



Nevada attorney and state Assemblyman Steve Yeager runs to maintain a healthy weight and to help his mood after long legislative sessions.

# Exercise— A Powerful Tool for Brain Health

BY MARISA RODRIGUEZ, ESQ.

**The brain is one of our most valuable organs – it controls all body functions, interprets information, and governs creativity, intelligence, emotions, and memory.<sup>1</sup> The healthier your brain, the better equipped you will be to live your life and perform your professional duties.**

Related to brain health, attorneys are greatly affected by mental health issues. According to a study performed by the American Bar Association, nearly one-third of attorneys (28 percent) struggle with depression and 19 percent have symptoms of anxiety.<sup>2</sup>

The good news? There is a simple, powerful, tool at our disposal to help us combat these statistics and foster a healthier brain: *exercise*!

Many are familiar with the benefits exercise provides to one's physical health, but exercise is also one of the most transformative acts for the brain.<sup>3</sup> Below are examples that aerobic exercise has been shown to positively affect the brain:

➤ **Mood** – Exercise can help improve one's mood. The biggest cause of depression is a chemical imbalance in the brain.<sup>4</sup> Exercise has been shown to improve one's mood because it increases important neurotransmitters such as endorphins, also known as the "feel-good chemicals," because they help relieve pain and stress. Endorphins are also associated with a phenomenon known as "runner's high," a sense of euphoria sometimes experienced during long

runs. Similarly, exercise stimulates the release of serotonin, dopamine, norepinephrine, and noradrenaline, which are important in regulating one's mood.<sup>5</sup>

➤ **Learning and Memory** – Exercise may also help learning and memory functions. The hippocampus has a major role in learning and memory. Studies in rodents have shown that aerobic exercise stimulates brain cell creation in the hippocampus. Accordingly, some neuroscientists believe that neurogenesis increases and the ability to learn and to form new long-term memories improves.<sup>6</sup>

➤ **Decision Making, Focus, and Attention** – The brain's prefrontal cortex is responsible for decision-making, focus, and attention.<sup>7</sup> Dr. Wendy A. Suzuki, a professor of neural science and psychology in the Center for Neural Science at New York University, studies the role of aerobic exercise on cognitive ability. Her research has shown that a single workout will immediately increase levels of those neurotransmitters (dopamine, serotonin, noradrenaline) and can improve one's ability to shift and focus attention, which will last for at least two hours. To achieve the long-term benefits of exercise, one should increase cardiorespiratory function by implementing a regular workout routine.<sup>8</sup>

➤ **Protective Effects** – According to Dr. Suzuki, regular exercise provides protection against

neurodegenerative diseases. The hippocampus and the prefrontal cortex are the two areas most susceptible to neurodegenerative diseases and cognitive decline. Regular exercise will not necessarily prevent dementia or Alzheimer's disease, but could delay these diseases from affecting the brain.<sup>9</sup>

After understanding the value of exercise to brain health, the next logical question is "how much exercise is needed to attain these benefits?" A good benchmark is three to four times a week for a minimum of 30 minutes. The key is to increase one's heart rate during these exercise sessions.<sup>10</sup>

To better understand all of this, a few fellow state bar members talk about their exercise of choice and offer tips on how to get started below.

**Running** – For attorney and Assemblyman Steve Yeager, the answer is running. In mid-2019, Yeager wanted to lose a few pounds he had gained during the legislative session, which can be quite sedentary. Yeager rekindled his passion for running, and realized that running not only helped him physically, but also boosted his creativity. Running also improved his mood, and it helped with his sleep and overall happiness. Additionally, Yeager enjoys being a member of the running community, where he has met many extraordinary individuals.

For those new to running in southern Nevada, Yeager recommends the trails at Red Rock Canyon, Lone Mountain, the 215 Beltway, or the Tunnels by Lake Mead. There are various trails for every

level of expertise. In northern Nevada, there is no shortage of trails in Carson City, Reno, or Lake Tahoe, with the Tahoe Rim Trail holding a special place in Yeager's heart.

**Rock Climbing** – Laura Tucker, a senior deputy attorney general, has found the perfect exercise in rock climbing. Tucker works at the Bureau of Consumer Protection, focusing on deceptive trade and privacy issues. Her work is not only intellectually demanding, but can also be emotional. Rock climbing allows her to take her mind off work, preventing burn-out and re-energizing her.



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According to Tucker, rock climbing is easier than people think, and practically anyone who can walk can rock-climb. To get started, Tucker advises to find a climbing gym and begin “bouldering,” which is rock climbing in its basic form. Bouldering does not require ropes or harnesses. You simply need climbing shoes and a bag of chalk over safety mats.

