

Feedback



Source: Shutterstock

10 Conditions Linked to Stress

Last updated: 19 Mar 2021 | 5 min reading time



Dr Lee Kim En
Neurologist



Dr Soh Wah Ek Abel
Endocrinologist



Dr Tay Leslie
Cardiologist



Dr Thia Teck Joo Kelvin
Gastroenterologist

Ok

Our website uses cookies to help us improve our services to you. By continuing to use our website you are agreeing to our use of cookies. [You can view our cookie policy here.](#)

Stress comes in many forms. It can be acute (short term) or chronic (long term). It can be triggered by an everyday event (eg. a big presentation at work), a traumatic life event (eg. death in the family), or even by nothing obvious at all. And it won't always be a conscious thing – in fact, you might be stressed and not even realise it.

Some people dismiss the experience of stress and pretend everything is OK. But if it starts to get overwhelming and you see signs of a serious health problem, you should always seek medical advice.

Here are 5 common health problems related to stress.

Heart disease



When you're in a seriously stressful situation, your heart rate speeds up, you breathe faster, your muscles tense and your hands get sweaty. This is your body's natural response to stress – fight or flight – and it's caused by the release of hormones, which includes cortisol and adrenaline, in your body.

But what about chronic stress? What effect does that have on your heart?

Chronic stress and heart disease

While a connection has yet to be scientifically proven, initial studies suggest that chronic stress and an unhealthy level of stress hormones may contribute to heart disease.

Inflammation of the heart muscle

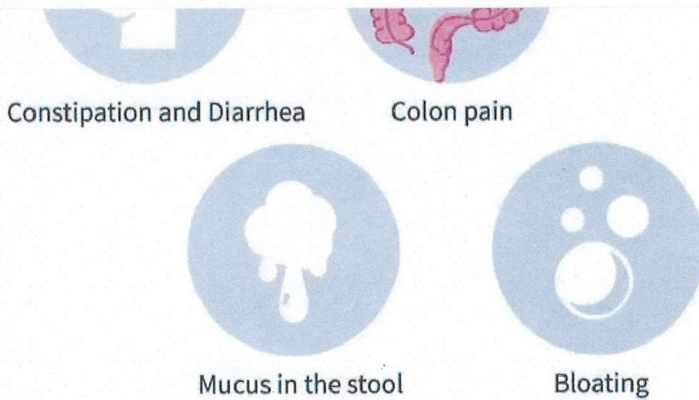
Persistent stress may contribute to inflammation in the circulatory system, particularly in coronary arteries. Inflammation in the arteries is a key culprit behind the build-up and rupture of plaque in artery walls and subsequent heart attacks.

Blood pressure spike

When you are stressed, your body produces an influx of hormones that cause your heart to beat faster and your blood vessels to narrow. This results in a temporary spike in your blood pressure. When this occurs frequently, damage to your blood vessels, heart and kidneys result.

Other risk factors for heart disease

Stress can make you feel like wanting to overeat, smoke or skip out on exercise – all of which are risk factors for heart disease.



Feedback

IBS is a common chronic disorder that affects the large intestine, causing cramping, pain, bloating, and diarrhoea or constipation. Re-ups can be caused by several different factors, and many people with the condition find that stress is one of them.

In fact, almost 60% of people with IBS meet the criteria for a psychiatric disorder such as anxiety or depression. IBS sufferers frequently experience mood disorders such as anxiety or depression. Some of the mood disorders may also arise because of poorly controlled IBS symptoms.

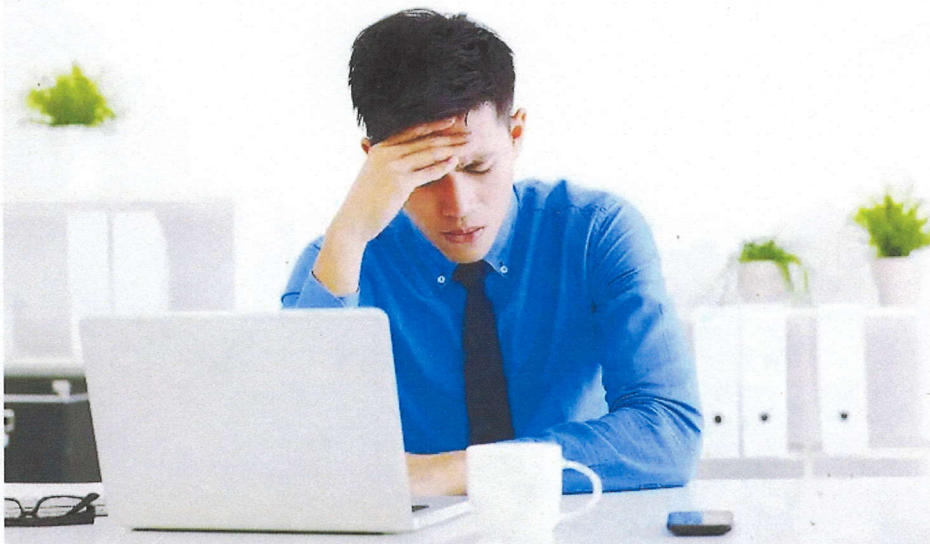
Stress and irritable bowel syndrome (IBS)

So, what's the link? Well, stress has been linked to increased movement and sensitivity in the intestines. As the pain pathways in our central nervous systems are linked to our gut processes, external stressors can trigger unpleasant bowel symptoms. There is also evidence to show that stress and mood disorders can alter our gut microbiome and affect our immune system, both of which are important for proper gut function.

How to relieve stress and manage IBS symptoms

If you have IBS, finding ways to relieve stress may help you to manage your condition and improve your quality of life. Getting a good sleep and having a work-life balance is a good start to managing IBS symptoms.

