



THE SABER-TOOTHED GUIDE

TO UPGRADING YOUR BRAIN

While our smartphones might have the latest software updates, our brains are still about 50,000 years out of date when it comes to dealing with stress. Drew Knowles, Australia's Wellness Guy looks at ways for us to put worries into a modern perspective.





t's 50,000 years ago. You are crouched at a watering hole on a bright sunny day quenching your thirst, and your small and underdeveloped brain is focused on nothing but the feeling of the replenishing water. Suddenly, you hear a rustle in the bushes just near the watering hole, and from the corner of your eye, you see something move. As you glance up to see what it is, a saber-toothed tiger leaps out of the bushes and starts running towards you! Without thinking, you explode into action and run as fast as you can to the tree 20 metres away and just as the tiger is closing in, you leap up to it and swing yourself up. Then, in a series of quick movements, you climb several metres up the tree. Knowing

the saber-toothed tiger cannot climb trees, you perch yourself up there, safe, playing the waiting game. Your heart is racing; your legs and arms are pumped with blood; your breathing is heavy and your mind is focused on staying alive. As the threat of death subsides, your heart beat slows down, your breathing becomes more calm, and your mind and body start to relax as you see the saber-toothed tiger grow tired of waiting and give up on eating you for lunch.

What just happened in your brain and body from the moment you caught a glimpse of the hungry beast was a complex, intelligent and innate series of chemical reactions that allowed you to survive being attacked and likely killed. Without having to think, you were able to explode into action and run like an Olympic 100-metre sprinter, leap high into the air like an NBA basketball player, swing yourself up a tree like a gymnast and climb like a monkey – all to survive being something's lunch. This innate survival response is a product of everyday threats to our survival that existed tens of thousands of years ago. Coined as the fight/flight/freeze response, or human stress response, it is also known and most commonly recognised in modern day as simply – stress. While the survival response of this caveman 50,000 years ago gave him the necessary mental and physical capacity to act against an immediate life threat, OUR stress response is not quite appropriate for the modern day. Today's "threats to survival" come in the form of over-bearing bosses, work deadlines, or angry wives and girlfriends. Despite the similarities that an angry partner or boss may share with a hungry saber-toothed tiger, they don't actually pose a threat to our immediate survival (most of the time). However, our minds and bodies still perceive these stressors in a similar way as the survival threats that existed in caveman times. Though our stressors now may not seem as threatening as those of our predecessors, they are constant, and our brains spend long periods of time in "stress response" mode.

If you are someone committed to thriving in life, you may find, in this day in age, that there are times when stress negatively impacts your day-to-day performance and lifestyle, especially if you work in the business world. While we as human beings are very resilient and capable of coping with certain amounts of stress for long periods of time while still being productive, stress can eventually overcome us and have a very negative impact on our lives. We are often not aware of how high the stress levels are, and the prolonged exposure to stress will eventually lead to the decline in our performance, energy levels, ability to cope with everything we have to manage, and overall quality of life. Ultimately, this will result in long-term health challenges.

In the pursuit of peak performance, you may ignore and fail to understand the effects of stress, and find yourself not feeling in control of your state of mind or your reactions. Your overall capacity to be able to perform and function at your best can be affected, getting in the way of what you want to accomplish in life, or you will produce results in some areas by working under high levels of stress and pushing yourself to the limit, at the expense of balance and the experience of quality of life in other important areas.

What is Stress and What are Stressors?

Most people I work with relate to stress as some "feeling" they get when they are under pressure, anxious/worried or not coping. The conscious feeling of stress is not actually what stress is, it is just your interpretation of the feeling that the physiological human stress response produces when it is triggered – otherwise known as the fight/flight/freeze response. A stressor is a chemical or biological agent, environmental condition, external stimulus or an event that causes stress to an organism. It is simply an event that triggers the fight/flight/freeze stress response. It could include environmental stressors, daily stress events, life changes, workplace stressors, or physical stressors that all cause a chemical reaction inside of the body. Things like – deadlines for work, getting angry/upset with things, arguing with someone, not taking breaks or time out to rest/recover, being under

great pressure to perform, negative thinking patterns, not exercising enough, eating unhealthy foods or overeating, lack of sleep, too much alcohol or simply trying to get too many things done and not managing everything.

The chemical reaction inside the body and brain is very important to understand, as it was designed for life circumstances tens of thousands of years ago and helped our ancestors to survive real threats to their survival. While it was an incredibly intelligent and

innate response to have us survive a short-term threat to our lives thousands of years ago when the threats really were life and death, in our modern day, most of our reactions to stressors in our lives are inappropriate as there is no actual threat to our life and the level of stress we create in perceiving the threat is not always necessary for our body and mind. The human stress response was designed to survive short-term threats to our lives and not intended to be constantly produced over long periods of time.

Here is a basic run down of what happens in our body and mind when a stressor triggers a stress response. As you read this, think of two perspectives – First, how intelligent this is to survive a real threat to your life like a saber-toothed tiger; Second, how detrimental this could be when it goes on constantly in your body and mind in response to everyday stressors.

