upon your personal fitness. Be aware of your own fitness, and do not attempt a duration outside of your ability.

Be mindful of the frequency of your walk - Begin training 3-5 days a week at 20 minutes each. Once you have achieved walking 3 miles in one session, you may relax your frequency to 3 days a week.



10

READING, WRITING & ARITHMETIC

Making A List

Lists are wonderful for those who like to organize, but did you know that lists can also be useful to improving brain health?

Try making a list of what you are grateful for in your life. Start with only 5 items. Examine all the areas in your life: your family, your job, your home, your neighborhood, even in the daily errands you run. Multiple studies have discovered that "people who express gratitude on a regular basis are healthier, more optimistic, make more progress towards their goals, have a greater sense of well-being and are more helpful to others"⁽⁸⁾. Meditate upon those positive items in your life, recall them, commit them to writing, and see them concretely on the paper in front of you. Your brain will thank you.

You can even make lists to administer your own fun brain tests. Create a simple list, like a list of what you need to buy at the supermarket. Then, memorize it. Then, continue about your business. An hour or two later, try to remember the items on that list⁽¹¹⁾.

Journaling

Experts say that using pen and paper is actually beneficial for your memory⁽¹¹⁾. So instead of grabbing your tablet or your smartphone, try harkening back to that good ol' ink. Keep a journal of your daily activities. You can even combine several brain exercises together: keep a daily list of things you are grateful for in your journal. Try writing and ruminating on those items as your last activity before going to bed.

Use this activity to tell a story of something that happened during your day. Recall the details to connect points together and associate feelings with that story⁽¹¹⁾. You do not have to write it in your journal only; share the story with your roommate or spouse or friend. Did you know storytelling is a proven treatment for Alzheimer's⁽¹¹⁾?

Journaling is not just for happy thoughts though. It is also a way in which you can healthfully communicate your worries and your trials. But it does not end there. Writing out your thoughts about a difficult situation can help in your decisions regarding that situation as well as how to manage those types of situations in the future⁽¹²⁾.



READING, WRITING & ARITHMETIC (CONT...)

Increase Your Vocabulary

There is an educational app developed by MIT called WaitSuite Language⁽¹²⁾ that teaches you new words. Categorized under “wait learning”, this app is useful while you are waiting places, waiting in line at the bank or at the store, waiting for an Uber or the train. MIT stated that users of their app “learned about four new words a day”⁽¹²⁾.

Math Problems

Take a few minutes each day to solve several math problems in your head. Stick to the rule that you cannot write out the problem, and stick with something simple, like addition or division (unless you are a particular lover of calculus). Once you have mastered that, start solving the math problems while simultaneously doing another task!



GENERAL *Lifestyle* CHANGES

There is no need to wait until you are aged or are already exhibiting signs of memory loss or a neurodegenerative disease. You can start now, wherever you are at, wherever you are in life to strengthen your mind and give your brain a preventative head start on protecting against mental disease. Be active and proactive.

Exercise

Physical exercise affects your body as well as your brain. "Exercise actually alters brain chemistry and has even been likened to the effect of taking antidepressants,"⁽⁸⁾ states clinical neuropsychologist Dr. Jennifer Wolkin, PhD. Physical exercise helps to pump blood through your entire body, including to your brain; it increases the oxygen to your brain as well. Get on a regular exercise schedule, and choose a physical activity that you enjoy. If you are not a fan of sports, try a dance class or walks around your neighborhood.



Listen to Classical Music

Music is an incredible tool that influences people's moods and emotions. Studies also show that listening to classical music in particular is healthful for brain function due to its more soothing sound.

"Listening to classical music while getting dressed in the morning or exercising is a one-two punch of neural circuitry that's been shown by researchers to significantly improve verbal fluency, cognitive functioning and overall focus and concentration,"⁽⁸⁾ says Dian Griesel, PhD.

The famed Mozart effect proves this as well. The Mozart effect is the result of an experiment which discovered that listening to the music of famed classical composer Wolfgang Mozart improved one's spatial-temporal reasoning⁽⁹⁾. Others have claimed that listening to Mozart even increases one's IQ for a limited time.

Sleep Well

You may have heard the common fact that driving while sleepy is similar to driving while intoxicated. Your daily rest is an important factor to your brain health; your sleep is directly correlated to your memory function⁽⁸⁾. It may seem counterintuitive to insure a good night's rest (a minimum of seven hours is the official recommendation by the National Sleep Foundation) the day before an important exam or work deadline, however a person's performance improves drastically simply due to the quantity and quality of his or her sleep.

Another helpful tip for a good night's rest is including a relaxing activity as your last activity of the night. Some like to read before going to bed; others pray or journal; others take a warm bath.



HOLISTIC BRAIN EXERCISES

However, be aware that not all activities for your brain are healthful for your brain function. Even targeted brain exercises, like certain mobile app brain games, are not actually improving your brain health. What those apps are actually doing is “train[ing] your brain to get good at completing tasks within the world of those apps”⁽¹⁰⁾ without any real-world influence or result.

When choosing which exercises to strengthen your brain, be aware of choosing activities that have tangible goals and practical results. The more these exercises come into contact with the world around you, the actual people and things in your daily life, the better.

Include a variety of different brain games and exercises in your daily repertoire. Add exercises that require consistent hand-eye coordination⁽¹¹⁾ for built-in cross-training. Sticking with the same exercises day in and day out will soon bore your brain and cease to be as effective in strengthening it. “It’s important to keep brain-boosting activities constantly changing with increasing complexity as well as cross-training brain activities that use different parts of the brain,”⁽⁸⁾ Kristin M. Mascotti, MD of Miller’s Children’s and Women’s Hospital in Long Beach, California says. Your exercises do not have to last long in duration; many exercises take no longer than a few minutes. Variety, not length, is the key.

#1 RESOURCE: BRAINHQ.COM

BrainHQ (brainhq.com) is a top-of-the-line program for improving brain function. It is “the only commercially available brain training program that has been shown by the ACTIVE study results[, “the largest study on cognitive training with standardized outcome measures ever performed”], to improve cognitive function, sustain quality of life and functional independence, and deliver results that last over time”⁽⁶⁾, using the following standardized checklist⁽⁷⁾:

- Has the product demonstrated transfer of training to other laboratory tasks that measure the same cognitive construct as the training task?
- Has the product demonstrated transfer of training relevant to real-world tasks?
- Has the product performance been evaluated using an active control group whose members have the same expectations of cognitive benefits as do members of the experimental group?
- How long are the trained skills retained?
- Have the purported benefits of the training product been replicated by research groups other than those selling the product?

The BrainHQ program was designed by one of our experts Dr. Michael Merzenich. The program consists of quick and practical exercises customized to fit your needs, and the exercises can be done easily online. Train your brain to be a memory powerhouse, ward off mental disease, and have fun while you are doing it!

Brain Training THAT WORKS



Raising the bar on brain training

There are a lot of “brain games” out there. BrainHQ is much more.

Sign up

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Subscribe

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CITATIONS

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