Bouldering benefits someone’s mental health because focus on the challenge at hand is necessary. This allows one to disconnect from everything else while getting a great full body workout. For those who think upper body strength is necessary before trying rock climbing, Tucker says bouldering requires more leg work than upper body strength.

**Spinning** – For the Honorable Cristina Silva of the Eighth Judicial District Court of Nevada, a stationary bike at home or the office is the perfect tool for regular exercise. Judge Silva purchased her Peloton bike to stay in shape for the 2020 campaign season, but it has proved essential during

the COVID-19 pandemic. Silva enjoys aerobic exercise because it helps her think clearly, gives her energy, and helps her to de-stress.

A stationary bike can be used at any time and for any duration. “Sometimes you only have 20 minutes, and that is enough to clear your mind and give you that burst of energy to keep going,” Silva said. Another benefit of a Peloton bike is that it can be used for solitary exercise, or for virtual workouts with friends. Additionally, the Peloton reward system inspires those with a competitive spirit.

**Final Tips** – Here are some tips for incorporating more exercise into daily life:

1. Next time a friend invites you to a happy hour, suggest a walk at the park instead. You will be surprised at how fast time passes with great conversation.
2. Avoid saying, “I have to exercise tomorrow morning.” Instead, say “I get to exercise tomorrow morning!” Soon, you will find yourself prioritizing exercise.
3. Explore the outdoors in Nevada. If you live in southern Nevada, explore the numerous trails at Red Rock Canyon. If you live in Reno, visit Galena Creek Recreation Areas, the Steamboat Ditch Trail, and the Keystone Canyons.
4. Exercise at a time of day that feels natural to you. If you are a night owl, do not force yourself to exercise in the morning. Likewise, if you are an early bird, working out after work may not be a routine you can cement. Do what works for your circadian rhythm and you will be more likely to stick to your new exercise routine.
5. If you have not found your sport, keep trying. There is something out there for everyone.
6. Find a workout friend to help you stay accountable and make workout sessions fun.
7. Sign up for a charitable 5K and follow one of the many training plans available online. An excellent option is the ¡Andale! 5K, a scholarship fundraiser organized by the Nevada Latino Bar Association, taking place on

Saturday, September 18, at Kellogg Zaher Complex Park. There is also a virtual option. Register at [www.Andale5k.com](http://www.Andale5k.com).

Your brain is precious. It works hard to provide you the life you currently have, including your profession. Show it appreciation by adopting a lifestyle that fosters a healthier brain.

#### ENDNOTES:

1. Mayfield Clinic, Anatomy of the Brain, <https://mayfieldclinic.com/pe-anatbrain.htm> (last visited June 6, 2021).
2. American Bar Association, ABA Profile of the Legal Profession 2020, <https://www.americanbar.org/content/dam/aba/administrative/news/2020/07/potlp2020.pdf>.
3. Suzuki, W. (2017). The Brain Changing Benefits of Exercise [Video file]. Retrieved from [https://www.ted.com/talks/wendy\\_suzuki\\_the\\_brain\\_changing\\_benefits\\_of\\_exercise?language=en#t-42760](https://www.ted.com/talks/wendy_suzuki_the_brain_changing_benefits_of_exercise?language=en#t-42760).
4. Healthline, Exercise, Depression, and the Brain, <https://www.healthline.com/health/depression/exercise#Exercise-and-brain-chemistry> (last visited June 6, 2021).
5. Dinas, P.C., Koutedakis, Y. & Flouris, A.D. Effects of exercise and physical activity on depression. *Ir J Med Sci* 180, 319–325 (2011) <https://doi.org/10.1007/s11845-010-0633-9>.
6. Suzuki, W. (2017). The Brain Changing Benefits of Exercise [Video file]. Retrieved from [https://www.ted.com/talks/wendy\\_suzuki\\_the\\_brain\\_changing\\_benefits\\_of\\_exercise?language=en#t-42760](https://www.ted.com/talks/wendy_suzuki_the_brain_changing_benefits_of_exercise?language=en#t-42760).
7. The Good Therapy, Prefrontal Cortex, <https://www.goodtherapy.org/blog/psychpedia/prefrontal-cortex> (last visited June 5, 2021).
8. Suzuki, W. (2017). The Brain Changing Benefits of Exercise [Video file]. Retrieved from [https://www.ted.com/talks/wendy\\_suzuki\\_the\\_brain\\_changing\\_benefits\\_of\\_exercise?language=en#t-42760](https://www.ted.com/talks/wendy_suzuki_the_brain_changing_benefits_of_exercise?language=en#t-42760).
9. Id.
10. Id.

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