



## Women, Chronic Stress & Resilience

**T**alk about a stressful life. Between the books she writes, the research she conducts, talks, business-related travel—not to mention her responsibilities at home—stress researcher Esther M. Sternberg, MD, knows her topic well. But it took a time when the stress finally got to her, when she became so exhausted that functioning took supreme effort, before Dr. Sternberg understood stress in a very personal way.

Today, Dr. Sternberg, who directs the Integrative Neural Immune Program at the National Institute of Mental Health and is author of the book *The Balance Within: The Science Connecting Health and Emotions* (W. H. Freeman and Co., 2001), consciously works to avoid the kind of physical and emotional burnout chronic stress can bring. She protects herself by making sure she gets some kind of physical activity each day and by pacing herself through her personal and professional commitments. She now realizes when she simply has to say, “No,” the word that sounds so simple, yet is so difficult for most women to vocalize.

Unfortunately, Dr. Sternberg is the exception, not the rule. To today’s modern woman—juggling multiple roles, coping with a sinking economy, inundated with government color alerts and the constant threat of terrorist attacks—the idea of relaxing, of escaping for even one minute from the bone-crushing weight of stress we operate under, may seem as difficult as achieving world peace. Add in the additional stress many women experience of living in poverty, in crime-ridden neighborhoods, and worrying about their children’s safety, and the effect is like adding another 50 pounds to the constant weight of fear, worry and anxiety most women already carry. Small wonder then that nearly 93 percent of the 681 people who completed a recent National Women’s Health Resource Center Web-based survey on stress described the level of stress in their daily life as moderate or higher. Less than half said they always felt capable of coping with their stress, while more than half said stress affected their personal life “quite a bit.”<sup>1</sup>

Stress, it seems, is playing greater havoc with our health than ever before.

continued on page 2

### INSIDE

Chronic Stress Checklist

Personal Resilience

Stress Busting Techniques: Scientific Findings

Ask the Expert: Dealing with Stress

Lifestyle Corner: Eating and Exercising Your Stress Away

Volume 25  
Number 3

Published six times a year by the National Women's Health Resource Center  
120 Albany Street, Suite 820  
New Brunswick, NJ 08901

1-877-986-9472 (toll free)

[www.healthywomen.org](http://www.healthywomen.org)



**PRESIDENT AND CEO**  
Amy Niles

**EDITOR IN CHIEF / DIRECTOR OF CONTENT**  
Emily Van Ness

**MANAGING EDITOR**  
Heidi Rosvold-Brenholtz

**DIRECTOR OF MARKETING**  
Elizabeth A. Battaglini, RN, BA

**DIRECTOR OF COMMUNICATIONS**  
Beverly A. Dame

**WRITER**  
Debra L. Gordon

**WOMEN'S HEALTH ADVISORS**  
James A. Blumenthal, PhD  
Professor of Medical Psychology  
Department of Psychiatry and Behavioral Sciences  
Duke University  
Durham, NC

Susan J. Blumenthal, MD, MPA  
U.S. Assistant Surgeon General and Rear Admiral  
U.S. Department of Health and Human Services  
Washington, DC  
Clinical Professor of Psychiatry  
Georgetown and  
Tufts University Schools of Medicine

Paul J. Rosch, MD  
President, American Institute of Stress  
Clinical Professor of Medicine and Psychiatry  
New York Medical College  
New York, NY

Subscriptions or bulk-issue and back-issue requests,  
change of address, payments, questions, or other  
inquiries, call: 1-877-986-9472 (toll free),  
email: info@healthywomen.org.  
Write to National Women's Health Report,  
120 Albany Street, Suite 820, New Brunswick, NJ 08901

The National Women's Health Report provides health information for women interested in making informed decisions about their health. This information does not suggest individual diagnosis or treatment. This publication is not a substitute for medical attention. The publisher cannot accept responsibility for application of the information herein to individual medical conditions. The National Women's Health Resource Center does not endorse or promote any medical therapy or device. Opinions expressed by individuals consulted for this issue do not necessarily reflect those of the Resource Center.

© 2003 NWHRC. All rights reserved. Reproduction of material published in the National Women's Health Report is encouraged with written permission from NWHRC. Write to address above or call toll-free number.

