

Stress Hormones and Women's Health



*A Detailed Guide To Stress Hormones And
17 Ways They Impact A Woman's Health*

Key Ways To Get Stress Under Control

Table of Contents

An In Depth Look At Stress	1
What Is Stress?	1
Common Causes Of Stress.....	2
Signs Of Stress	3
The Effect Of Stress On Health	4
Three Main Stress Hormones	5
Cortisol.....	5
Adrenaline	6
Norepinephrine	6
Key Considerations	6
The Stress Response: Women Versus Men	8
Stress Hormones And Women’s Health.....	10
Extreme Fatigue	10
The Cortisol Equation	10
Reduced Libido.....	11
Compromised Immunity.....	11
The Heart And Respiration	11
Muscle Pain And Body Aches	12

Digestive Disorders	12
Dysfunctional Eating	13
Weight Gain And Belly Fat.....	13
Emotional Turmoil.....	14
Sleep Issues	14
Memory Problems	14
Acne Breakouts	15
Changes In The Menstrual Cycle	15
Higher Risk For Cancer.....	15
Problems With Concentration.....	15
12 Stress Reduction Techniques	16
Aerobic Exercise	16
MBSR.....	16
Digestive Relief.....	17
Mind-Body Exercise	17
Deep Breathing	18
Have Fun.....	19
Laughter.....	19
Music	19

Social Connectivity	20
Healthy Diet.....	20
Vitamins.....	20
Therapy.....	21
Final Thoughts	22

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An In Depth Look At Stress

What Is Stress?

Stress occurs as a result of some challenge, or tension. Throughout the evolution of man, stress served to ensure everyday survival of early man being threatened by various elements, such as wild animals and the elements.

Today, we typically do not encounter wild animals in our everyday lives, but consider when you are crossing the street and there is a car that may run you over, the stress response triggers the “fight or flight” response in the sympathetic nervous system that puts you on high alert allowing you to avoid being hit by that car.



Low levels of occasional stress are normal and serve our mental and physical wellbeing; it is when stress becomes severe and chronic and there is prolonged elevation in stress hormones that adverse effects are seen in our physical, mental, and emotional states.

Common Causes Of Stress

Stress can occur at any time throughout daily life. It can be a short-term or a long-term event. From missing the bus to work to losing a loved one, the range of the stress condition is wide and varied.

- Everyday hustle and bustle
- Greif and loss
- Poor self-esteem and its effects on one's life and emotional state
- Abuse
- Being the victim of a crime
- Work related pressures
- Home related pressures
- Having a new baby
- Dealing with traffic on commutes
- Financial difficulties
- Doing more than your mind or body can handle
- Lack of self-care and relaxation
- Divorce
- Loss of a job
- Various illness, whether chronic, terminal or acute
- Lack of sleep
- Relationships problems
- Parenting issues or problems with children
- Pregnancy
- Retirement
- And many more



Signs Of Stress

It is important to realize that not everyone reacts to stress in the same way, not even to the exact same stressful situation. Take for example work pressures, some people thrive under pressure, deadlines and chaos, and those people will certainly not experience the impact stress can have on those who fall apart under those circumstances. Stress responses can really depend on perception, and one's personal coping abilities.

These symptoms of stress are 'typical,' but may not be experienced by everyone or even at the same level.

- Loss of appetite or eating too much
- Loss of control
- Headaches
- Insomnia
- Exhaustion and lack of energy
- Short temper, wanting to scream out loud
- Feeling as if you will blow up
- Apathy towards having to do things
- Feeling as if you have had enough
- Memory problems
- Lack of focus and concentration
- Overwhelm and anxiety
- Depression
- Poor self-esteem
- Stomach issues
- Body aches



The Effect Of Stress On Health

One of the internal bodily reactions to stress is the release of stress hormones, which raise heart rate, pulse, blood pressure and stimulate the increase of blood sugar levels. According to WebMD, and Harvard Medical School, 75 - 90% of all visits to the doctor, are for conditions related to stress.

Chronic stress is implicated in but not limited to the following conditions

- Headaches
- High blood pressure
- Insomnia
- Heart problems and heart disease
- Obesity
- Decreased libido
- Menstrual issues
- Acne and other skin problems
- Type 2 diabetes
- Acne and other skin conditions
- Anxiety
- Depression
- Asthma
- Arthritis

Three Main Stress Hormones

There are three main stress hormones of importance in the consideration of women's health.

