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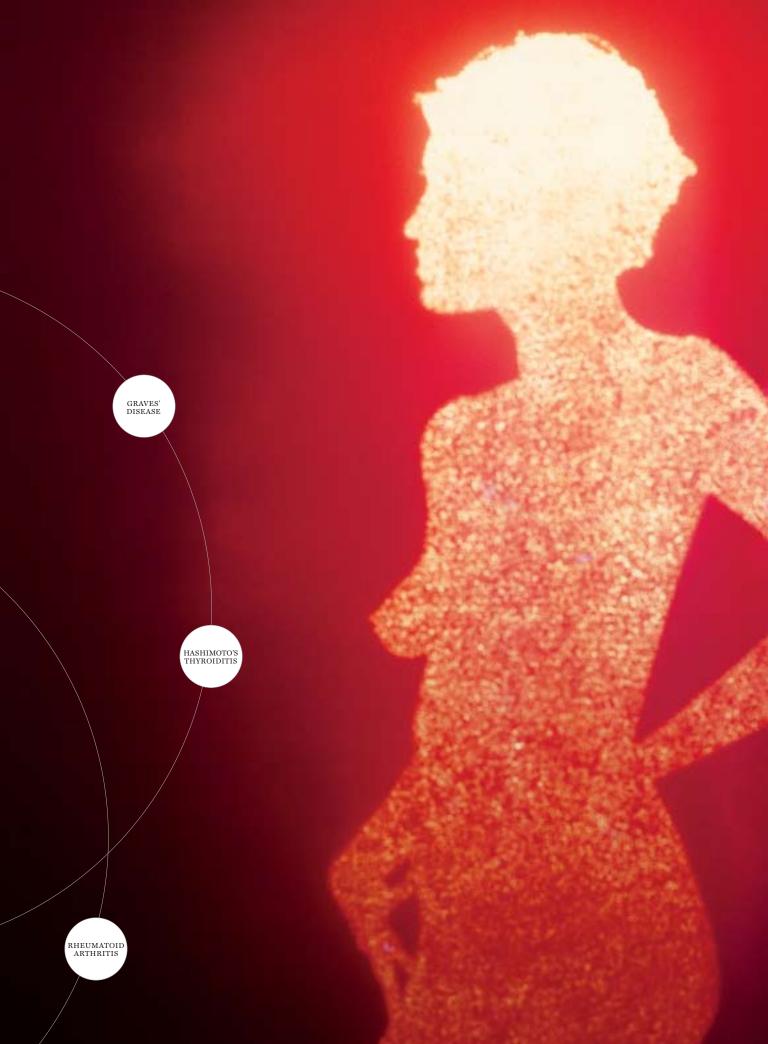
### NEVER HEARDOF

It's more common among young women than breast cancer, and rates have been doubling, even tripling. Here's what you need to know about autoimmune disease—and a first peek at the research on staying safe. BY DONNA JACKSON NAKAZAWA

CROHN'S DISEASE

> SJÖGREN'S SYNDROME

EARLY IN 2004 ERIN FARLEY, 26, BEGAN TO SUFFER from fatigue, fevers, dizziness and joint pain. "It was so bad that shaking hands was excruciating," she says. "I couldn't open a jar or a car door; I couldn't even button my pants. I just didn't have the strength." Eventually the pain became so intense that she couldn't get out of bed. Newly married, she and her husband spent the better part of their honeymoon year dealing with her illness: "He'd brush my hair, dress me, cook what food I could swallow." Farley went from doctor to doctor in search of answers, and finally, a year and a half after she first noticed her symptoms, was diagnosed with rheumatoid arthritis, an autoimmune disease. A family of nearly 100 conditions, autoimmune diseases strike when the body's immune system, which is meant to protect you from foreign invaders such as bacteria and viruses, mistakenly turns



It took three years, and Farley now has some control over her health. Still, she remembers the baffling period before her diagnosis as one of the worst times in her life. "No one, not even your friends, really understands what you're going through," she says. "People aren't *trying* to be mean, but if your doctors don't understand what's happening to you, it's no surprise that other people may think you're making it up."



