



MOVEMENT
IS OUR
LIFE-FORCE

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Over four issues of M2, I completed a four-part series on Brain Burnout. In this month's article, I am going to create a world of movement, physical activity and exercise as it relates to living a wellness lifestyle and how it impacts the mind and brain. I will also offer an explanation of why it is critical you are doing enough movement, physical activity and exercise each day. The intention is that you get a basic grasp and understanding of the importance of movement and its relationship to living a wellness lifestyle, and being able to maintain a healthy state of mind.

I will start with the relevant definitions of movement, moving, physical activity and exercise, to give some clarity as to what they mean and begin to distinguish the paradigm of movement as it relates to living a wellness lifestyle. Also note that when I talk about 'movement', in this article I am including everything that is defined below:

Movement: The act or instance of moving; a change in place or position

Moving: Producing or transferring motion or action.

Physical: Concerned or preoccupied with the body and its needs.

Activity: The quality or state of being active; vigorous or energetic action; a pursuit in which a person is active.

Physical Activity: Is any bodily activity that enhances or maintains physical fitness and overall health and illness.

Exercise: Activity requiring physical effort, carried out esp. to sustain or improve health and fitness.

MOVEMENT IS LIFE

Movement is essential for you to live a happy and prosperous life. In short, movement is life. While that may sound strange, without movement you cannot survive. Your blood cells, heart, lungs, joints, muscles, spine and many other functions in the body-mind all need movement for you to sustain life. Movement is required for proper brain function for the coordination of activities such as concentration and learning, emotions, motor control, and organ function. Movement is critical as it serves to charge your brain's battery from the constant stimulation and input that is generated when you are moving your body. Sufficient movement creates the environment in your body-mind for you to live a wellness lifestyle.

There are a number of key nutrients that your body-mind needs — air, water, food, movement and an empowered state of mind. Movement is rarely ever looked at as a critical nutrient that you must feed the body-mind on a daily basis to give it the ability to function optimally. It is often optional for us to provide our body-mind with sufficient movement to promote a wellness lifestyle.

However think about this — would you not breathe, not drink water or eat sufficiently in a given day? The answer is NO, so why would you not move sufficiently on any given day? If you are not planning to move and be physically active every day for the rest of your life, then how I like to view that is that you are committing slow suicide. While this may sound dramatic, the effects of not moving sufficiently are not as consciously obvious as if I cut off your nerve or air supply, or starved you of water or food for a day. But if you told me you aren't going

to eat and drink sufficiently over extended periods of time (like people are sometimes with a lack of movement) then I would tell you that you are crazy and you may die — you are committing suicide. And hence, I say that if you are not planning to move and be physically active in an amount sufficient for your body to function well and promote wellness, then you are in effect committing slow suicide in that you won't feel the effects of it until much later in life. How it will show up later is as chronic illness: joint and muscle pain and dysfunction, a complete lack of freedom to move and be mobile when you are older, and most likely (unless you are lucky), leading to premature death.

The research from most of the prominent neurologists, physiologists, psychologists, and educators in the world is unequivocal — "messages to your brain created by proper movement (especially of your spine) have been called an essential nutrient for brain function and development. In fact, research is now showing that people who do not properly stimulate their brain with joint movement have learning, memory, emotional, behavioral, and overall health deficits." (James Chestnut — ICPA Journal).

OUR RELATIONSHIP TO MOVEMENT IS THE KEY

So I invite you at this point just to stop and look at your relationship to movement, physical activity and exercise. How do you view it? Is it something that you know you have to do, and its good for you if you are doing it, and not good for you if you are not? Knowing that you just have to, or should do it, is an insufficient view or context to have of movement. Creating a relationship to movement being as important as breathing for your life is a much more powerful way to view it.

However, the problem is that you don't have to think about breathing, and if you don't breathe your body-mind will let you know pretty fast that you better breathe or you are certain to go unconscious and possibly dying. So how do you create that kind of relationship to movement such that you don't really have to *think* about whether or not you should do it — you just *do* it? How is this made a reality, especially when there is no immediate threat of going unconscious and possibly die if you don't move and be physically active? This is something that I don't have a single answer for, and it takes time and developing the right habits and while I could never promise that movement will be like breathing (due to certain innate physiological factors), it is possible through learning, practicing and forming the habits of someone who is related to movement as a critical nutrient for your body-mind to be well, then you can be someone in life who is naturally getting sufficient movement to live a wellness lifestyle.

