



**Institute for Women's Health Research**  
*Putting Women's Health First*

**December 2011**

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Dear Friends,

The holiday season is here! These are times to enjoy family traditions, socialize with relatives and friends, and fondly remember those who are no longer with us. It's a season to reflect on the past year and make plans for the new.

It is also a time when we often set unrealistic expectations, face additional financial pressures (gift giving!) and make too many commitments that can cause our stress levels to rise. This month's newsletter looks at stress and suggest ways to keep it in a healthy perspective as you balance work, family, and caregiving with holiday festivities.

Finally, all of us at the Institute for Women's Health Research want to take this opportunity to thank you for your interest in women's health and to wish you a relaxing holiday and a healthy new year!

Sincerely,

The Institute staff



**STRESS**

**What is stress?**

Stress is a normal physical response to events that make you feel threatened or somehow unbalanced. When sensing danger or a threat, the body's defenses kick into play starting at your hypothalamus, a tiny region at the base of your brain that sends signals via nerves and hormones to your adrenal glands located atop of your kidneys. The adrenal glands release a surge of hormones, including adrenaline and cortisol. (1)



This process leads to a series of beneficial reactions:

- heart rate and blood pressure soar to increase the flow of blood to the brain to improve decision making,
- blood sugar rises to furnish more fuel for energy as the result of the breakdown of glycogen, fat and protein stores,
- blood is shunted away from the gut, where it is not immediately needed for purposes of digestion, to the large muscles of the arms and legs to provide more strength in combat, or greater speed in getting away from a scene of potential peril,
- clotting occurs more quickly to prevent blood loss from lacerations or internal hemorrhage. (2)

This alarm system is often referred to the 'fight-or-flight reaction' or the 'stress response system.'

### **What causes stress?**

There are many traditional causes of stress that are listed below. We have also included some brief comments on two more contemporary causes: the economy and caregiving.

#### Most Common Causes

- Death of spouse or child
- Divorce
- Losing a Job
- Personal injury/illness
- Marital problems
- Pregnancy
- Retirement
- Incarceration
- Family conflicts
- Work/Family Balance



#### The Economy

According to the [American Psychological Association's 2010 Stress in America](#) survey, over three-quarters of Americans (76 percent) cite money as a significant cause of stress. This can be especially concerning over the holidays when expensive gifts are traditionally exchanged and elaborate parties hosted.

The Consumer Financial Protection Bureau has a helpful [tip sheet](#) on ways to plan your

holiday spending that you may find worth reading.

### Caregiving

As the US population ages, more people, particularly women, are faced with the responsibility of caring for elderly loved ones with health issues. Many parents are also caregivers to disabled children. Being an informal (unpaid) caregiver can give one the feeling of giving back to a loved one but it can also become very stressful. Signs of caregiver stress are similar to those for other stressful situations.

Tips to relieve caregiver stress:

- Ask for and accept help.
- Say 'no' to requests that are draining, such as hosting holiday meals
- Stay in touch with other family and friends and share duties with them
- Join a caregiver support group
- Prioritize, make lists, and establish a daily routine with realistic goals
- Seek out community caregiving services that can lighten your load
- Stay active, eat a healthy diet, and try to get enough sleep

### **What are symptoms of chronic stress?**

Excessive stress can manifest itself though emotional, behavioral, and physical symptoms.

- Emotional symptoms: Short temper, feeling like you have no control or too much control, feeling depressed, feeling overwhelmed or tense, low morale
- Behavioral symptoms: Eating too much or too little, forgetfulness, lack of focus, difficulty making decisions, poor self-esteem, short temper, negative thinking, mood swings, increased alcohol intake
- Physical: Headaches, upset stomach, back pain, general aches and pains, trouble sleeping

### **How does stress cause illness?**

Typically, the stress-response system subsides once the threat is over and hormone levels return to normal. This automatic response developed during human evolution to deal with primitive man's physical threats such as wild animals. Today, contemporary stress stems primarily from psychological rather than physical threats and tends to be more pervasive and persistent. These threats can keep your response system on constant alert putting you at risk for serious health problems.

Long-term stress can cause a variety of health problems aggravated by the prolonged levels of cortisol in the blood stream. This can lead to mental health disorders (anxiety and depression), obesity, heart disease, high blood pressure, reproductive problems, skin disorders, stomach problems, cognitive impairment, decrease in bone and muscle and lowered immunity. An impaired immune system can promote conditions ranging from the common cold and herpes to AIDS and cancer. Stress can also have effects on other hormones, brain neurotransmitters, additional small chemical messengers elsewhere, prostaglandins, as well as crucial enzyme systems, and metabolic activities that are still unknown but likely impact one's health.(3) Ongoing research continues to document what role stress plays on human health.

