Eliminate Road Rage, Control Your Temper – Avoid the Amygdala Hijack of Your Brain

What do these three scenarios have in common?

1. Road rage when someone cuts you off
2. Running away from a hungry lion
3. Reacting to criticism about your most deeply held beliefs

Surely road rage can't have anything to do with being chased by a wild animal that weighs 2-4 times more than you. And how could either of the first two scenarios have anything to do with being criticized? Let's think about it.

Our Top Priority

Our top priority is survival. In order to ensure survival, we rely on portions of our brain, like the amygdala, to identify threats and respond to them quickly. Our response to a threat is estimated to take only 12 thousandths of a second. The response is so fast that your heart starts racing, your blood pressure rises, and you start reacting emotionally before you even can consciously realize what is happening. You may even do things that leave you asking yourself, "What was I thinking?"

The Amygdala Hijack

In his bestselling book, *Emotional Intelligence,* Daniel Goleman refers to this response as the "amygdala hijack". One of the most famous amygdala hijacks was when worldwide soccer role model, Zinedine Zidane, headbutted Italian soccer player, Marco Materazzi, in the 2006 World Cup Finals.

Zidane shows us a perfect example of what happens when our rational mind is hijacked by our amygdala. But how can a man go from calmly jogging away to headbutting another man in the chest just a couple seconds later?

It’s the same thing that makes you want to get revenge on the person who cut you off or run away from imminent danger. It is also the same thing that activates when your deeply held beliefs are criticized and condemned.

The (Not So) Sympathetic Nervous System

You are driving on the highway, listening to your favorite song. You’re dancing, singing, and doing whatever it is that you do when no one is looking. Then someone merges into your lane without warning. In less than a second, you go from a state of bliss to wanting to kill the person who just threatened your life. Your heart beats harder and faster, your blood pressure and breathing rate increase, your adrenal glands secrete the stress hormones epinephrine and norepinephrine, and you are ready for battle!

This is what happens every time your sympathetic nervous system is activated. This reaction is commonly referred to as the “fight or flight” response, and it is activated when your brain registers something as a threat.

This response seems overly exaggerated, especially in the context of modern life, but if you consider the environment that we evolved to survive in, it becomes clear why we are wired this way.

Imagine you are foraging for some fresh fruit and suddenly you hear the crumbling of leaves behind you. In less than a second, your amygdala receives the message from your thalamus (the part of the part the brain that relays sensory signals),

defines it as a threat, and activates the sympathetic nervous system. As you turn around to see whether if it is a lion or a mouse, your heart is already racing to prepare your body to sprint for your life. If it's a lion, your body is ready to run away. If it's a harmless little mouse, you may feel anxious for a couple minutes, but at least you are still alive. You are much better off reacting as if "that's an animal that will kill me" than "it's probably just a little mouse."

Related: ***The Gut-Brain Connection – How it Affects Your Life***

Perceived or Real, It Is Still a Threat.

For most of us who are reading this right now, our safety is almost always guaranteed. So why do we still get stressed?

Let's go back to the beginning of the article. Each scenario we discussed has one thing in common – a threat. A threat is anything that we think could be threatening to our well-being. This can include anything from an unexpected noise to a negative criticism about our work. Even a random thought that we have while we are on the verge of falling asleep can be perceived as a threat. As soon as a threat is perceived, our brain fires up our sympathetic nervous system so that we can take action now.

The Origin of Our Perceived Threats

In the first couple years of life, around 1,000 new neural connections are formed every second. This is a fancy way of saying that when we are babies all we do is learn. We learn how to use this sack of meat, bones, and organs that we call a body. We learn about our environment and the people in it and how to get food and safety from them.

From birth through our teenage years, our limbic system (the emotional center of the brain) is constantly undergoing development. This development is shaped by our genes and our past experiences whether they are vicarious or personal. Our future emotional responses are shaped primarily during this phase of development.

Survival First, Happiness Second

As we are developing, our brain is constantly looking for threats to our survival. When there is a risk involved with a certain stimulus, like a thought, sound, taste, or feeling, our amygdala will be triggered so that we can have a fighting chance to survive. Unfortunately, the rational part of our brain is not fully developed until our mid-20s, so the threats that we react to rarely have a rational basis. This is why a seemingly abstract stimulus like the sound of rain may trigger relaxation for one person while the same sound activates the sympathetic nervous system in another.

Anything can be perceived as a threat and trigger a sympathetic response. Many of us live in this state of fight or flight all day long without realizing it, continuing to react to perceived threats as if they are life threatening. On top of that, most of us start our day with a caffeinated beverage like coffee, which activates our sympathetic nervous system even more. Adding caffeine to a body that is already chronically reacting to threats is the perfect recipe for chronic stress, chronic tension, and chronic pain.

