

# The Complete Guide To **CHRONIC STRESS**

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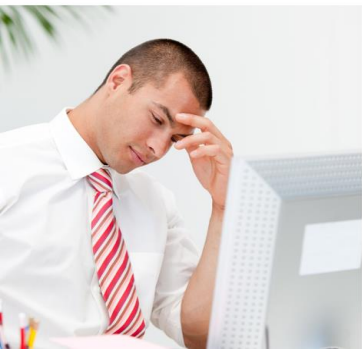
Acute Versus Chronic Stress

Effects On Body, Mind, Spirit And Quality Of Life

Signs and Symptoms

Major Health Risks

How To Manage Chronic Stress In The Right Ways



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Disclaimer: This publication is for informational purposes only and is not intended as medical advice. Medical advice should always be obtained from a qualified medical professional for any health conditions or symptoms associated with them. Every possible effort has been made in preparing and researching this material. We make no warranties with respect to the accuracy, applicability of its contents or any omissions.

# 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.

# 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.”

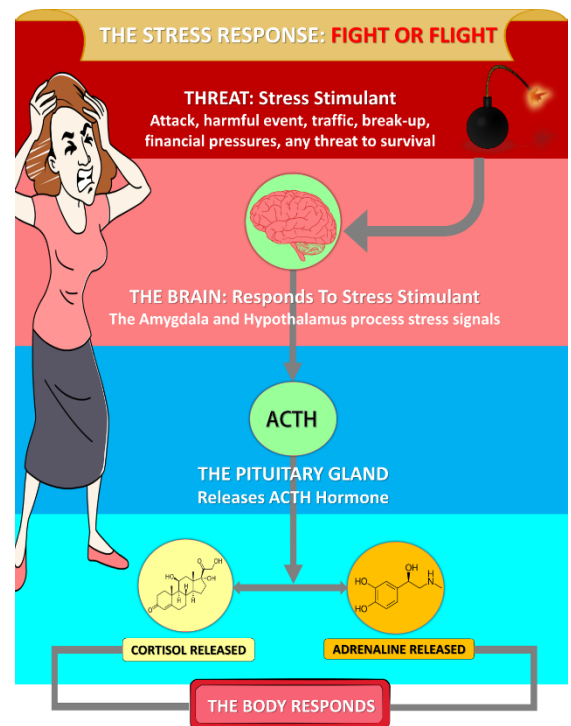
It is this system where the fight-or-flight response to stress occurs.

## 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

# 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 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 costs American over \$300 billion annually
- The lifetime prevalence of an emotional disorder is over 50% mainly as result of untreated stress

# Acute Versus Chronic Stress

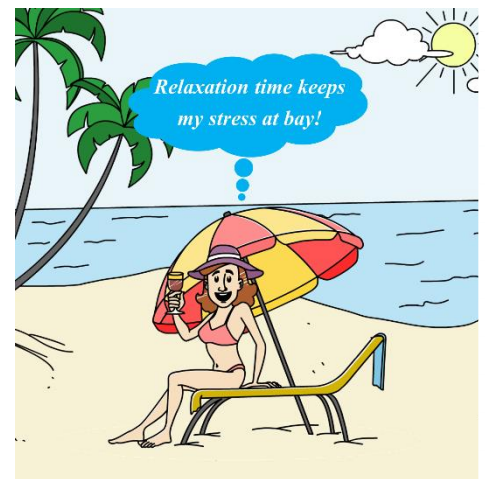
We are faced with stress every day of our existence; yet it seems like managing it is no easy task. Well, the truth is stress as a whole is not bad. Your stress response is what helps you get through tough times and can save your life in a dire situation.

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 the 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 rectifies 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, is 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 wake 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

Treatment of any sort is usually not indicated, except in cases where the elevation in hormones levels may cause a hypertensive crisis or an anxiety/panic attack.

Typically, once the acute threat has passed, the relaxation response occurs where levels of stress hormones return to normal.

## Chronic Stress

Chronic stress is the real problem. According to the University of Maryland Medical Center, *“Frequently, modern life exposes people to long-term stressful situations. Stress, then, becomes chronic.”*

Few other factors result in the deterioration of our health as much as experiencing chronic stress. According to WebMD, 43% of all adults incur adverse health effects from stress.

Though differences in response to stress differ significantly, in most cases being exposed to the stress hormones for a long enough period of time will result in adverse health effects.

The American Psychological Association advises, *“As the SNS continues to trigger physical reactions, it causes a wear-and-tear on the body. It's not so much what chronic stress does to the nervous system, but what continuous activation of the nervous system does to other bodily systems that become problematic.”*

Chronic stress can be precipitated by long-term relationship or job problems, suffering a traumatic event or injury, financial woes or high stress jobs. All of these may be handled fairly well by some people, but in others, it leads to various negative repercussions for health, including but not limited to the following.



- Suppressed immune system from the prolonged action of cortisol
- Stomach ulceration from increased expression of hydrochloric acid in the stomach and greater colonies of H. pylori bacteria
- Heart disease, due to inflexibility of the blood vessels and greater propensity for atherosclerotic plaques to be deposited on the inside blood vessel walls, along with rises in blood pressure
- Diminished sex drive or development of erectile dysfunction- cortisol is a direct competitor with testosterone, which determines libido and overall sexual function (especially in men). Cortisol also prevents blood vessels from dilating in a normal manner.
- Chronic Pain- constantly tense muscles may lead to hyper stimulation of the nerves serving them, and contributes to intractable pain such as that which occurs in the lower back. Coupled with bad posture, it can become a recipe for disc damage, osteoporosis, and even inflammatory joint conditions such as arthritis.

Unfortunately, modern life is full of stimuli that leave us vulnerable to long-term chronic stress, including but not limited to:

- Work pressures and working too much
- Money problems
- Technology and information overload
- Relationships
- Loneliness
- Hectic lives

## **Chronic Stress Is The Worst Stress**

We have been conditioned to believe that all stress is bad stress, but that is simply not the fact. The stress response is as essential as breathing, since it conditions us to handle hardships and kick start motivation under peril. However, while some stress is good, things don't always play out that way.



Because, like anything else in life, too much is never good. The effects of chronic stress on our body are devastating, penetrating down to many aspects of our health and wellbeing. Furthermore, you may not even realize that things are going drastically wrong if you don't know the symptoms.

### **Chronic Stress Increases Your Cardiac Risk Factors**

Heart disease doesn't just happen overnight (unless you have a genetic condition), but is rather a gradual accrual of factors needed to brew the perfect storm. Among these ingredients are elevated blood pressure, which cortisol and adrenaline have a negative effect on, accumulation of atherosclerotic plaque on arteries leading to the heart and on the heart, and many other adverse factors.

Chronic states of stress promote inflammation in the body, and cause blood to thicken. Think of an injury; the body makes the necessary changes to minimize blood loss, but when there isn't an active injury, thickening blood serves no beneficial use. Increased blood pressure makes you prone to suffering a stroke, which can also pose a real threat to the brain, along with the circulatory system.

### **Chronic Stress Weakens The Immune System**

Under normal conditions, a short burst of cortisol and adrenaline won't hamper your immune system, as the body's primary objective at that time is your survival (or that is what the acute stress response used to be called upon for). However, when acute stress impulses start occurring much more frequently, so that these hormones are always in the blood, bad things start to happen.

You become easy target to opportunistic infections, and find yourself under the weather often. Moreover, your immune system gradually becomes desensitized. Functioning optimally, the immune system recognizes that when certain hormones aggregate at an area, it likely means a breach of some sort has occurred, and immune compounds are sent to the location.

There they start attacking invaders and sealing the area, but in chronic stress, the immune system is forced to send these compounds unnecessarily, desensitizing the response over time. Think of the boy who cried wolf one time too many.

### **Chronic Stress Negatively Affects Mood**

The most stressed people often don't sleep well, which by itself leads to a slippery slope. Sleep deprivation upsets the normal balance of brain neurotransmitters, among them being serotonin, one of the key mood enhancing brain chemicals.

Depression many ensue and the individual may lose his or her drive and general satisfaction with life. This is why it is important to set aside time for sleep and recreation, as it's not merely wasting time but what your body needs.

### **Chronic Stress Ages You prematurely**

Have you ever been shocked to see an old friend from school, after a couple years? That person may have aged 25 years in the space of just 5, and looked well beyond their real age. This is one of the effects chronic stress.

Stress hormones would rather crash your metabolism and help you conserve every calorie you eat rather than let those nutrients travel to your skin so you look good.

Likewise, brain deterioration sets in much faster, so that a seemingly young person is prone to forgetting simple things and making mistakes otherwise associated with an aging mind.

# Stress Hormones and Your Health

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## Cortisol

- Cortisol is a steroid hormone that is produced by the adrenal glands

According to WebMD, in the short-term, the release of cortisol like other sequences of the fight or flight response makes you alert and can save you in various situations.

In the long-term, the continuous release of cortisol to chronically elevated levels can lead to a wide variety of serious health effects.

## Adrenaline

- Adrenaline is produced by the adrenal glands in response to what your brain determines to be a stressor.

