



Dr. L.'s Practical Guide To

# CHRONIC STRESS

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# 1. What Is Stress

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According to WebMD, 43% of all adults incur adverse health effects from stress.

Stress is a loaded word. What does that mean?

Well, we tend to use the word stress to mean anything that is seemingly a hassle, or unpleasant to deal with.

**The American Institute Of Stress says,** "Stress is not a useful term for scientists because it is such a highly subjective phenomenon that it defies definition."

**The dictionary defines stress as...**

1. "Pressure or tension exerted on a material object."

"2. A state of mental or emotional strain or tension resulting from adverse or very demanding circumstances."

Historically, this hormone was only released when under threat of danger to life, but times have changed, and now something as trivial as being late for work induces a similar response in our bodies.

Regardless of the negative reputation, stress has developed over the years; it is an essential response to our survival, even if we are not actively under threat.

This stress response helps prepare the body for what is about to come, and along with the neurotransmitter epinephrine/adrenalin, gives rise to the "fight or flight" reflex within the autonomic nervous system.



## 2. Stress Reaction: Fight-Or-Flight Response

### The Autonomic Nervous System

According to Wikipedia, “the autonomic nervous system (ANS) is a control system that acts largely unconsciously and regulates bodily functions such as the heart rate, digestion, respiratory rate, pupillary response, urination, and sexual arousal.”

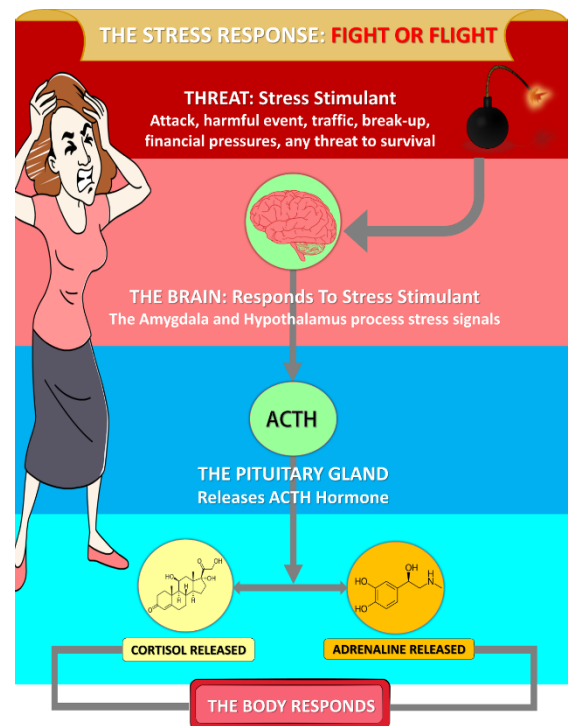
It is this system where the fight-or-flight responses to stress occurs.

### The Fight Or Flight Response

WebMD explains the intricate fight or flight response as a physiological sequence of events in response to a perceived stressor.

In the “fight or flight” response, the body shifts all of its energy resources toward fighting off the given threat. This process is completely unconscious and automatic, beyond control of the person to whom it is happening.

1. A stress stimulant is received in the brain
2. The amygdala triggers a response in the hypothalamus which releases the hormone CRH
3. CRH sends a message to the pituitary gland that secretes the hormone ACTH
4. ACTH sends a signal to the adrenal glands, which produces and releases cortisol and adrenaline hormones
5. The Body Responds
  - Increased heart rate
  - Bladder relaxes



- Tunnel Vision
- Dilated pupils
- Hands shaking
- Face becomes flushed
- Digestion slows
- Dry mouth
- Loss of hearing
- Rise in body temperature
- Breathing becomes hard and labored
- Blood pressure rises
- Muscles tense and/or tremble
- Blood vessels constrict in many parts of the body
- Dilation of blood vessels for muscles

The female hormone estrogen and the neurotransmitters dopamine and serotonin play a role in the fight or flight response, but less than adrenaline, cortisol, and norepinephrine.

According to the American Psychological Association, *“These hormones cause the heart to beat faster, respiration rate to increase, blood vessels in the arms and legs to dilate, digestive process to change and glucose levels (sugar energy) in the bloodstream to increase to deal with the emergency.”*

In the short-term, the fight or flight response is critical in creating a level of alertness and a state of arousal that can save your life, just as it probably did for ancient man who it protected from constant threats found in the primitive environment.

Today, you are not likely to be eaten by a bear while hunting for your daily food, but the fight or flight response can certainly give you the alertness and reaction speed you need to avoid a car accident, a fall or even meet a deadline at work.

Depending on the severity of the stressor and how well or badly you handle stress, it can take anywhere from a half an hour to two days for the body to return to a normal resting state following a “fight or flight” response.

## **Common Causes Of The Modern Stress Response**

A key to controlling your response to stress is to figure out what triggers you and do your best to control it.