Chronic Stress and Chronic Pain

According to the CDC, as of 2012, about half of all adults have one or more chronic diseases. Most, if not all, of these chronic diseases are partially caused by and worsened by chronic stress. Chronic stress is also one of the major causes of chronic pain.

However, stress is necessary for health. For example, exercise is a way of stressing the body that is essential for our well-being. Being exposed to the cold is another stress on the body that leads to positive health benefits. But if you go to the arctic circle and run without stopping, you will quickly perish.

Related: ***Understanding Stress, Chronic Stress, and Adrenal Fatigue***

This is because stress is only good when it is followed by relaxation and recovery. Stress is bad when it becomes chronic. Stress becomes chronic when the body has no opportunity to rest and recover because it is too busy responding to threats. If the body is constantly responding to threats, it can never heal, adapt, and grow, which leads to chronic disease and chronic pain.

Related: ***What Causes Chronic Inflammation, and How To Stop It For Good***

Your Body's Natural Healing System

To balance the effects of stress that are caused by the sympathetic nervous system, we have another branch of the nervous system that triggers our body to rest and digest called the parasympathetic nervous system. When our environment is free from potential threats, our parasympathetic nervous system takes over.

One of the most important aspects of the parasympathetic nervous system is the vagus nerve. The vagus nerve is the longest cranial nerve. It wanders through the center of the body, innervating most of the major organs. When your vagus nerve is active, it reduces your heart rate, improves your digestive function from your mouth to your large intestine, and increases your sense of safety and comfort with yourself and others. Combine this with the benefits of not feeling stressed, and a sense of peace washes over you, peace that you

would never feel if you listened to that angry voice that said to headbutt that terrible driver in the chest.

Reacting to your triggers will only lead to an even greater stress response now and in the future. The best way to control your stress response is by consciously activating your parasympathetic nervous system.

How to Activate Your Parasympathetic Nervous System:

Mammalian Dive Reflex & a Bowl of Water

All mammals have the mammalian dive reflex. This automatic reflex activates as soon as our face is immersed in water. Its purpose is to prepare us for extended periods of time underwater by activating the parasympathetic nervous system via the vagus nerve while restricting blood flow to the major organs. To take advantage of the benefits of this natural reflex, all you have to do is submerge your face in water for as long as you comfortably can.

Smell an Essential Oil

Obviously, carrying a bowl of water around isn’t practical. Fortunately, there are other options. Smell is the only sense that isn’t processed by the thalamus (the gatekeeper of the brain). This is why certain smells can bring up vivid memories and change how you feel in an instant. Some smells that are known to increase relaxation are from the essential oils chamomile, rose, patchouli, and lavender, but there are tons of essential oils to choose from. Find what works for you and carry these with you to help handle stress throughout the day. You can also diffuse essential oils before you sleep and while you meditate.

Start Meditating!

Meditation is a powerful antidote to stress and suffering because it shows you that you do not have to react to your every thought and emotion. By taking the time to meditate, you give yourself permission to stop reacting, which keeps you from firing up your sympathetic nervous system. With enough time, meditation can give you the ability to choose what you react to, sparing your sympathetic nervous system for when you need it most.

Human Connection & Oxytocin

Intimate conversation, hugs, massages, kisses, and sex all trigger the release of a hormone called oxytocin. Oxytocin is a hormone that plays a variety of essential roles in the body, most of them related to love and connection. When we are connecting with people we trust, oxytocin is released. This makes us feel safe and close with them (much more so when physical touch is involved). Oxytocin also decreases the stress response and inhibits the amygdala’s response to threats.

Sound

Singing, humming, and laughing all stimulate the parts of the vagus nerve that innervate your larynx and pharynx, which will trigger a parasympathetic response. If you don’t want to sing, hum, or laugh, you can receive the benefit of sound through music instead. Listening to music can completely change your subjective experience. Some of the profound effects that music has on us can be attributed to how it activates the parasympathetic nervous system. Obviously, choosing the right music is paramount to this technique.

Breathing

Changing how you breathe is something you can do right now to relieve stress and pain. Slow, controlled diaphragmatic breaths stimulate the vagus nerve and decrease sympathetic activity.

You can learn how to breathe properly and discover the 10 profound effects that breathing has on the body.

Food

What we eat changes how we feel. If we eat food that we are allergic to or food that is overly processed and full of toxic chemicals, our sympathetic nervous system will be triggered to deal with the threat of the food.

On the other hand, when we consume a nutritious meal that is full of vitamins and minerals, healthy fats, protein, fiber, and carbohydrates, we feel satiated and happy due to the increased parasympathetic response.

We can also relieve chronic stress by complementing our diets with the natural supplements and herbs mentioned here.

