ABRAHAM MENASHE

Copyright 1998 Scientific American, Inc.

Dying to Be Thin

Eating disorders cripple—literally—millions of young women, in large part because treatments are not always effective or accessible

by Kristin Leutwyler, *staff writer*

I don't own a scale. I don't trust myself to have one in the house—maybe in the same way that recovered alcoholics rightfully clear their cabinets of cold medicines and mouthwash. At 5′7″, I know that I usually weigh 118 pounds, and I know that is considered normal for my frame. But 13 years ago, when I was 15 years old and the same height, I weighed 67 pounds, and I thought I was grossly, repulsively obese.

My own bout with anorexia nervosa—the eating disorder that made me starve myself into malnutrition—was severe but short-lived. I had a wonderful physician who worked hard to earn my trust and safeguard my health. And I had one great friend who slowly, over many months, proved to me that one ice cream cone wouldn't make me fat nor would being fat make me unlovable. A year later I was back up to 95 pounds. I was still scrawny, but at least I knew it.

I was—am—lucky. Eating disorders are often chronic and startlingly common. One percent of all teenage girls suffer from anorexia nervosa at some point. Two to 3 percent develop bulimia nervosa, a condition in which sufferers consume large amounts of food only to then "purge" away the excess calories by making themselves vomit, by abusing laxatives and diuretics, or by exercising obsessively. And binge eaters—who overeat until they are uncomfortably full—make up another 2 percent of the population.

Anorexia nervosa affects many young women, such as this patient in the eating disorders clinic at the New York State Psychiatric Institute, a part of Columbia-Presbyterian Medical Center.

In addition to the mental pain these illnesses cause sufferers and their families and friends, they also have devastating physical consequences. In the most serious cases, binge eating can rupture the stomach or esophagus. Purging can flush the body of vital minerals, causing cardiac arrest. Self-starvation can also lead to heart failure. Among anorexics, who undergo by far the worst complications, the mortality rate after 10 years is 7.7 percent, reports Katherine A. Halmi, a professor of psychiatry at Cornell University and director of the Eating Disorders Clinic at New York Hospital in Westchester. After 30 years of struggling with the condition, one fifth die.

Because studies clearly show that people who recover sooner are less likely to relapse, the push continues to discover better treatments. Eating disorders are exceedingly complex diseases, brought on by a mix of environmental, social and biological factors. But in recent years, scientists have made some small advances. Various forms of therapy are proving beneficial, and some medications—particularly a class of antidepressants known as selective serotonin reuptake inhibitors (SSRIs)—are helping certain patients. "SSRIs are not wonder drugs for eating disorders," says Robert I. Berkowitz of the University of Pennsylvania. "But treatments have become more successful, and so we're feeling hopeful, even though we have a long way to go to understand these diseases."

Weighing the Risks

When I began working on this article, I phoned my former physician, a specialist in adolescent medicine, and I was a little surprised that she remembered my name but not my diagnosis. In all fairness, my illness was a textbook case. I had faced many common risk factors, starting with a "fat list" on the bulletin board at my ballet school. The list named girls who needed to lose weight and by how much. I was never on it. But the possibility filled me with so much dread that at the

Copyright 1998 Scientific American, Inc.

start of the summer, I decided I had to get into better shape. I did sit-ups and ran every day before and after ballet classes. I stopped eating sweets, fats and meat. And when I turned 15 in September, I was as lean and strong as I've ever been.

