

What is the "fight or flight response?"

This fundamental physiologic response forms the foundation of modern day stress medicine. The "fight or flight response" is our body's primitive, automatic, inborn response that prepares the body to "fight" or "flee" from perceived attack, harm or threat to our survival.

What happens to us when we are under excessive stress?

When we experience excessive stress – whether from internal worry or external circumstance – a bodily reaction is triggered, called the "fight or flight" response. Originally discovered by the great Harvard physiologist Walter Cannon, this response is hard-wired into our brains and represents a genetic wisdom designed to protect us from bodily harm. This response actually corresponds to an area of our brain called the hypothalamus, which – when stimulated – initiates a sequence of nerve cell firing and chemical release that prepares our body for running or fighting.

What are the signs that our fight or flight response has been stimulated (activated)?

When our fight or flight response is activated, sequences of nerve cell firing occur and chemicals like adrenaline, noradrenaline and cortisol are released into our bloodstream. These patterns of nerve cell firing and chemical release cause our body to undergo a series of very dramatic changes. Our respiratory rate increases. Blood is shunted away from our digestive tract and directed into our muscles and limbs, which require extra energy and fuel for running and fighting. Our pupils dilate. Our awareness intensifies. Our sight sharpens. Our impulses quicken. Our perception of pain diminishes. Our immune system mobilizes with increased activation. We become prepared – physically and psychologically – for fight or flight. We scan and search our environment, "looking for the enemy." When our fight or flight system is activated, we tend to perceive everything in our environment as a possible threat to our survival. By its very nature, the fight or flight system bypasses our rational mind – where our more well thought out beliefs exist – and moves us into "attack" mode. This state of alert causes us to perceive almost everything in our world as a possible threat to our survival. As such, we tend to see everyone and everything as a possible enemy. Like airport security during a terrorist threat, we are on the look out for every possible danger. We may overreact to the slightest comment. Our fear is exaggerated. Our thinking is distorted. We see everything through the filter of possible danger. We narrow our focus to those things that can harm us. Fear becomes the lens through which we see the world.

We can begin to see how it is almost impossible to cultivate positive attitudes and beliefs when we are stuck in survival mode. Our heart is not open. Our rational mind is disengaged. Our consciousness is focused on fear, not love.

Making clear choices and recognizing the consequences of those choices is unfeasible. We are focused on short-term survival, not the long-term consequences of our beliefs and choices. When we are overwhelmed with excessive stress, our life becomes a series of short-term emergencies. We lose the ability to relax and enjoy the moment. We live from crisis to crisis, with no relief in sight. Burnout is inevitable. This burnout is what usually provides the motivation to change our lives for the better. We are propelled to step back and look at the big picture of our lives – forcing us to examine our beliefs, our values and our goals.

When you finish reading about these fundamental principles of the Fight or Flight Response and the Relaxation Response, don't forget to visit our home page at www.TheBodySoulConnection.com to discover the very practical ways you can utilize these principles in order to achieve greater health, happiness and peace of mind in your own life.

What is our fight or flight system designed to protect us from?

Our fight or flight response is designed to protect us from the proverbial saber tooth tigers that once lurked in the woods and fields around us, threatening our physical survival. At times when our actual physical survival is threatened, there is no greater response to have on our side. When activated, the fight or flight response causes a surge of adrenaline and other stress hormones to pump through our body. This surge is the force responsible for mothers lifting cars off their trapped children and for firemen heroically running into blazing houses to save endangered victims. The surge of adrenaline imbues us with heroism and courage at times when we are called upon to protect and defend the lives and values we cherish.

What are the saber tooth tigers of today and why are they so dangerous?

When we face very real dangers to our physical survival, the fight or flight response is invaluable. Today, however, most of the saber tooth tigers we encounter are not a threat to our physical survival. Today's saber tooth tigers consist of rush hour traffic, missing a deadline, bouncing a check or having an argument with our boss or spouse. Nonetheless, these modern day, saber tooth tigers trigger the activation of our fight or flight system as if our physical survival was threatened. On a daily basis, toxic stress hormones flow into our bodies for events that pose no real threat to our physical survival.

