Have Writer's Block? Run Away From It. Literally.

Ben Opipari

You're probably reading this sitting down. You might be at home, you might be on the train, or you might be at work, but you're probably sitting down. In fact, you probably spend most of your workday sitting: writing, reading, thinking, or meeting. And while it may be comfortable, this simple act is stifling your ability to solve problems and think creatively.

Boosting your brain

We know that exercise has long-term benefits for your cognitive health. But researchers have discovered that exercise also has immediate benefits by boosting your executive function. This type of higher-order thinking allows people to organize plans, formulate arguments, develop strategies, and synthesize information. It involves goal setting and planning, creative problem solving, and critical analysis—all things that attorneys do when they write. After exercising, there's a sweet spot when your brain performs these tasks best.

So ditch those energy drinks and bottomless pots of coffee, because what you really need are athletic shoes.

The link between exercise and improved executive function is especially important to attorneys who spend long stretches of time tethered to their chairs crafting transactions and court documents. Of course, on a practical level, any change in routine—even something as simple as a five-minute walk—can lift a writer from a temporary funk. Attorneys in big law firms who are beholden to the billable hour frequently develop rigid routines: they sit in front of a computer screen all morning, eat lunch at their desk, sit in front of a computer screen all afternoon, go home, eat dinner, then sit in front of a computer screen at home for a few more hours.

Because they write so much, attorneys ask me how to beat writer's block. Often the brain's creative and problem solving process grinds to a halt after an extended period of writing, and this is when writer's block sets in. While we all have our quirky ways of

getting back on track, the worst thing to do is stay put. The best thing to do is take a break. Now it appears this break should involve physical activity, because exercise re-energizes the tired brain and can make for a more productive writing session.

Quite simply, exercise makes us more alert. Joyce Carol Oates wrote, "The structural problems I set for myself in writing, in a long, snarled, frustrating and sometimes despairing morning of work, for instance, I can usually unsnarl by running in the afternoon." Acclaimed short story writer Anthony Doerr once told me that "exercise tends to rinse my brain of lots of detritus. Walking, in particular, helps me sort through problems in my work." Neither Oates nor Doerr, however, can compare to the English poet William Wordsworth, who thought nothing of walking 30 miles a day—and composing his poems in their entirety in his head while walking.

It's no wonder: our brain is a flurry of activity when we exercise, awash with chemicals that work on the attention system. One of these chemicals is called brain-derived neurotrophic factor (BDNF), which acts on the brain's neurons. BDNF sits at the brain's synapses and gets released as your blood pumps during exercise. It doesn't take much to boost the levels of BDNF in your brain and increase your powers of executive function, and the blood flow immediately improves brainpower. It's so immediate, in fact, that you can even improve cognition while you exercise.

How much exercise?

The good news is that it doesn't take much to reap the benefits, though there is a slight correlation between intensity and creativity. One study demonstrated that the higher the heart rate, the stronger the brain.[1] The researchers assessed learning performance in three separate test groups directly after high impact anaerobic sprints, low impact aerobic running, and a period of rest. Vocabulary learning was twenty percent faster after the high impact sprints compared to the other two conditions.

Similar results have been achieved with college undergraduates who were tested on an executive control task after a thirty-minute treadmill session: cognitive processing sped up with the group that exercised. So, if you're trying to retain information, the best time might be after exercise because it may facilitate the consolidation of information into long-term memory.[2]

But you don't need to put in a lot of miles to gain the cognitive benefit; better fitness levels do not necessarily lead to larger cognitive gains. A ten-mile run won't make you twice as sharp as a five-mile run.

Furthermore, marathoners aren't necessarily more creative than first time 5k runners, because you don't even have to be *in shape* to reap the benefits: a single thirty-five minute treadmill session at sixty percent of maximum heart rate (considered moderately intense) can increase cognitive function. After just one workout, runners increase processing speed and cognitive flexibility; that is, they think creatively and problem solve instead of just regurgitating items from memory.

According to Dr. Charles Hillman at the University of Illinois, fitness level doesn't really make a difference. Even someone with no aerobic base will show an immediate cognitive benefit from a single workout.[3] And anything that boosts your heart rate will work; Hillman says that even a "moderately intense bout of walking" helps.

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[1] Bernward Winter et al., *High impact running improves learning*, 87, Neurobiology of Learning and Memory, 597 (2009).

[2] Kathryn Coles and Philip D. Tomporowski, *Effects of acute exercise on executive processing, short-term and long-term memory*, 26, Journal of Sports Sciences, 333 (2008).

[3] Telephone interview (March 17, 2010)

How long does the benefit last?

So just how soon after exercising should you begin that task involving higher-order thinking?

You can probably shower first: most researchers who studied the link between exercise and cognition tested subjects whose heart rates had returned to within 10% of pre-exercise levels. And one 2005 study showed that, for as long as two hours after you complete your workout, you can enjoy the residual effects of exercise on cognition after exercising at moderate intensity (defined as double your resting heart rate). The workout "significantly impacted the creative processes of the participants," said the researchers.[4]

Where to exercise?

Where you exercise also plays a role in the cognitive benefits you reap.

Nature stokes creativity and strengthens your cognitive powers better than urban environments, according to a 2008 study.[5] It has to do with what you pay attention to while you're exercising. There are two types of attention: involuntary (paying attention to pretty things like flowers and foliage) and voluntary (paying attention to that bus that's about to run you over).

It doesn't take any extra effort to notice those pretty leaves; you just do it. But voluntary attention—also called executive attention—does take work because it requires active cognitive processes. You always have to be looking out for that big bus while you're running, so your attention center is constantly on alert. You also use this executive attention throughout the day to "resolve conflict and suppress distraction stimulation," according to the authors.