TORIES LIKE FARLEY'S are strikingly common among young women with autoimmune disease. For seven months Kathy Curran, 28, experienced severe tingling in her arms, recurrent migraines, blurred vision and even one scary episode of momentary blindness—but doctors "said my symptoms were just pinched nerves," she says. An MRI and a spinal tap finally gave a name to her ailment: multiple sclero-

sis (MS), which causes the immune system to attack the central nervous system and can lead to paralysis. Since then, she says, "it seems as soon as I tell someone I have MS, they always say, 'Oh! I just found out that my friend's sister has that too!"

Melissa Weissman, 24, had similar terrifying vision problems along with a sensation of pins and needles down her back. When tests delivered a verdict of MS, it felt surreal: Three of her friends, all women between the ages of 25 and 35, had recently been diagnosed with autoimmune diseases, including type 1 diabetes, in which the immune system attacks insulin-producing cells in the pancreas. "It already seemed odd to me that so many young women I knew were being diagnosed with diseases in which the body basically turns against itself," Weissman says. "I just never thought that I could be one of them."

Katie Hall was 19 when her excruciating stomach pains led to the diagnosis of ulcerative colitis, in which the immune system attacks the lining of the intestines. Her best friend suffers from rheumatoid arthritis. "We always talk about how bizarre it is that two young, confident college girls like us could be hit by autoimmune diseases out of the blue," says Hall, now 21. They weren't an atypical pair; when she went to the hospital for treatment, she was



shocked to see that "so many patients sitting in the IV infusion chairs were women my age. I just don't get it. Why?"

These young women are the living faces of what many scientists call an alarming trend. Rates of autoimmune diseases have been climbing rapidly over the past four decades. These illnesses now afflict an estimated 23.5 million Americans—78 percent of whom are female. That means that more than 18 million women in this country are living with an autoimmune disease, compared with 2.4 million with breast cancer. Why are women more at risk than men? "We suspect that estrogen may cause our immune systems to produce more antibodies, which are meant to protect us, but may make it more likely for the body to turn on itself," says DeLisa Fairweather, Ph.D., assistant professor in the division of toxicology at the Johns Hopkins Bloomberg School of Public Health's department of environmental health sciences.

Experts say that some of the increase in these diseases is really an increase in *diagnoses*—but that the climb is too dramatic to attribute to that alone. "Although the research in this area is limited, many autoimmune diseases appear to be steadily on the rise," says Fred Miller, M.D., Ph.D., chief of the environmental autoimmunity group at the National Institute of Environmental Health Sciences. "That's in contrast to rates of many other illnesses that have remained flat or even decreased."

Doctors are seeing the trend play out in exam rooms every day. "Autoimmune diseases such as MS and transverse myelitis [a similar disease] used to be rare disorders. Now estimates show there may be 400,000 people with MS in the United States alone," says Douglas Kerr, M.D., director of the Transverse Myelitis Center at Johns Hopkins. "Most of the patients we're now seeing

### Odds Are, Someone You Know Is Suffering



"My sister says I have the 'in disease'—

everyone seems to be getting diagnosed with celiac disease. It's made me realize I'm not invincible." —Jessica Monahan, 27



"I blamed stress and exhaustion

for my symptoms. It took a trip to the E.R. to bring my lupus to light. I had to start chemo right away." —Karen Ng, 33



"Doctors had to rule out leukemia before

finally diagnosing idiopathic thrombocytopenic purpura. Now I focus on enjoying what my body can do." —Natalie Schiavone, 32