Cortisol

- Cortisol is a steroid hormone that is produced by the adrenal glands
- Cortisol is released within seconds of the introduction of a stress stimuli

The Cortisol Production Process

1. The amygdala in the brain recognizes a threat
2. It sends a message to the hypothalamus, which then releases CRH
3. CRH sends a signal to the pituitary gland, which then releases (ACTH)
4. ACTH sends a signal to the adrenal glands to produce cortisol



In the short-term, this response is critical in making you alert and possibly saving your life.

In the long-term, however the constant and continuous release of cortisol to chronically elevated levels can suppress immunity, and lead to a variety of serious medical and mental health problems.

Adrenaline

Adrenaline is a fight or flight hormone that is produced by the adrenal glands in response to a what the brain interprets to be stress or a stressful situation.

Adrenaline causes the immediate reactions seen during stress:

- Surge of energy
- Pounding of the heart
- Strict focus of attention on the source of stress
- Tensing of the muscles
- Rapid breathing
- Sweating

Norepinephrine

Norepinephrine is also released by the adrenal glands and has similar effects to adrenaline.

- The main role of norepinephrine, just as adrenaline is to create a state of arousal, to make you more aware, more focused and therefore more responsive during a stressful situation.
- This hormone also shifts blood flow away from unimportant parts of the body, like the skin to areas critical for flight, such as the muscles.
- Due to their similarities, norepinephrine is viewed as a sort of backup system to adrenaline; as a way for the body to be sure and protect itself from any impending doom, should the adrenal glands be unable to release adrenaline for any reason.

Key Considerations

- Depending on the actual severity of impact of the stressor, and how your mind and body actually handle stress, it may take from as little as half an hour to as long as two days for the body to return to a normal resting state following the “fight or flight” response.

- The hormone estrogen along with the neurotransmitters serotonin and dopamine also play their own roles in the stress related fight or flight response, though on a lesser scale than cortisol, adrenaline, and norepinephrine do.

The Stress Response: Women Versus Men

In general, women suffer more significant effects from stress than men do.

The main reason for the differences is that women's reactions to stress are engrained in their body chemistry, for example, androgen levels are higher in men, and estrogen levels higher in women along with key differences in the brain.

The brains of men and women are wired differently and so they tend to not react to stressful situations in the same way, namely that instead of the usual 'fight or flight' reaction, they tend to negotiate.

Oxytocin, the natural anti-stress hormone oxytocin, is enhanced by estrogen and reduced by testosterone, which aids women more than men. However, the tricky part is that women require more oxytocin than men do to enjoy a healthy level of emotional health.



Since stress is the body's natural instinct to protect itself, prolonged stress in women has very real negative effects on their health. One study of 58 women showed an increase in oxidative stress and cellular aging in those suffering from high levels of stress.

It is really not surprising that stress is often cited as one of the major problems in many women's lives. Many studies show consistent results in women scoring higher than men do on stress tests. A 2006 survey conducted by the American Psychological Association found that 51% of women reported stress to have an effect on their lives, versus 43% of men.

Another study published in the journal *Personality and Individual Differences* reported that out of 2,816 people tested, women scored much higher than men did on chronic stress tests. Interestingly, the actual 'life events' noted were not different between these male and female

subjects, but women rated these events as much more negative and uncontrollable than men did.

The same APA survey concluded that women's stress tends to manifest itself more often in physical ways as compared to men, with medical conditions that include obesity, depression, hypertension, and anxiety.

One key distinction of interest is that while women seek help for their stress, men are more likely to die from stress related causes, such as cancer, heart disease, and autoimmune disease.

Depression is another big distinction when comparing stress in men women, as women are twice as likely to be diagnosed with depression as men, and often that depression traces back to stress as a key root cause.

The National Institute of Mental Health advises that a big part of the higher stress numbers in women is they tend to play multiple roles at work and at home, they are often single mothers, women are more likely to live in poverty than men are and they are also at risk for domestic violence.

In addition, women attribute children as a much more significant source of stress than men do. In the modern day, the stress equation for women has become further compounded by the commonly seen working mother, who has to juggle a demanding career, kids, house, spouse, and everything else.

Stress Hormones And Women's Health

According to the National Women's Health Information Center, stress effects women's health in wide and varied ways.

Extreme Fatigue

Chronic anxiety and worry triggers the release of cortisol, but the opposite can eventually occur as frequent stress makes the brain limit the release of cortisol making you feel exhausted, drained, and unable to function properly in your every day life.

The Cortisol Equation

Cortisol has been linked to memory issues in older adults, and people with excessively high nighttime cortisol levels had a reduced brain size, and performed poorly on cognitive tests.

According to WebMD, the brain study showed people who had higher levels of cortisol at evening time, had smaller brain volumes and decreased brain functioning, including the ability to focus, plan and pay attention versus those who had higher levels of cortisol in the mornings whose brain functioning was not as heavily affected.