So what is important for now is for you to understand and embody this context or paradigm for movement — which includes physical activity and exercise. Your access to that, as with anything valuable in life that you want to take on and master, is creating it as a habit and having the right structures in place in your life that support that habit. How you form a habit is you simply repeat something over and over again in the way it should be done until it becomes something you do without much thinking. It requires reading and re-reading (studying) the important knowledge that is required for you to take the actions to form the habit. Once you understand the knowledge you have gained, apply that knowledge to your life in the form

of practice. Practice is defined as two things — The actual application or use of an idea, belief, or method as opposed to theories about such application or use, and, to perform (an activity), or exercise (a skill) repeatedly or regularly in order to improve or maintain one's proficiency.

From this article, what there is to take on is to really understand why movement, physical activity and exercise are necessary and critical for us to function optimally and requisite in living a wellness lifestyle. Then you need to apply this to your life.

Let's start with some objective facts about why sufficient movement is so important each week to deepen your education in why it's not optional, but compulsory. The following is from the book, *Spark – How Exercise Will Improve the Performance of Your Brain*, by Dr. John Ratey and Eric Hagerman. I recommend acquiring it and reading it if you want to deepen your understanding as it has invaluable information that will completely change the way you see exercise and its importance in living a wellness lifestyle.

1 It strengthens the cardiovascular system. A strong heart and lungs reduces resting blood pressure. The result is less strain on the vessels in the body and the brain. There is a number of mechanisms at work here. First contracting muscles during exercise releases growth factors. Aside from their role in helping neurons bind and promoting neurogenesis, they trigger a molecular chain reaction that produces endothelial cells, which make up the inner lining of blood vessels and thus are important for building new ones. These inroads expand the vascular network, bringing each area of the brain that much closer to a lifeline and creating redundant circulation routes that protect against future blockages. Second, exercise introduces more nitric oxide, a gas that widens the vessels' passage ways to boost circulating blood volume. Third, the increased blood flow during moderate to intense activity reduces hardening of the brain arteries. Finally, exercise can to some extent counteract vascular damage. Stroke victims and even Alzheimer's patients who participate in aerobic exercise improve their scores on cognitive tests. Starting when you are young is best, but it's never too late.

2 It regulates fuel. Researchers at the Karolinska Institute conducted a 9-year study of 1,173 people over age 75. None of them had diabetes, but those with high glucose levels were 77 percent more likely to develop Alzheimer's. As we age, insulin levels drop and glucose has a harder time getting into the cells to fuel them. Then glucose can skyrocket, which creates waste products in the cells — such as free radicals — and damages blood vessels, putting us at risk of stroke and Alzheimer's.

When everything is balanced, insulin works against the buildup of amyloid plaque that contributes to Alzheimer's, but too much encourages the buildup as well as inflammation, damaging surrounding neurons. Exercise increases levels of insulin-like growth factor (IGF-1), which regulates insulin in the body and improves synaptic plasticity in the brain. By drawing down surplus fuel, exercise also bolsters our supply of brain-derived neurotrophic factor (BDNF), which is reduced by high glucose

(BDNF serves as a Miracle-Gro for the brain, fertilising brain cells to keep them functioning and growing as well as spurring the growth of new neurons).

3 It reduces obesity. Aside from wreaking havoc on the cardiovascular and metabolic systems, body fat has its own nasty effects on the brain. The CDC (Centers for Disease Control) estimates that 73 percent of Americans over 65 are overweight and, given the potential problems obesity can lead to — from cardiovascular disease to diabetes — the agency is right in declaring a pandemic. Simply being overweight doubles the chances of developing dementia, and if I factor in high blood pressure and high cholesterol — symptoms that often come along with obesity — the risk increases sixfold. When people retire, they figure they deserve a break after working their whole lives, and they start piling on the food. But what they don't realise is that having dessert with every meal is no treat! Exercise, naturally counteracts obesity on two fronts: it burns calories, and it reduces appetite.

4 It elevates your stress threshold. Exercise combats the corrosive effects of too much cortisol, a product of chronic stress that can bring on depression and dementia. It also bolsters neurons against excess glucose, free radicals, and the excitatory neurotransmitter glutamate, all necessary, but they can damage the cells if left unchecked. Waste accumulates and junks up the cellular machinery, and it starts churning out dangerous products — damaged proteins and broken fragments of DNA that trigger the latent and ultimately inevitable process of cell death that defines aging. Exercise makes proteins that fix the damage and delay the process.

5 It lifts your mood. More neurotransmitters, neurotrophins, and connectivity shore up the hippocampus against the atrophy associated with depression and anxiety. And a number of studies have shown that keeping our mood up reduces our chances of developing dementia. The evidence applies not only to clinical depression but also to general attitude. Staying mobile also allows us to stay involved, keep up with people, and make new friends; social connections are important in elevating and sustaining mood.

