

# Stress Management with Acupuncture

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## Taming the Lion: Acupuncture to Lower Stress

Being chased by a lion, public speaking, divorce, global warming, job-layoffs, the economy, raising teenagers...all of these things can cause us stress. Your heart races, your palms sweat, and you have difficulty swallowing, eating, sleeping. Overall, we see these as experiences we'd rather avoid. This stress response, however, is a natural reaction of the body, and was originally developed to increase our chance of survival.

In today's world, the threat of being eaten by a predator SHOULD be awfully low for most of us. Nevertheless, most of us will experience high levels of stress during some time in our life. Is stress bad? How much is too much? Should it be avoided at all costs?

### **How we normally handle stress: The acute stress response**

Stress shouldn't be feared. The stress-response is a natural process that the body undergoes to help it cope with change. When we encounter an immediate threat, a series of chemical reactions are triggered by the autonomic nervous system (ANS) commonly known as the "flight-or-flight" response. These reactions are designed to be a self-limiting process involving the hypothalamus, pituitary gland, and the adrenal glands. Grouped together, this system is called the HPA-axis. The ultimate result is the release of excess amounts of two hormones: *Epinephrine (Adrenaline)*, and *glucocorticoids (Cortisol)*.

### **Adrenaline:**

Adrenaline is a fast-acting hormone that:

- *increases heart rate*
- *dilates the pupils*

Craig Amrine L.Ac. is the owner and operator of Hidden Rhythm Acupuncture located in the heart of Tempe, Arizona. These monthly newsletters are designed to help educate the public on various afflictions that acupuncture as a part of Traditional Chinese Medicine is known to treat. Each month, Craig will address a new health challenge that commonly affects the general public and offer a brief explanation on each disease from both the Western perspective as well as from the Traditional Chinese Medical perspective. He will also offer his own thoughts on treatment based on personal clinical observation and treatment experience.



- *increases breathing volume*
- *raises our alertness and clarity of thinking*
- *reduces blood to our skin and digestive system*
- *increases blood to our skeletal muscles*
- *makes us less sensitive to pain*

All of these reactions were designed to enable us to fight harder or run faster...thus increasing our chance for survival.

### **Cortisol:**

Cortisol acts a bit different. Cortisol stimulates an increase of glucose (sugar) in the blood to provide a source of extra energy. Glucose is the main source of energy used by both the brain and muscles. Instead of getting this sugar from carbohydrates (food), cortisol triggers a breakdown of muscle and fat. Cortisol also temporarily redirects certain immune cells and processes from the blood out into the surface tissue where they are needed in anticipation of an immediate attack or threat. This results in lower immune and inflammation functions in the blood and joints.

Like adrenaline, these are all designed to increase our chance of survival during an immediate threat.

### **What happens when the lion goes away? Our response to chronic stress**

Normally, when the threat is removed, our bodies can revert back to their normal and “unstressed” state. Our adrenaline and cortisol levels lower back to their normal levels. Our blood pressure lowers, we get hungry again, our immune and inflammation responses come back to normal, and the hyper-alertness will fade and let us sleep easily.

Unfortunately, many of us have jobs or lifestyles that expose us to high-levels of stress on a daily basis and are unable or unwilling to find ways to relieve this stress. How do our bodies deal with this chronic state? While excess levels of adrenaline and cortisol are wonderful for coping with an immediate attack, they can cause some serious health problems if left unchecked.

Prolonged release of adrenaline, for example, can lead to:

- *tremors*
- *insomnia*
- *digestive disorders*
- *excess sweating leading to dehydration and neuroendocrine disorders*
- *heart palpitations*
- *high blood pressure*

Since adrenaline breaks down very quickly (half-life @ 2 minutes) however, these health risks are not usually a long-term problem.

Chronic stress is much more likely to lead to prolonged release of high-levels of cortisol. High cortisol levels are now being shown to cause a large number of health problems and has been shown to:

- *depress cartilage and bone formation*
- *inhibit inflammation, prevent vasodilation*
- *alter digestive function*

It is also linked to heart disease, type 2 diabetes, weight gain, damage to the hippocampus (part of the brain responsible for short-term memory), secondary infections resulting from a suppressed immune system, and an increased rate of miscarriage.

In time, of course, the body can become insensitive to these elevated levels or even reach a state where it exhausts its supply of stress hormones. By this time, the stress response is now completely unregulated and confused. It is suspected that this condition plays a large part in modern auto-immune diseases such as chronic fatigue syndrome and fibromyalgia.

### **Turning the lion into a pussycat: How we lower stress.**

Can't we simply "think" these treats away? If it were only that simple! In an ideal world where we have all mastered transcendental meditation, I would suppose that chanting this mantra is all we would need. Unfortunately, few of us are so skilled. As a result, many turn to drugs, both recreational drugs and prescription anti-depressants and anti-anxiety medication. The dangerous side-effects and high-cost are leading many to look elsewhere, however.

### **There is hope! Safe and effective alternatives to drugs.**

There are several ways to lower the effects of stress that are both safe and inexpensive. Probably the two most simple are through diet and exercise. Regulating the amount of simple carbohydrates (sugar), eating more fruits and vegetables, cutting back on the caffeine and alcohol, and eating several small meals rather than feasting on a few huge ones can help reduce high blood sugar levels...the primary effect of excess cortisol. Exercise is also a wonderful means to also help lower both cortisol and blood sugar levels. Meditation, interacting with pets, yoga, and even listening to music can all help to lower stress.