Psychology Today refers to cortisol as "public health enemy number one." They report that research shows that elevated cortisol levels lead to poor immunity, lower bone density, weight gain, high blood pressure, high cholesterol, heart disease and interferes with learning and memory, just to name a few.



If the above is not bad enough, chronic elevated cortisol levels increase your risks for various types of mental health disorders, such as anxiety and depression, and can reduce life expectancy.

Reduced Libido

Chronic stress has a negative effect on estrogen production, which can reduce your sexual drive.

Compromised Immunity

Cortisol is known to compromise immunity. It can inhibit histamine secretion and the inflammatory response that occurs as a reaction to intruders within the body. This makes those who are under chronic stress much more vulnerable to the flu, colds, and other infections and disease. Stress also makes it harder to recover from an illness and it makes the recovery time longer.



The Heart And Respiration

Stress hormones have a direct effect on your respiration and cardiovascular systems because these processes allow the body to gain strength and energy in order to take proper action to avert the cause of stress or impending danger. The stress response results in faster breathing and the heart pumps much faster than normal. Additionally the release of stress hormones in the body causes blood vessels to constrict, which raises blood pressure.

These stress responses are not a major issue when they occur on occasion; it is when they become commonplace that problems arise. This is because the heart has to work much harder and suffers undue hardship, which can lead to hypertension, and other cardiovascular problems, putting you at higher risk for heart attack and heart disease, which is the #1 killer of US women.

The above is more problematic for the post-menopausal women, as estrogen helps protect from stress-related heart disease, but is no longer produced following menopause.

Muscle Pain And Body Aches

One of the internal bodily responses to stress is the tightening up and release of muscles. Once the stress has passed, the muscles relax once again and return to normal. However, constant, long term and ongoing stress means the muscles never get the chance to relax.

Having chronically tight muscles leads to body aches, back pain, headaches, shoulder and neck pain. Surely, you can remember times of prolonged stress in your own life when you just felt in pain and achy all over, this is the reason.

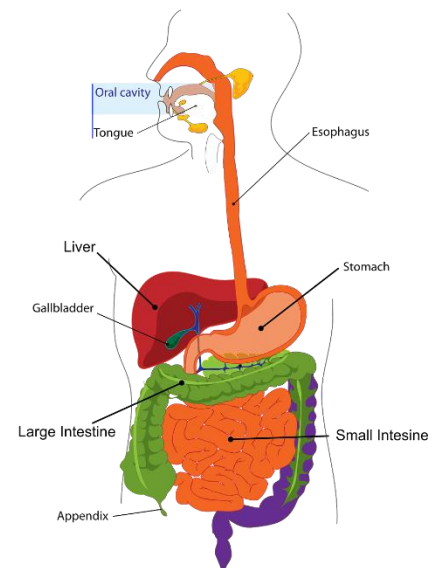
This can lead to a diminished quality of life, not wanting to exercise and possibly turning to medication to control the pain, leading to an unhealthy cycle that's sourced back to chronic stress.

Digestive Disorders

Those knots twisting in your stomach during times of stress can turn into disaster when stress is not controlled.

Chronic stress has a direct effect on hormones released by the thyroid glands that regulate metabolism and serve various other functions within the body.

When these hormones are not properly regulated, it can lead to constipation, weight problems, bloating, cramps, heartburn, and irritable bowel syndrome (IBS).



Dysfunctional Eating

Chronic stress is one of the main culprits in dysfunctional eating, including binge eating, and emotional eating that can lead to serious mental, emotional, and physical consequences. Many people reach for junk food in times of stress, and when stress is constant and not managed successfully, these unhealthy eating habits lead to a variety of complications, not the least of which is obesity.

Women suffer from eating disorders, such as bulimia and anorexia at a 10 times higher rate than men do, and eating disorders are often associated stress, and low levels of serotonin (depression).

Weight Gain And Belly Fat

A University of Kentucky study reported that those trying to lose weight were more successful when they practiced stress-management techniques, as compared to those



who did not. There are many reasons for this, one of the most important is the fact that reducing stress helps avoid stress-related binge eating that typically means binging on unhealthy junk food.

Other studies, such as the one published in the journal Psychoneuroendocrinology reported that chronic stress in women resulted in differences in fat and sugar metabolism, as compared to those who did not live with anxiety or chronic stress.

This is supported by the fact that the body prepares for disasters when the adrenal glands become overworked and they do so by storing calories and fat. The result? The dreaded belly fat.

Belly fat, which is visceral fat, is the most dangerous type of fat, sitting deep within the body and surrounding vital organs. It is linked to diabetes, heart disease, some cancers, and stress.