Once it has been triggered, what is the natural conclusion of our fight or flight response?

By its very design, the fight or flight response leads us to fight or to flee – both creating immense amounts of muscle movement and physical exertion. This physical activity effectively metabolizes the stress hormones released as a result of the activation of our fight or flight response. Once the fighting is over, and the threat – which triggered the response – has been eliminated, our body and mind return to a state of calm.

Has the fight or flight response become counterproductive?

In most cases today, once our fight or flight response is activated, we cannot flee. We cannot fight. We cannot physically run from our perceived threats. When we are faced with modern day, saber tooth tigers, we have to sit in our office and "control ourselves." We have to sit in traffic and "deal with it." We have to wait until the bank opens to "handle" the bounced check. In short, many of the major stresses today trigger the full activation of our fight or flight response, causing us to become aggressive, hypervigilant and over-reactive. This aggressiveness, over-reactivity and hypervigilance cause us to act or respond in ways that are actually counter-productive to our survival. Consider road rage in Los Angeles and other major cities.

It is counterproductive to punch out the boss (the fight response) when s/he activates our fight or flight response. (Even though it might bring temporary relief to our tension!) It is counterproductive to run away from the boss (the flight response) when s/he activates our fight or flight response. This all leads to a difficult situation in which our automatic, predictable and unconscious fight or flight response causes behavior that can actually be self-defeating and work against our emotional, psychological and spiritual survival.

Is there a cumulative danger from over-activation of our fight or flight response?

Yes. The evidence is overwhelming that there is a cumulative buildup of stress hormones. If not properly metabolized over time, excessive stress can lead to disorders of our autonomic nervous system (causing headache, irritable bowel syndrome, high blood pressure and the like) and disorders of our hormonal and immune systems (creating susceptibility to infection, chronic fatigue, depression, and autoimmune diseases like rheumatoid arthritis, lupus, and allergies.)

To protect ourselves today, we must consciously pay attention to the signals of fight or flight

To protect ourselves in a world of psychological – rather than physical – danger, we must consciously pay attention to unique signals telling us whether we are actually in fight or flight. Some of us may experience these signals as physical symptoms like tension in our muscles, headache, upset stomach, racing heartbeat, deep sighing or shallow breathing. Others may experience them as emotional or psychological symptoms such as anxiety, poor concentration, depression, hopelessness, frustration, anger, sadness or fear.

Excess stress does not always show up as the "feeling" of being stressed. Many stresses go directly into our physical body and may only be recognized by the physical symptoms we manifest. Two excellent examples of stress induced conditions are "eye twitching" and "teeth-grinding." Conversely, we may "feel" lots of emotional stress in our emotional body and have very few physical symptoms or signs in our body.

By recognizing the symptoms and signs of being in fight or flight, we can begin to take steps to handle the stress overload. There are benefits to being in fight or flight – even when the threat is only psychological rather than physical. For

example, in times of emotional jeopardy, the fight or flight response can sharpen our mental acuity, thereby helping us deal decisively with issues, moving us to action. But it can also make us hypervigilant and over-reactive during times when a state of calm awareness is more productive. By learning to recognize the signals of fight or flight activation, we can avoid reacting excessively to events and fears that are not life threatening. In so doing, we can play "emotional judo" with our fight or flight response, "using" its energy to help us rather than harm us. We can borrow the beneficial effects (heightened awareness, mental acuity and the ability to tolerate excess pain) in order to change our emotional environment and deal productively with our fears, thoughts and potential dangers.

What can we do to reduce our stress and turn down the activity of our fight or flight response?

The fight or flight response represents a genetically hard-wired early warning system—designed to alert us to external environmental threats that pose a danger to our physical survival. Because survival is the supreme goal, the system is highly sensitive, set to register extremely minute levels of potential danger. As such, the fight or flight response not only warns us of real external danger but also of the mere perception of danger. This understanding gives us two powerful tools for reducing our stress. They are:

1) Changing our external environment (our "reality"). This includes any action we take that helps make the environment we live in safer. Physical safety means getting out of toxic, noisy or hostile environments. Emotional safety means surrounding ourselves with friends and people who genuinely care for us, learning better communication skills, time management skills, getting out of toxic jobs and hurtful relationships. Spiritual safety means creating a life surrounded with a sense of purpose, a relationship with a higher power and a resolve to release deeply held feelings of shame, worthlessness and excessive guilt.

