



HOLIDAY STRESS HURTS YOUR BRAIN!

Why, How and What to do about it

BY DR. EVA HENRY | AGEWELL BRAIN CENTER

The holiday seasons create plenty of additional stressors in our lives. For many, it's family tradition and obligations — that inevitable dinner gathering with toxic relatives, or meeting family members for the first time due to new relationships. For others, it's finding the right gifts and associated financial burden, or the extra burden of organizing neighborhood and office parties, preparing meals that suit to everyone's dietary preferences and restrictions. The list of stressors go on and on.

ADRENALIN AND CORTISOL

There are two kinds of stress hormones. When someone cuts you off or honks at you in traffic, or a large dog suddenly barks at you during your morning walk, your brain immediately sets off an alarm system through a combination of nervous and hormonal signals, and adrenalin and cortisol are released. That's why you jump, heart pounds quickly and you become hyper-alert. This natural stress response normally quiets back down, and you go on with your day.

While adrenalin naturally gets metabolized out of your system, perceived chronic stress, like holiday stressors, can cause cortisol to linger. The more chronic stress your body has been piling on through the years and the less healthy you are, the more you are susceptible to the detrimental effects of cortisol during the busy holidays months.

Scientists have known for decades that persistently elevated cortisol lowers immune function and bone density, increases blood pressure, fat weight and risk of heart disease and diabetes. It also adversely affects your gut barrier integrity and reduces nutrient absorption. The worst thing is, chronic stress can have long term negative physiological and anatomical effects on your brain.

CORTISOL MAKES YOU FAT

Why do people overeat or consume bad foods when they are under pressure? Cortisol affects your satiety signal by releasing a protein, called ghrelin, which makes you hungrier than usual. It also causes abnormal insulin release that drops your blood sugar, which makes you crave sugary and salty foods. Sugar in particular, stimulates the reward center of your brain called the ventral tegmental area (VTA), which medical research has shown is the same area in your brain that responds to drugs such as cocaine!



That's why once you reach for that piece of cake, cookie or other favorite sweet, it is so difficult to stop at just one — even though you know you should! Sugar craving/addiction is very real and powerful. Just like drug addiction, these altered neurochemicals put you through cycles of pleasure and guilt. It's not because you are "mentally weak," it's actually a physiological response! Fortunately, the right kinds of supplements at the right dose can modulate the underlying brain chemistry to counter these intense, and often, chronic cravings.

CORTISOL MAKES YOU TIRED AND SICK

Cold and flu season constitutes a constant assault on your immune system, driving the release of stress hormones such as cortisol. This additional cortisol further dampens your immune defense. Exacerbating this, long nights of dinners

and parties cut into your sleep time. Once you are finally in bed, lingering cortisol makes you "tired and wired" which further negatively affects the quality of sleep. As you get busy shopping for the holidays, you may also start to skip your exercise routine. Exercise, of the right kind at the right time, is a very powerful way to reduce cortisol. Unfortunately it often gets cut off during the party seasons when it is needed the most!

CORTISOL SHRINKS YOUR BRAIN

When your brain senses a stressful situation, the hypothalamus, the central command of all your hormones, signals your pituitary and your adrenal glands (located atop your kidneys) to secrete adrenalin and cortisol. This HPA axis is your body's response and control over stress. A healthy body needs a functioning HPA axis to face challenges, like competing in a golf tournament, giving a public speech or meeting a demanding deadline on a high value project.

However, chronically elevated levels of cortisol hyper-sensitize the amygdala, the fear and emotional center of your brain. That's why when you are under stress, you are more easily irritated, less confident and less emotionally composed. Your pain perception is heightened, making any physical ailments such as arthritis, headaches and muscle pain a lot worse. A heightened level of cortisol also inhibits neuronal activities in the hippocampus, one of the important memory centers of your brain, which causes you to be forgetful and negatively affects your learning ability. That's not all, chronically elevated cortisol shuts down the synaptic signals in the prefrontal cortex, reducing your ability to exercise sound judgement, responsible behavior and appropriate social interaction. Over a period of time, cortisol literally causes your entire brain to shrink in size! A deleterious

long term effect is that once the hippocampus is compromised, it signals the HPA axis to slow down. Think of it as an attempt of your brain to cry "no more!" Now you are left with what we call a "down-regulated HPA axis," and your ability to deal with stress further deteriorates. Your body can no longer generate even the normal amount of cortisol, especially during the day, to keep up with daily function. This is a common cause of chronic fatigue syndrome.

VICIOUS CYCLE

You get the picture: chronic stress makes you fat, sad, sick and tired. This vicious cycle starts you on a downward spiral which sets the stage for depression and dementia.

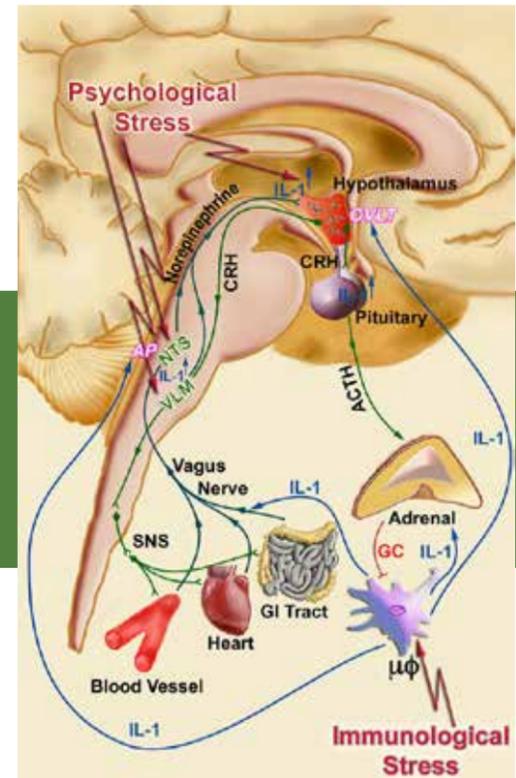
While all these may seem a bit overwhelming, the good news is, you can do something about it. While we may be unable to get away from stressors in our lives, there are many ways to modify your body's HPA stress response. Adaptogenic herbs and brain-based nutrients, along with meditation, exercise and natural remedies to improve your sleep, can all safeguard your brain against the detrimental effects of cortisol and restore your brain power. Unlike other

organs, your brain is what makes you uniquely you, so a "one-size-fits-all" approach will not work perfectly for you. The key to optimum brain health is a tailored program that includes elements such as balanced hormones, adequate brain-based nutrients, cortisol management and neurofeedback that can greatly help you achieving your health goals.

There are some helpful ways to get started. We will go over these strategies in future issues of Splurge!

Dr. Eva Henry is board certified in Neurology and Anti-Aging Regenerative Medicine.

Her passion is to utilize an integrative and functional approach to help prevent or halt the deterioration of neurological illnesses and age-related brain problems.



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