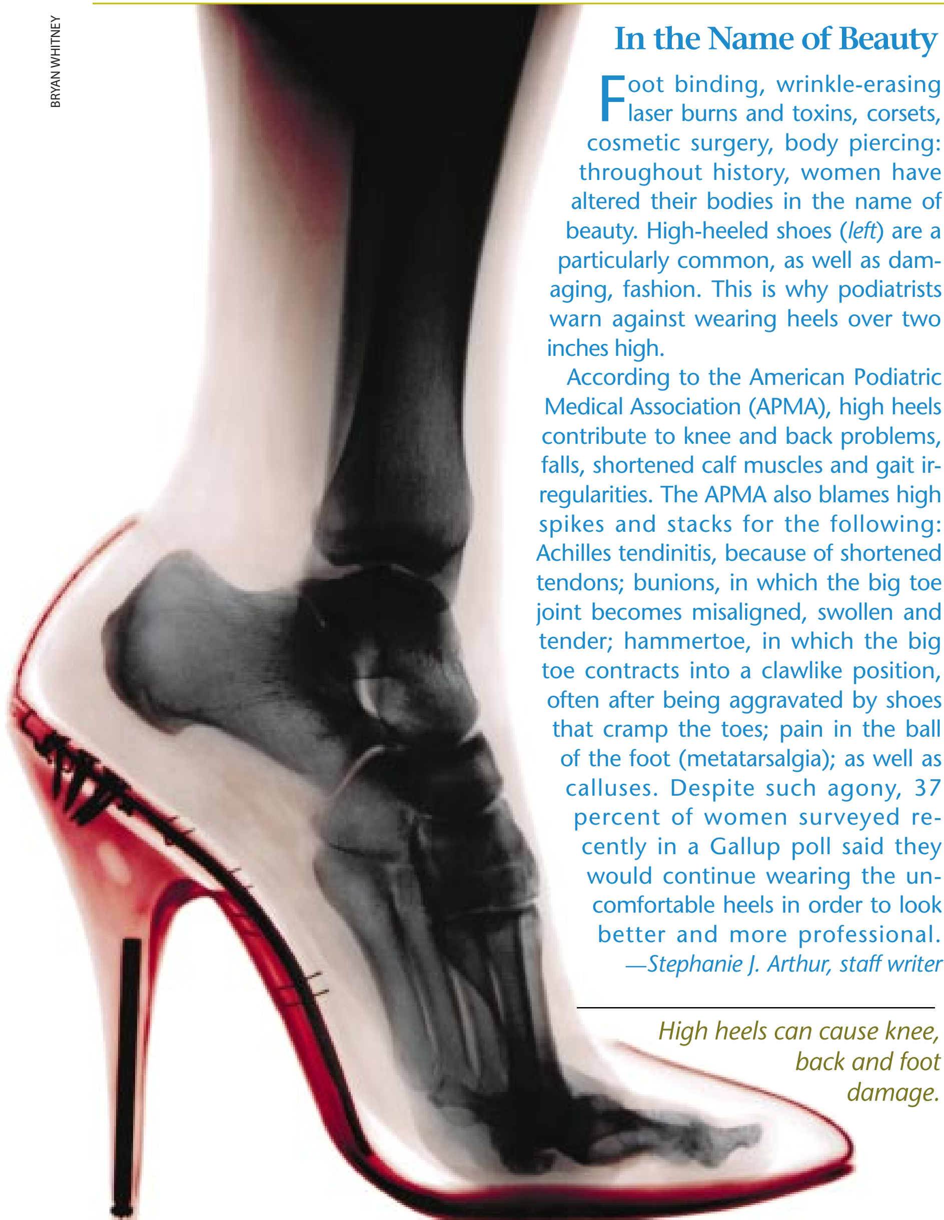
Scientists know that environment contributes heavily to the development of eating disorders. Many anorexic and bulimic women are involved in ballet, modeling or some other activity that values low body weight. Men with eating disorders often practice sports that emphasize dieting and fasting, such as wrestling and track. And waiflike figures in fashion and the media clearly hold considerable sway. "The cultural ideal for beauty for women has become increasingly thin over the years," Berkowitz notes. In keeping, among the millions now affected by eating disorders every year, more than 90 percent are female.

Like me, most young women first develop an eating disorder as they near puberty. "Girls start to plump up at puberty," Estherann M. Grace of Children's Hospital in Boston says. "And this is also when they start looking at magazines and thinking, 'What's wrong with me?' " Recognizing that anorexia nervosa often arises as girls begin to mature physically, psychiatrists recently revised the diagnostic standards. "It used to be that one of the criteria was that you had to have missed a period or suffered from amenorrhea for three months," says Marcie B. Schneider of North Shore University Hospital. "And so we missed all those kids with eating disorders who had not yet reached puberty or had delayed it." Now the criteria include a failure to meet expected growth stages, and more 10-, 11- and 12-year-olds are being diagnosed.

Puberty is a stressful time—and stressful events typically precede the onset of psychiatric conditions, including eating disorders. Maybe I would have stopped dieting had my parents not separated in the summer, or my grandmother had not died that fall, or I hadn't spent my entire winter vacation dancing 30-odd performances of the *Nutcracker*. Maybe. I do know that as my life spun out of control around me, my diet became the one thing I felt I could still rein in. "Anorexics are terribly fearful of a loss of control," Grace says, "and eating gives them one area in which they feel they have it."