Tension headaches



Do you have a dull pain in your head or neck, like a clamp around your skull? This is a classic sign of a tension headache. An

Ok

Our website uses cookies to help us improve our services to you. By continuing to use our website you are agreeing to our use of cookies. [You can view our cookie policy here.](#)



Feedback

When you feel stressed, your body wants to make sure you have enough energy to deal with the cause of stress. So, it releases more glucagon and adrenaline, as well as glucose, from your liver. Insulin levels fall, and growth hormones and cortisol levels rise, which makes your body less sensitive to the insulin you do have.

Stress and high blood sugar levels

This means more glucose is available in your blood stream, and you have higher blood sugar levels.

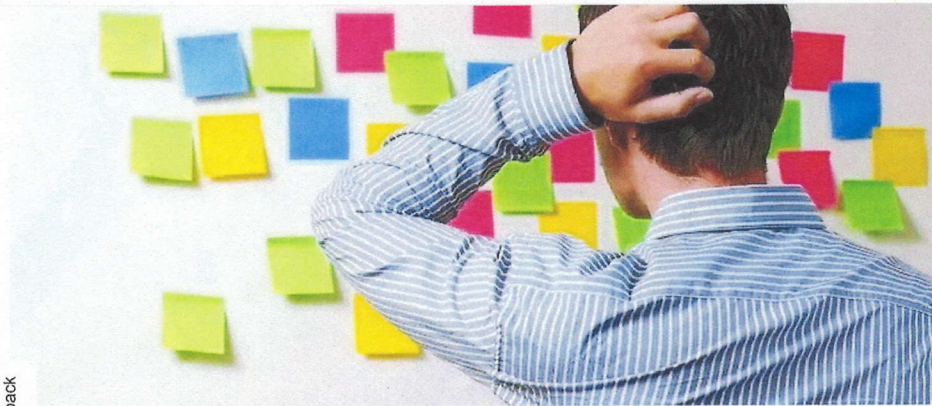
Consistently high blood sugar levels can wreak havoc on your health, with symptoms including:

- Increased thirst and urination
- Blurred vision
- Light-headedness
- Flushed skin
- Restlessness

This means more glucose is available in your blood stream, and you have higher blood sugar levels. Consistently high blood sugar levels can wreak havoc on your health, with symptoms including increased thirst and urination, blurred vision, light-headedness, flushed skin and restlessness.

Some studies go so far as to suggest extreme stress can increase your risk of developing [diabetes](#). One found that men with prolonged stress have a 45% higher risk of developing the condition.

Alzheimer's disease



Feedback

ctors are yet to prove the connection between stress and Alzheimer's disease, but stress is thought to cause inflammation of the brain, making it more susceptible to health issues in general.

Stress and depression

Stress is also associated with depression, which is known to increase the risk of developing Alzheimer's.

In addition, one study found that stressful life experiences (eg. being fired, declaring bankruptcy, death of a parent or financial loss) can each age the brain by around 1.5 years, with age obviously being a contributing factor in the onset of the condition.

Common cold

Stress can alter the immune system and result in changes to the ability of the immune system to fight off infections. Changes to the immune system may also result in the release of compounds that are related to inflammation. These changes increase the risk of catching a cold.

People who are under severe, long-term stress (lasting more than a month) are more likely to catch a cold when exposed to a virus than people under milder stress.

Obesity



Ok

Our website uses cookies to help us improve our services to you. By continuing to use our website you are agreeing to our use of cookies. [You can view our cookie policy here.](#)

with difficult life situations, chronic stress can wear you down and overwhelm you. This is again due to erratic levels of hormones, including cortisol, serotonin and dopamine, which leads to a persistent stress response that can result in depression.

Neglecting healthy lifestyle practices when you are stressed, such as drinking more than normal and skipping exercise, can also increase the risk of major depression.

Sleep dysfunction



Stress may cause several types of sleep disorders:

Insomnia

Insomnia is difficulty with falling asleep and staying asleep or with overall sleep quality. This occurs despite adequate time allotted for sleep and a comfortable place to sleep. Persistent stressors, such as problems at work, family difficulties, death of a loved one and major illness can contribute to chronic insomnia.

Short-term stressors can also bring short-term insomnia symptoms. These symptoms would usually be resolved once the stressful situation ends. However, some people may fall into a vicious cycle of sleep loss and daytime anxiety about sleep that snowballs into chronic insomnia.

Sleep apnoea

Sleep apnoea is a disorder where there is a recurring collapse of the upper airway during sleep. This causes heavy snoring and choking episodes along with excessive daytime sleepiness and other daytime impairments. Chronic stress can cause conditions such as hypertension, heart disease, obesity and diabetes, which are in turn risk factors for sleep apnoea.

Neck and shoulder pain

When a person is stressed, the body prepares itself to give a stress response. This response can cause physical changes in the body. Stress affects the neck and shoulders in several ways:

- Enlarges the blood vessels in the large muscle groups to allow faster oxygen delivery
- Causes you to clench and tighten muscle in the neck, jaw and shoulders
- Increases tension in the muscles that run across the back of your back

Our website uses cookies to help us improve our services to you. By continuing to use our website you are agreeing to our use of cookies. [You can view our cookie policy here.](#)

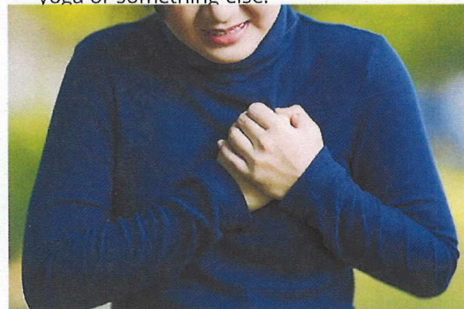
Ok



Feedback

- **Do something fun:** Take a day to yourself to do an activity you enjoy, whether it's reading, going for a walk or getting a massage.
- **Meditate:** Sit or lie down, relax, breathe naturally and focus on what you are doing and how your body moves as you breathe.
- **Write:** Put down on paper what's bothering you and how it makes you feel.