Nature

Nature is a powerful antidote to stress and a parasympathetic nervous system activator. Although one of the best ways to get a dose of nature is to go hiking, just looking at pictures of nature increases vagus nerve activation.

Self Awareness

What do you do when you are on the verge of headbutting that guy in the chest? You can’t meditate. You don’t have food on hand. You ran out of your favorite essential oil. You have no music. Hugging him is not an option, but you can use the power of your prefrontal cortex. The prefrontal cortex provides you

with the ability to be conscious of your decisions and their consequences. While your amygdala is mobilizing all weapons for war, you can use your prefrontal cortex to bring awareness to the situation.

To develop self-awareness, direct your focus with specific questions. Dr. Relly Nadler suggests asking yourself five simple questions to keep your body from being hijacked by your amygdala:

1. What am I thinking?
2. What am I feeling?
3. What do I want now?
4. How am I getting in my way?
5. What do I need to do differently now?

These questions will help you shift your focus and find a better way to act. If you can’t remember these questions, simply remind yourself of the “future you”. Every one of your actions comes with consequences that the “future you” will be responsible for.

As you change the way you react to perceived threats, the way your brain perceives those threats will change. Eventually, you will only react to circumstances that legitimately threaten your safety and survival.

Other Brain Hijackers to Watch Out For

There are some important things to mention that hijack your brain that are not addressed by activating the parasympathetic nervous system. Three of the most prevalent (and stealthy) brain hijackers are heavy metals, B-vitamin deficiency, and chronic pain.

Heavy Metals

Mercury, arsenic, manganese, cadmium, lead, and aluminum are among many metals that are toxic to the body. Each metal disrupts the body in different ways by creating oxidative stress and deactivating our antioxidant defense processes.

Metals like mercury and lead easily cross the blood brain barrier and create chaos by impairing the function of genes and enzymes related to the health and communication of brain cells. This means that heavy metals can impair almost every function of the brain from memory to decision making and impulse control.

Fortunately, we can counteract the negative effects of heavy metals with natural foods and supplements. Allicin from garlic, anthocyanin/flavonoids from cherries, grapes, and berries, catechins from tea, cocoa, peach, and berries, and circumin from turmeric all act as antioxidants and can either chelate or deactivate heavy metals. Vitamins A, B1, B6, C, and E, as well as spirulina and chlorella also have potent antioxidant effects that can deactivate these heavy metals.

Related: ***Top 5 Foods that Detox Heavy Metals and Toxins – With Protocol***

B-vitamin Deficiency

The brain accounts for 20% of the body’s energy expenditure and B-vitamins allow the brain to use this energy efficiently and effectively. When we are low in B-vitamins it dramatically changes how we live our lives. For example, just a mild deficiency in vitamin B1 can cause irritability, emotional disturbance, and memory loss, a deficiency in vitamin B3, B6, or B7 can cause depression, and a lack of vitamin B9 and B12 accelerates cognitive decline.

If you consume meat, fish, eggs, leafy greens, and green vegetables as part of your diet then you are probably getting

enough B-vitamins. However, it may be best to have a vitamin B complex on hand if you are feeling depressed, fatigued, or not as sharp as usual.

Related: ***Mental Health, Physical Health & B Vitamins – Nature's Valium***

Chronic Pain

Pain changes the brain. When we experience pain our decision-making abilities plummet and dealing with the pain becomes top priority. As pain becomes chronic, it creates subtle changes in our medial prefrontal cortex and anterior cingulate cortex. This causes a minor change in personality that may be characterized by reduced adaptability and resilience and poor decision making.

To learn more about chronic pain and how to relieve it, read our article on chronic pain.

Save Your Brain from Being Hijacked

Your brain is designed to keep you alive. It will jolt you out of a relaxed state to save your life from a perceived threat, even if it's just a snake that you saw on a YouTube video. By activating your parasympathetic nervous system, you will be able to control your sympathetic nervous system and prevent amygdala hijack. With practice, you will only use your sympathetic nervous system when it is legitimately warranted.

Heavy metals, a deficiency of B-vitamins, and chronic pain can also stealthily hijack your brain. Foods like garlic, turmeric, berries, and chocolate and vitamins A, B1, B6, C, and E can keep heavy metals from damaging your body and brain. It is also important to ensure adequate B-vitamin intake by eating meat, fish, eggs, leafy greens, and green vegetables and supplementing with a B-vitamin complex if you feel

depressed or fatigued. And for those who have chronic pain, even if it has been around for decades, it can be relieved and function can be improved with the guidance of the right health practitioner.

Related Reading:

- *Increase your IQ with the Right Foods, Herbs, Vitamins*
- *How to Detoxify and Heal the Lymphatic System*
- *Holistic Guide to Healing the Endocrine System and Balancing Our Hormones*

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