6 It boosts the immune system. Stress and age depress the immune response, and exercise strengthens it directly in two important ways. First, even moderate activity levels rally the immune systems' antibodies and lymphocytes, which you probably know as white cells. Antibodies attack bacterial and viral infections, and having more white cells makes the body more alert to the development of conditions such as cancer. Population studies bear this out — the most consistent risk factor for cancer is lack of activity. Those who are physically active, for instance, have a 50 percent lower chance of developing colon cancer. Second, part of the immune system's job is to activate

cells that fix damaged tissue. When it's out of whack, these damaged spots fester, and you're left with chronic inflammation. This is why, if you're over 50, your blood will be tested for C-reactive proteins as part of your standard physical. These proteins are a sign of chronic inflammation, a primary risk factor for cardiovascular disease and Alzheimer's. Exercise brings the immune system back into equilibrium so it can stop unnecessary inflammation and combat disease.

7 It fortifies your bones. Osteoporosis doesn't have much to do with the brain, but it's important to mention because you need a strong carriage to continue exercising as you age, and it is a largely preventable disease. Osteoporosis afflicts 20 million women and 2 million men in America. More women every year die from hip fractures (a vulnerability resulting from osteoporosis) than from breast cancer. Women reach peak bone mass at around age 30, and after that they lose about one percent each year until menopause, when the pace doubles. The result is that by age 60, about 30 percent of a woman's bone mass has disappeared. That is, unless she takes calcium and vitamin D which comes free with 10 minutes of morning sun a day, and does some form of exercise or strength training to stress the bones. Walking doesn't quite do the job – save that for later in life. But as a young adult, light training or any sport that involves running or jumping will counteract the natural loss. The degree to which you can prevent the loss is impressive: one study found that women can double their leg strength in just a few months of light training. Even women in their 90s can improve their strength and prevent this heartbreaking disease.

8 It boosts motivation. The road to successful ageing really begins with desire, because without the desire to stay engaged, active and alive, people quickly fall into the death trap of being sedentary and solitary. One of the problems of getting older is the lack of challenges, but with exercise I can continually improve and push ourselves. Exercise counteracts the natural decline of dopamine, the key neurotransmitter in the motivation and motor systems. When you move, you're inherently boosting motivation by strengthening the connections between dopamine neurons, while at the same time guarding against Parkinson's. This really underscores the idea that if you're not busy living, your body will be dying. It's important to have plans and goals and appointments, and this is why sports such as golf and tennis are great: they require constant self-monitoring and motivation to improve.

9 It fosters neuroplasticity. The best way to guard against neurodegenerative diseases is to build a strong brain. Aerobic exercise accomplishes this by strengthening connections between your brain cells, creating more synapses (connections between the nerve cells), and spurring newly born stem cells to divide and become functional neurons in the hippocampus. Moving the body keeps the brain growing by elevating the supply of neurotrophic factors necessary for neuroplasticity and neurogenesis, which would otherwise diminish with age.

Contracting your muscles releases critical growth factors that make their way from the body into the brain and aid in the process. All these structural changes improve your brain's ability to learn and remember, execute higher thought processes, and manage your emotions. The more robust the connections, the better prepared your brain will be to handle any damage it might experience.

As you can see, there is a vast array of effects that movement has on the body-mind to contribute to you living a wellness lifestyle, and I would like to stress that it is not optional, but absolutely paramount to get sufficient movement on a daily basis. Given that our ancestors walked approximately an average of 15km or so per day, I say getting about 90 minutes of movement and physical activity per day is sufficient to live a wellness lifestyle.

I want you to think about it like a bank where you deposit money to be prosperous. The more money you deposit in the bank, the wealthier you get. I have created what I call 'The Movement Bank'. If you put 90 minutes per day in the movement bank, then you are on your way to a wellness lifestyle; if you put more movement than that in the bank, you get even healthier and richer in your body-mind. This can be both structured and unstructured movement – it's about finding opportunities throughout your day for movement, whether it be a session at the gym, yoga class, walking up some stairs, or stretching in front of the TV. It is all movement and it needs to be frequent throughout your day.

HABITS AND PRACTICE FOR MOVEMENT

The practice I invite you to take on from this article is to start scheduling all of your 90 minutes of movement, physical activity and exercise each day (or whatever amount you decide you want to take on daily). Just start looking at your schedule and find times you can schedule structured exercise like the gym, running, cardio machines etc, and then find times in your schedule where you have unstructured movement and physical activity like walking to the supermarket, walking to a meeting, stretching in front of the TV etc. If you are to live a wellness lifestyle for now and into the future you must get into the habit of scheduling in your calendar when you are going to move and be physically active every day. If you don't schedule it, you are unlikely to do it as it takes some thinking and planning to create the time in your already busy schedule to do it.

Movement is life, and you will be happier, healthier and more prosperous when you accept that movement is an essential daily nutrient that you must feed your body-mind. Take this to heart and reap the rewards! 

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