Exercise: Exercising lowers stress hormones. Try to find something you enjoy, whether that's dancing, running, swimming, yoga or something else. [View all](#)



6 Signs of Heart Attacks in Women

Heart attack symptoms in women are often 'silent' but the consequences of not noticing them can be life threatening. Besides frequent heart screenings, knowing the signs can help prevent heart attacks.

Conditions



Sudden Cardiac Death in Modern Day Athletes

This is a phenomenon that has been rearing its head much more in recent years. Athlete or not, it is important to understand its possible causes.

Conditions



How Can I Stop a Heart Attack?

Heart attacks are the 2nd cause of death after cancer but help is available for if diagnosed and treated early.

Conditions



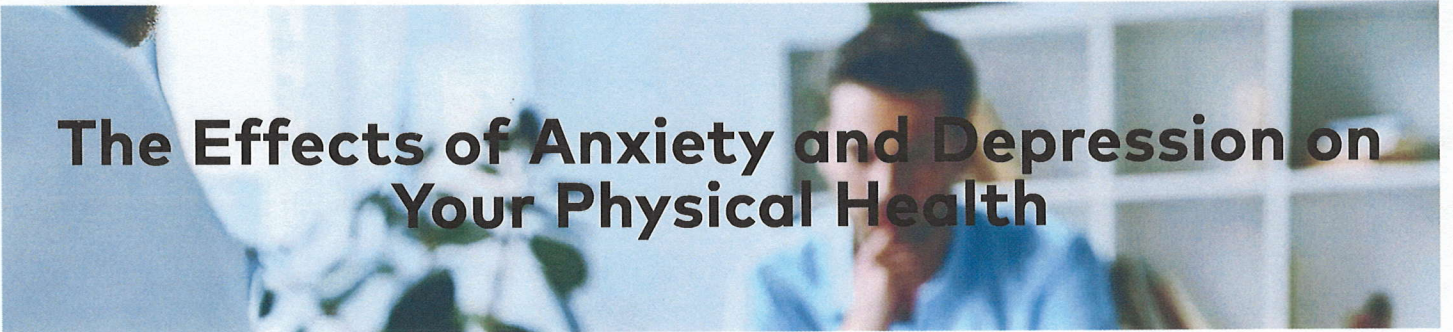
Mount Elizabeth Hospitals are part of [IHH Healthcare](#), one of the world's largest healthcare groups.

Our website uses cookies to help us improve our services to you. By continuing to use our website you are agreeing to our use of cookies. [You can view our cookie policy here.](#)

Ok



[SCHEDULE AN APPOINTMENT →](#)



The Effects of Anxiety and Depression on Your Physical Health



Hi there, have a question? Text us here.

Effects of Anxiety and Depression on Your Physical Health

Text us

Message us

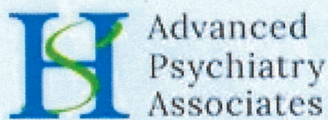
Almost everyone experiences some degree of anxiety or depression at various points in their lives.

life. In the appropriate circumstances, anxiety is actually a typical “fight or flight” response that helps you navigate a precarious or stressful situation with extra precaution or care. It’s also expected to feel lonely, sad or disinterested when faced with difficult, life-changing events.

But when mental health conditions like anxiety interferes with daily life and feelings of overwhelming sadness or emptiness persist, it’s no longer something that can be chalked up to life circumstances — it’s a mental health disorder.

Anxiety disorders are the **most common form of mental illness** in the United States, **affecting 40 million Americans** or almost 20% of the adult population. Anxiety and depression often go hand-in-hand — nearly half of adults diagnosed with an anxiety disorder also have **some type of depressive disorder**.

Living with untreated depression and anxiety can cause significant issues for your mental and physical health. Researchers have discovered how depression and anxiety affect the body, either by making existing health problems worse or causing severe problems to develop.



Anxiety and Physical Health Problems

When anxiety is the norm rather than the exception, its physical effects can become intensified, leading to physical symptoms like lightheadedness, stomach pain and a high resting heart rate.

Here are some of the effects of anxiety on the body:

◆ Diaestive Disorders

- ◆ Heart Disease
- ◆ Asthma and Breathing Problems
- ◆ Weakened Immune System



Anxiety and Physical Health Problems

Constant anxiety is an emotional response, but those feelings of worry or fear also give rise to a physical reaction. When you feel anxious, your neurotransmitters relay these impulses to your sympathetic nervous system, making your muscles contract and your **heart rate and respiration increase**. It also redirects your blood flow from your abdominal organs to your brain.

When anxiety is the norm rather than the exception, its physical effects can become intensified, leading to physical symptoms like lightheadedness, stomach pain and a high resting heart rate.

Here are some of the effects of anxiety on the body:

Digestive Disorders

An upset stomach is just one of the many effects of anxiety on the body. Constant feelings of anxiety can lead to abdominal cramps or ongoing digestive issues that lead to gas pains, diarrhea or constipation. That's because anxiety's physical response has a direct impact on your nervous system, and your nervous system has a **direct impact on your bowels**.

Chronic anxiety is associated with irritable bowel syndrome (IBS) and functional dyspepsia or upset stomach, which affects up to **30% of the population**. With both of these disorders, the nerves that regulate digestion are hypersensitive to stimulation. It's believed that about half of adults treated for IBS also have an anxiety or depressive disorder.

Heart Disease

Anxiety is problematic for your heart. Research shows that living with **ongoing and untreated anxiety disorder** makes you more likely to develop cardiovascular disease. While symptoms of a panic attack can mimic those of a heart attack, anxiety can actually **increase your chances of having heart problems** or a stroke.