According to the American Institute of Stress, during fight or flight, adrenaline causes:

- Sudden surge of energy
- Increased heart rate
- Concentrated focus on the stressor
- Muscle tensing
- Rapid hard breathing
- Sweating

## Norepinephrine

- Norepinephrine is also released by the adrenal glands and its effects are similar to the adrenaline hormone.

Just like adrenaline, norepinephrine role is to create a state of arousal so the person under attack of stress can respond with intense focus and be acutely responsive.

Norepinephrine shifts blood flow away from insignificant parts of the body to those critical for survival (flight) such as the muscles. Norepinephrine is more of a secondary reaction, a back up to ensure survival in case the adrenal glands cannot release adrenaline.

### **Stress Hormones and Health**

We know the implications that stress can have on our life, but understand less about the way stress hormones influence our health. This is understandable, as not all of us are inclined to learn the technical jargon behind medical sciences, but having a basic understanding of the way stress hormones can affect your body should be mandatory.

Think of it like this- you jump behind the wheel of a car, drive it fairly well, but then your engine overheats. What do you do at this time?

Probably dial for a mechanic, as you know nothing else, but how helpful would it have been if you had just a little basic knowledge of your car? You would know to check your radiator for coolant or to let the engine cool before driving again. This is a similar scenario to putting your body through hardship every single day, and not knowing to read the signs when stress starts negatively affecting your health.

Under normal conditions, the acute stress reaction leaves no negative impression, and is actually desirable. How else would you find the “get up and go” drive to reach to work in the morning? It is thanks to cortisol and adrenalin that this is possible- your body’s stress hormones.

However, it’s not all sunshine and rainbows after all, just as fire makes a good slave but a bad master, so too can stress hormones ravage your health and leave you a shell of your former self.

Under the influence of chronic stress, many things go awry at the same time, negatively impacting your health to catastrophic effect. Not sure how bad is the extent of damage? That's good. It means you've never/yet to endure the effects of this burden.

### **Blood Glucose Dysfunction**

For years, it has been discussed that stress makes it harder for diabetics to manage their blood sugar, but for that same period of time, the number of people who understood how was sparse. As our bodies evolved, it kept with it many primitive traits and responses, such as the unnecessary survival response of the adrenal glands.

Yes, stress hormones still play a very important role in our life and can very well save us in times of peril, but do we honestly need a flood of these hormones when we miss the supermarket closing hours? Not at all.

Part of this response involves the liver converting stored glycogen into glucose and pouring it into the blood, in anticipation of you needing to run from a dinosaur. We know that is rarely the case, and is why such a response is excessive, making it harder for you to get your blood sugar levels under control if you are a diabetic.

### **Gastrointestinal Disturbances**

Under the impact of stress, the stomach increases its production of gastric acid, which can negatively affect the mucus lining and cause ulcers. Not only are gastric ulcers extremely painful, but they also raise your risk of developing stomach cancer significantly.

The body also tends to re-route blood circulation from the intestines at this time, resulting in diminished absorption of nutrients that are in transit. It is not uncommon for nutrient deficiencies to develop even when you believe you are eating well.

## **Suppressed Immunity**

At its core, cortisol is an anti-inflammatory hormone. This is part of its beauty, but also a major roadblock when it comes to our immune systems, which rely on inflammatory mediators in order to take care of possibly pathogenic microbes. Under the influence of cortisol, the immune system loses its inflammatory nature, and becomes unable to defend the body from invaders.

## **Chronic Stress Increases Your Risk Of Developing Cardiac Risk Factors**

Cardiac risk factors are those negative changes which increase your risk of a stroke or heart attack, and which we desperately need to keep under control. However, cortisol does not see this the same way as us.

While it is ideal for our blood vessels to stay flexible in order to meet the variable requirements of blood and its pressure, cortisol makes these vessels (especially arteries) much more rigid. As a result, they do not expand and contract as needed, but retain a steady narrower than usual diameter.

This in turn can cause blood pressure to increase, and with it raise your cancer of suffering a stroke. But that's not all. Cortisol also causes increased adherence of cells and clotting factors together, along with cholesterol molecules in masses of sticky substances called atherosclerotic plaques.

These plaques adhere to the inside of blood vessel walls, especially at locations where micro vascular damage has occurred, and attempt to "patch" it. This doesn't work, however, and the end result is large deposits of this mass along various areas of the blood vessel, reducing blood flow. When this happens in the coronary arteries of the heart itself, portions of muscle can die from oxygen starvation, as a myocardial infarction, or heart attacks occur.

## **Chronically Elevated Stress Hormones Mess With Your Brain**

If there's one place you are bound to actually notice the impact stress has on your health, it has to be your mind. By nature, we are not meant to be multi-taskers, even though pressure may

have forced us to be and this is something the stress hormones sorely point out. Under the effects of cortisol, the executive functioning part of the brain is suppressed. Executive functions refer to that that dictate all the rest, in this case the part of the brain that helps us to multitask.

You will find that you are simply unable to cope with the pressure of doing multiple things at once. Not that alone, but cortisol also caused physical changes to occur in the brain, suppressing the growth of cells in the area of the brain integral for memory and recollection, and rather fostering growth of the emotional parts.

The result?

Horrible memory and recollection, and the propensity to make emotional decisions. This ties in to cortisol's primitive functions once again, which were to make you fight, or flee.

Cortisol also inhibits synthesis and release of dopamine and serotonin, two key neurotransmitters that keep you motivated and feeling well. When these are reduced, your drive to work diminishes greatly, so much that you can even spiral into depression.

However, the bad news doesn't end there, as cortisol could very well accelerate the degradation of your brain, increasing the odds that you develop Parkinson's Alzheimer's or another kind of irreversible degenerative brain disease. All this from working too hard and not allowing sufficient time for rest and relaxation, is it truly worth it?

It is impossible to free yourself from the effects of these stress hormones completely, as they are a part of you and enable you to enjoy life. However, there is a point of diminishing returns, when the adverse effects of cortisol far outweigh your desire for "productivity." This is the time when serious changes to your lifestyle and diet need to be made.

Ensuring you sleep enough is a great start, but you should also ensure you eat high quality foods as close to their natural source as possible. This, and allowing yourself to scale back when your body is telling you something is amiss is a great start for getting the stress in your life back under control.

# Signs And Symptoms Of Chronic Stress

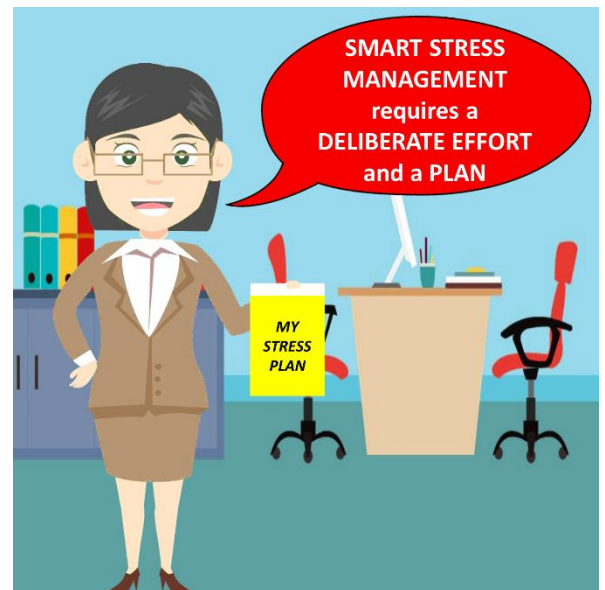
According to the Statistic Brain Research Institute, American Institute of Stress, NY,

## Physical Symptoms

- 51% reported fatigue
- 44% reported headaches
- 34% reported upset stomach
- 30% reported muscle tension
- 23% reported changes in appetite
- 17% reported teeth grinding
- 15% reported changes in sex drive
- 13% reported feeling dizzy

## Psychological Symptoms Cited

- 50% reported irritability or anger
- 45% reported nervousness
- 45% reported lack of energy
- 35% reported feeling as though you could cry



The American Institute of Stress reports the following as common symptoms or signs of chronic stress.

