

Keeping Your Brain in Shape



Marie-Eileen
Onieal,
PhD, CPNP, FAANP

Every year, thousands of us vow to “get in shape” by eating right and exercising. (Whether we keep that resolution is another story.) But while we view physical exercise as a way to lose or maintain weight, reduce stress, or even hone athletic skills, we seldom think about exercising one of the most important muscles in our body: the brain.

“What?” you say. “The brain is not like other muscles.” No, it’s not ... and yet, it isn’t as different as we used to think. Historically (maybe histologically?), it was believed that if nerve cells in the adult brain were damaged or had died, they, unlike other cells in the body, were not replaced. Longstanding scientific belief was that while the brain compensated for damage by making new connections to undamaged nerve cells, it could not *regenerate* because it does not contain stem cells.¹

But since the late 1990s, scientists have been debunking the negative myths about our brains as we age. They are not as static and unable to change as we have been led to fear! In fact, in 1998, American and Swedish scientists demonstrated that adult humans can generate new brain cells.^{1,2} Moreover, the brain does replicate neurons in the hippocampus, the area in our brains that is central to learning and memory. Neurons continue to grow and change beyond the first years of development and well into adulthood.

So learning (and teaching) movements to encourage the rebuilding of our neurons is key to keeping our minds sharp. In his work, Rately found that “our physical movements can directly influence our ability to learn, think, and remember.”³ He also tells us that exercise enhances circulation to the brain, “priming it for improved function, including mental health as well as cognitive ability.”⁴

No, you can’t put your brain on a treadmill to get, and help keep, it “in shape.” But you *can* do something to maintain mental sharpness and delay decline in mental

agility. And these exercises don’t require a health club membership or special equipment. They can be done anytime, anywhere ... and no one knows you are doing them!

I’m talking about *neurobics*, a term coined to describe exercises that keep us mentally fit.⁵ The purpose of these activities is to work our brains in nonroutine or unexpected ways, using all of our senses to experience, or re-experience, a common activity.

Not sure what that means? Here are some examples:

Spend time in a new environment. Go to a different park or a new store. Travel, by the way, seems to slow age-related mental decline.

Smell new odors in the morning. Have new scents, like a bottle of mint extract, ready to smell first thing in the morning, to “wake up” your brain.

Take a shower with your eyes closed. Other senses become more active when you cannot see, and a shower engages several.

Try brushing your teeth with your non-dominant hand. This may be difficult for some of us—and it definitely requires full attention the first time you try it!

Learn to read braille. This is a tough one, but learning to read with your fingers definitely involves one of your senses in a new context. Or, you could try learning American Sign Language, which also uses your fingers to communicate.

Respond to a situation differently. Catch yourself in a normal, unconscious response to a situation, and choose to respond in an alternate (and preferably better) way.

Find a new route to work. It doesn’t have to be longer, just different. You may even find a faster way to work once you break your routine.

Act confidently. In a situation you are unsure about, choose to act confidently. You’ll notice that your mind gets very active

once you adopt the assumption that you will know what to do.

Distinguish coins using only your sense of touch. This brain exercise can be used to kill time while waiting for an appointment. If you really want a challenge, see if you can distinguish paper currency denominations by touch.

Leave the lights off in the house. Get around your home by memory and feel. This certainly fully engages your attention—but be careful, of course!

If you give neurobics a try, let me know what you think! Or if you have other tips for staying mentally “fit,” please share them. I

can be reached at npeditor@mdedge.com. And thank you to my friend Gail, who suggested this topic to me! **CR**

REFERENCES

1. Kempermann G, Gage FH. New nerve cells for the adult brain. *Scientific American*. 1999;280(5):38-44.
2. Eriksson PS, Perfilieva E, Björk-Eriksson T, et al. Neurogenesis in the adult human hippocampus. *Nature Medicine*. 1998;4(11):1313-1317.
3. Ratey J. *A User's Guide to the Brain: Perception, Attention, and the Four Theaters of the Brain*. New York, NY: Vintage Books; 2002.
4. Ratey J. *SPARK: The Revolutionary New Science of Exercise and the Brain*. New York, NY: Little, Brown and Company; 2008.
5. Katz LC, Rubin M. *Keep Your Brain Alive: 83 Neurobic Exercises*. New York, NY: Workman Publishing Company; 1999.