## Do women handle stress differently than men?

There is some evidence that women are more likely to experience physical symptoms of stress than men though there is not enough evidence to apply it to all women. We do know that women often cope with stress differently.



A landmark UCLA study done ten years ago suggested that friendships between women are special and can counteract some of our daily stress. Researcher Shelly Taylor, PhD and her colleagues coined the phrase "tend-and-befriend" to describe a certain behavior found in stressed women. Until recently, most of the 'fight or flight' research was done in males so this alternative pattern was not detected by researchers. Now, scientists believe that women have a larger behavioral repertoire than just fight-or-flight in response to stress. (4)

Women undergoing acute stress still have a fight-or-flight response but it is often followed by a tend-and-befriend response that is less aggressive. According to reports, this discovery came about when two female UCLA researchers shared a classic "aha" moment. They noted that when women were stressed in their lab, they tended to clean up the lab and sit down to share cup of coffee with each other. The men in the lab tended to hole up on their own. This led to more observations including the fact that females were rarely included in early stress research.

Further sex based research has found that hormones, particularly oxytocin, account for significant differences. As females release cortisol and adrenaline to respond to stress (and the flight-or-flight response), their brains also release oxytocin which promotes nurturing and relaxing emotions. Males also release oxytocin but at a much lower amount.

Current research done by Jill M. Goldstein and others in Massachusetts is looking at the brain circuitry to better understand the sex differences in stress responses. She has already demonstrated that many of the sex differences were dependent on the menstrual cycle further suggesting that women may have a natural hormonal capacity to regulate the stress response that differs from males.(5)

## What can you do to reduce stress and its long term effects?

Even though cortisol secretion varies among individuals, the body's relaxation response should be inactivated once the response becomes unnecessary. Sometimes this requires learning various stress management techniques and changing lifestyles listed below:

- Eating a healthy diet and getting regular exercise and plenty of sleep
- Practicing relaxation techniques like guided imagery, meditation, self-hypnosis, journaling
- Fostering healthy relationships, having sex
- Having a sense of humor and have more fun
- Seeking professional counseling when needed



A word of caution: People under stress have a greater tendency to engage in unhealthy behaviors such as alcohol, drugs, and tobacco abuse. Holiday parties can encourage these behaviors. These substances can lead to poor decision-making, inadequate diet and unsafe exercise and can further increase the severity of symptoms that you have due to stress.

**Sources:**

- (1) [www.mayoclinic.com/health/stress/SR00001](http://www.mayoclinic.com/health/stress/SR00001)
- (2) <http://www.stress.org/americas.htm?AIS=c4745e559fb29ad76add8337e6fdc7c8>
- (3) <http://www.stress.org>
- (4) Taylor SD, et al. *Psychol Rev* (2002)
- (5) Goldstein J, et al. *Jour of Neuroscience* (2010 Jan)

## UPCOMING EVENTS

December 13, 2011, 12:00pm

[IWHR Monthly Research Forum--A Scientific Update on Estrogen and Cognition](#)

Prentice Women's Hospital, Chicago, Illinois

February 3, 2012, 8:00am-12:00pm

[Heart Health: What Smart Women Need to Know](#)

Prentice Women's Hospital, Chicago, Illinois

February 3, 2012, All Day

[Fifth Annual Women's Cardiovascular Health Symposium](#)

Prentice Women's Hospital, Chicago, Illinois

## HEALTH TIP

**Try these tips to keep stress in check:**

- Take deep breaths and relax your muscles
- Stretch stiff parts of your body

- Massage tense muscles
- Take personal time to do something you want to do
- Set limits for yourself
- Say 'no'



### [Illinois Women's Health Registry News](#)

According the American Psychological Association's 2010 Stress in America Report, 28% of women report having a great deal of stress (8,9,or 10 on a 10 point scale).

Among the women who completed Version 4 of our Registry:

- 4% reported the amount of stress they had as overwhelming
- 20% reported a large amount
- 45% moderate
- 26% small
- 3% none

Our Registry currently has 6508 women enrolled. When you visit with your friends and relatives over the holidays, we hope you will encourage them to join the Registry...the more the "merrier"!

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