## Physical

- Frequent headaches
- Clenching of the jaw or jaw pain
- Teeth grinding
- Stammered speech or stuttering



- Trembling or shaking hands or lips
- Muscle spasms
- General Body aches
  - Back pain
  - Neck pain
  - Shoulder tension and pain
- Dizziness and/or light-headedness
- Sweating
- Feeling flushed or blushing of the facial cheeks
- Sweaty and/or cold feet and/or hands
- Dry mouth
- Frequent illness, such as flu, colds, or infections
- Hives, skin rashes, itching
- Digestive problems
  - Heartburn
  - Stomach pain
  - Nausea
  - Diarrhea
  - Constipation
  - IBS
- Labored or difficult breathing
- Chest pain, heart palpitations, rapid pulse
- Frequent urination not otherwise explained
- Exhaustion, fatigue and loss of energy
- Unexplained weight gain or loss

## **Psychological/Mind**

- Panic attacks
- Anxiety
- Excessive worry
- Depression
- Loss of concentration
- Loss of focus
- Problems with learning and cognitive ability
- Racing thoughts
- Brain fog
- Forgetfulness and memory problems
- Difficulties with making decisions
- Overwhelm
- Burnout

## **Mood**

- Restlessness
- Nervousness
- Nervous habits
  - Nail biting
  - Fidgeting
  - Feet tapping
- Angry outbursts
- Hostility
- Frequent bouts of frustration

- Mood swings
- Irritability
- Edginess
- Overreaction to petty annoyances
- Frequent crying spells
- Feelings of loneliness or worthlessness

## **Lifestyle And Habits**

- Changes in appetite, with unexplained increases or decreases
- Binge eating or eating behind stress
- Poor sleep, including insomnia, and nightmares
- Fighting with people close to you
- Alienation from family and friends
- Obsessive or compulsive behavior
  - Drugs
  - Alcohol
  - Gambling
  - Impulsive shopping
  - Smoking of cigarettes
- Loss of productivity at work
- Excessive defensiveness or suspiciousness
- Communication problems
- Social isolation and withdrawal
- Lack of sexual desire or interest

# Effects Of Unmanaged Chronic Stress

## The Body

Excessive stress has negative implications for the body, even though the exact response differs from person to person. Regardless, even someone who looks like they respond well under high stress will be subject to the ill effects. These include:

- Decreased immunity as cortisol has a suppressing effect on the immune system
- Adverse effects on blood pressure as the blood vessels fail to relax in a timely manner
- Emotional disorders such as increased aggression, depression and anxiety
- Changes to appetite; usually leading to binge eating and weight gain
- Decreased libido and male sexual dysfunction



## Stress Eating

Many people engage in stress eating, which usually means overrating and eating very unhealthy foods, fatty, sugary junk. This leads to obesity and overweight problems that come with their own long list of health repercussions, and psychological problems that fuel more stress and can lead to depression.

## Weight Gain and Obesity

Continuous elevated levels of cortisol can lead to weight gain, as cortisol mobilizes triglycerides from storage and stores them as visceral fat cells, and there you have that dreaded belly fat that is not only unsightly but is another major health risk that can shorten your life span.

## Depressed Immunity

Since cortisol and adrenaline are inflammatory hormones that reduce functions within the immune system, this increases risks of infections and pathological diseases.

## Hypertension

Constant stress often leads to hypertension, since an elevation in blood pressure is a normal part of the stress response. Hypertension often leads to heart problems, and can result in stroke and/or heart attack.

## Gastrointestinal System

Chronic stress has adverse effects on the digestive system.

- Digestive Problems
- Reduced metabolism
- Decreased nutrient absorption
- IBS
- Ulcers
- Severe stomach pain
- Nausea
- Heartburn
- Acid reflux



## Male Reproductive System

The American Stress Institute advises that chronic stress can affect testosterone production, maturation, and sperm production. It can also cause impotence and erectile dysfunction. The comprised immunity seen with chronic stress can lead to infection of the testes, urethra, or prostate that can lower production of testosterone and lead to erectile dysfunction.

## Female Reproductive System

Chronic stress can also affect the female reproductive system.

- Lower estradiol production
- Loss of sexual drive especially seen in women with overly hectic and busy lives filled with demands that promote chronic stress
- PMS symptoms may get worse or become more difficult to deal with
- Irregular or absent periods
- Painful periods
- Increase in intensity and occurrence of menopausal hot flashes

## Metabolic Syndrome

One study, (Chronic stress at work and the metabolic syndrome: prospective study, Chandola, et al) found that *“there is a dose-response relationship between exposure to work stressors over 14 years and risk of the metabolic syndrome, independent of other relevant risk factors.”*

The final results found that *“employees with chronic work stress were more than twice as likely to have metabolic syndrome as compared with those subjects with without work stress (odds ratio adjusted for age and employment grade 2.25, 95% confidence interval 1.31 to 3.85).”*

## Blood Sugar Imbalance and Diabetes

The Mayo Clinic reports that continuous elevations of cortisol consistently produce glucose that increases blood sugar levels and therefore greatly increases risk factors for type 2 diabetes.

## Respiratory System

The rapid breathing seen in the fight or flight response can result in panic attacks, especially for those who are prone to them.

## Deep Venous Thrombosis

One study found that (Chronic Stress Facilitates the Development of Deep Venous Thrombosis, Dong, et al) stress increases risks for development of cardiovascular diseases, which include deep venous thrombosis (DVT).

## Musculoskeletal System

The American Psychological Association states, *“When the body is stressed, muscles tense up. Muscle tension is almost a reflex reaction to stress — the body's way of guarding against injury and pain.”*

Part of the fight or flight response to stress is the tensing of muscles which, during chronic stress remain in a constant state of guardedness with prolonged periods of tension, which could trigger other reactions within the body and promote other stress-related disorders, such as migraines and tension headaches that are linked to muscle tension of the neck, head and shoulders.

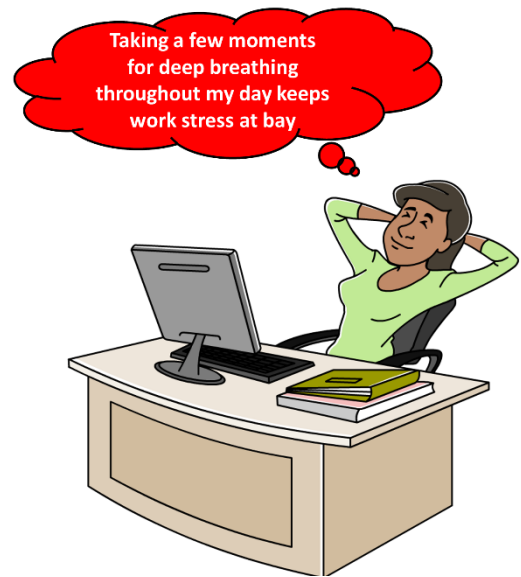
Prolonged muscle tension and possible subsequent muscle atrophy from a lack of physical activity, promote chronic, stress-related musculoskeletal conditions. Exercise and relaxation techniques that release stress-related tension in the muscles help to prevent these pitfalls.

## Skin Conditions

- Acne
- Eczema
- Skin rashes

## Other Physical Effects

- Headaches
- Muscle tension or pain
- Insomnia
- Chest pain
- Fatigue and Exhaustion
- Joint pain
- Body aches and tightness (back, shoulders)



## Mind and Mood

While chronic stress wreaks havoc in the body, it does just as much harm to your mind.

- Anxiety
- Restlessness
- Mood Swings
- Lack of motivation
- Loss of focus and concentration
- Feeling overwhelmed
- Irritability or anger
- Sadness or depression



## Behavior

Behaviors that are often seen in those suffering from unmanaged chronic stress include the following.

- Driving too fast
- Overeating or undereating
- Social withdrawal and isolation
- Angry outbursts
- Yelling at others
- Drug or alcohol abuse
- Violence or aggression
- Excessive gambling
- Tobacco use
- Exercising less often or not at all
- Irritability
- Nail biting
- Multi-tasking to get more done, which leads to more stress
- Sleeping too much
- Buy things you can't afford
- Excessive crying
- Stay up all night worrying
- Self-criticize
- Isolate
- Stew in negativity and anger
- Take on commitments or responsibilities when you are already overloaded
- Blame the self for not being able to "handle it"

## **The Spirit**

Unmanaged chronic stress can easily zap you of joy, inner peace, and internal happiness. The constant influx of the rollercoaster ride that is so representative of constant and chronic stress depletes your inner energy, making you exhausted not only in body, but also in spirit.

## **Quality Of Life**

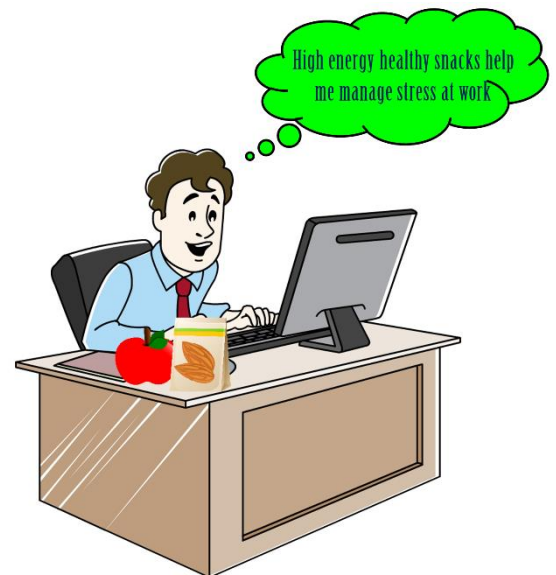
With all the ramifications of chronic stress on mind, body, and spirit, quality of life naturally deteriorates as well. It becomes more difficult to find joy in your days, and many people simply mottle through until eventually they collapse from exhaustion or burnout.

# 18 Risk Factors For Chronic Stress

According to University Of Maryland Medical Center, people respond to stress differently and various factors increase risks for chronic stress.

