Why to Use Unpredictable Command Technique

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Brain research is yielding exciting insights into why we think, feel and act the way we do. Here is what John J. Ratey, MD, author of *A User's Guide to the Brain: Perception, Attention, and the Four Theaters of the Brain,* has to say about what brain researchers are learning -- and how we can use this knowledge to improve our lives...

What is the most exciting breakthrough in brain research?

How flexible the brain is. Scientists used to believe that each of us was born with a set number of brain cells, which we lose over time as we age. Now we know that the brain keeps making new cells every day. This suggests that there is much we can do to help our minds stay active and that positive change is possible at any age.

What can we do to keep our brains healthy?

We know that exercise improves mood by increasing levels of *dopamine* and *serotonin.* These neurotransmitters also positively affect attention and learning. Physical exercise keeps the brain fit by...

- Increasing blood flow to the brain and promoting the creation of blood vessels there. This means that more nutrients can reach the brain, helping it operate more efficiently and possibly even preventing age-related memory loss. Studies have shown that physically fit older men do just as well on mental tests as men decades younger.
- Increasing the release of brain-derived neurotrophic factor (BDNF). This substance acts like "fertilizer." It promotes the growth of new cells and strengthens connections between brain cells, which enables learning to take place.

What exercise is best for the brain?

Aerobic exercise will improve circulation in the brain -- as well as to the heart and the rest of the body -- if performed regularly. Activities that involve complex movements -- such as tennis, skating or ballet -- also seem to improve the brain's ability to process and remember information. Some can help people overcome social awkwardness by acting on areas of the brain that govern social skills.

Example: Tae kwon do and ballroom dancing involve moving in sync with another person. This type of activity strengthens neural connections that improve sensitivity to other people and enhance the ability to respond to them appropriately.

How about "mental" exercise? Can that keep the brain healthy?

That seems to be the case. Studies have found that people with more education -- who presumably are more intellectually active throughout their lives -- have a much later onset of Alzheimer's disease and other forms of dementia.

Mental challenges keep the brain flexible so we don't get stuck in certain patterns of thinking and behavior. The brain responds best to learning and moving because it has its own system to help conquer challenges.

The best approach is to pursue an unfamiliar activity. If you work in finance, take a philosophy course. If you spend your spare time reading, try carpentry. Winston Churchill painted landscapes when he wasn't dealing with matters of state. Think of it as cross-training the brain.

What else can we do to maintain brain health?

Meditation allows the brain to rest deeply so it doesn't become overstressed. When we sit quietly and turn our attention to a silent word or phrase or our breathing, the brain's electrical activity becomes quiet and synchronous.

Passion -- driving toward a mission -- also feeds the brain. It motivates us to grow, which strengthens neural connections... and makes our lives more satisfying.

Is there a diet that promotes brain health?

Diet affects neurotransmitter activity as well as the development, repair and regeneration of brain cells. We don't know enough at this point to give a precise dietary "prescription."

According to *Daily Health News* contributing editor Andrew Rubman, ND, for a healthy brain, eat a balanced diet that is rich in...

- **Dietary fats.** The brain's primary 'back-up' fuel source.
- **Proteins and complex carbohydrates.** Both are glucose sources used to stabilize brain glucose levels.
- **Omega-3.** Cold-water fish, such as salmon, mackerel, halibut and herring and unhydrogenated, polyunsaturated oils, such as canola, flaxseed and soybean, provide omega-3 fatty acids. These "good" fats regulate mood and keep brain cells healthy.
- **Omega-6.** Evening primrose seed and borage seed oils. They complement the omega-3s and keep them from "misbehaving."
- **Iron,** which carries oxygen through the bloodstream and into the brain. If you're iron-deficient, your brain may not get all the oxygen it needs for peak performance. *Dietary sources:* Liver, lean red meat, poultry, fish and dried beans. Take supplements of this mineral only when medically indicated through blood testing and only under your doctor's care.
- **B vitamins** -- especially B-6, found in chicken, fish, liver, eggs and pork... and folic acid, found in in lentils, black-eyed peas, kidney beans, spinach and peanuts. They fight age-related declines in brain function. Take these in the form of a multi-B twice a day.
- **Vitamins A, C and E.** These antioxidants bind up the free radicals that could otherwise damage nerve cells. Vitamin A is found in whole milk, eggs and liver. Vitamin C is in many fruits and vegetables. Vitamin E is in nuts, sunflower seeds, spinach and cold-pressed oils, such as corn, safflower and canola.

Merle, Andrew. The best type of exercise uses your body and your brain. Quartz, June 2019.
Ratey, John. Build a Better Brain with Exercise. High Performance Institute, Sept 2017.