2) Changing our perceptions of reality. This includes any technique whereby we seek to change our mental perspectives, our attitudes, our beliefs and our emotional reactions to the events that happen to us. Many of these techniques are discussed in depth in Section 3 and they include: cognitive restructuring, voice dialogue therapy, inner child work, learning not to take things personally, affirmations and self-parenting. Changing our perceptions of reality is best illustrated by the proverbial saying, "when life gives you lemons, make lemonade." Without actually changing our reality, we can altered our perception of reality—viewing the difficulties of life as events that make us stronger and more loving.

In the Buddhist tradition, this is referred to as developing a "supple mind."

Physical exercise can also turn down the activity of an overactive fight or flight response

Perhaps the simplest, best way to turn down the activity of our fight or flight response is by physical exercise. Remember that the natural conclusion of fight or flight is vigorous physical activity. When we exercise, we metabolize excessive stress hormones – restoring our body and mind to a calmer, more relaxed state. For the purpose of stress reduction and counteracting the fight or flight response, we do not need to exercise for 30 to 40 minutes. Any form of activity where we "work up a sweat" for five minutes will effectively metabolize off – and prevent the excessive buildup of – stress hormones. Get down and do 50 pushups, 50 sit-ups, jumping jacks, jump rope, run in place, run up and down the stairs, whatever. By exercising to the point of sweating, we effectively counteract the ill effects of the fight or flight response, drawing it to its natural conclusion. Sometimes when I'm upset, I close the door to my office, do 25 quick pushups, work up a light sweat, and return to work, clearer and calmer. Frequent repetitions of short exercise are easy to fit into our busy schedules. For full cardiovascular fitness, longer periods of exercise do have additional benefits, but for the purpose of stress reduction, mini-exercise sessions are practical, effective and beneficial.

Exercise increases our natural endorphins, which help us to feel better. When we feel good, our thoughts are clearer, our positive beliefs are more accessible and our perceptions are more open. When we feel tired and physically run down, we tend to focus on what's not working in our lives – similar to a cranky child needing a nap. It is difficult to be, feel or think positive when we are exhausted, sleep deprived or physically out of condition.

What is mind chatter?

If we could read the owners manual for the mind, we would find a full chapter on what is called "mind chatter." Mind chatter is the endless, restless stream of incomplete thoughts, anxieties and self-talk which constantly pulses through our minds. In order to survive, our mind is always "on" – searching for possible threats, dangers, solutions and explanations. This is called our "strategic mind." The strategic mind is always "on" – scanning both our inner and outer world for possible threats to our well-being – either real or imagined. This constant vigilance of the mind not only distracts us with excessive worry but can also trigger the activation of our fight or flight response.

Sometimes, because of the mind's incessant chatter and worry, we even begin to anticipate dangers or threats that don't really exist. This is what the soulful and gentle author Joan Borysenko, Ph.D. (*Minding The Body, Mending The Mind*) refers to as becoming an "advanced worrier." This condition is described brilliantly by Mark Twain who said "I've experienced many terrible things in my life, a few of

which actually happened." Zig Ziglar, the great motivational speaker, says "Worry is a misuse of the imagination."

Underneath all the mind chatter and fight or flight anxiety lies a quiet place called our "inner voice", the "observer" or the "witness." The "inner voice" is what Walter Cannon, M.D., calls "the wisdom of the body." This quiet place allows us to move beyond our fears, beyond our anxieties and beyond our strategic mind – into a clearer understanding and knowing of what is true and loving. As we will soon discuss, a quiet mind calms our overactive physiology, creating a sequence of physiologic and biochemical changes that improve our physical health.

The simplest, most exquisite way I know of to quiet the mind is by eliciting what is called "The Relaxation Response. "

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Mind/Body Education Center

The Relaxation Response

What is the relaxation response?