## WOMEN, CHRONIC STRESS & RESILIENCE *continued from page 1.*

### Stress Defined

Hans Selye, MD, the Austro-Hungarian-born Canadian physician and physiologist, was the first modern researcher to describe the effects of stress on our health in 1926. And even he spent much of his life trying to come up with an adequate definition for the word "stress," says Paul J. Rosch, MD, president of the American Institute of Stress and a clinical professor of medicine and psychiatry at New York Medical College. "The best he could come up with was 'the rate of wear and tear on the body,' which is a pretty good definition of aging," says Dr. Rosch, who worked with Dr. Selye for many years. Since then, researchers have made progress defining stress. The three primary forms of stress are:

- **Acute stress.** This is the most common form of stress, both good and bad. A marriage proposal, the birth of a baby, a promotion at work, are all forms of "good" acute stress. An automobile accident, a robbery, even a traffic ticket, represent the "bad" forms of acute stress.<sup>2</sup>

- **Acute episodic stress.** Although acute stress is generally situational, acute episodic stress comes when these situations continue unabated. Someone who is chronically late, who is constantly feeling overwhelmed, who worries ceaselessly, is living with acute episodic stress.<sup>2</sup>

- **Chronic stress.** There is no such thing as "good" chronic stress. The American Psychological Association describes this kind of stress as the "grinding stress that wears people away day after day, year after year. It's the stress of poverty, of dysfunctional families, of being trapped in an unhappy marriage or in a despised job or career."<sup>2</sup>

The latter two types of stress—acute episodic and chronic—are responsible for much of the physical and emotional damage stress causes. In fact, 43 percent of adults suffer adverse health effects from stress, according to the American Psychological Association.

One of women's greatest stressors is work, says Dr. Rosch. Not only do women typically earn less than their male counterparts, they often work in jobs in which they have less control over their work or in jobs where they bump up against subtle or overt sex discrimination and prejudice. And they face significant challenges in balancing work with family responsibilities. In one government study, 60 percent of employed women cited stress as their number one problem at work.<sup>3</sup> In a four-year study of over 21,000 nurses published in the *British Medical Journal*, Harvard researchers concluded that job stress can sap a woman's health just as surely as smoking or a sedentary lifestyle.<sup>4</sup>

But work stress isn't the only stress in women's lives, of course. A big problem is that women try to do it all, says Dr. Sternberg.

These days, stress takes a new form for American women. It's the "macro" stressors that add to women's already overwhelming stress load, says Susan J. Blumenthal, MD, MPA, U.S. Assistant Surgeon General, a psychiatrist and a stress expert. "There's a whole new set of stressors in our lives that were not really focused on before by this generation, including war and terrorism," she says. And the responsibility for coping with them—explaining things to children and calming their fears, for instance—often falls upon women.

## From the Top of Your Head to the Tips of Your Toes

Stress affects every physiological system in the human body, from the top of your head (if you're not pulling your hair out because of stress, it can make your hair fall out), to the tips of your toes. Stress can exacerbate diabetes or other blood sugar disorders, making complications like nerve damage more likely.<sup>6</sup> And numerous controlled studies suggest other harmful effects of chronic stress. For example, it is well-documented that disproportionately high rates of heart disease among older African-American women are associated with chronic stress related to environmental and psychosocial factors.<sup>6</sup> In Japan, researchers who studied 8,656 women who reported high mental stress found that highly stressed women were 2.24 times more likely to suffer strokes than women reporting low stress, and had a coronary disease risk 2.28 times higher than normal, while their overall chance of dying from heart disease was 1.64 times greater than average.<sup>7</sup>

For centuries, doctors believed that the condition of the mind affected the body, but that way of thinking fell out of favor as medicine became more scientific in the late 19th and 20th centuries. It is only in the past decade or so that researchers have returned to exploring the strong connection between a person's emotional state—affected by stress—and their physical state, says Dr. Blumenthal, a national leader in women's health and an early

pioneer in the 1980s in the field of mind/body medicine known as psychoneuroimmunology.

Studies currently underway, such as those at the Morehouse School of Medicine in Atlanta, GA, examining the effectiveness of meditation as a means of reducing cardiovascular disease in African-American women age 60 and over, are expected to yield valuable insights into stress-related illnesses (see page 6, "Stress-Busting Techniques: Scientific Findings").

Every time we're confronted with a stressor our body releases a cascade of stress hormones such as epinephrine, adrenaline and cortisol. They, in turn, send a volley of signals to various parts of your body. For instance, your liver releases glucose to provide instant energy to muscle cells. Your lungs expand to take in more oxygen, your heart beats faster and your blood pressure rises to send more oxygen-rich blood throughout your body, and your bowel and intestinal muscles contract. All of this can lead to common stress-related conditions ranging from chronic high blood pressure, angina and gastric reflux, to constipation and irritable bowel syndrome, to depression, anxiety and fatigue.

It can also make you fat. Cortisol is not only a powerful appetite trigger, but chronically high levels of cortisol actually stimulate the fat cells inside the abdomen to fill with more fat, creating a life-threatening form of fat called visceral fat, which puts you at higher risk for heart disease and diabetes.<sup>8</sup>

## Chronic Stress Checklist

How stressed are you? Ask yourself these questions from the American Medical Women's Association about the psychological and physical signs of stress.<sup>10</sup>

- Are you nervous, anxious?
- Do you feel depressed or sad?
- Are you irritable or moody?
- Are you forgetful?
- Can you make decisions without agonizing?
- Do you have insomnia?
- Are you plagued by negative thoughts?
- Are you accident-prone?