## Factors That Influence the Response to Stress

1. **Adults abused as children** can have long-term abnormalities in the hypothalamus-pituitary system that regulates the stress response.
2. **The aging population**, as studies show is more vulnerable to handling stress well, as aging may degrade the systems in the brain that handle the stress response and become less efficient. Aging people are also more likely to be exposed to major stressors, such as the death of a spouse or a serious medical diagnosis.
3. **Neurosis** and other personality traits can cause some to have an extreme reaction to stress, and to become stressed more easily leading to risky behaviors such as alcohol abuse.
4. **Genetics** can play a role where there is less efficiency in the relaxation response.
5. **Caregivers are at higher risks for chronic stress**, especially those who care for the physically and mentally disabled, such as Alzheimer's patients. This includes family members and health care professionals, such as nurses who studies show can present with dramatic health declines when they have high job demands, lack of job control, and a negligent social support system. Those caregivers are at higher risks for heart health problems, depression, and the flu.



6. **Conditions that feature immunity abnormalities** such as eczema or rheumatoid arthritis can weaken how people respond to stress.
7. **The longer the duration and intensity of the stressor the more harmful its effects will be.**  
For example, someone who has lost a child and is dealing with grief and loss, one of the greatest stress events in intensity, and which will likely remain for a long period of time, is going to be at a much higher risk for chronic stress versus someone who is stressed over a car accident.
8. **Single and married mothers** in the United States and Europe are known to endure higher stress levels than men as they bear the load of motherhood and work. Statistics Brain reports that, 86% of working mothers say they are "sometime/frequently" feel stressed and 40% of working mothers say they "always feel rushed."
9. According to the American Psychological Association, 49% of women surveyed said their stress has increased over the past five years and 49% reported lying awake at night in the past month because of stress. Only 33% of women report being successful in getting enough sleep.
10. According to the US Department of Labor, 70% of mothers with children under 18 participate in the labor force, with over 75% employed full-time. Today, mothers are the primary or sole earners for 40% of households with children under 18 compared with 11% in 1960.
11. **Those who are divorced or widowed**
12. **Prolonged financial problems**
13. **Isolation and loneliness**
14. **Victims of racial or sexual discrimination**
15. **Populations who live in cities**

**16. High stress jobs present very high risk factors for chronic stress.** The Occupational Safety and Health Administration (OSHA) has declared stress a hazard in the workplace.

According to Health Central, “Several studies are now suggesting that job-related stress is as great a threat to health as smoking or not exercising. Stress impairs concentration, causes sleeplessness, and increases the risk for illness, back problems, accidents, and lost time from work. Work stress can lead to harassment or even violence on the job. At its most extreme, chronic stress places a burden on the heart and circulation that in some cases may be fatal.”

**Work related stress could vary and not all of it is harmful, but the following stressors are considered the most risky:**

- A lack of control over decisions that affect his or her responsibilities
- Constant and unreasonable performance demands
- Poor communication and conflict-resolution between employees and employers
- Lack of job security
- Overtime, long hours and night shifts
- Overwork that takes time from family
- Low wages that do not correlate with levels of responsibility

**17. People with high levels of anxiety or that have been diagnosed with anxiety disorders**

sometimes react to stress with more stress than people who do not have such issues.

There tends to be an exaggeration of the stress, and a “catastrophic” perception of the stressor.

**18. A lack of a healthy social system** that includes friends and family increases risks for chronic stress and the medical problems it causes such as infections and heart disease.

# The Worst Ways To Deal With Stress

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Learning how to cope with stress in healthy ways is key in preventing its debilitating effects, however, there is a variety of unhealthy ways to cope with it, and many people fall prey to these without even realizing what's happening.

## Vices

Excessive alcohol use, smoking, and general substance abuse are dangerous when under chronic stress; they may seem to provide temporary relief, but do nothing to really alleviate stress at its core and can actually cause more problems.



These habits have a serious impact on your long-term health and increase your risk of depression, anxiety, and a host of physical diseases. According to one study, (Chronic Stress, Drug Use, and Vulnerability to Addiction; Rajita Sinha) those who are under chronic stress are at greater risk of addiction.

Falling into this cycle will just continue to feed the issue until you reach a breaking point.

## Denying There Is A Problem

Denial is not a stress management tool, in fact it will cause more harm than good because ignoring your stress only makes it worse. Managing it is the only way to properly get it under control.

There's a difference between taking a mental health time out and indulging in a funny movie or meeting friends for lunch and avoiding your stress. If you ignore the issues then you won't process them, nor will you understand *why* or *what* you are actually dealing with. The longer you ignore it the greater the issue will get, whether it's the emotional fear of relationship issues or a

financial issue like a late credit card bill. The best way to handle this type of situation is by putting a plan in place and acting on it to relieve your stress.

### **Stress Eating**

Food often serves as a crutch, much like the vices we mentioned above, and while it may provide you with relief initially, it can spiral out of control quickly. The reason for this is your mind (and your body) starts to associate eating with the negative emotions you experience (because that's when you indulge) so you're intensifying those emotions.

Do you reach for a snack every time you experience a bit of sadness, anger, or stress? This can fuel obesity, increase the risk of heart disease and stroke, and cause a variety of gastrointestinal issues.

### **Feeding The Negativity**

Are you the type of person that panics about losing your job after you make a small mistake? Do you meltdown over fights with your partner worried that you've triggered the end of your relationship?

Some people will immediately think of the worst-case scenario when they are experiencing an issue that is particularly upsetting. However, it will only intensify your stress levels if you have the tendency to blow things out of proportion.

When you feel stressed out it's easier to look through a negative lens and feed negative self-talk. Remedy this by changing your tone with yourself, start adjusting your self-talk to a tone you would use with a close friend going through struggles instead.

### **Compulsive Spending**

Some choose retail therapy to deal with stress and fill the void inside. However, there's a stark difference between a small pick-me-up gift for yourself and spending money on things that you

don't need or have the money to afford. This tends to cause an increase in financial difficulties, which is another stressor that will only fuel your stress.

### **Going Into Hibernation**

While there may be something comforting in the thought of building a fort of pillows and blankets to hide behind it's certainly not the most effective way to handle stress. You may feel like you need to catch up on sleep but oversleeping can just fuel your exhaustion.

In fact, according to one study, (The Risks of Sleeping "Too Much". Survey of a National Representative Sample of 24671 Adults (INPES Health Barometer); Léger, et al) there's a link between oversleeping and a high BMI, which of course, increases risks of diabetes, and heart disease. All of which will exacerbate the stress you are already experiencing.

### **Others**

- Self-criticizing
- Nail biting
- Angry or violent outbursts and abuse of others
- Not eating
- Surviving on coffee
- Yelling at co-workers, employees, kids, spouse or friends
- Social isolation
- Sitting too much instead of engaging in physical movement
- Using recreational drugs or abusing mood altering prescription medication
- Multi-tasking



# The Relaxation Response: The Antidote For Stress

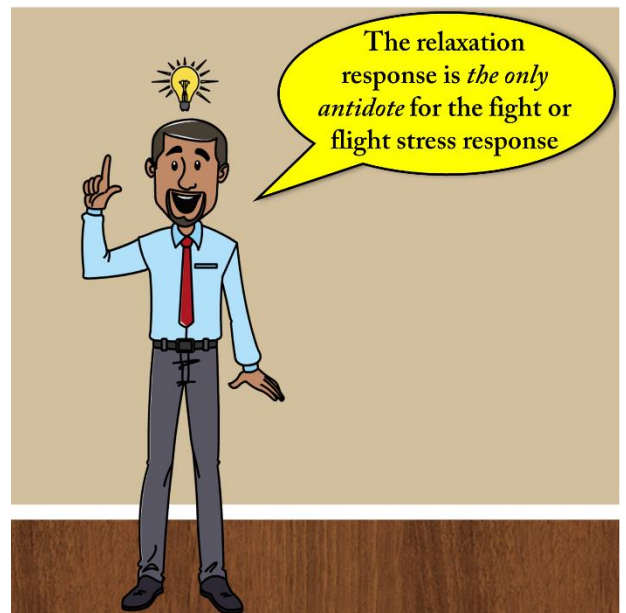
Stress is a beast in sheep's clothing. Why? Think about it. It is seemingly "harmless," or something we deal with every single day, so surely it can't be that bad, right?

Well, technically the body is capable of dealing with stress; at least stress of an acute nature that occurs for a short period of time and resolves itself leaving us relatively unscathed.

Then, there is chronic stress- the variety that is likely to negatively affect your health, and decrease your wellbeing so much that people may not even recognize the shell that is left in your place.

Which brings us to the next question- is stress that hard to beat? Honestly, no, but it is hard to break a habit of compulsion, whether that be going to bed too later, or working far too long, or even bringing it home at night. These habits become ingrained in who we are, and the longer we leave them unabated, will be the ones that ultimately lead to our demise.

However, all hope is not lost; after all, you are reading this, which means that you actively want to institute a change in your routine and improve your health before it is too late.



Enter the relaxation response - the exact opposite of the fight or flight stress response, and all that is required to restore our bodies to their state of optimal function.