At the center of the belly, fat problem is cortisol. Chronic stress results in both insulin and cortisol remaining at elevated levels in the blood, and extra glucose being stored as fat in the abdomen and chronic stress leads to your body actually resisting weight loss.

As the body goes into survival mode, as a result of ongoing stress, it begins to hoard the calories, and fat you eat along with all the fat you have on your body. However, the body's survival response goes further than that, by transferring fat from the hips and butt over to the belly area, which has more cortisol receptors than any other area of the body.

In a nutshell, the body welcomes and loves fat when it is in a state of chronic stress.

Emotional Turmoil

Prolonged and ongoing stress can lead to emotional havoc, from feeling sad to irritation and general unhappiness to full-blown major depressive disorder and everything in between.

Women suffer from depression at a twice higher rate than men do. In fact, 12 million US women experience clinical depression each year and 1 in 8 women develop clinical depression in their lifetimes.

Sleep Issues

Stress can cause a variety of sleep issues, from the occasional restless night to full-blown insomnia. This is particularly troubling as quality sleep is key in managing stress.

Memory Problems

WebMD reports that traumatic events and their related stress can have serious implications on the hippocampus, the part of the brain that stores memories. Immense stress can cause the hippocampus to shrink, affecting your ability to remember things, from short time spans to days of time. Traumatic stress can also make it more difficult to create new memories.

Acne Breakouts

Stress increases levels of sex hormones called androgens in the body, which cause acne breakouts.

Skin rashes can occur as a result of anxiety that wreaks havoc on immunity, causing conditions like staph infections.



Changes In The Menstrual Cycle

“Your stress may vary, but if you have stress with your work, your kids, your neighbors, and marriage all at once, that’s a big deal,” said Dr. Lori Heim, MD of Scotland Memorial Hospital in Laurinburg, N.C. who reports that women under chronic stress can experience severe menstrual irregularities, including very heavy or painful periods, missed periods, and even hair loss.

Higher Risk For Cancer

A study mentioned on Everyday Health found a 62% increase in risk factors for breast and ovarian cancer in women who endured a highly stressful event, such as grief and loss, or divorce.

Problems With Concentration

Unmanaged stress causes problems with focus and concentration, and this can lead to problems at work, home, or school, further compounding the stress equation.

In general, living with chronic stress can greatly diminish your quality of life; it can interfere with the day-to-day enjoyment of life, leading to misery and apprehension. It is important to take the time and make the effort to manage your stress for the long-term.

12 Stress Reduction Techniques

A research study presented at a Western Psychological Association meeting discussed findings that showed 25% of happiness depends on how well people handle stress. The study further concluded that **the most critical element of effective stress management was planning and having a sound strategy and tools in place.**

Aerobic Exercise

Aerobic exercise, which includes running, walking, swimming, cycling, fitness classes, elliptical and other cardio machines help simulate the “fight” response to burnout cortisol levels.

All it takes is **twenty to thirty minutes 3 to 5 times per week** to significantly reduce stress levels and manage stress.



You can also use everyday opportunities to increase your aerobic activity, such as taking the stairs instead of elevators, parking further away from doors so you can take a longer walk, and going on walks after dinner with dogs and/or kids.

MBSR

Mindfulness Based Stress Reduction is a program created Jon Kabat-Zinn, PhD. This 8-week program teaches mindfulness practices that include body awareness, sitting meditation, body awareness, and mindful movement. It has been highly effective in helping people to manage stress.

Digestive Relief

When you're feeling digestive problems caused by stress, exercise, eating more fiber, increasing fluid intake can all help. If your diet lacks fiber, consider a fiber supplement.

Mind-Body Exercise

Yoga, Tai Chi, Qigong, and meditation are all forms of mind-body exercise that are incredibly effective at managing stress. Numerous studies have proven this fact.

Mindfulness and Loving Kindness Meditation are two great forms of meditation to keep stress at bay and just 10 to 15 minutes of mindfulness meditation daily can make a huge difference in stress levels.

Meditation calms you; it's as simple as that. It is the exact opposite of the 'fight or flight' response that occurs during stress, including the decreasing of heart rate, pulse and blood pressure and a general calming and quieting of the mind.

In 2012, researchers from UCLA (Lavretsky , et al) published a study showing chantic yogic meditation for just 12 minutes each day for 8 weeks to greatly reduce stress levels in 48 care takers of patients suffering from Alzheimer's and dementia, some of the most stressed-out people in the world.



The study found that this occurs because chantic yoga leads to a reduction in the biological mechanisms that prompt and increase the immune system's inflammation response within the body, and this type of inflammation, when experienced at a chronic level causes various health complications.