The following symptoms, if chronic, may be signs of extreme anxiety and stress. They may also relate to a physical disorder. If they are sudden, severe, or persist, see a health care professional.

- Back pain
- Muscle tension
- Headaches
- Shaking hands
- Diarrhea
- Constipation
- Pounding heart
- Chest pain
- Sweaty, cold hands
- Shortness of breath
- Indigestion or gas pains
- Feeling faint or dizzy
- Grinding your teeth
- Hives or skin rashes
- Pain in your stomach

Sometimes women may not even realize they're under stress, says Dr. Blumenthal, but the headaches, fatigue, anxiety and depression they experience provide important clues.

continued on page 4

Stress can exacerbate diabetes or other blood sugar disorders, making complications like nerve damage more likely.

Researchers at Ohio State discovered that the flu vaccine is less effective if you're stressed when you get the shot.

Stress also inflicts its damage in more insidious ways, by affecting the very system that is supposed to guard your health: your immune system. Dr. Sternberg, a leader in this field of mind/body research who has written more than 100 scientific papers, reviews and book chapters on the topic, learned of the connection while studying two very special breeds of rats: one bred to have a very high hormonal stress response, another bred to have a very low hormonal stress response.

Like most systems in the body, the immune system has a feedback loop. After it finishes attacking foreign invaders with inflammatory chemicals, the brain sends out cortisol—the stress hormone—to shut down this inflammatory response and send the immune system back into a quiet, or homeostatic, state. But if your body is releasing cortisol all the time, as it does under chronic or acute episodic stress, then your immune system is constantly being suppressed, increasing your risk of illness.

Just think about the last time you took a vacation, if you were lucky enough to be able to take one. You worked like crazy to make it happen. Finally, you went on your way, only to begin sneezing. A day later, you were deep into a cold. Bingo! The stress/immune system feedback loop in action.

Numerous studies duplicated Dr. Sternberg's rat findings in humans. For instance, researchers at Ohio State discovered that the flu vaccine is less effective if you're stressed when you get the shot.<sup>9</sup>

### **"Tend and Befriend" vs. "Fight and Flight"**

Women and men react differently to stress. It's no surprise. We're wired differently. Women are biologically programmed to "tend and befriend" when they're under stress—to make sure the children are safe and then network with other women, calling a friend to vent about a bad day at work, for example.

Men, on the other hand, are biologically wired to "fight or flee," tuning out in front of the TV or drinking alcohol as forms of fleeing, says Shelley E. Taylor, PhD, professor of psychology at the University of California-Los Angeles, and author of the book, *Tending Instinct: How Nurturing Is Essential to Who We Are and How We Live*, (Time Books, 2000).

The differences in the way men and women react to stress might be chalked up to the hormone oxytocin, Dr. Taylor says. More commonly associated with labor and breastfeeding, oxytocin is also released during touch and massage, and is often called the "affiliation hormone" because of the role it plays in socialization and bonding. Interestingly, it is also released during stress in both men and women. But there the similarities end. In men, testosterone and other such male hormones seems to antagonize, or diminish, the benefits of the hormone, whereas in women, estrogen appears to intensify its effects. Thus, in women oxytocin appears to act as an impetus, sending women in search of social support in times of stress and thus providing a

protective effect, Dr. Taylor says.

"The sad paradox is that chronic stress erodes women's time and so keeps them from doing the very things that are most healthy in times of stress," she says. "Seeking contact with female relatives and friends."

So she emphasizes that doing such things as calling up a friend or arranging a ladies' night out, are not frivolous pursuits, but very adaptive ways of dealing with stress. "Women need to make time for them even though they seem like pure recreational activities," she says. ✕

### RESOURCES

#### **American Institute of Stress**

124 Park Avenue  
Yonkers, NY 10703  
914-963-1200  
[www.stress.org](http://www.stress.org)  
Resource and clearinghouse for information on stress-related matters.

#### **American Psychological Association**

750 First Street, NE  
Washington, DC 20002-4242  
1-800-374-2721  
[www.apa.org](http://www.apa.org)  
Numerous articles on stress and relieving stress, as well as a free brochure called "The Road to Resilience," at [www.helping.apa.org/resilience](http://www.helping.apa.org/resilience).

#### **National Center for Complementary and Alternative Medicine (NCCAM)**

PO Box 7923  
Gaithersburg, MD 20898  
1-888-644-6226  
<http://nccam.nih.gov>  
Scientifically based information on complementary and alternative medical treatments for managing stress and clinical trial information.

#### **National Women's Health Resource Center**

120 Albany Street, Suite 820  
New Brunswick, NJ 08901  
1-877-986-9472  
[www.healthywomen.org](http://www.healthywomen.org)  
Online resources related to stress and general women's health available.