The relaxation response, discovered by the inspirational author and Harvard cardiologist, Herbert Benson, M.D., represents a hard-wired antidote to the fight or flight response. The relaxation response corresponds to a physical portion of the brain (located in the hypothalamus) which – when triggered – sends out neurochemicals that almost precisely counteract the hypervigilant response of the fight or flight response.

When we follow the simple steps necessary to elicit the relaxation response, we can predictably measure its benefits on the body. These include: a decrease in blood pressure, diminished respiratory rate, lower pulse rate, diminished oxygen consumption, increase in alpha brain waves (associated with relaxation), and in many cases, an improved sense of mental and spiritual well-being.

Because the relaxation response is hard-wired, we do not need to believe it will work, any more than we need to believe our leg will jump when the doctor taps our patellar tendon with a little red hammer. The relaxation response is a physiologic response, and as such, there are many ways to elicit it, just as there are many ways to increase our pulse rate (another physiologic response).

We must take the time to exercise our relaxation response "muscle"

The solution to overactivation of our fight or flight response is simple: when we take the time to exercise our relaxation response "muscle" we will enjoy the

beneficial physiological, biochemical and mental effects. These beneficial effects are measurable whether we believe in the relaxation response or not. Some people do experience immediate emotional calm and tranquility when they learn to elicit the relaxation response, but others do not. We cannot measure the effectiveness of the relaxation response based on how it feels. Dr. Benson likens this to brushing our teeth. We know brushing is "good" for us, whether we feel it works or not. Feeling good is an added benefit. The most important thing is to actually take the time and discipline necessary to elicit the relaxation response. Once elicited, the benefits to our overstressed physiology and biochemistry will be experienced. Additionally, we bypass the fear and anxiety that so quickly narrows our perceptions and infects our beliefs with suspicion and doubt.

How do we elicit the relaxation response?

There are many ways to elicit the physiologic benefits of the relaxation response. The easiest is with a simple two-step method as follows:

1. Focus on a word or phrase that has a positive meaning to you. Such words as "one," "love" and "peace" work well. Effective phrases might also include "The Lord is my shepherd, I shall not want," "God grant me serenity," or "Lord, make me an instrument of your peace."
2. When you find your mind has wandered or you notice any intrusive thoughts entering your mind, simply disregard them and return your focus to the word or phrase you chose.

Be aware that your mind will tend to wander and intrusive thoughts will enter your mind. This is normal. Just allow those thoughts to pass through your mind like a summer breeze passes through an open window. The second step above is related to our ability to "let go" of intrusive thoughts or excessive worries. Dr. Benson says "to summon the healing effects of the relaxation response, you need to surrender everyday worries and tensions." This gets our harried minds out of the way of our body's natural ability to heal. It's funny to watch the tricks our mind plays on us. It will try to tell us things like: "This is stupid, why am I sitting here doing this?" "I hope no one sees me here meditating." "This will never work." "That's it, I'm going to quit now." When you realize your mind has wandered, just let go of the thought and return back to your word or phrase! Remember, whether your mind wanders or your thoughts drift, simply practicing the two steps above will elicit the relaxation response and deliver beneficial physiologic and emotional benefits as predictably as flipping a light switch causes the light bulb to shine.

The key to deriving the benefits of the relaxation response is to practice it daily. Dr. Benson recommends at least 10 to 15 minutes, once to twice a day. This will produce the maximum benefit. When I first learned this technique from Dr.

Benson's, I remember him telling us his dental analogy. He told us to treat the relaxation response the same way you treat brushing your teeth. Do it because you know it is good for you. Don't worry whether you think you had a "good relaxation response" or not. You wouldn't say to yourself: "That was a good tooth brushing!" would you? Whether you "felt" it was a calming, relaxing experience or not, the physiologic benefits of doing the relaxation response are measurable, predictable and repeatable. The quieting of the mind that results from eliciting the relaxation response is critical in order to open up our perceptual world, away from negativity and fear. This freedom allows us to be more awake, more aware and more conscious of the attitudes and beliefs we choose when living our daily lives.

Are there other ways to quiet the mind?