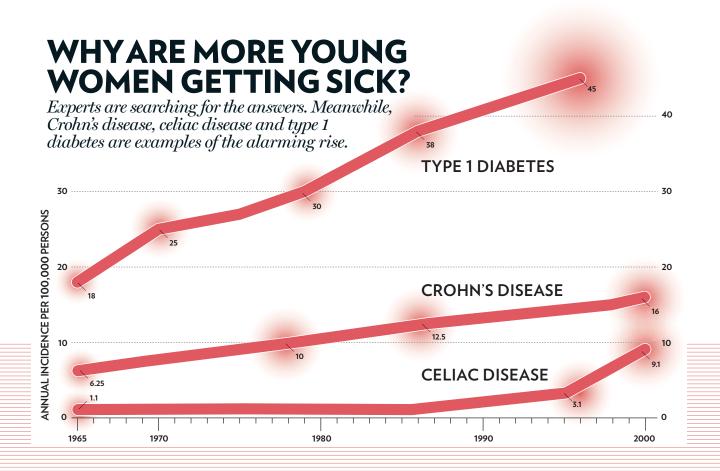
"Since I was diagnosed with MS, I've tried so

hard to maintain a positive attitude. But every day I wonder if or when I will end up in a wheelchair." —Jennifer Koehler, 37



"I didn't know anyone with lupus;

now I know 20 young women. We all want to know: What's going on here?"—Marisa Zeppieri-Caruana, 30



are young, previously healthy women. We're facing an epidemic of autoimmune disease—one that we need to recognize now."

Despite the mounting evidence, talking about the autoimmune epidemic today is a bit like talking about global warming before An Inconvenient Truth was released. Ninety-four percent of people can't name a single autoimmune disease, according to one study, and many doctors haven't fully educated themselves on how to diagnose these conditions. As a result, most autoimmune patients see four doctors over four years before they receive a diagnosis. Kathleen Arntsen, president of the Lupus Foundation of Mid and Northern New York, was in her early thirties when she began suffering from severe muscle fatigue and disabling weakness. She was told dismissively by a doctor, "We've given you every test known to man except for an autopsy. Would you like one of those, too?" It was five years before Arntsen received the diagnosis of myasthenia gravis, an autoimmune disease that destroys the nerves' ability to stimulate and control muscle action. "Young women are so often treated like fruitcakes when they fall ill with

these diseases," Arnsten says. "Meanwhile, their entire lives are turned upside down."

HANKFULLY, RESEARCHERS have begun to slowly unlock key findings about autoimmune disease. "These diseases all begin the same way—something triggers the immune system to attack your own body," says Fairweather. What flips the switch? Signs increasingly point to environmental factors such as the food we eat, the levels of stress we live

with and the pollutants our immune systems are exposed to. No one factor is deadly; in most cases it's likely that the cumulative buildup of many environmental problems poses health risks. "Even though you may have the same genetic tendencies as your mother or grandmother, today's environment is more likely to pull the trigger that makes you get sick," explains Pamela Peeke, M.D., author of *Body for Life for Women* and a former senior research fellow specializing in integrative medicine at the National Institutes of Health.

The best analogy is the age-old idea of the straw that broke the camel's back: Your immune system can function under even a heavy load of environmental stressors. But one too many and it completely breaks down. What are the most common straws for young women? And how can *you* stay safe? Experts are beginning to understand exactly that.

### **Our Junk Food Ways**

"Today's highly processed food diet is a contributor to the autoimmune epidemic," says Gerard Mullin, M.D., director of integrative gastroenterology nutrition services at the Johns Hopkins Medical Institutions. He cites the refined carbs and dangerous fats found in many processed foods, as well as the lack of fiber, antioxidants and phytonutrients. How does what's in your stomach affect your immune system? "The lining of the gut is on alert for any strange stuff we're eating," says Dr. Peeke. "The body has to decide at that moment, 'Do I digest that, absorb that or get rid of it right away?' If the food is, say, a whole food like broccoli, the gut doesn't give a damn, and it's quickly digested. But spray that broccoli with pesticides, and the gut says, 'Now you've got my attention.' And the immune system has to go to work." Recent studies show that when

Penélope continued from page 278

GLAMOUR: Hola.