The brain detects threat. As a result, heart rate increases, blood vessels constrict, and blood pressure rises. Stress hormones – cortisol and adrenaline/ noradrenaline – are released. Additionally, there is an increase in blood glucose levels for energy to the muscles and body (SUGAR!), an increase in blood lipid levels for converting into glucose (FATS!), an increase in bad cholesterol levels and reduction in good cholesterol levels (cholesterol is used in healing wounds and for making stress hormones), an increase in clotting factors (for preparation for potential wound), and an increase in protein breakdown of muscle and connective tissue for conversion into glucose for energy.

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Chronic stress can have a real negative impact on the body – it can lead to insulin resistance due to constant high blood glucose leading to Type II Diabetes, and it can result in decreased immune function because the immune system is very energy expensive and won't save you from a saber-toothed tiger attack. Emotional memories and anxiety dominate (so we remember to look for the saber-tooth tiger next time we are at the watering hole), and logical behaviour and short-term memory are inhibited. This increase in emotional learning and instinctual behaviour and inhibition of factual learning (don't need to learn algebra to survive a saber-toothed tiger attack) leads to a decreased ability to concentrate and focus attention – learning and attention deficit disorders and sleep issues are common under conditions of chronic stress. The decrease in serotonin levels and increase in noradrenaline levels also negatively impacts the body. Low serotonin leads to an increase in feelings of stress, anxiety and depression. This leads to being irritable, tired, listless, having tension headaches, decreased sex drive, lowered growth hormones (rapid aging), appetite changes, burnout and chronic fatigue. Increase in sensitivity to sensory systems – being more sensitive to your environment – also results in higher sensitivity to pain. Calcium loss from insulin resistance leads to less stimulation of bone growth and eventually osteoporosis. Chronically elevated stress hormones also lead to cravings for the energy required for the stress response – SUGARS AND FATS!

As you can see, all of these physiological/biological chemical reactions are innately and intelligently designed to have us survive any threat to our lives for a short period of time, but not designed to occur for long periods.

The other important thing to understand about stress is something called your “allostatic load”. The term allostatic load, coined by McEwen and Stellar in 1993, is defined as the physiological consequences of chronic exposure to fluctuating or heightened neural or neuroendocrine response that results from repeated or chronic stress. It is used to explain (and measure) how frequent activation of the body's stress response, essential for managing acute threats, can in fact damage the body in the long run. In terms of how this affects your life, the higher your allostatic load over a period of time, the more your body and mind will have to adapt to deal with the levels of stress hormones and other chemicals the body produces in response to the stressors, eventually leading to declining levels in performance, productivity and overall wellness.

I find that, these days, the focus for health, wellness and improved performance and productivity is to focus on diet, exercise and a positive/motivated state of mind, and improving your ability to manage time and get more done (multi-tasking) – which are all valid things to focus on. However, we often forget that a pursuit of health also includes reducing the everyday stressors. The real access to improved performance, productivity and overall wellness long-term is about removing, mitigating or reducing as many unnecessary negative stressors in your life as possible.

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Understanding how you react to the stressors that come at you on a daily and weekly basis will allow you to learn how to have the right levels of stress for the right length of time to maximise your performance and productivity. When you are aware of stress and can deal with the stressors, you will discover and create new ways of managing and handling what you need to accomplish on a day to day basis and find a natural elevation in your performance, productivity and wellness.

Here is an exercise to try that you can work on for the next month.

Stress Reality Check – Getting Clear on Your Allostatic Load:

Write down all the negative stressors that you have in your life right now – as many as you can think of small or big. Rate each on a scale of one to five. Five being they cause a high state of stress (fight/flight/freeze response) and one being they cause a mild to low state of stress. Now examine the impact or effect these stressors are having on your performance, productivity and overall ability to live a wellness lifestyle.

Between now and next month, try observing and examining yourself and how you react and deal with these stressors. When you become aware of your stressors, you can start mitigating,

reducing or removing the ones that cause the most amount of stress. In the next article, we will get into a more indepth understanding of stress and stressors; what happens in the brain and body when you keep increasing your allostatic load and how you can reduce this load and get access to new levels of performance, productivity and wellness.

Performance, productivity and living a Wellness Lifestyle is about the right amount of stress at the right times, knowing what state of arousal you need to be in to

produce the performance and results you need. This includes being able to uncover and examine the habits, behaviours and patterns of thinking that contribute to how you react and deal with stressors that you encounter on a regular basis and being able to take positive actions to reduce them.

The fact is, whether or not you are consciously aware of the chronically high levels of stress in your life, your brain and fight/flight/freeze/ response is always aware. If your body is constantly under an elevated load of stress hormones, it will adapt by increasing its allostatic load, which will result in an even higher level of stress hormones in the body. Fatigue is the final stage of when the allostatic load has been too high for too long, and while we can resist this for some time, studies in the 1940s by Hans Selye – who discovered the “General Adaptation Syndrome” (G.A.S.) – show that eventually all animals and humans will become fatigued (and ultimately die) when stressors are not removed from their environment. 📌

For more information about The Wellness Guy and his Specialised Stress Coaching go to thewellnessguy.com.au