

FEMALE FATIGUE

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persist post-menopause and commonly include insomnia, snoring, frequent awakenings, and for some, continued hot flashes. Menopausal women not taking hormones may also experience an increase in body aches, stiffness, and pain that also can interrupt sleep. "It is a little known fact that estrogen appears to provide relief to body pain," wrote Tara Parker-Pope, columnist for *The Wall Street Journal*.

On the more severe end of the spectrum are sleep disorders. Insomnia, a risk factor for depression, is more common among women than men. Sleep apnea, a serious disorder characterized by loud snoring, interrupted breathing, and significant fatigue during

waking hours is believed to be more common in men, but is increasingly diagnosed in women, especially among those over age 50 who are overweight. Female symptoms of sleep apnea may include depression, insomnia, and thyroid disease.

Restless legs syndrome (RLS) is a neurological disorder characterized by uncomfortable leg sensations that cause an urge to move even when the body is at rest. About 80% of RLS sufferers experience periodic limb movement, involuntary leg twitching or jerking movements during sleep. New research has found associations between RLS and iron or folate deficiency, pregnancy, and diabetes. A rare disorder called nocturnal sleep-related eating disorder disproportionately affects women. Sufferers eat during the night while appearing to be asleep.

Treatments for serious sleep disorders include medications and sleep-aid machines. For the majority of women, sleeping well is attainable by identifying triggers and making behavioral changes. If all else fails, consult a sleep expert because getting enough quality sleep is an essential part of healthy living.

Resources:

- *American Academy of Sleep Disorders members listing:* <http://www.sleepcenters.org>
- *The National Institutes for Health National Center on Sleep Disorders Research:* <http://www.nhlbi.nih.gov/about/ncsdr>
- *National Sleep Disorders Research Plan:* http://www.nhlbi.nih.gov/health/prof/sleep/res_plan/section4/section4a.html
- *National Sleep Foundation, Women and Sleep:* <http://www.sleepfoundation.org/hottopic/index.php?secid=17&id=163>



FOUNDATION FOR WOMEN'S WELLNESS
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fww

FOUNDATION FOR WOMEN'S WELLNESS

Improving women's healthcare through research and education.

Foundation for Women's Wellness (FWW) is a small, nonprofit public charity dedicated to medical research and education of critical women's health issues. Established in 1997 by an internationally renowned physician recognized for her work in women's health and hormones, FWW is guided by knowledgeable physicians, researchers, and private sector specialists.

FWW identifies, funds, and conducts research on prevalent diseases among women, health conditions that specifically affect females, as well as areas where data on gender differences or women in particular is scarce. Ongoing areas of investigation include cardiovascular disease, leading female cancers, and the role of hormones in causing and treating health concerns.

The Foundation for Women's Wellness supports smaller, short-term studies that lack adequate support and are essential for improving knowledge and catalyzing larger scale research efforts funded by the federal government and large nonprofit entities. To encourage discussion and enhance medical understanding, FWW disseminates new and clarifying research information directly to women and their healthcare providers.

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FEMALE FATIGUE

WHY SLEEP IS A HEALTH CONCERN FOR MILLIONS OF WOMEN & WHAT NEW RESEARCH IS DISCOVERING ABOUT WHY

It's 2am. You can't sleep and your mind is racing. *Is your daughter adjusting to her new school? Does your boss question your handling of a difficult client? Will the dishwasher get fixed before the party this weekend?* Not getting enough sleep and the daytime exhaustion that follows are conditions many Americans accept as a necessary part of busy lives. But both the quality and quantity of sleep has profound implications for our health.

Lack of sleep affects our moods, our capacity to think, and our body's ability to prevent and combat illness. "Evidence is mounting that sleep deprivation has become one of the most pervasive health problems facing the U.S.," reported *Time Magazine* 16 years ago. Current research suggests this is still true today — especially for women. Reports show that women aren't getting as much sleep as their male counterparts. Most adults need seven to nine hours of continuous sleep to function well, but women ages 30 to 60 report getting only an average of six hours and forty-one minutes during the workweek. It is women who are more likely to have difficulty falling and staying asleep, to experience daytime sleepiness, and to suffer from insomnia. Scientific understanding of why women can't sleep, or what might help, has been scarce because a reported 75% of sleep research has been done exclusively in men. Now, new research is uncovering evidence about the unique physical and psychological factors behind women's sleep woes, making diagnosis and treatment more prevalent.