This executive attention is certainly something in which attorneys participate. To keep that part of our cognitive process fresh for when we need it most—like when writing a lengthy legal document—it's best to give it a brief, well-needed vacation. "Simple and brief interactions with nature can produce marked increase in cognitive control," the authors of the study note. So, when faced with a mid-afternoon funk, do something that does not require directed attention, where you don't have to worry about the potentially life-ending distractions in an urban environment.

Of course, if you work in a law firm, you probably don't have easy access to babbling brooks and beautiful foliage. No problem: a park will do. The important thing is to remove yourself from dangerous stimuli, which is a good idea even if you don't want to be creative. (Note to southern California readers: Muscle Beach won't work. Since blood flow affects executive function, weight training won't give you the same effect as aerobic exercise. One recent study compared a group who had just completed 30 minutes on the treadmill with a group who had just completed 30 minutes of resistance training. The treadmill group had a shorter response time during a working memory task.[6])

What type of exercise?

It's also good to stimulate your executive attention center by partaking in novel routines as you exercise. A treadmill or elliptical workout might not do as much to improve brainpower as a routine that stimulates the brain. Even running the same route outdoors offers little stimulation. So pick a new route each day. Or try trail running, an

[4] David M. Blanchette et al., *Aerobic Exercise and Cognitive Creativity: Immediate and Residual Effects,* 17, Creativity Research Journal, 257 (2005).
[5] Marc G. Berman et al., *The Cognitive Benefits of Interacting With Nature*, 19, Psychological Science, 1207 (2008).
[6] Matthew B. Pontifex et al., *The Effect of Acute Aerobic and Resistance Exercise on Working Memory*, 41, Medicine & Science in Sports & Exercise, 927 (2009).

activity that combines aerobic exercise and complex motor skills to navigate obstacles and uneven (though not too uneven) terrain. But remember to avoid trails with bears and snakes so that you don't have to use your executive attention while on the run.

Several studies back this assertion. In one, scientists evaluated cognitive function in two groups, one with elevated heart rates only through aerobic exercise and another with elevated heart rate combined with complex motor challenges. While both groups raised their scores, the group that performed the complex motor challenges scored higher.[7]

Another study found that gym-based aerobics and aerobic dance both enhanced creativity. The latter group scored higher on the creativity measure, a result that caused the authors to question whether "free rather than prescribed exercise is more likely to release the stream of consciousness," since the subjects had greater freedom of movement. The authors said that "it is also possible that running, which has most strikingly led to enhanced moods, would have been a more suitable form of exercise" for the study.

This supports the idea that creative and spontaneous aerobic exercise is better than any monotonous or repetitive routine, and it could also explain why those in the aforementioned aerobic dance group scored slightly higher on the creativity test than those in the gym-based aerobics group: they had greater freedom of movement.[8]

Why take the time?

Implementing such a program into your writing routine begins with countering the argument that there is no time for a lunch hour or afternoon workout because time spent away from the desk is time wasted. But look at your options. You can skip the workout—saving an hour—and spend your afternoon in a semi-stupor fighting the inevitable afternoon funk. Or you can use the hour to make your afternoon more productive. So look at your workout as an investment into a more productive day.

Here are more tips for using aerobic exercise to boost brainpower:

- Exercise when you know you'll need it most. If you plan on spending your afternoon writing, exercise at lunch.

- Take a colleague with you and use the time to strategize. You'll both be at your creative peak while you exercise. After all, John Medina, author of *Brain Rules: 12 Principles for Surviving and Thriving at Work, Home, and School*, says we are way overdressed in the workplace. "If I had my way, the standard work force 'uniform' would not be a suit and tie, or business skirt and blouse. It would be gym clothes and tennis shoes," says Medina.[9]

- When you have writer's block, take a walk. It may not elevate your heart rate as much as running, but it's better than sitting. If you hate to run, no worries. Dave Anderson, a partner at a Chicago law firm, plays a couple of games on the firm's ping-pong table "as a great way to refocus." If that's not possible and he's at a standstill, he'll walk down to Millenium Park at lunch. Or if it's late afternoon he takes a 4pm yoga class. You're never that far from a way to incorporate activity into your day.

Of course, the cognitive benefits begin while you're exercising. You don't have to wait until after your workout to break through a writing funk. Mike Padden, a Chicago-based attorney, says, "I get some of my best ideas when I am out running. They're usually issues that have not been on the front burner, but more from the subconscious, non-analytical side of the brain. Running is

[7] Henning Budde et al., *Acute coordinative exercise improves attentional performance in adolescents,* 441, Neuroscience Letters, 219 (2008).

[8] Hannan Steinberg et al., *Exercise enhances creativity independently of mood,* 31, British Journal of Sports Medicine, 240 (1997).

[9] Interview (March 5, 2010)

especially helpful when I'm really under the gun; it helps clear my mind of the excess chatter that is clogging it."

This sentiment is echoed by Ken Chestek, Clinical Professor of Law at Indiana University, who says, "I can think, deeply, about whatever I'm working on while I run. Sometimes I come up with creative ideas for writing problems, or new concepts for whatever writing project I'm working on."

The long-term benefits of aerobic exercise have been well documented: it keeps the mind sharp by staving off cognitive decline. But who has time to wait that long? Your lunchtime run will make you a better thinker within minutes of breaking a sweat.

Ben Opipari *is the founder of Persuasive Matters, offering writing seminars and writing coaching to law firms. An avid runner, Ben was a 400m track athlete in college and was also a head high school track coach for ten years; he also recently coached his mother to a top five finish in the 5k at the United States Senior Games. He holds a Ph.D. in English Language and Literature and resides in the Washington, DC area. Ben can be reached at ben@persuasivematters.com or www.persuasivematters.com.*