The 2016 Yoga in America Study Conducted by Yoga Journal and Yoga Alliance Reveals Growth and Benefits of the Practice reported that 56% of survey participants noted stress relief as 1 of the top 5 reasons for beginning the practice of yoga and 49% cited improved overall health.

The study also reported that 86% of those who practice yoga regularly self-report having a strong sense of mental clarity.

"Yoga remains a natural and readily available approach to maintaining wellness and treating mental health issues," says Sat Bir Khalsa, PhD, a neuroscientist and professor of medicine at Harvard Medical School at Brigham and Women's Hospital in Boston who studies yoga's effects on depression and insomnia.

Dr. Khalsa maintains that yoga targets unmanaged stress, the most significant culprit in chronic conditions, such as obesity, depression, anxiety, and insomnia. Yoga reduces the stress response by slowing activities of the sympathetic nervous system, and reducing levels of stress hormones, including the most egregious cortisol.

Yoga improves resilience, the mind-body connection, and awareness helping practitioners to adjust behaviors based on their own bodily needs and experiences.



Deep Breathing

A few seconds of deep breathing daily engages the vagus nerve that signals the nervous system to slow heart rate and blood pressure and decrease cortisol levels.

Deep breathing is one of the simplest and easiest way to fight the effects of stress and stress hormones on a daily basis.

Take a time out several times each day to take 10 deep breaths. Do it more often during intense times of stress, your mind and body will thank you.

Have Fun

There are no excuses for not finding time for fun and relaxation! Your life may depend on it. Whether you enjoy bowling, a movie, or a weekend at the beach, it is important to make time to relax and have fun every single day. Your body and mind need a break from stress, and the everyday hustle and bustle.

Even if you can only fit in 15 minutes a day, it is important to “get away from it all,” and do something fun and relaxing.



All those clichés...kick your shoes off, stop and smell the roses, just let go...may be the best advice for women to get their stress under control.

Laughter

There's nothing like a good laugh to keep stress at bay. Studying laughter for the past 30 years, Dr. William Fry reports that laughter is linked to a reduction in stress hormones. Studies showing the benefits of laughter for reducing stress are numerous.



Music

Listening to music is another great way to reduce cortisol levels and reduce stress. Music directly engages the brain and causes an incredible reaction and stimulation of neurotransmitters that can actually alter mood.

According to the University of Nevada, Stanford University researches noted, "listening to music seems to be able to change brain functioning to the same extent as medication." The researchers further note music to be an easily accessible stress reduction tool.

The next time you feel like tearing your hair out, hit the play button instead! There are only two caveats; it must be music you like and music that relaxes you.

Social Connectivity

Two studies published by the journal Science report that both social isolation and aggression result in higher levels of cortisol in mice that result in a variety of mental health issues.



Get social! Make time for friends and family, spend time connecting with humans, it is a great diversion from stress, and it is an integral part of our humanity, to deny it simply goes against nature.

Healthy Diet

Cortisol is released within the body when blood sugar levels fall, so it is important to never starve yourself or skip meals. In fact, it is best to eat very small meals every three hours, as this not only keeps your blood sugars stable it also helps you lose weight.



Our bodies need nourishment to function and excel. That nourishment needs to be real whole food, and not processed junk. In fact, it should be noted that high sugar junk food only raises blood sugar levels that increases production of cortisol. Design your plates with lean proteins, vegetables, and whole grains.

Vitamins

Ask your doctor about taking a multivitamin. When you are under stress, your body needs all the nutrients it needs even more, so it is important to close gaps in nutrient deficiencies as much as possible.

Therapy

Talk therapy with a qualified license mental health professional can really do wonders in helping you work through emotional issues that can be a significant cause of stress.

The truth is that many people suffer unnecessarily as a result of unresolved trauma, and emotional pain, but you can take back your power and live the life you want, it just takes a little work.

Psychotherapy, EFT and other mental health modalities can really help! They are not only useful for dealing with emotional issues, these therapies can actually help you identify and deal with all the stressors in your life.

There is a solution for everything, go and find yours!



Final Thoughts

Stress is a serious problem and stress hormones can have a significant impact on a woman's mental and physical health.

Don't let stress ruin your life or your health! Take the time to devise a deliberate plan that will help you manage and beat stress.

If your stress is out of control or you are having a difficult time getting it under control speak with your doctor, or see a wellness or life coach, you are not alone and you should not add more stress to your life that comes from not being able to deal with stress.



Self-care is at the core of stress management, and putting yourself first is at the core of self-care.

Stay well and take care!