Many factors contribute to the proliferation of female fatigue. Research on the female brain suggests that women are better at multi-tasking than men; however, it is unclear whether women's brains are biologically predetermined to be better multi-taskers, or, (continued on pg. 3)

FWW INVESTIGATES:

THE MENOPAUSAL MIDDLE

IMPORTANT HEALTH IMPLICATIONS FOR ABDOMINAL FAT

FWW's first *Women's Health Research Fund Award* is supporting a study investigating the causes of excessive accumulation of abdominal fat in women during menopause lead by Dr. Wendolyn Gozansky MD, MPH, Assistant Professor of Medicine at the University of Colorado at Denver and Health Sciences Center. "Without support from FWW, I wouldn't have obtained the preliminary data that I needed to secure NIH [National Institutes of Health] funding for a more comprehensive study of estrogen-mediated regulation of abdominal fat," says Dr. Gozansky. "As NIH budget cuts make it more and more difficult to get research funded, support from groups like FWW are critical to foster the next generation of investigators in women's health."

Even more than total body fat, excessive accumulation of abdominal fat, or central obesity, is a significant risk factor for both diabetes and heart disease. Excessive fat in the abdominal area is linked to elevated blood sugar levels resulting from insulin resistance or pre-diabetes. Central obesity is also associated with lower HDL, the healthy cholesterol, and higher triglycerides and LDL, the unhealthy cholesterol.

Prior to menopause women tend to store fat in their hips and thighs. As women enter menopause and estrogen levels decrease, an increase in abdominal fat puts women at greater risk of developing heart disease, diabetes, and cancers of the breast or colon. How estrogens prevent abdominal fat accumulation is unknown; but studies in rodents find estrogen deficiency increases the conversion of the inactive hormone cortisone to the active hormone cortisol, a stimulus to abdominal fat deposition. Mice that were genetically (continued on pg. 3)

HEALTH FACTOIDS: DID YOU KNOW?

WORRIED ABOUT YOUR WEIGHT? ADDRESS THE STRESS!

Not only is chronic, negative stress not good for your physical or psychological health, but it also can cause weight gain. Research has correlated chronically high levels of the stress hormone cortisol with unhealthy blood sugar levels, increased body fat, compromised immune response, fatigue, increased risk of heart disease and bone loss. The double whammy for women is that when under stress, females produce more stress-related hormones over a longer period of time compared to levels reported in men.

EATING WELL HELPS PREVENT INJURIES IN FEMALE ATHLETES

According to a new study of female college athletes, women who have "disordered eating" were more likely to develop leg stress fractures than their peers. Disordered eating encompasses restrictions on calorie intake, bulimia, and anorexia. "When people expend more calories than they consume, they release fewer hormones, which slows down menstrual cycles. This decreases estrogen in the body, which is responsible for bone development," reports Mark Reinking, chairman of the department of physical therapy at Saint Louis University. Risk factors for exercise-related leg pain also include a history of leg pain and excessive foot pronation.

CUT THE COLA FOR BETTER BONES

Researchers at Tufts University's Human Nutrition Research Center found an association between the consumption of cola drinks and lower bone mineral density (BMD) in women. Similar results were seen with the consumption of diet cola and decaffeinated cola, albeit a weaker association was detected in caffeine-free colas. Researchers speculate that the caffeine and phosphoric acid in cola may adversely affect bone, especially when it is not balanced with adequate calcium-intake. No difference in bone strength was found among non-cola carbonated beverage drinkers.