According to the American Psychological Association, *"The relaxation response, a physical state of deep rest that changes a person's physical and emotional responses to stress."*

*"Dr. Benson, of Harvard Medical School and the Benson-Henry Institute for Mind Body Medicine at Massachusetts General Hospital, discovered the relaxation response's power to reduce stress*

*in the 1960s. But his subsequent research found that the approach is really no different from what people have done for centuries through prayer, chanting and repetitive motion.*

*Today, scientists have shown that such practices lower heart rates, blood pressure and oxygen consumption, and they alleviate the symptoms associated with a vast array of conditions, including hypertension, arthritis, insomnia, depression, infertility, cancer, anxiety, even aging.”*

### **The Premise Behind Relaxation**

The number one conundrum people get caught up in is believing that relaxation and rest is a “waste of time” and time they could spend doing productive work. If you’ve tried this approach, you have probably also noticed that it has failed miserably, because working harder does not equate to improving productivity.

In fact, it can be called a practice of diminishing returns- the harder you think you are working, the less you may actually be getting done!

Which now brings us to the meat of our discussion - how the response to relaxation can offset the stress burden and improve your health.

### **Relaxation Lowers The Mind’s Inhibition**

Going through school is the perfect way to understand what this means. We have all been there before, and know too well that after a prolonged period of forced learning, our brain chooses to zone out, making retention and learning darn near impossible. This is your mind increasing its barrier, or resistance, thereby making it more difficult to remember anything.

This is a similar scenario, which occurs as the day progresses, as adenosine molecules start to lodge at their receptors and initiate drowsiness. It becomes a near impossible task to work as this process ensues; only resolving itself after a period of rest.

## **Relaxation Enhances The Immune System**

Have you ever observed that stress appears to have a cumulative effect the longer we experience it? This is particularly troublesome when it comes to our immunity, as stress hormones have the effect of suppressing it.

Think of the immune system as a firewall; the longer it is down, the greater the chances that some sort of infection can take hold and complicate our complete recovery. As little as one weekend away from the stress of work and daily life can positively boost your immune function.

## **Relaxation Can Help You Control Your Weight**

While people think that stress makes you lean, it actually worsens your health by causing weight gain. Cortisol should be looked at as a survival hormone, one that causes our body to retain calories and weight. It could also be due to sodium and water retention, which is bad anyway, you look at it.

Relaxation tells your body that times are good, and that it can resume normal function by dialing back Cortisol production.

## **Relaxation Enhances Your Mood**

Your mood doesn't just go south because you have work to do, but rather because of changes in brain chemistry. Under the effect of prolonged stress hormone exposure, two key neurotransmitters in the brain, serotonin, and dopamine, become depleted, and causes our brain to act in a pro-inhibitory manner.

This is reflective of a loss of drive and focus, and reluctance to work. Relaxation removes the influence that Cortisol exerts of these two neurotransmitters, which return to normal levels shortly.

Hopefully, you are not subject to stress for a prolonged period of time, as the process of recovery becomes a much longer and arduous task.

## **Relaxation Can Mitigate Pain**

If you struggle with chronic pain, let's just say that stress doesn't make your job any easier. Cortisol is a pro-inflammatory hormone, one that will make pain worse and recovery much slower. Inflammation has its role in normal body processes, but causing aggregation of immune factors makes these processes inefficient.

This means sleep is indicated for anyone recovering from illness or injury, as it is simply the best way to combat the effects of stress. Sometimes, a full night's sleep is enough to help reduce the severity of pain enough so you look forward to the next night. This is the start of a positive habit.

## **Relaxation Does Not Necessarily Have To Mean Doing Nothing**

While relaxation may conjure up images of sitting at a poolside or beach with nothing to do and the wind on your face, this is not required. You can sit anywhere and at anytime and just close your eyes, practice deep breathing, and know when it is inducing relaxation for you.

Your heart rate will slow, muscles will loosen up, and brain may fire back to life. This is because of improved oxygenation and blood circulation, setting into motion your recovery.

When you start to feel the effects from working too long, take a few minutes, and practice deep breathing - you will be pleasantly surprised how good you feel afterwards.

## **Multitasking Doesn't Work**

We get it-the world is hectic so juggling 5 things at once seems like a good use of your time. However, this is not how the brain was meant to function, and gives way to inefficiencies and lots of distractions. Which is why mindfulness meditation is such a powerful relaxation technique.

At the heart of this technique is knowing how to filter out the unnecessary from your mind, helping you stay objective and appreciate.

Financial issues? At least know that your bills this month are covered, and it's not time to worry about the next month.

Similarly, it is much less stressful to focus on one specific task at a time, instead of giving sub-par attention to four different things at once. Remaining objective can cut your stress load significantly and help you relax later in the day.

### **How To Make Relaxation Fit Your Schedule**

One size never fits all, and your need for relaxation will likely differ as well. Regardless, take advantage of every opportunity given to you.

If you have the chance to take a nap after lunch? Do it.

Take a break every 60-90 minutes and do deep breathing exercises. This can help blood flow once more and help you work through the afternoon without grogginess.

Your motivation will increase, immunity will not suffer, and you will likely keep your sanity. Don't ever discount the importance of some good old R&R; it can save your life.

# Effective Stress Management

Research presented at the Western Psychological Association meeting determined that 25% of general happiness depends on how well individuals handle stress. The key to successful stress management is having a plan in place, which includes understanding your stressors and implementing tools that will prevent chronic stress from running rampant and taking over your mind, body, and spirit.

## Identifying Your Stressors: Step One In Effective Stress Management

We have all experienced some type of stress in our lives, whether we're aware of it or not. Everyone's experience with it will be different and there will be a variety of reasons and causes for each individual.

While one inconvenience is minor to you, it may be enough to send your friend running. This is why it's important to understand your stressors. The first step in managing your stress is understanding what it is that triggers it.

### The Categories

- **Emotional** - These internal stressors include anxieties and fears that you may have and come with a variety of personality traits (like pessimism, distrust, and perfectionism). These types of stressors are unique to individuals and can distort how they perceive others.
- **Work** - We all experience pressure at work – from the pressures to perform and meet deadlines, to working with irritating colleagues and unpredictable bosses. Work can be a big cause of stress for many of us.
- **Social** - This includes interactions with friends, dating, social engagements, and even speaking in public. Much like emotional stressors, something that has no impact on you may strike your friend hard and vice versa.



- **Familial** - Family is great, but stress can stem from unruly children, relationship problems, financial issues, and a whole host of other reasons.
- **Change** - Any type of change can be enough to trigger stress – big life moments like moving home, starting a new job, having children, getting married or moving in with your partner are all exciting, but stressful, situations.
- **Decisions** - Making an important decision might be easy for some, but for you, it could be enough to trigger serious stress.
- **Phobias** - Genuine fears are enough to trigger stress especially if you are afraid of flying but *have* to catch a flight.
- **Chemical** - This comes down to substance abuse – abusing caffeine, alcohol, tranquilizers, nicotine, or any other type of substance will only fuel stress.
- **Disease** - Disease stressors can stem from both short and long-term health issues. The illness could cause the stress, triggered by stress, or exacerbated by it.
- **Physical** - When you push your body too hard, it bites back. If you work long hours, never get enough sleep and stuff your face with unhealthy food options just to get by then this is a big stressor.
- **Environment** - It could be that you live in an area with poor air quality, it's constantly loud, you have a lack of space, your home is always too cold (or too hot), it's difficult to rest and relax when you can't get comfortable. This is a major stressor for many people.
- **Pain** - Pain is aggravated by stress and it can lead to stress and it doesn't matter whether your pain is chronic or acute.

### Identify Your Stressors

You can use the categories above and make notes of what types of stressors you experience in your life. It's more than likely you will be experiencing issues in a few of the categories.

It's very likely there are stressors you can get rid of – for example, are you struggling to find time for leisure? What is it that's standing in your way?

If it's the housework is there any way for you to fit a housekeeper into your budget (even if it's just once a month). If you can't afford one then maybe review your budget to see where you could cut back – your time matters.

It's often easier, though, to reduce the severity of stressors or learn how to manage them. If you struggle to concentrate at work because someone in the next cubicle can't work without listening to classical music then buy earplugs. It's all about mitigating your stressors once you are aware of them.

Do you constantly get caught in morning traffic on your way to work? Consider an alternate route, a carpool, public transportation, or even leaving earlier in the morning to beat the rush. You can enjoy a podcast, book, or music before your workday starts and have alone time to prepare yourself for the day ahead.

You will find strength is learning how to cope with your stressors because for the most part they cannot be eliminated.

You can't control whether someone in the office brings tuna and boiled eggs for lunch every day, nor can you change the behaviors of those around you. You just have to do you.





## 14 Ways To Reduce Work-Related Stress

1. Stress at work is inevitable, but how we perceive it and its effect is not. Altering how you view stress at work can yield amazing productivity results when you turn it into an asset! Rather than viewing stress as a disability or a threat, begin to see it as a challenge, which makes it an activating event, instead of a paralyzing one. Learning to work under pressure, getting control over your mental reaction to stress and turning stress into an asset provides you with ample opportunities to learn and develop key skills that will not only help you at work, but in all other areas of your life.