Because the relaxation response is a physiologic response (like our heart rate or respiratory rate), there are many ways to elicit it, just as there are many ways to increase our heart rate. They include:

1. During any *repetitive exercise* such as walking, swimming or running, repeat your "focus word" or phrase with each step or stroke. For example, when I run, with each step I might say "peace" or "love."
2. Practicing *yoga*, with its mental focus on postures and breathing, can elicit the relaxation response.
3. *Deep diaphragmatic breathing* exercises, with a focus on the breath, can trigger the relaxation response.
4. *Progressive muscle relaxation* techniques, where you alternately contract and then relax each muscle group moving progressively from head to toe, will elicit the beneficial effects of the relaxation response.
5. Repetitive forms of *prayer* elicit the relaxation response.
6. *Singing or chanting* your focus word or phrase, either silently or out loud, will elicit the relaxation response.
7. *Mindfulness meditation*, a method that comes from Buddhist philosophy and involves merely "observing" or "noticing" things, will elicit the relaxation response. For example, we may walk down the street and say, "My feet are touching the pavement, right foot, left foot, right foot, left foot. I notice the tree ahead. The top branches are swaying in the breeze. I'm feeling thirsty. My body is

sweating. My feet are on the grass now. The grass is soft." By simply noticing our experience and naming it, without judging or evaluating whether it is good or bad, we tap into a source of active meditation that elicits the relaxation response. Instead of having one single focus word or phrase, the world around us and the world of feelings within us become our focus phrase.

The key is to simply notice our world and our feelings. No judgements of good, bad, right, wrong, lazy, weak, strong, kind, mean, etc. are given any attention. This is similar to simply disregarding any intrusive thoughts. Emotional mindfulness might sound like: "I am feeling sad. Tears are welling up in my eyes. I am remembering the hurt I felt when I left home that day. My stomach is growling. I feel my body shaking. I am feeling sad again." Notice there is only the simple acknowledgement, recognition and naming of the feeling or event. Any judgements about our feelings are to be passively disregarded with a return of one's mental focus to the observation or naming of emotions or bodily sensations. (For more information on mindfulness, read the remarkable work of Jon Kabat-Zinn in his books *Full Catastrophe Living* and *Wherever You Go, There You Are*.)

Other simple ways to quiet the mind

In addition to the above "formal" methods for quieting our mind, my dear friend Del Morris – in reviewing this book for me – pointed out that we don't have to make it complicated. We can take a walk on the sandy beaches and listen to the crashing waves. We can go into the forest at night, where we hear nothing but the sound of crickets. Take a warm bath. Walk by a creek and listen to the running water. I recently visited my sister and her husband in San Francisco, where an afternoon walk among the ancient redwoods of Muir Woods did just the trick. Walking across wooden bridges over running streams with loving family was as peaceful as any meditative moment I have ever experienced.

We can't learn how to swim in a stormy ocean

We need to "practice" quiet moments whenever we have the chance. Quietening our mind follows awareness and attention. When we become aware that we are rushing in our heads, we stop, breathe and take a quiet moment of reflection. With practice, quieting our restless thoughts becomes automatic. When first learning a formal technique for quieting the mind, be patient with yourself. We need to learn these techniques when things are calm. Their effectiveness comes from repetition and practice. We don't learn how to swim in a stormy ocean. Similarly, we cannot learn to elicit the relaxation response in the midst of emotional, psychological or social storms. We need to learn the techniques in

calm waters. Then, when the rains come, we can utilize them to help us stay afloat in stormy seas.

What have we learned?

In order to consciously choose the attitudes and beliefs which are most empowering, we must learn to quiet our mind and quiet our body. By eliciting the relaxation response, we can stop the mind chatter, allowing us to move out of our strategic mind into the quiet mind, capable of conscious awareness and attention. The quiet mind opens up our perceptions and frees us to make the most positive choices regarding our lives.

In this sense, the mind is likened to a pond of water. Restless thoughts are like pebbles thrown into the water. They send out a ripple of activity, disturbing the tranquil surface. When the water is constantly agitated with restless thoughts, we cannot see clearly to the bottom of the pond, which represents our inner wisdom. When we stop the restless thoughts, we calm the waters, enabling us to see clearly to the bottom – where our wisest, most enlightened self resides.