The effects of anxiety on the body can include the following heart disorders and cardiac risk factors:

- **Tachycardia, or rapid heart rate:** In severe cases, a fast heart rate can impact your normal heart function and increase the risk of cardiac arrest.
- **Increased blood pressure:** Chronic high blood pressure can cause coronary disease, weakening of the heart muscle and even heart failure.
- **Decreased heart rate variability:** This health issue can result in a higher chance of death following an acute heart attack.

Recent research shows that adults with heart disease and an anxiety disorder are at higher risk of having a heart attack than those with heart disease who don't have an anxiety disorder.

Asthma and Breathing Problems

Anxiety, asthma and other breathing problems are closely related. Anxiety can have many effects on the body, causing rapid, shallow breathing. If you have chronic obstructive pulmonary disease, you might be **at risk of hospitalization** due to anxiety-related complications.

Anxiety can even worsen asthma symptoms and vice versa. The longer your wheezing and coughing continue, the more anxious you can become, worsening your symptoms and **making asthma more difficult to control**. At the same time, feeling anxious can cause asthma attacks. When you're anxious, you may feel more emotional or be prone to panic attacks, which can change the way you breathe.

This vicious cycle can cause significant breathing problems and lead to:

- Difficulty sleeping
- Fatigue
- Nocturnal asthma
- Inability to exercise
- Difficulty concentrating
- Exercise-induced asthma
- Withdrawal from favorite activities
- Changes in appetite
- Irritability

In general, panic attacks and asthma share symptoms like breathlessness, tight chest or chest pain, faster or more noticeable heart rate, feeling faint and dizziness.

Weakened Immune System

Research shows stress and anxiety **can impair the immune system** and produce an inflammatory response. Chronic anxiety can continually activate the body's stress response, funneling all bodily resources into the need for immediate protection. As this happens repeatedly, we are more likely to get sick as we cannot fight off existing infections as effectively. In fact, the same study showed that chronic anxiety and stress could increase a person's risk of infections, metabolic diseases and even cancer.

As anxiety triggers fight-or-flight and releases hormones, it increases your pulse and breathing, causing your brain to get more oxygen to prepare for an intense situation. While your immune system gets a brief boost, the chronic release of these hormones can make it difficult for your body to return to regular functioning. Over time, this can weaken your immune system and leave you susceptible to viral infections and frequent illnesses.

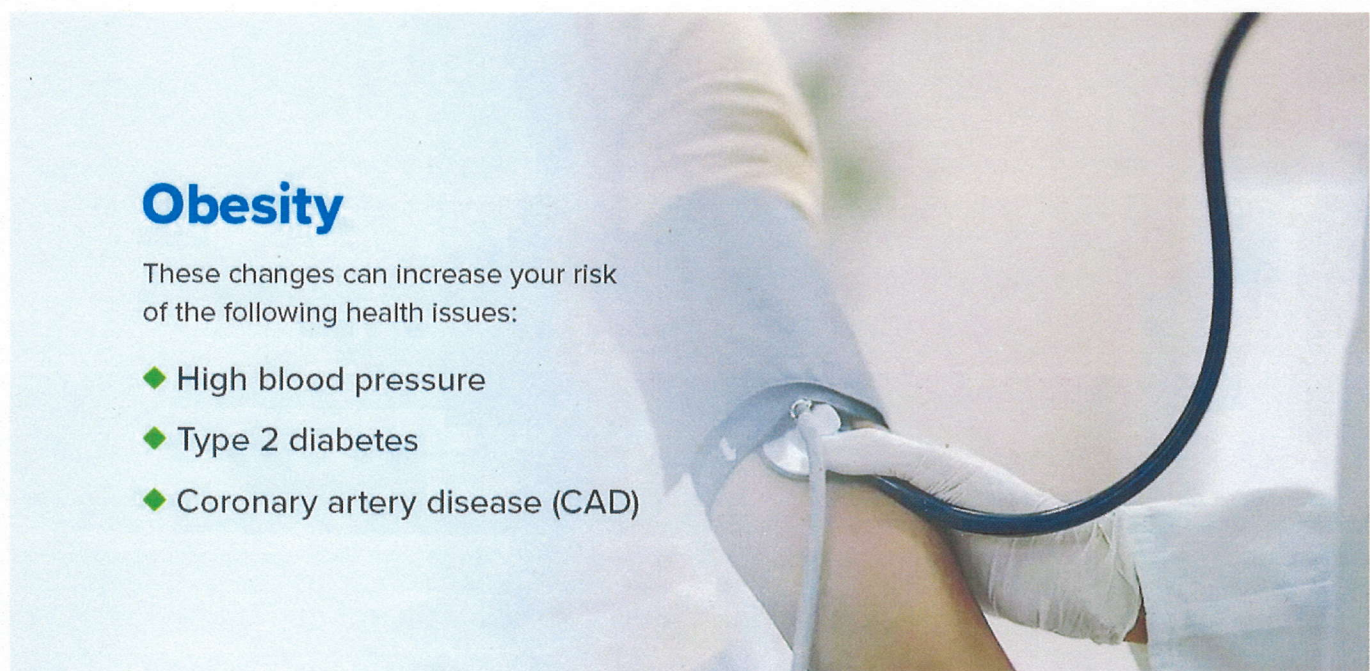
Depression and Physical Health Problems

Depression can lead to physical health problems like obesity, chronic pain and insomnia. As a mood disorder, depression can significantly and negatively affect how you feel, think and behave. People living with depression often find that it interferes with their ability to perform tasks and get through their regular daily routine.

Although researchers haven't uncovered any single underlying cause of depression, they do know that brain chemistry, hormonal imbalances and **genetic factors are often involved**. While researchers still have much to learn about the biology of depression, they do know that an untreated depressive disorder can take a significant toll on your personal life as well as your physical health.

The physical symptoms of depression are likely caused by the changes the disorder makes to the brain. For instance, neurotransmitters like serotonin can alter your pain threshold, meaning you may become more sensitive to pain. Serotonin also impacts sleep and sex drive, which can explain how nearly **half of people with depression** have issues with sex.