According to Justin Menkes, acclaimed author of *Better Under Pressure* and expert in the field of C-suite talent evaluation comments on Harvard Business Review, *"Aspiring leaders must be taught how to manage their stress in such a way that it actually increases their focus and clarity. They need to gain experience in stressful situations where they get an elevated — but not overwhelming — sense of adrenaline and are set up for success. Confidence under pressure can be built like a railroad track in the brain through exposure to repeated experiences over time."* *"While it is a noisemaker in the untrained mind, when channeled properly adrenaline can help people accomplish things that they never would have imagined possible. The ability to make adrenaline a friend is a necessity for executives in today's environment of ongoing duress. Not surprisingly, it's also a hallmark of the world's best CEOs."*

2. Work less and take time off for relaxation as much as possible.
3. Communicate stress concerns with Human Resources or your manager. Explain your concerns clearly and let them know how reducing stress will not only benefit you, but the company because the reduced pressure will improve productivity and your work quality, and performance.
4. Maintain a strong social network outside of work, and with your co-workers, as strained relationships at work greatly increase stress.

5. Consider and restructure priorities, focus on what is most important in your job.
6. Stop wasting time on less important tasks, such as checking email every 5 minutes or personal tasks, like social media updates and eliminate all unnecessary tasks.
7. Eliminate distractions. If you work in a noisy place, such as an office or a construction site, if possible wear earplugs as working in quiet is much less stressful. Ask your assistant to hold your calls, and that you should not be disturbed when you are engaged in tasks that require your concentration.
8. Engage in physical movement throughout the day. A lot of research has found that exercise is the miracle antidote for stress, and it improves mood by stimulating release of endorphins in the brain. Take a walk on your lunch hour and climb some stairs on your coffee breaks.
9. Focus on the positive as much as possible. For example, instead of worrying that you don't make as much money as the other guy, be grateful that you have a job and imagine what would happen if you lost it. Smile when you are working to maintain a positive outlook, keep a list handy of all the things you like about your job and refer to it often.
10. Eat well. Diet is one of the most important elements in a successful stress management plan. This means eating a healthy high-energy lunch filled with whole real food and healthy high energy snacks, such as fresh fruits and nuts. Watch coffee intake as too much increases anxiety and drinking it on an empty stomach can result in heartburn and indigestion.
11. Find ways to relax throughout the workday. Some people enjoy playing with a stress ball, a joke of the day calendar, stopping to socialize for a few minutes with co-workers and even doing meditation on your breaks are all great ways to lower stress levels.
12. Disconnect! Technology's downside is being connected 24/7, which means a barrage of stressors that never end. Turning off your phone (yes, really), laptop, tablet and PC gives

you a much needed break and cuts off a significant source of stress. Studies have found that even a short break from checking email can reduce stress.

13. If your workplace is so stressful that you find it intolerable look for another job. This may seem daunting but once you do it, it will solve many problems.
14. If you hate what you do, consider a change. Nothing is more stressful than going to a job you hate every day. Changing careers is totally possible; people do it all the time. There may be an uncomfortable transition period, but it's well worth it in the end.

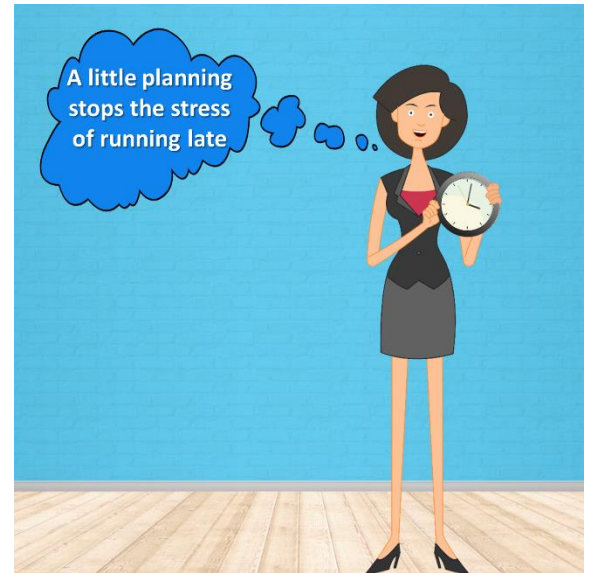
## 27 Effective Stress Management Techniques

### Exercise

Exercise is at the top of the list of effective stress management tools. Aerobic exercise burns out cortisol levels, and promotes levels of beneficial endorphins in the brain that improve mood and general states of wellbeing.

### Be Timely

If running late is a major cause of stress in your life, make the effort to leave before your normal time. This will help you offset the usual rush hour traffic and prevent you from getting to where you need to be late.



### Meditation

There are few things in life that illicit the relaxation response as well as meditation. Meditation calms, it's really as simple as that, and it is the exact opposite of the 'fight or flight' response that instead of raising everything like heart rate, blood pressure and breathing, it calms everything, including the mind.

2012 research conducted at UCLA, (Lavretsky , et al) found that only 12 minutes of daily toxic chanting for 8 weeks greatly reduced stress in 48 subjects who were caretakers of Alzheimer's and dementia patients, who are some of the most stressed people. It was determined that this occurs because chantic yoga reduces those biological mechanisms that trigger immune system's inflammation response that at chronic levels causes serious health complications.

**Meditation falls into two broad categories.**

The first one involves negation, or eliminating all thoughts from the mind, leaving it a blank slate. This achieves the ultimate goal of relaxation as it eliminates all worries, cares, thoughts,

concerns, and especially external stimuli from the mind. A sort of unconscious state while being conscious.

The second type requires intense focus on something specific until it consumes the mind and replaces all other thoughts.

One of the reasons that meditation is so effective at managing chronic stress is that it trains you to control how you respond to external stimuli.

If someone punches you in the face, you will likely feel pain, get angry, and fight back. Conversely, if you have to give a speech in front of a hundred people, you will likely feel anxious, start sweating, and become very nervous. Both of these are examples of the emotional, mental, and physical responses to some type of external stimuli.



In short, the brain and body respond to external stimuli based on your perception of said stimuli. If you are terrified of flying and your sister isn't, then each of you will have completely different reactions when getting on a plane. Perception of the plane trip will dictate the effects in mind and body.

Meditation takes advantage of this, and uses it to relax the mind, which consequently relaxes the body. By reducing cares and worries and refocusing the mind, the body responds with the relaxation response.

The idea of replacing stressful thoughts and chaos brewing in the mind with relaxing thoughts diverts your attention from the stress, and thereby replaces the fight or flight response with the relaxation response in the body.

This is very effective, especially since the mind is only capable of focusing on one idea at a time. With practice, you can master the ability to refocus and eliminate all other thoughts but one,

which allows you to manage chronic stress for the long-term. Furthermore, meditation is a tool that requires no external assistance, which means it can be, used anywhere, anytime.

The brain is a highly trainable organ, and its plasticity serves you well in getting chronic stress under control. Through the power of mental suggestion, you can train your mind to believe, feel, see and associate anything you want.

The act of meditation trains the mind on what to think, and with practice, meditators get so good at this that they can summon a state of relaxation on command, creating a mind over body effect that when presented to the brain will override any of the usual responses to any type of external stimuli.

The brain is an adaptive organ making it quite able to learn to relax on cue, so much so that over time the meditative state can be conjured on command.

### **Meditation Helps Keep Telomeres Healthy**

Elizabeth Blackburn The Nobel Prize winner in Physiology or Medicine 2009 and author of *The Telomere Effect: A Revolutionary Approach to Living Younger, Healthier, Longer* (with Elissa Epel) who is currently the President of the Salk Institute for Biological Studies has been studying telomere shortening for many years and told *The Guardian*, "Nobody had any idea that meditation and the like, which people can use to reduce stress and increase wellbeing, would be having their salutary and well-documented useful effects in part through telomeres. The book is also recognizing how much control we can have. Small tweaks in how you approach stress, for example, can lead to long-term habits that make a difference."

## Eat A Diet With Lots Of Whole Foods

Whole food is not only the most nutritious, but also fortifies the immune system, which is highly compromised by chronic stress. Processed foods, while convenient do nothing good for your health.

Many fruits and veggies also actively help to reduce the effects of stress on the body, helping manage inflammation and oxidation. As an added benefit, you will save money when you skip the processed factory food and chose whole food, likely solving another source of your stress.



## Change Limiting Beliefs

Certain beliefs you hold may be holding you back in life. The good news is, once you identify them, you can change them for more helpful beliefs. Next time you catch yourself thinking a negative thought, just say, "I am no longer subject to that belief. I choose ...." Then insert your new, more empowering belief.

## MBSR

Created by Jon Kabat-Zinn, PhD, Mindfulness Based Stress Reduction is one of the most successful in training people to manage their stress. This is 8-week mindfulness program teaches meditation, body awareness, mindfulness practices, and mindful movement.

## Progressive Muscle Relaxation

The muscle relaxation technique for stress doesn't require much exertion for it to be effective, that's probably why it has become so popular. One of the common methods is progressive muscle relaxation, which uses subtle movements to relieve tension and achieve relaxation.

The method is based on the idea that it's easier to relax muscles by making smaller movements to relieve tension. It's the type of tension in the muscles that causes body aches and headaches that you have probably had for days or at least so long you haven't even realized they were there.

By tightening each muscle group and then releasing you start to feel more relaxed and less stressed. It's all about exaggerating each conscious movement and release – this makes you more aware of your muscles *and* to when you're holding tension.