Most people under stress will overeat or undereat, Grace adds, but biology and personality types make some more vulnerable to extremes. Anorexics tend to be good students, dedicated athletes and perfectionists—and so it makes some sense that in dieting, too, they are highly disciplined. In contrast, bulimics and binge eaters are typically outgoing and adventurous, prone to impulsive behaviors. And all three illnesses frequently arise in conjunction with depression, anxiety and obsessive-compulsive disorder—conditions that tend to run in families and are related to malfunctions in the system regulating the neurotransmitter serotonin.

I most definitely became obsessed. I read gourmet magazines cover to cover, trying to imagine the taste of foods I would not let myself have—ever. I cut my calories back to 800 a day. I counted them down to the singles in a diet soda. I measured and weighed my food to make my tally more accurate. And I ate everything I dished, to make sure I knew the precise number of calories I had eaten. By November, none of my clothes fit. When I sat, I got bruises where my hip bones jutted out in the back. My hair thinned, and my nails became brittle. I was continuously exhausted, incredibly depressed and had no intention of quitting. It felt like a success.



BRYAN WHITNEY

In the Name of Beauty

Foot binding, wrinkle-erasing laser burns and toxins, corsets, cosmetic surgery, body piercing: throughout history, women have altered their bodies in the name of beauty. High-heeled shoes (*left*) are a particularly common, as well as damaging, fashion. This is why podiatrists warn against wearing heels over two inches high.

According to the American Podiatric Medical Association (APMA), high heels contribute to knee and back problems, falls, shortened calf muscles and gait irregularities. The APMA also blames high spikes and stacks for the following: Achilles tendinitis, because of shortened tendons; bunions, in which the big toe joint becomes misaligned, swollen and tender; hammertoe, in which the big toe contracts into a clawlike position, often after being aggravated by shoes that cramp the toes; pain in the ball of the foot (metatarsalgia); as well as calluses. Despite such agony, 37 percent of women surveyed recently in a Gallup poll said they would continue wearing the uncomfortable heels in order to look better and more professional.

—Stephanie J. Arthur, staff writer

High heels can cause knee, back and foot damage.

Sitting Down for Treatment

The first barrier to treating eating disorders is getting people to admit that they have one. Because bulimics are often a normal weight and hide their strange eating rituals, they can be very hard to identify. Similarly, binge eaters are extremely secretive about their practices. And even though seriously ill anorexics are quite noticeably emaciated, they are the least willing of all patients with eating disorders to get help. "Anorectics are not motivated for treatment in the same way as bulimics are," Halmi comments. "Because anorexia gives patients a sense

Copyright 1998 Scientific American, Inc.

of control, it is seen as a positive thing in their lives, and they're terrified to give that up."

I certainly was—and a large part of getting better involved changing that way of thinking. To that end, cognitive behavioral therapy (CBT) has had fair success in treating people with anorexia, bulimia and binge eating disorder. "There are three main components," explains Halmi, who views CBT as one of the most effective treatments. Patients keep diaries of what they eat, how they feel when they eat and what events, if any, prompt them to eat. I used to feel guilty before meals and would ask my mother for permission before I ate. She never would have denied me, but asking somehow lessened my guilt.

CBT also helps patients identify flawed perceptions (such as thinking they are fat) and, with the aid of a therapist, list evidence for and against these ideas and then try to correct them. This process let me eventually see the lack of reason in my belief that, say, a single cookie would lure me into a lifetime bender of reckless eating and obesity. And CBT patients work through strategies for handling situations that reinforce their abnormal perceptions. I got rid of my scale and avoided mirrors.

Working in collaboration with researchers at Stanford University, the University of Minnesota and the University of North Dakota, Halmi is now comparing relapse rates in anorexics who have been randomly assigned to treatment with CBT or the SSRI drug Prozac, or a combination of both. Unfortunately, the dropout rate has been high. But earlier evidence has suggested that Prozac—which had not yet been approved when I was sick—may benefit some patients, helping them to at least stop losing weight. "Essentially every young woman with anorexia is also dealing with depression, and so SSRIs help alleviate some of the somatic symptoms associated with that," Grace says.