Untreated depressive disorders are associated with the following:



Obesity

These changes can increase your risk of the following health issues:

- ◆ High blood pressure
- ◆ Type 2 diabetes
- ◆ Coronary artery disease (CAD)

Obesity and Weight Gain

Women and men who are depressed are more likely to **gain weight or become obese**. In the United States, **41% of adults qualify as obese**, meaning they have a body mass index (BMI) score of 30 or higher. As BMI increases, so does your blood pressure, blood sugar, cholesterol and inflammation. These changes can increase your risk of the following health issues:

- **High blood pressure:** Having high blood pressure increases your risk of developing heart disease or having a heart attack or stroke.
- **Type 2 diabetes:** Being overweight or obese also increases your risk of developing Type 2 diabetes.
- **Coronary artery disease (CAD):** Researchers discovered people who are overweight have a **32% higher risk of developing CAD** compared to those at a normal weight.

Obesity and depression are bidirectional, meaning one can cause the other. Often, people with obesity experience depression as a result of inflammation, changes in the brain, insulin resistance and social or cultural factors. At the same time, when you're depressed, low energy and motivation can **result in less activity and exercise**, which can lead to obesity.

Chronic Pain

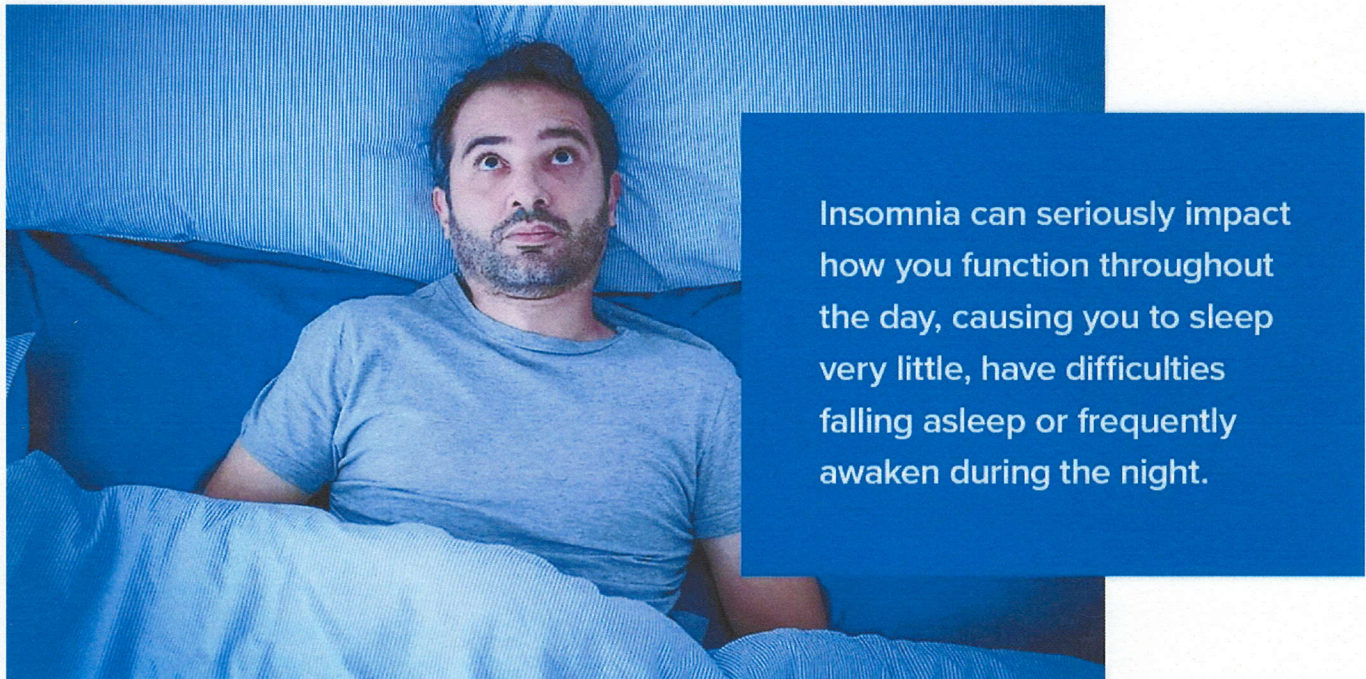
While people feel the physical effects of depression in a variety of different ways, one of the most common complaints is chronic pain, including headaches and migraines, back pain, arthritis and fibromyalgia pain, defined as pain persisting or **recurring for longer than three months**.

Chronic pain is both a physical sensation and an emotional condition that's very similar to depression in that it can have a far-reaching impact on your mood, thoughts and behavior. In fact, the **relationship between depression and pain** is a tight one — depression can cause and intensify physical pain, and chronic pain can lead to not being able to engage as readily in things you used to enjoy, which can lead to self-isolation and depression. Research shows that up to **60% of chronic pain patients** also have

depression.

It's estimated that about **40% of adults with chronic migraines** also experience depression, which may occur bidirectionally. Researchers theorize it might have something to do with how depression and migraines cause abnormal levels of neurotransmitters like serotonin and dopamine.

Further, the combination of depression and chronic pain can make treatment more difficult, having a significant impact on overall functioning than either condition alone.



Insomnia can seriously impact how you function throughout the day, causing you to sleep very little, have difficulties falling asleep or frequently awoken during the night.