This allows you the opportunity to complete the muscle relaxation technique in a bid to reduce your stress levels before it has a chance to get out of control.

### **How To: Progressive Muscle Relaxation**

1. The first step is finding a room to practice this – it should be relatively quiet, dimly lit, and you should be able to sit comfortably or lie down.
2. Close your eyes and start breathing deeply through your nose. Hold your breath for 3 seconds, and then exhale through your lips. Do this several times and imagine that your body is becoming heavy and warm. Release tension that you become aware of.
3. Continue to breathe slowly and clench both of your fists, tightening your biceps and holding the tension for a few seconds. Now release the tension and let it ebb away. Your focus should be on the changing sensations in your muscles. As you allow the tension to flow from your arms, hands, and fingers keep your hands open to shake off the remnants.

You should continue this pattern through each of the major muscle groups in the body.



## Take Control

Some are under the impression that their life and all that happens in it is beyond their control, that they are a powerless victim falling prey to all the unpredictable forces around them. The truth is that this state of mind is not only erroneous but is quite harmful, especially when it comes to chronic stress and the effect it has.

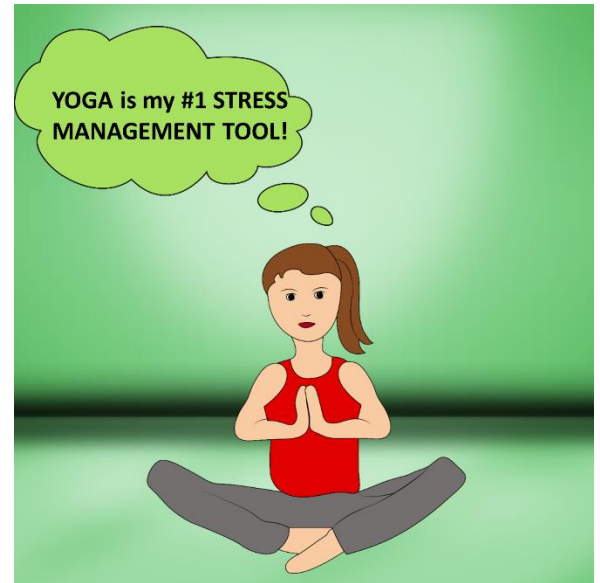
In the victim mentality there is never a reason to take any action, and “lack of control” thinking only lends itself to ill health from chronic stress and other issues as a result of a non-proactive lifestyle.

**You can control your emotions**

**You can control how you respond to stress**

**You can control how you respond to life and its problems**

When you stop blaming circumstances and take back the reins, you take back your power, and power is the ability to take action in order control how situations and “life on life’s terms” affects you.



## Create Predictability

Some people thrive under constant change and even chaos, while for others managing chronic stress is simply a matter of a predictable, consistent, and stable life environment.

This does not mean that there will never be stress, but even the fact that the stress itself can be predicted, like that which occurs at work, makes it easier to deal with.

It's really all about perception, where the unpredictable world leaves us at the mercy of randomness, as opposed to the comfort that can be found in predictability.

When you combine this with having an arsenal of tools to manage those stressful times, chronic stress becomes much more manageable.



## Mind-Body Exercise

Yoga, Tai Chi, and Qigong are mind-body exercises, which numerous studies prove to be highly effective in managing chronic stress.

The Mayo Clinic reports that yoga relieves stress because it boosts mood, increases mindfulness, and increases self-compassion. Its calming effects stay with you after any one session is over, and with regular practice, this makes a big difference in how chronic stress affects you.

The 2016 Yoga in America Study (Yoga Journal and Yoga Alliance) found that 56% of those surveyed cited stress management and relief as the as 1 of the top 5 reasons for starting yoga. Furthermore, 49% of subjects cited better health because of practicing yoga. 86% of subjects cited a strong sense of mental clarity as one of the main benefits of regularly practicing yoga.

According to the National Center for Complementary and Alternative Medicine, 2.3 million to 3 million people practice Tai Chi in the United States, worldwide the number is 250 million people, and in China, it is a regular practice in parks across the country. Numerous studies have found Tai Chi to elicit the relaxation response and calm the mind making it an effective stress management tool.

## Try Laughter Yoga

Laughter yoga makes you feel more relaxed and happier: Even when you fake laughing, your brain thinks the laughter is real and understands it must create happiness chemicals because you are acting happy. Therefore, you become happier. Laughter yoga causes tensions to be released, mood to be elevated and stress to dissipate.

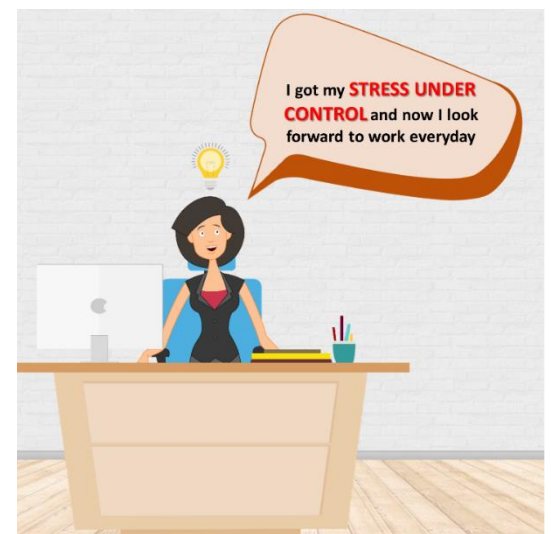
## Positivity

Optimists are far more efficient at dealing with stress, one of the reasons for this is that they see the bright side to everything and this type of positive attitude influences the perception of stressful events reducing their effects.

Positive thoughts help manage stress because they allow you to focus on things that are totally stress-free. This allows you to defocus your attention from stressful stimuli and situations, and improves your mood.

## Positive Emotions

The Heart Math Institute (HMI) has been doing research for more than twenty years and has discovered that positive emotions have an incredibly positive effect on reducing harmful chronic stress.



*“Research has shown that sustained positive emotions lead to a highly efficient and regenerative functional mode associated with increased coherence in heart-rhythm patterns and greater synchronization and harmony among physiological systems,”* HeartMath Institute Director of Research Dr. Rollin McCraty writes in his paper, Heart Rhythm Coherence – An Emerging Area of Biofeedback.

HMI’s many trials have shown participants to have “significant reductions in stress levels and improvements in cognitive functions” by practicing deliberate positive emotions that include compassion, love, and care.

## **Gratitude**

Gratitude is well known to be beneficial for emotional and psychological health. The Mayo Clinic reports that it can also boost your mood, and reduce cortisol levels by 23%.

Researchers at University of California, Davis discovered that subjects who cultivated gratitude on a daily basis had more energy, better moods and improved physical health.

## **Visualization**

Visualization can help you increase productivity or effectiveness and help you reach your goals. Imagine a goal: Picture yourself as having reached the goal already. Imagine in as much detail as you can the positive outcome you desire. Science shows that visualization causes you to act in ways that increases your chances of achieving your anticipated outcome.

## **Manage Your Emotional Response**

It’s impossible to eliminate every stressor in your life, but what you *can* do is develop positive coping strategies to deal with the stress that you can’t get rid of. This should make it easier to identify positive coping strategies. It’s all about managing *your* response to the stress you experience, rather than trying to micromanage the stress that you experience.

## Time Management

A key skill in managing stress is managing time, this means prioritizing your schedule and responsibilities, using your time wisely and making sure there is time for rest and relaxation.

Do you find it difficult to say no to anyone who asks you for help, or asks a favor of you? This type of behavior could be fueling your stress directly because every time you say yes, something else is impacted. It always results in more stress, so you need to learn how to manage your time effectively *and* take “me” time without feeling bad about it.

## Have Fun

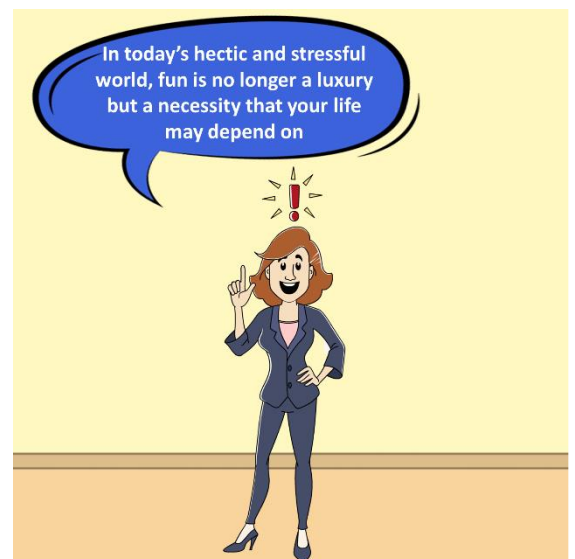
Those who have fallen victim to chronic stress have likely forgotten what it means to have fun. However, in today’s busy and hectic world, fun is no longer a luxury but a necessity that your life may depend on.

Time needs to be made for fun every day, even if it’s just for a few minutes. This is something that is totally under your control, a choice, and the opposite of being a victim of stress and life’s circumstances.