When simple solutions are not enough, however, acupuncture is an incredibly powerful tool to regulate the stress response.

### **Stress, Anxiety, and Traditional Chinese Medicine**

A strong link exists between the emotions and the internal organs in Traditional Chinese Medicine (TCM). Emotions such as fear, joy, anger, and worry all have a specific

organs they are associated with. For example, extended bouts of anger, irritation, resentment, or bitterness can lead to problems with the liver. While these organ-emotion connections may at first seem odd, it is clear that TCM has always known that emotional health is strongly connected to physical health.

In TCM, acute stress would be seen as fear and would directly affect the kidneys. It is interesting to note that the adrenal glands lie directly on top of the kidneys. In TCM, fear exhibits symptoms including palpitations, insomnia, and dry-mouth. These symptoms look very much like our recognized symptoms of excessive adrenaline release.

Chronic stress, and the release of excess cortisol, would be associated with both worry and pensiveness in TCM. This would also include over-thinking, brooding, obsession and excessive nostalgic thoughts. We see these emotions as directly affecting the spleen and possibly the lungs and heart. Symptoms include tiredness, poor appetite, stomach pain, possible heart palpitations, and weight gain.

Aside from these primary symptoms, the patient will simply feel “stressed”, “burned-out”, have panic-attacks, or can’t sleep.

### **You’ve come to the right place. Acupuncture for Stress Reduction**

I repeatedly tell new patients who come to me for stress relief that I cannot *remove* stress in their life. I can, however, change how their bodies react to stress. To put it simply, we work on convincing the patient that these stressors aren’t really that much of a threat. In other words, we can convince the body to simply “Don’t worry and be happy.”

Acupuncture is an incredibly effective tool to reduce stress. Patients will often fall asleep on my table during a treatment...and leave the clinic feeling deeply relaxed. How is this possible? It is well documented that acupuncture can stimulate the release of endorphins; hormones that are responsible for relieving pain. It also has been clinically proven to lower stress-related cortisol levels. The theory behind this is that it modifies the autonomic nervous system to lower the release of cortisol levels during prolonged stress. The general sense of well-being may also be attributed to increased levels of mood altering neuropeptides including melatonin, serotonin, and dopamine. From a Chinese Medicine perspective, we do two things: Calm the mind and treat the underlying organ system that may be affected. This results in both an immediate feeling of relaxation or calm as well as increasing the patients resilience to future episodes.

Interestingly, studies show that acupuncture can also raise cortisol levels! How can it do both? The current research suggests that this largely depends on the acupuncture points used as well as the underlying condition of the patient. Overall, it appears that acupuncture has a “self-regulatory” effect that can blunt excess cortisol levels during high stress, but also boost cortisol and nor-epinephrine levels during times of exhaustion.

## **Taking it a step further: Acupuncture for Emotional Disorders**

As we've already discussed, Traditional Chinese Medicine has a well established connection between physical and emotional health. As a result, acupuncture is not simply a means to relieve stress, it can also be a powerful tool for more serious emotional problems including depression, anxiety and panic disorders, and addiction. Many of these afflictions involve imbalances of other neurotransmitters including dopamine, melatonin, and serotonin. The inter-relationship between these neuropeptides and our emotions is incredibly complex. For example, a lack of dopamine is attributed to Parkinson's Disease while too much dopamine can lead to psychosis. Simply altering these levels to "normal" amounts, however, has been found to be ineffective. Conventional Western medicine has only a rudimentary understanding of these mechanisms. This is why current drugs such as SSRI's (selective serotonin re-uptake inhibitors) commonly used for depression carry a large list of side-effects. For example, a 2005 issue of the Harvard Mental Health Letter lists possible side-effects of SSRI's as: insomnia, rashes, joint pain, digestive problems, decreased sexual desire, excessive bleeding/clotting disorders, and an increased rate of suicide behavior among teenagers.

As shown with it's effect on cortisol, acupuncture has a "regulatory" effect on these substances. This can be demonstrated by the successful use of acupuncture for both Parkinson's Disease and psychosis by "normalizing" the amount of measurable dopamine in the blood.

The real beauty of acupuncture for any mental disorders is this regulatory effect. Since our goal is to re-establish balance in the body, acupuncture lacks the common risks and toxic side-effects involved with conventional drugs.

The connection between acupuncture and these neurotransmitters is a convenient way to explain how acupuncture works. We shouldn't fall into the assumption, however, that this is the ONLY reason for the success of acupuncture. Within TCM, we see the body as a circulation of Qi (vital energy), and we use the acupuncture needles to affect Qi in various parts of the body. While we don't necessarily have to see Qi or quantify it from a modern medical perspective, we do understand the effect it has on our health. As a result, we are able to manipulate or correct it's flow to ensure maximum health of our patients.

## **Acupuncture: A Powerful Option to Combat Stress**

Let's face it, we live in a stressful time. We can "endure" and hope that the stock-market will recover, we get our jobs back, global warming will end, our kids will avoid drugs, our relationships will improve.....and in doing so, struggle with all the potential health risks associated with chronic stress. Or, we can find ways to rise above the chaos. Acupuncture is a great way to begin this process!