PENÉLOPE CRUZ: ¿Hablas español? ¿De dónde eres?

GLAMOUR: Vivo en Nueva York.

PC: Oh, I love New York. The Village is my favorite neighborhood. But, listen, can we speak in English because you will be writing this in English, right? I don't want to be translated.

GLAMOUR: Of course, I understand. Something is always lost in translation. So, you spend a lot of time between L.A. and Madrid—how is a Madrid day different from an L.A. day?

PC: When I'm in [L.A.], I always consider Madrid my main home. It is important for me to make movies in my own language, and Madrid is my base. That is the privilege I have—going back and forth. In L.A. there is too much focus on things that aren't so relevant. The obsession about movies, about the business...

GLAMOUR: It is a one-industry town.

PC: There, you cannot forget about "the industry." I have hours in the day when I don't want to be thinking about my job.

GLAMOUR: How do you deal with all of the attention you receive as part of your work? PC: You have to create a safe environment for yourself so you can keep doing what you do, so you can keep being the observer instead of the object. But that doesn't mean you cannot go to the market, that you cannot go to have a drink at a bar or walk in the park. I do all of that [here].

GLAMOUR: What are some of the no-nos? PC: I think that some people have the wrong idea that you have an obligation [because you are a public person] to offer some of your private life. I couldn't disagree more. I don't talk about my private life. I am clear about that. I think anybody with common sense can understand that.

GLAMOUR: Let's talk stereotypes. Do you think Hollywood tries to put you in a box? PC: I am a Spanish actress who works in other countries and languages. I am my own thing.

**GLAMOUR**: And now you are here shooting [with Pedro Almodóvar].

PC: Yes, [the plot is] a movie inside a movie. My character, she acts in a comedy. But the rest of the movie is a drama. I'm very excited—and a little bit nervous.

**GLAMOUR**: Do you ever stop being nervous about a character?

**PC**: I never imagine myself getting too confident. Especially with someone like

[Pedro], who is one of my best friends. He is one of those people who I respect the most, and at the same time, he intimidates me the most.

**GLAMOUR**: What about your experience with Woody [Allen]?

PC: I *loved* working with him. He is very original—I mean, the treasures that come out of his mouth!

GLAMOUR: What's next for you?

PC: When I finish Pedro's movie, I will start rehearsing [for *Nine*, a musical adaptation of Federico Fellini's 1963 film 8 ½, starring Sophia Loren and Daniel Day-Lewis]. I did a lot of singing and dancing auditions for it—I really wanted this part. And I'm very, *very* happy [about getting it].

GLAMOUR: On my drive here from the airport, I saw a billboard of your sister Mónica, and I had to do a double take.

PC: The other day we were sitting together in the back of the car and I was looking in the rearview mirror, and a very strange thing happened: I thought I was looking at my face and it was hers! We say everything to each other; we hide nothing. It's great.

GLAMOUR: Usually when two sisters look so much alike their personalities are very different. Is that the case with you?

PC: Growing up, she was the peaceful one and I was the impossible one. I was very rebellious about everything. I also had a lot of energy. Thank God [my parents] took me to a ballet school every day, because there was no way I could sit in my house.

GLAMOUR: The billboard was for Mango, the [inexpensive Spanish] clothing store. You design a collection for them with Mónica. Why fashion?

**PC**: We always wanted to do something together. We wore Mango growing up.

GLAMOUR: So do you sketch the clothes? PC: No, no. We find inspiration in pictures, old movie clips. It is so much fun to walk down the street and see somebody wearing one of our pieces.

**GLAMOUR**: What about getting dressed everyday—what do you wear? I think different cities have different styles.

PC: I don't think that way. Instead, I wake up and I say, "Who am I today?" Although, most of the time, I end up wearing jeans!
GLAMOUR: You definitely like the big lavish gowns at red-carpet events.