Insomnia and Sleep Problems

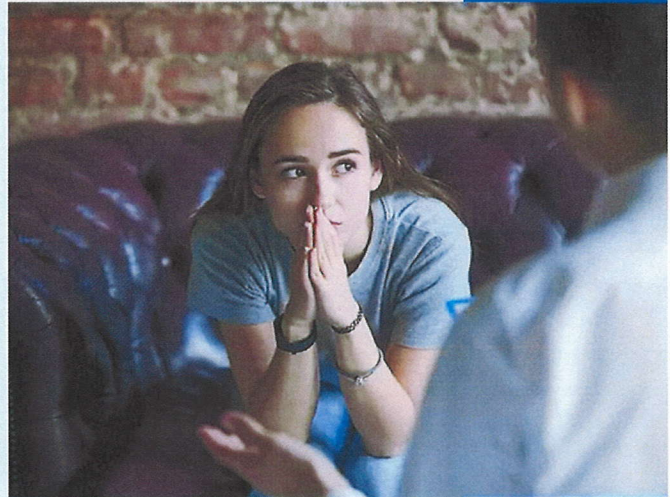
Insomnia is trouble falling or staying asleep and is associated with depression and other mental health disorders. In fact, **75% of people with depression** also experience sleep troubles. Insomnia can seriously impact how you function throughout the day, causing you to sleep very little, have difficulties falling asleep or frequently awoken during the night.

With untreated depression, you can experience overwhelming feelings of sadness, worthlessness or guilt. All of these feelings can **interrupt sleep and trigger sleep disorders**. At the same time, depression can make your mind go into overdrive, causing you to ruminate about situations over which you have no control. With rumination can come high levels of stress and anxiety, fears about your poor sleep habits, low energy throughout the day and a tendency to misperceive sleep.

When your sleep is disrupted or inadequate, you can experience symptoms like increased tension, irritability and vigilance. Poor sleep can lead to fatigue, which can make it difficult for you to carry out tasks throughout the day and lead to worsened fitness. Eventually, you may find yourself in a cycle of inactivity and disrupted sleep, which can lead to both physical and mood-related issues.

The Benefits of Treating Anxiety and Depression

[SCHEDULE AN APPOINTMENT](#)



The Benefits of Treating Anxiety and Depression

Digestive disorders, heart disease, obesity and chronic pain are just a few of the potential physical effects of anxiety and depression, especially those left untreated. Other health problems associated with depression and anxiety include substance use disorders, respiratory illnesses and thyroid issues.

Here at Advanced Psychiatry Associates, we know that anxiety and depression usually get worse without treatment. But we also understand that both disorders are highly treatable. Psychotherapy, pharmacological therapy and cognitive-behavioral therapy are just a few treatment options that can help you achieve full recovery. These solutions can help you reclaim your life and preserve your long-term physical health.

To learn more about the benefits you stand to gain by treating your anxiety or depression, call **one of our offices** or **schedule an appointment** using our convenient online booking tool.

SHARE:   



Find Your Calm: Managing Stress & Anxiety

Natural Remedies to Alleviate Anxiety

By WebMD Editorial Contributors

✓ Medically Reviewed by **Smitha Bhandari, MD** on December 10, 2022



[Natural Remedies for Anxiety](#)

[When to See a Doctor](#)

Some [anxiety](#) is a normal part of life. You might feel a certain amount of unease or uncertainty when it comes to stressful situations such as taking a test, giving a presentation, or meeting new people. In

many cases, a small amount of anxiety every so often can be a good thing. It helps to keep you aware of potential dangers and motivates you to be prepared.

For many people, however, anxiety occurs more frequently. They experience it almost every day. [Anxiety disorders](#) such as [generalized anxiety disorder](#), [panic disorder](#), or [phobias](#) can interfere with normal daily activities, affecting their work, home, and personal lives. They differ from regular anxiety in that people feel an excessive amount of fear or anxiousness.

Dealing with anxiety can be stressful, but it is treatable. Many people with anxiety find relief with treatment. While some people benefit from taking medication, others find success with natural remedies.

Natural Remedies for Anxiety

Natural remedies for anxiety are those that don't involve [conventional medications](#) (medicine you get from a doctor or health professional). They include things such as herbs,

aromatherapy, and performing certain actions that promote relaxation. Some people with anxiety use natural remedies alongside conventional treatments to find relief.

Examples of natural remedies for anxiety include:

Exercise

Exercise isn't just good for your physical health; it's also beneficial for your [mental health](#). While the connection isn't well understood, studies do show that exercise can help to alleviate symptoms of anxiety.

Getting active helps to take your mind off of the issues bothering you. It also triggers your body to release [endorphins](#), which are natural feel-good hormones.

Herbal Remedies

Several different [herbs](#) and herbal supplements may help alleviate anxiety symptoms, helping you to relax and feel calmer. Some of the more well-known varieties include:

- [Lavender](#)
- Lemon balm
- [Chamomile](#)
- [Passionflower](#)
- [Kava](#)

Studies show that chamomile can help with symptoms of generalized anxiety disorder. While many of the studies on herbal supplements for anxiety are limited, the results are promising.

You can find many of these (and other) supplements in capsule (pill) form. Many people also drink herbal teas to help them relax.

[Aromatherapy](#)

Aromatherapy involves the use of [essential oils](#) to improve health and overall well-being. Many scents can help to boost your mood, help you relax, and reduce anxiety.

There are a few ways you can use essential oils. You can use a diffuser, place a few drops on a lava bead

bracelet, or mix your favorite scent in a carrier oil to place on your wrist or neck.

Scents to use for anxiety include:

- Lavender
- Ylang ylang
- Grapefruit
- Clary sage
- Bergamont

[CBD Oil](#)

Hemp-derived CBD oil has risen in popularity in recent years. Unlike [marijuana-derived CBD](#), CBD from hemp plants has little (less than 0.3%) to no [tetrahydrocannabinol \(THC\)](#), the cannabinoid that causes a high.

Several studies have shown that CBD can help with many ailments, such as pain, inflammation, [insomnia](#), and anxiety. While research is still in the early stages, studies

show that it may have a lot of potential as an alternative anxiety treatment.

You can find CBD products in many mainstream stores.

There are many options, including:

- CBD oil tinctures (liquid drops)
- CBD gummies
- CBD chocolate and candies
- CBD topicals (creams or lotions)

Meditation

Meditation involves the practice of mindfulness. You focus on removing chaotic thoughts from your mind and replacing them with calm.