WOMEN'S HEART ATTACK SYMPTOMS LABELED "ATYPICAL"

Classic heart attack symptoms include chest pain or a squeezing sensation in the chest, arm pain, new or unusual shortness of breath, sweating, and fainting. It is common, however, for women to experience different heart attack symptoms including fatigue, dizziness, nausea, shoulder pain, pressure between the shoulder blades, neck pain or soreness, jaw pain or soreness, back pain, and upper abdominal pressure or discomfort resembling severe indigestion. These symptoms are often labeled "atypical" even though they are typical for women.

GENDER A CRITICAL FACTOR IN ASPIRIN USE FOR HEART ATTACK PREVENTION

Low-dose aspirin has long been prescribed for both women and men to prevent heart attacks despite the lack of direct evidence of its effectiveness in women. Now a large, long-term study published in *The New England Journal of Medicine* finds aspirin to have no significant effect on the risk of heart attack in women under the age of 65. The risk of ischemic stroke, however, was reduced in all female aspirin takers. After age 65, aspirin was effective at reducing risk of heart attack, major cardiovascular events, and ischemic stroke. The side effects of taking aspirin – gastrointestinal bleeding and ulcers – were more common in women on aspirin. This research study called *The Women's Health Study* was conducted on 39,876 initially healthy women ages 45 and older receiving 100mg aspirin every other day for 10 years.

THYROID & AUTOIMMUNE DISEASES MORE COMMON IN WOMEN

According to the American Medical Women's Association, women are five to eight times more likely than men to suffer from an overactive or underactive thyroid. Approximately one in eight women will develop a thyroid disorder during her lifetime. Five to eight percent of women develop thyroid disorders after pregnancy. By age sixty, as many as seventeen percent of women have an underactive thyroid.

In addition, women represent about 75% of those afflicted with autoimmune diseases as reported by the National Institutes of Health. Such diseases usually strike women in their childbearing years. For example, nine out of ten diagnoses of lupus occur in women, with women of African-American, Hispanic, Asian and Native American descent most at risk.



NEW ON BOOKSHELVES

Courageous Confrontations: Lives Transformed by Life-Threatening Illness

Richard H. Helfant, MD, well-known cardiologist, author of *"A Woman's Guide to Fighting Heart Disease"* and FWW Medical Advisory Board member, reveals what he saw and learned when patients face catastrophic illness. Through his patients' stories of illness, recovery, and death he illuminates inspiring accounts of how our minds and emotions affect our health and how illness may also present opportunities. "A rare, special and engrossing look inside the practice of medicine and the untold stories of doctor-patient relations. One of the nation's most respected cardiologists takes us inside his life in medicine with unforgettable people and mind-bending medical problems," says Leslie Gelb, former *New York Times* columnist. (*Sentient Publications, hardcover, \$24.95*)

Inventing the Rest of Our Lives: Women in Second Adulthood

Author Suzanne Braun Levine, noted journalist, the first editor of *Ms. Magazine*, and FWW supporter has written a book about the 37 million "boomer" women who are discovering a new frontier within themselves as they approach their fifties and sixties. Drawing on science, social trends, and personal experiences, Levine shows that women at this stage are not the same people they once were, they are changing — both inside and out. "*Inventing the Rest of our Lives* is that rare book that creates a new paradigm of the life cycle. Nothing could be more overdue, needed, and filled with hope than a vision for the last and most productive third of life. Levine permanently changes our belief that growth is only for the young," says Gloria Steinem, activist and author. (*Viking, hardcover, \$24.95*)

MENOPAUSAL MIDDLE

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engineered to lack the enzyme that converts cortisone to cortisol were resistant to the development of central obesity. Conversely, mice engineered to have higher levels of this enzyme in fat cells had increased accumulation of abdominal fat. The increase of central obesity in these rats led to the same health risks seen in centrally obese humans.

Dr. Gozansky's research examines how estrogen levels in women affect this conversion of cortisone to cortisol, triggering an increase in abdominal fat. The study's design will enable researchers to separate the effects of sex

hormone deficiency from the more general effects of aging. These findings will help in the development of therapies to mitigate this health risk. "This research is vital because women now live many vibrant years after the menopausal transition when heart disease becomes a major health threat, in fact the leading cause of death in women," says Sharon Cravitz, FWW's Executive Director. "FWW had one research award to give and we received dozens of requests from top-notch physicians working on critical health issues affecting millions of women. The need throughout women's health is tremendous. It was difficult to choose just one."