PC: Hey, you are being dressed by designers in these amazing one-of-a-kind pieces; you have to go all out, no? ■

 $Silvana\,Paternostro's\,memoir,\,{\rm My\,Colombian\,War}, is\,out\,in\,paperback\,this\,month.$ 

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immigrants from South Asian countries move to Western countries and likely begin to eat processed food diets, they have an increased incidence of autoimmune diseases such as Crohn's and ulcerative colitis. Studies like this haven't been the only thing to sway Dr. Mullin, whose own autoimmune disease, a rare condition called arachnoiditis, once nearly paralyzed him. "I've been extra vigilant about eating a whole foods diet," he says-and his health has improved as a result. On his and most experts' good-to-eat list: skinless chicken; low-mercury wild fish such as flounder and tilapia; vegetables; fresh fruits; whole grains from gluten-free sources; nuts; and olive and flaxseed oils. On the not-good list: highly processed foods, including preserved bread products and cereals, preserved meats and other foods that are often full of chemicals, preservatives and additives. Sufferers should eat them rarely, if at all.

Dietary changes helped Angela Doss. Last December Doss, 28, was suffering from severe thirst, dizziness and fatigueand had lost almost 20 pounds in three weeks. She says a doctor told her, "You just need to gain some weight. Go have a banana split and you'll be just fine." She was later rushed to the emergency room, where physicians diagnosed Doss-who was in a near-diabetic coma—with type 1 diabetes. In addition to daily insulin shots, "now I eat as many organic vegetables and fruits as I can," Doss says. "I grew up on a fast-food diet of fried foods-Oklahoma meat and potatoes. It took me a while to learn to eat whole foods. But I've noticed a big difference in how I feel."

Should we all cut back on junk? Yes, say experts like Dr. Peeke, who argue that doing so may help the average American woman cut her risk of contracting autoimmune disease. "People say we don't have perfectly wonderful data yet, but come on," says Dr. Peeke. "The best thing to do is to eat whole foods."

### Our 24/7 Stress Habit

If you're skeptical that emotional issues can have real physical consequences, consider this: Parents who have suffered the loss of a child are 50 percent more likely to develop MS than those who've never gone through that trauma, according to one 2004 study. "Chronic stress" (continued on page 355)

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has a toxic effect on almost every single tissue in the human body," explains Dr. Peeke. "The immune system puts up the best front it can, but after being beaten up enough, it can no longer optimally protect you." MS and rheumatoid arthritis are both associated with stressful life events, but it doesn't take personal tragedy to raise your risk of autoimmune disease-being chronically stressed can also alter the immune response. And perhaps not surprisingly, women today seem to be more stressed than in generations past, says Robin Goland, M.D., an endocrinologist and codirector of the Naomi Berrie Diabetes Center at Columbia University Medical Center. "Today, we're trying to do everything," she says. "You have to be a little selfish to be healthy, and that's hard for women." If you're chronically stressed, or, as Dr. Peeke says, "feeling helpless, hopeless or defeated," finding an outlet is critical. "You can't avoid stress; we need some in order to grow and evolve," she says. "But you have to eliminate the stuff that wears you down, the stuff you ruminate about, as best you can." Exercise, yoga or meditation are prime choices, since they can help steady stress hormones, but anything that breaks up your daily grind is beneficial.

### **Our Chemical World**

Environmentalists talk about the carbon footprint we're leaving on our planet; some health experts say we should also look at the chemical imprint we're leaving within our own bodies. And many agree that our day-to-day exposure to pollutants, pesticides, heavy metals and chemicals is, in Dr. Kerr's words, "a significant contributor to today's rising rates of autoimmune disease."

How can those pollutants have such an impact? It takes the human body thousands of years to adapt to new environmental stresses, explains Ahmet Höke, M.D., Ph.D., associate professor of neurology and neuroscience and director of the neuromuscular division at Johns Hopkins. "We've outpaced our evolutionary ability to keep up with the number of chemicals we come into contact with every day," he says. And those numbers are huge: In 2005 the Centers for Disease Control and Prevention reported that when they sampled 2,500 people across the country to look for the "body burden," or amount of chemicals each individual was carrying,

### YOU CAN HELP END THIS EPIDEMIC

Funding for research on autoimmune diseases is low, considering the numbers of women they afflict. Want to help change that?