Research indicates



Categories: [Heart News](#), [Scientific Conferences & Meetings](#), [Stroke News & Brain Health](#) |

Published: November 06, 2023

Depression, anxiety and stress linked to poor heart health in two new studies

American Heart Association Scientific Sessions 2023, Abstract Poster MDP274 and Abstract Poster MDP100

Research Highlights:

- Depression and anxiety may accelerate the onset of risk factors for increased heart attack and stroke, according to a Boston-based study. People with a higher genetic sensitivity to stress developed a cardiovascular risk factor at a younger age, than people without the genetic marker.
- A separate study based in Dallas found that cumulative stress contributed to health behaviors — such as smoking — that negatively affect cardiovascular health and potentially increasing plaque buildup in the arteries and other known cardiovascular disease risk factors.

Embargoed until 4 a.m. CT/5 a.m. ET, Monday, Nov. 6, 2023

DALLAS, Nov. 6, 2023 — The heart and mind are strongly connected, with depression, anxiety and chronic stress all increasing the risk for heart and brain health complications, according to two preliminary studies to be presented at the American Heart Association's [Scientific Sessions 2023](#). The meeting, to be held Nov. 11-13, in Philadelphia, is a premier global exchange of the latest scientific advancements, research and evidence-based clinical practice updates in cardiovascular science.

Mental health conditions, including depression, anxiety and stress are known to increase the risks for poor heart health, according to the [American Heart Association](#) and in two new studies, researchers measured how much one's mental state affects heart health.

"There are clear associations between psychological health and cardiovascular disease risk. These studies add to a growing body of data we have on how negative psychological health can increase the risk of heart and brain disease," said Glenn N. Levine, M.D., FAHA, writing committee chair of the American Heart Association's 2021 [Psychological Health, Well-Being, and the Mind-Heart-Body Connection](#) scientific statement.

Depression and anxiety accelerate the rate of gain of cardiovascular risk factors: mechanism leading

to increased risk of cardiac events (MDP274)

The first study examined the mechanism by which the mental state affects heart health. Researchers found that anxiety and depression sped the development of new [cardiovascular disease risk factors](#).

“While it is known that depression and anxiety increase the risk of cardiovascular disease, such as heart attack and stroke, the mechanism underlying this is not completely known,” said lead study author Giovanni Civieri, M.D., a research fellow at the Cardiovascular Imaging Research Center at Massachusetts General Hospital and Harvard Medical School, both in Boston. “In our study, we identified a mechanism that appears to largely account for the link between these psychological factors and cardiovascular disease.”

Civieri and colleagues studied data from adults enrolled in the Mass General Brigham Biobank in Boston with no previous heart events. The time required to develop a new cardiovascular risk factors was measured over 10 years of follow-up.

Researchers found:

- 38% of all participants developed a new cardiovascular risk factor, such as high blood pressure, high cholesterol or Type 2 diabetes during the follow-up.
- Participants previously diagnosed with anxiety or depression developed a new risk factor on average six months earlier than those who did not have depression or anxiety.
- Depression and anxiety increased the risk for a major cardiovascular event, such as a heart attack or stroke, by about 35%.
- About 40% of the link between depression and/or anxiety and major heart and stroke events were explained by the accelerated development of cardiovascular disease risk factors.
- People with a higher genetic predisposition to stress developed the first cardiovascular risk factor at a younger age (on average 1.5 years earlier than those without the genetic marker).

“Developing cardiovascular risk factors more than six months earlier, over an average of five years is a lot,” Civieri said. “The fact that genetic analysis supported the clinical findings was intriguing and provided further confidence in our results.”

Researchers suggest that depression and anxiety might induce brain changes that trigger downstream effects in the body, such as increased inflammation and fat deposition.

The findings emphasize the importance of screening for cardiovascular risk factors among people with depression and anxiety.

“This study illustrates that health care professionals should be aware that negative psychological health — things like depression or anxiety — not only affect patient’s mental state of being, but also can impact their physical health and the risk for heart disease. So, these are not benign conditions,” said Levine, master clinician and professor of medicine at Baylor College of Medicine, chief of the cardiology section at the Michael E. DeBakey VA Medical Center, both in Houston. “These are things we want to aggressively refer people to mental health professionals.”

Civieri also encouraged people with depression or anxiety undergo more frequent screening of their cardiovascular risk factors such as high blood pressure, high cholesterol and Type 2 diabetes. “Although we did not investigate this aspect, it is reasonable to assume that treating depression and anxiety may reduce the accelerated development of cardiovascular risk factors,” he said.

Study background:

- The analysis was conducted using data on 71,262 adults, (average age 49, 45% men) and data were collected from December 2010 to December 2020.
- 16% of the study group were taking medications for depression or anxiety; however, statistical adjustment for such medications did not significantly impact results, Civieri explained.
- A genetic marker of stress sensitivity (polygenic risk score for neuroticism) was assessed for subjects

who provided genetic data.

The observational study design and the possible misclassification of diagnostic codes for depression and anxiety are limitations to the study.

Co-authors, disclosures and funding sources are listed in the abstract.

Associations of cumulative perceived stress with cardiovascular risk factors and outcomes: findings from the Dallas Heart Study (MDP100)

In a second, unrelated study, researchers explored the effects of cumulative stress on heart and brain health by examining responses to questionnaires completed by adults in the Dallas Heart Study who did not have existing cardiovascular disease.

"This unique study explored the relationship between our new cumulative stress score and its subcomponents on cardiovascular risk factors as an attempt to understand this relationship further," said lead author Ijeoma Eleazu, M.D., a cardiology fellow at the University of Texas Southwestern Medical Center in Dallas. "To our knowledge, this is the first study to provide such a multidimensional analysis of the relationships between perceived stress and cardiovascular disease."