Not everyone believes SSRIs do much for anorexics, particularly those who are not desperately ill. But SSRIs have proved effective in people with bulimia. In conjunction with James Mitchell, director of neuroscience at the University of North Dakota, and Scott J. Crow, professor of psychiatry at the University of Minnesota, Halmi has just completed collecting data on 100 bulimics who received cognitive behavioral therapy for four months. Those who still did not improve underwent further therapy and drug treatment with Prozac. "When it comes to bulimia," Berkowitz tells me, "it is clear that both psychotherapy and pharmacology are helpful."

Swallowing the Truth

New treatments for eating disorders could benefit millions of adolescents—if they can get them. Most face a greater challenge getting help today than I did 13 years ago. "One of the big topics now is how to survive in this era of managed care," Schneider tells me. "You have to be at death's door to get into a psychiatric hospital," Berkowitz says, "and once a patient is stabilized, the reimbursements often stop. This is not an inexpensive disease to have." I went through a year of weekly therapy before I reached a stable, if not wholly healthy, weight. In comparison, Berkowitz notes that the insurance policies he has encountered recently often pay for only 20 sessions, with the patient responsible for a 50 percent co-payment.

"It's absolutely sinful," Halmi says. "It is a disaster for eating-disorder patients, particularly anorexics." She points out that relapse rates are much lower in adolescents who receive treatment long enough to get back up to 90 percent of their ideal weight; those who gain less typically fare worse. But insurance rarely lasts long enough. "It used to be you could hospitalize a kid for three or four months," Schneider says. "Now you can at most get a month or so, and it's on a case-by-case basis. You're fighting with the insurance company every three days." The fact that it may be cheaper to treat these patients right the first time seems to make little difference to insurance companies, she adds: "Their attitude is that these kids will probably have a different carrier down the road."

Down the road, the consequences of inadequate treatment are chilling. Debra K. Katzman of the Hospital for Sick Children in Toronto recently took magnetic resonance imaging (MRI) scans of young women with anorexia nervosa before and after recovery and found that the volume of cerebral gray matter in their brains seemed to have decreased—permanently. "The health of these kids does rapidly improve when they gain back some weight," Schneider says, "but the changes on the MRIs do not appear to go away."

In addition, those who do not receive sufficient nutrition during their teen years seriously damage their skeletal growth. "The bones are completed in the second decade, right when this disease hits, so it sets people up for long-term problems," Grace asserts. These problems range from frequent fractures to thinning bones and premature osteoporosis. "I talked to one girl today who is 16. She hasn't been underweight for that long, but already she is lacking 25 percent of the bone density normal for kids her age," Schneider says. "And I have to explain to her why she has to do what no inch in her wants to—eat—so that she won't be in a wheelchair at age 50."

Because drugs used to treat bone loss in adults do nothing in teens, researchers are looking for ways to remedy this particular symptom. "[Loss of bone is] related to their not menstruating and not having estrogen," Grace explains. "But whereas estrogen does protect older women against bone loss, it doesn't seem to help younger ones." She and a coworker are now testing the protective effects of another hormone in young girls. Halmi also emphasizes that estrogen treatment for patients with eating disorders is a waste of time. Instead "you want to get them back up to a normal weight," she states, "and let the body start building bone itself."

All of which brings us back to the concept of normal weight—something many women simply don't want to be. A recent study found that even centerfold models felt the need to lie about their heights and weights. Christopher P. Szabo of the Tara Hospital in Johannesburg reviewed the reported measurements of women in South African editions of *Playboy* between February 1994 and February 1995 and calculated their apparent body mass indices. Even though these models all looked healthy, 72 percent had claimed heights and weights that gave them a body mass index below 18—the medical cutoff for malnourishment. "Maybe 5 percent of the population could achieve an 'ideal' figure, with surgical help," Grace jokes. "I'm sorry, but Barbie couldn't stand upright if she weren't plastic."

I remember all too well thinking that I would look fat at a normal weight. Sometimes I still do worry that I look fat. But I take my perceptions with a grain of salt. After all, I haven't exactly proved myself to be a good judge in that regard. Somehow I've come to a point where I don't need to measure my self-worth in pounds—or the lack thereof—provided I'm happy and well. I gave up a lot—ballet, friendships, a sense of community and security. But in return, I got my health back. SA

Copyright 1998 Scientific American, Inc.