CALL ON CONGRESS to support the PARAiD Act and H.Res. 258, which will help raise awareness and funding to identify environmental triggers of autoimmune disease. (Find sample letters at aarda.org.) You'll have a real effect, says Representative Pete Stark (D.-Calif.), if you share your concerns at your representatives'

next town hall event in your area (many hold them several times a year; check your legislator's website).

ASK FOR SUFFERERS TO BE
COUNTED. "If someone is diagnosed with cancer, tuberculosis or HIV, her doctor typically reports it to the health department," says Rep. Stark. But that's not required for autoimmune diseases. "As a result, we don't know how many people suffer from them or have a data bank so we can research

possible causes and cures."

they found traces of all 148 chemicals and pollutants they tested for, including PCBs, insecticides, dioxins, mercury and cadmium, which are toxic in higher doses.

Not all experts believe our polluted world makes us sick—some proponents of the "hygiene hypothesis" argue it's too *clean*, believing that our germ-free homes and childhood vaccinations have eliminated the natural challenges to our immune systems that once taught our bodies how to defend us properly. But many specialists and some research dispute this idea; studies have found no link between infections, vaccinations and the diagnosis of type I diabetes, for example.

Still other critics refute the idea that chemicals might make us sick at all. "Just because we can measure a chemical in the blood doesn't therefore mean it's harmful," says Jeff Stier, spokesman for the American Council on Science and Health (ACSH), a group that gets about 40 percent of its financial support from industry sources. (The ACSH says these are no-strings-attached donations.) "People want to be able to blame chemicals where they don't have another explanation for the cause of a disease. I think we need more psychologists rather than more toxicologists." The ACSH argues that we should focus on the things we know will improve health. "There are so many things we can do to protect ourselves-get good nutrition, quit smoking, buckle up," says Stier.

Doubtless those universal guidelines are important, but an increasing number of researchers say possible chemical risks shouldn't be ignored. "The people who first studied the connection between cigarette smoking and lung cancer faced the same criticism," says Kathleen Gilbert, Ph.D., an associate professor in the department of microbiology and immunology at the Arkansas Children's Hospital Research Institute in Little Rock, who has studied

autoimmune diseases. "The only reason these things are 'obvious' now is because scientists decided to study them. Surely we owe it to the folks with autoimmune diseases to investigate." Some research, Gilbert points out, shows a link between autoimmune disease and chemical exposures below levels of supposed toxicity.

To live as healthy a life as she can with lupus, Marisa Zeppieri-Caruana, 30, never takes her clothes to a dry cleaner and doesn't use any products with pesticides. "After so many years of being sick, you learn that you have to be vigilant," she says. Katie Hall looks for natural or organic beauty products. "I check everything that I put on my body because it's just one more way chemicals can get absorbed," she says. Erin Farley has switched from traditional cleansers to natural alternatives. "My mother taught me how to make an allnatural cleaner she calls 'witches' brew': one part water, one part white vinegar and a splash of lemon," says Farley. "I use it to wipe down everything."

What do experts think of these steps? "I know we don't have all the science to back it up, but I see how patients who do this are healthier and feel better, and I can only tell them that what they are doing makes sense and is a good prescription for better health," says Dr. Mullin.

It's a prescription Dr. Peeke follows herself. "The most important thing you can do is avoid toxic stress. Whenever you can, eat whole foods, whole foods, whole foods. And in the best of all worlds, go green," she says. "There's no question that if we made these kinds of changes, we would not only slow the sharp increase in autoimmune disease, we would impact heart disease, cancer and *all* health."

Donna Jackson Nakazawa is the author of The Autoimmune Epidemic and the website autoimmuneepidemic.com.