Over a one-month period, researchers integrated generalized everyday stress; psychosocial stress (stress prompted threats to psychological or social functioning); financial stress and neighborhood perceived stress into a score termed the "cumulative stress score." This novel score associated strongly and significantly with the development of cardiovascular disease after adjustments were made for known cardiovascular disease risk factors such as high blood pressure, Type 2 diabetes, smoking and high cholesterol, as well as adjustments for income and education, Eleazu explained.

Even after adjusting for risk factors such as high blood pressure, high cholesterol, smoking and Type 2 diabetes, as well as income and education, researchers found that higher cumulative stress was:

- associated with a 22% increased risk of atherosclerosis, in which plaque builds up in the arteries reducing adequate blood flow;
- associated with a 20% increased risk of overall cardiovascular disease; including coronary artery disease and heart failure;
- higher among women, people aged 18-45 and individuals with lower income and education levels, as well as among individuals who self-identified as Black or Hispanic adults.

In addition, cumulative stress scores were higher among those who reported racial/ethnic discrimination and lack of health insurance; and higher scores were also associated with high blood pressure, being overweight, being physically inactive and smoking.

"There are individual-level factors of perceived stress that comprised our psychosocial component of the score, as well as demographic factors that were represented in the financial stress score component, and even environmental factors that were represented in our neighborhood stress score component. These individual factors by themselves appeared to be less strongly correlated with cardiovascular outcomes than the multidimensional cumulative stress score," Eleazu said. "These findings suggest that we may not be capturing the impact of stress adequately when we only look at one factor or when we assess it broadly and/or subjectively. This is especially important among people in diverse or minoritized populations who may experience various types of and multiple stressors simultaneously."

The analysis also indicates that ongoing stress raised the risk of poor heart and brain health in two ways: by directly influencing physical well-being, as well as increasing poor lifestyle behaviors such as smoking and being sedentary, which, in turn, lead to reduced cardiovascular health.

Previous research has shown that chronic stress can lead to elevated levels of stress hormones like cortisol, which, in turn, can affect blood sugar levels, inflammation and other biological chain reactions that impact the heart, Eleazu said.

"There is indeed a mind-heart connection. Taking care of your mind can impact your physical health as well," she said. "It would be great to see more patients talking with their physicians about their stress levels and more physicians screening for a high burden of stress in their patients. In that way, we can work together to combat poor outcomes."

Levine added: "This novel concept of adding up and assessing someone's cumulative stress is great, because in some aspects of our life we may not experience much stress, but in other aspects of our life, say finances or health, we may have a lot. This study found that it is best to look at a person's overall cumulative stress — not just ask them about one aspect of their livelihood or life that could be affecting stress."

Study background and details:

- Data evaluated was for 2,685 adults who did not have existing cardiovascular disease and participated in the Dallas Heart Study phase 2 (2007-2009), a multiethnic population-based group based in Dallas.
- The participants' average age was 48 years; 55% were women; 49% were Black adults; and 15% of participants were Hispanic/Latino adults.
- Participants were followed for an average of 12.4 years, and cardiovascular events and deaths were judged by a panel of cardiovascular specialists.

Limitations of the study include there may have been unknown conflicting factors that were not considered and that the cumulative score is new and has not been fully validated, Eleazu explained.

Authors, disclosures and funding sources are listed in the abstract.

Statements and conclusions of studies that are presented at the American Heart Association's scientific meetings are solely those of the study authors and do not necessarily reflect the Association's policy or position. The Association makes no representation or guarantee as to their accuracy or reliability. Abstracts presented at the Association's scientific meetings are not peer-reviewed, rather, they are curated by independent review panels and are considered based on the potential to add to the diversity of scientific issues and views discussed at the meeting. The findings are considered preliminary until published as a full manuscript in a peer-reviewed scientific journal.

The Association receives funding primarily from individuals; foundations and corporations (including pharmaceutical, device manufacturers and other companies) also make donations and fund specific Association programs and events. The Association has strict policies to prevent these relationships from influencing the science content. Revenues from pharmaceutical and biotech companies, device manufacturers and health insurance providers and the Association's overall financial information are available [here](#).

Additional Resources:

- **Video interview** with AHA volunteer expert: Glenn N. Levine, M.D., FAHA, and other multimedia is available on the right column of the release link <https://newsroom.heart.org/news/depression-anxiety-and-stress-linked-to-poor-heart-health-in-two-new-studies?preview=46ed567a52f5837b5fc1f9b2bf9c5caf>
- After Nov. 6, view [Abstract Poster MDP274](#) and [Abstract Poster MDPI00](#) in the [AHA Scientific Sessions 2023 Online Program Planner](#)
- [Spanish News Release](#)
- AHA news release [Mental wellness is important for a healthy heart and brain](#) (May 2023)
- AHA Scientific Statement: [Mental health is important to overall health, and heart disease prevention and treatment](#) (Jan. 2021)
- AHA health information: [How does stress affect the body?](#)
- About [Scientific Sessions 2023](#)
- For more news at AHA Scientific Sessions 2023, follow us on X (formerly Twitter) [@HeartNews,#AHA23](#)

About the American Heart Association

The American Heart Association is a relentless force for a world of longer, healthier lives. We are dedicated to ensuring equitable health in all communities. Through collaboration with numerous organizations, and powered by millions of volunteers, we fund innovative research, advocate for the public's health and share lifesaving resources. The Dallas-based organization has been a leading source of health information for nearly a century. Connect with us on [heart.org](https://www.heart.org), [Facebook](#), [X](#) or by calling 1-800-AHA-USA1.

###

For Media Inquiries and AHA Expert Perspective:

AHA Communications & Media Relations in Dallas: 214-706-1173; ahacommunications@heart.org

Bridgette McNeill: bridgette.mcneill@heart.org; 214-706-1135

For Public Inquiries: 1-800-AHA-USA1 (242-8721)

Related Images