**According to Statistic Brain Research Institute, American Institute of Stress, NY, the top causes of stress in the United States are:**

1. Workplace pressures, including overtime, too much work, deadlines, tension with co-workers
2. Money problems – including difficulties paying bills, loss of job, high medical bills
3. Health problems
4. Relationship problems, including divorce, loneliness, arguments, unhealthy relationships and divorce
5. Poor Nutrition including eating too much junk food
6. Technology and information overload, including social media, laptops, tablets, email, and Internet
7. Sleep deprivation, which prohibits diminishment of stress hormones.

**Other common causes include**

- Traffic
- Lack of self-care
- Hectic overly busy lives
- Poor nutrition
- Living in high crime areas
- Chronic Illness

- Technology overload
- Living in cities without fresh air and nature surroundings

## 3. Key Stress Statistics

According to, Statistic Brain Research Institute, American Institute of Stress, NY

- 77% of people regularly suffer from physical symptoms caused by stress
- 73% regularly suffer from psychological symptoms caused by stress
- 33% of people report extreme stress
- 48% of people believe stress has increased over the past 5 years
- 48% of people report sleepless nights from stress

According to the American Institute Of Stress,

- 3 out of 4 doctor office visits are stress related
- Stress is the basic cause of 60% of all human illness and disease
- Stress increases the risk of heart disease by 40%, risk of heart attack by 25% and risk of stroke by 50%



According to WebMD,

- 43% of all adults have some type of health problems because of stress
- 75% to 90% of all visits to the doctor are stress related
- OSHA (Occupational Safety and Health Administration) declares stress to be a hazard in the workplace
- The costs of stress related conditions cost American over \$300 billion annually
- The lifetime prevalence of an emotional disorder is over 50% mainly as result of untreated stress

## 4. Acute Versus Chronic Stress

We are faced with stress every day of our existence; yet it seems like managing it is no easy task. Well, the truth is stress as a whole is not bad. Your stress response is what helps you get through tough times and can save your life in a dire situation.

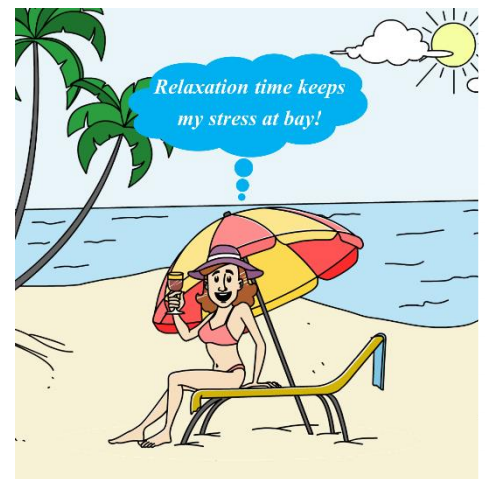
What is more important is to be able to differentiate normal stress from abnormal stress- the kind that can seriously harm our health and wellbeing. This is what differentiates acute stress from chronic stress.

### Not All Stress Is Bad

Not all stress is bad. The truth is that stress helps us; it is a built-in defense system within the body that can help avoid disaster, attack, accidents, and provides us with energy and clarity of mind to get through deadlines, and chaotic situations.

In the acute stress state, as soon as the fight or flight response is over, the body returns to normal, breathing and heart rate slows, muscles release, and calm resumes, no harm done.

However, unmanaged chronic stress is a different story, where constant pressures and demands of life leave the body in a heightened and continuous state of arousal and its subsequent physiological reactions take a real toll on mind, body, and spirit. The constant elevated levels of stress hormone cortisol that occurs during chronic stress that can cause serious health complications.



## **Acute Stress**

According to the University Of Maryland Medical Center, *“Acute stress is the reaction to an immediate threat, commonly known as the fight or flight response. The threat can be any situation that is perceived, even subconsciously or falsely, as a danger.”*

The human body was built to take advantage of short-term stress, a beneficial factor to our health when it is short lived (in burst fashion) and rectify without so much of a hint that it happened.

Did you miss the alarm clock? Then you know the burst of energy you get up with when you realize it and move at superhuman speed to reach to work on time. Similarly, remembering that you have that college project due in the morning that you put off so long you forgot about it.

Yes, the reality is that short-term stress is beneficial and is rather necessary for our survival as a species. What would you do if you woke up in the middle of the night to a fire?

Without this response, you would probably sleep right through or would not likely move with urgency to save your life.

The simplest way to know when you are experiencing acute stress is that it passes quickly. Once the scenario resulting in the stress has passes, so does your physiological response and all functions return to baseline.

**People under the effect of acute stress (characterized by increased cortisol and adrenaline) may experience any of the following:**

- Anxiety and agitation
- Rapid heartbeat or tightness of the chest
- Rapid shallow breathing leading to shortness of breath
- Nervousness felt as stomach indigestion or nausea
- Confusion, headaches or dizzy spells