The FWW Women's Health Research Fund was created to support small, short-term

studies on such wide-reaching women's health topics as heart disease and leading female cancers to the role of hormones in causing and treating health concerns. Today there is a lack of funds available for studies that are essential for providing new information and galvanizing larger scale research funded by the federal government. FWW was created to improve women's health by raising public awareness and support for such research and to disseminate new information directly to women and their healthcare providers. FWW Medical Advisory Board evaluates proposals for quality of design, innovation, excellence, and relevance, and also for investigators' commitment to women's health. For more information go to <http://www.thefww.org>.

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rather, have evolved this way out of necessity. Women today may be professionals, mothers, family caregivers, homemakers, and volunteers all at the same time. Even if she is a senior partner in a top law firm, chances are it is the woman in the family who is charged with remembering her child's class snack or an elderly parent's doctor's appointment. This chronic stress affects sleep patterns and, in turn, affects the physical, emotional, and cognitive health of many women. More than 80% of working women report feeling fatigued on a regular basis. Studies show that during the week working women wake up with higher levels of the stress hormone cortisol than do men and levels remain high throughout the day. In contrast, men's cortisol levels drop noticeably after work.

Women who work in shifts that require altered sleep patterns are at increased risk for menstrual irregularities, infertility, miscarriage, and low birth weight infants. According to a new study, insomnia sufferers, regardless of gender, are more likely to feel unsatisfied at work, and insomnia is twice as common among women as it is in men. "We know as little as one night of sleep deprivation can lead to trouble concentrating and making decisions," explains the study's author Brent Scott of University of Florida.

There are physical issues at play as well. Hormonal changes affect both the quality and quantity of women's sleep. The sex hormones, estrogen and progesterone, fluctuate during the menstrual cycle, at puberty, during pregnancy,

and at menopause. The physical symptoms that these hormone fluctuations bring about can disrupt sleep temporarily or chronically. In general, estrogen increases rapid eye movement (REM) sleep, a deep stage of sleep when we dream. Progesterone, which rises after ovulation, may cause some women to feel tired. Poor quality sleep is reportedly most common at the beginning of the menstrual cycle when menstruation begins.

According to a NSF poll, 78% of women report more sleep disturbances during pregnancy than at any other time. This is largely due to hormonal and body changes. High levels of progesterone, necessary for a healthy pregnancy, are known to cause fatigue, increase the need to urinate, and lead to higher body temperatures. As a woman's body changes, physical discomforts can also make sleeping more challenging. Research shows a greater incidence of post-partum blues among women who have experienced a combination of third trimester sleep disruptions and nighttime labor. Sleep disorders such as restless legs syndrome and insomnia also may arise during pregnancy, increasing the chances of sleep disorders extending beyond pregnancy.

Menopause, characterized by major hormonal, physical, and psychological changes, can also affect sleep. Women commonly report hot flashes, insomnia, and recurrent waking during the night. Hormone replacement therapy can help but should be considered in consultation with your physician. Sleep problems often

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FWW SUGGESTIONS FOR A GOOD NIGHT'S SLEEP:

- Manage your stress (and delegate tasks on your "to-do lists" when they become a cause of concern).
- Maintain consistent sleep and wake times.
- Establish a relaxing bedtime routine.
- Take a hot shower or bath before bedtime and keeping your bedroom cool (the change in temperature can induce sleepiness).
- Create a sleep environment that is peaceful, comfortable, dark, and quiet.
- Avoid heavy meals, large amounts of alcohol or fluids, and caffeine before bedtime.
- Quit smoking.
- Exercise regularly but not too close to bedtime.
- Identify allergies to bedroom environmental materials (down feathers or pet dander).
- Identify stress triggers that you cannot "turn off".
- Identify other patterns of sleeplessness.
- Manage hormonal changes in concert with your physician.