Get away from it all, and do something that relaxes you and makes you feel like a kid again.

## Work-Life Balance

It might not be easy to strike a balance between the work, home, and relaxation parts of your life, but it’s a necessity if you want to effectively manage chronic stress. Your mind needs time to relax, your body needs time to relax, these are facts that remain a constant throughout your life.



## Deep Breathing

Intermittent sessions of deep breathing throughout the day engages the vagus nerve that signals the brain to slow blood pressure, heart rate and diminishes levels of cortisol in the body.

This is really one of the easiest and most convenient ways to manage stress on a daily basis. Take 10 to 15 deep breaths every couple of hours throughout your day, and you will feel the positive effects.

## Release Frustration

The fight of flight response is like being caught in a firestorm, with an incessant onslaught of chaotic and uncontrollable physiological manifestations that cause mental frustration, which can boil over like a pot of water sitting on a very high flame.

Find an activity that helps release this type of frustration. Hitting a boxing bag is a great example of a healthy way to vent, especially as opposed to yelling at others, cussing aloud or becoming violent, all examples of very unhealthy ways to manage stress frustration. The boxing bag is effective at venting pent up emotions, and it's an activity that facilitates power and control over your body and mind.

## Laugh Often

Numerous studies find laughter to reduce stress hormones.



According to HelpGuide.org, *"Laughter relaxes the whole body. A good, hearty laugh relieves physical tension and stress, leaving your muscles relaxed for up to 45 minutes after. Laughter boosts the immune system. Laughter decreases stress hormones and increases immune cells and infection-fighting antibodies, thus improving your resistance to disease.*

*Laughter triggers the release of endorphins, the body's natural feel-good chemicals. Endorphins promote an overall sense of well-being and can even temporarily*

*relieve pain."*

One major study found (Cortisol and Catecholamine Stress Hormone Decrease Is Associated with the Behavior of Perceptual Anticipation of Mirthful Laughter, Berk, et al) that the mere anticipation of laughter reduced levels harmful stress hormones in the body - cortisol was reduced by 39%, epinephrine by 70% and dopac, a dopamine catabolite that produces epinephrine by 38%.

So, you can literally laugh away stress? Yes!

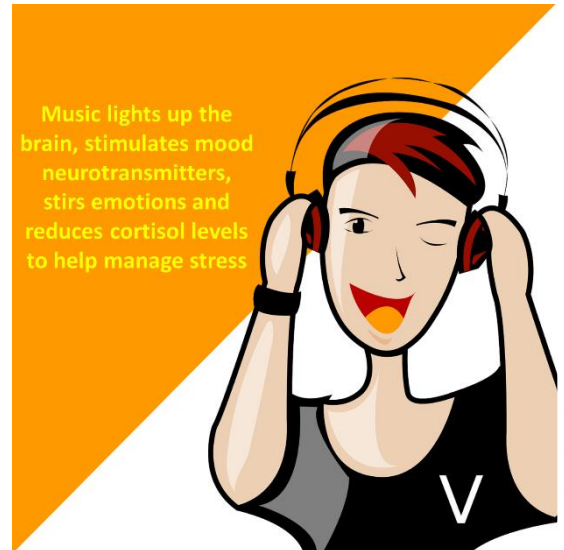
### Easy Ways To Create Laughter Opportunities

- Watch comedy shows, movies or funny videos on YouTube.
- Spend time with fun people, for some humor comes naturally and you find yourself laughing whenever you are in their presence.
- Get a Joke Of The Day calendar for your desk.

## Listen To Music

Music has incredible effects on the brain, it lights up synapses, stimulates mood neurotransmitters, stirs emotions and yes, it can reduce cortisol levels to help manage stress.

According to the University Of Nevada, Reno, *"Music can have a profound effect on both the emotions and the body. Faster music can make you feel more alert and concentrate better. Upbeat music can make you feel more optimistic and positive about life. A slower tempo can quiet your mind and relax your muscles, making you feel soothed while releasing the stress of the day. Music is effective for relaxation and stress management.*



*Research confirms these personal experiences with music. Current findings indicate that music around 60 beats per minute can cause the brain to synchronize with the beat causing alpha brainwaves (frequencies from 8 - 14 hertz or cycles per second). This alpha brainwave is what is present when we are relaxed and conscious."*

Any music that relaxes you works to lower stress. Be it classical, jazz, or pop, go ahead, and turn up the volume. By the way, nature sounds, like rain, bubbling creek, and others are also a great way to use your auditory senses to relive stress.

## Vitamins

Chronic stress means you need key nutrients more than at any other time; ask your doctor if you need a multivitamin.



## Support System And Social Network

Elissa Epel, PhD, who has been researching the connections between chronic stress, telomere shortening, and accelerated aging for over 10 years at the University of California, San Francisco, where she directs the Center for Aging, Metabolism and Emotion replied in an interview to the question of what risk factors of chronic stress are most underappreciated.

*"Our social environment. How rich is your social fabric? How connected are you to the people in your social circle, starting with your family? A strong social network is probably the biggest buffer*

**Something as simple as talking over your stressful day with a friend offers respite from chronic stress**



*from toxic stress, next to exercise. Yet we often lack quality long-term social connections. There is frequent loneliness among high-risk groups like the elderly, who may be more isolated. For those of low income, many are working long and inflexible hours. Part of the problem is that there are limited minutes in the day, and if you are overworking, you are undercaring for your social network and for yourself."*

Your social network provides support through the most stressful times; this includes friends, relatives, and even co-workers. Something as simple as talking over your stressful day with a friend, going out to the movies with your family, or dancing with friends bolsters your personal relationships and offers respite when you're under stress.

## Stay The Course

If you have previously turned to unhealthy coping methods don't lose hope if you have a slip up. It isn't the end of the world if you pick up a cigarette or have a drink, but don't allow them to creep back in as a habit. Instead, focus on how you can regain control.

## Get Help

**Most important,** if you are having trouble getting your stress under control, see your doctor or a mental health professional, with help you can manage your stress.

# Stress And Body Aches: What You Can Do

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Stress is known to be a major contributing factor in the experience of bodily aches and pains. The fear flight fight response, our body's reaction to perceived or actual threat, increases the levels of cortisol in the body.

If stress is chronic, then cortisol is constantly being produced, and over the long-term increases our risk of inflammatory conditions. Inflammation causes sore muscles and aches and pains in the body.

Tight muscles contracted during the stress response for fleeing from or fighting the "enemy," if not released and relaxed, result in muscular aches and pains also. Headaches, migraines, and back, shoulder and neck pain are some of the most common aches and pains associated with chronic stress.

Heartburn, stomach pain, and bowel pain associated with irritable bowel syndrome or constipation are stress related. Chest pain including angina and heart attack have been shown to be stress-related.

**There are many ways to combat the discomfort of stress-related physical aches and pains. Here are some strategies that have been shown to be effective:**

- **Stretch.** Stretching can help release some of the muscular tension you may be experiencing as pain. It helps keep you limber and flexible and discharges some of the bodily tension that builds up due to stress. A daily routine is a good idea. Spending just a few minutes to stretch in the morning and in the evening, and during your breaks throughout the day, can be very helpful in mitigating the aches and pains associated with high stress levels.
- **Exercise.** Exercise is a proven way to discharge some of the anxious energy associated with stress. If you stretch before and after you exercise, you can help reduce pain.
- **Breathe.** Learn to breathe deeply and slowly into your belly. This allows the anxious thoughts associated with stress to calm down, as the relaxation response takes over and

the stress response shuts down. When you are stressed and anxious you will tend to breathe into the upper chest, in a fast and shallow pattern. Deep breathing is a signal to your body that you are safe and it is okay to shut off the stress response. When the stress response shuts off, your body relaxes and starts functioning normally. Cortisol levels reduce and your aches and pains will correspondingly reduce.

- **Do Yoga.** Yoga not only strengthens, flexes and relaxes your muscles, but it trains your mind to be still. This is a great way to reduce anxiety, and makes a perfect preparation for meditation.
- **Meditate.** Meditation has been shown in studies to increase the amount of the hormone GABA. GABA is a neurotransmitter, which acts like a natural tranquillizer. Meditation helps you relax and feel happier. It trains you to let go.
- **Let Go.** Letting go is the perfect antidote to stress. When you can let go of the reasons behind your stress, you can relax and release. When the mind relaxes and releases, the body automatically follows suit. In this way, your aches and pains diminish.
- **Be Mindful.** Being mindful of the pain has been shown in studies to reduce the intensity of pain. Become aware of the pain. Acknowledge the existence of your pain. Accept rather than resist the pain. Breathe into it. Be with the pain and allow it to be. Your pain should lessen and may completely disappear.

With the tools outlined above, you should be well equipped to start to reduce the amount of aches and pains in your body, as you train your mind and body to switch off the stress response and turn on the relaxation response.

## Final Thoughts

Chronic stress is not a direct killer, but indirectly it certainly places you at much higher risks of serious and potentially deadly health problems.

It is critical to get chronic stress under control and reduce your exposure to it as much as possible.

Take action today! You can get your stress under control and improve the health of your mind, body, and spirit and your quality of life.

