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The New Science of Addiction

Alcoholism in People Who Had Weight-Loss Surgery Offers Clues to Roots of Dependency

By JANE SPENCER
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On the heels of a five-year boom in weight-loss surgeries, researchers are observing an unusual phenomenon: Some patients stop overeating -- but wind up acquiring new compulsive disorders such as alcoholism, gambling addiction or compulsive shopping.

Awareness of the issue is just beginning to surface. Some bariatric-surgery centers say they are starting to counsel patients about the issue. Substance-abuse centers, including the Betty Ford Center in Rancho Mirage, Calif., say they are seeing more bariatric-surgery patients checking in for help with new addictions. And alcohol use has become a topic of discussion on bariatric-surgery-support sites, such as Weight Loss Surgery Center, wlscenter.com.

Some psychologists describe it as a type of "addiction transfer," an outcome of substance-abuse treatment whereby patients swap one compulsive behavior for another. At the Betty Ford Center, about 25% of alcoholics who relapse switch to a new drug, such as opiates.


The behavior has long been explained as a psychological phenomenon as patients seek new strategies for filling an inner void. But as substance-abuse experts learn to decode the brain's addiction pathways, some researchers are coming to believe that swapping behaviors may have a neurological basis. A new wave of research suggests that the biochemical causes of compulsive eating are extremely similar to those underlying other self-destructive addictions, such as alcohol or cocaine addiction. Alcohol use in particular is a concern for bariatric patients because some versions of the surgery can change the way patients metabolize alcohol, making it far more powerful.

Exploring the overlaps between compulsive eating and other addictions is a growing focus at the National Institute on Drug Abuse, which spent \$1.4 million on obesity research last year. Researchers at NIDA hope to piggyback on the drug industry's extensive research on obesity in an effort to find new compounds that might treat multiple types of impulse-control disorders at once.

"The potential is extraordinary," says Nora Volkow, NIDA director. "A drug that could condition craving behavior -- whether it's for chocolate or cocaine -- would be a gigantic market."

Dozens of clinical trials on addiction treatments are under way at the National Institutes of Health. Topiramate, an epilepsy drug marketed by Ortho-McNeil Neurologics under the name Topamax,

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SWAPPING ADDICTIONS

- 'I Drank the Way I Ate'¹

is currently being studied for binge eating, alcohol dependence, cocaine addiction and compulsive gambling.

Bupropion, marketed by **GlaxoSmithKline** as the antidepressant Wellbutrin and the smoking-cessation drug Zyban, is currently being studied as a treatment for gambling, obesity, nicotine dependence and alcoholism. And Rimonabant, made by **Sanofi-Aventis** is being reviewed by the Food and Drug Administration as a treatment for obesity and associated health problems, but it is also being studied as a treatment for alcoholism.

Estimates on the prevalence of new addictions after weight-loss surgery vary widely. Philip Schauer, director of bariatric surgery at the Cleveland Clinic and current president of the American Society for Bariatric Surgery, estimates that only about 5% of bariatric-surgery patients develop a new compulsive behavior after surgery, such as alcoholism, compulsive shopping or smoking. He adds there is no evidence that the new addictions have any direct link to the surgery.

At U.S. Bariatric, a weight-loss surgery center with offices in Orlando and Fort Lauderdale, Fla., therapists estimate that roughly 20% of patients acquire new addictive behaviors. Melodie Moorehead, a psychologist who spoke at a session during the American Society for Bariatric Surgery Association annual meeting last month, cited preliminary data suggesting that roughly 30% of bariatric-surgery patients struggle with new addictions after surgery. But she says the issue requires further study.

One possible reason for the disparity in estimates is that alcohol problems can surface several years after the surgery, when surgeons are no longer tracking patients as closely. And some patients may not see a link between their drinking and the surgery, or report their problem to a surgeon. Roughly 140,000 bariatric surgeries are performed in this country each year.

Some bariatric doctors dismiss the issue as pure coincidence. "People don't become alcoholics as a side effect of the surgery," says Neil Hatcher, past president of the American Society for Bariatric Surgery. "They become alcoholics for the same reasons anyone becomes an alcoholic. The surgery is not a cure-all for everything transpiring in the patient's life."

For a variety of reasons -- including the fact that alcohol is high in calories -- bariatric-surgery patients are often advised not to drink alcohol for the first six months to a year after surgery. In addition, most bariatric centers screen patients for heavy alcohol use, and exclude patients who exhibit signs of alcohol dependence.

"The surgery creates profound changes in people, both physical and mental," says Dr. Schauer. "Even though they're good changes, they could ignite problems in people with active substance-abuse problems."

Gastric bypass surgery, which accounts for 75% of all bariatric surgeries in the U.S., involves sectioning off a small portion of the stomach into a pouch that bypasses the first part of the small intestine. As a result, alcohol passes rapidly into the intestine where it is quickly absorbed into the bloodstream. "You shorten the time to the brain so much that if you liked alcohol before, you'll love it now," says Mark Gold, professor of psychiatry and neuroscience at the University of Florida College of Medicine. (Lap-band procedures, which account for 20% of U.S. weight-loss surgeries, don't have the same impact. The procedure involves restricting part of the stomach with a silicon band, but doesn't change the absorption process.)

The issue is a sensitive one for the bariatric-surgery community following a series of major studies raising questions about the long-term health benefits of the procedure. A large study of 60,000 gastric-bypass patients published in the Journal of the American Medical Association last October, found that 40.4% of patients who had the surgery were readmitted to a hospital at least once during the three years after surgery, double the 20.2% rate of hospitalizations in the three years prior to surgery. (See related article on this page about bariatric-surgery procedures.) Some in the field hope the concerns about substance abuse will add to the growing interest in psychological counseling of patients.

Some research suggests that obesity might offer some protection against other types of addictions, including alcohol. A study of 9,125 adults published earlier this month in the Archives of General Psychiatry found that obese people had a 25% decrease in likeliness for substance abuse. And in 2004, researchers at the University of Florida, Gainesville, published an study of 298 women showing that obese women have lower rates of alcohol use than the general population. The researchers theorize that food and alcohol trigger the same reward sites in the brain. Some people may feed their addictive cravings with food; others with alcohol.

Neuroimaging studies suggest that obese people and substance abusers have abnormal levels of dopamine in the brain, contributing to cravings. "They always feel something is lacking, and in order for them to feel OK, they need to use something that boosts the dopamine in brain," says Gene-Jack Wang, chairman of the Medical Department Brookhaven National Laboratory.

Bankole Johnson, chairman of the department of psychiatric medicine at the University of Virginia, says gastric-bypass surgery provides a mechanical solution that leaves the underlying neurobiological problem untreated. "It's like a thirst," says Dr. Johnson. If you're thirsty -- and there's no water -- you'll drink lemonade."

Write to Jane Spencer at jane.spencer@wsj.com

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'I Drank the Way I Ate'

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For much of her life, Patty Worrells was wracked by uncontrollable food cravings. She binged on half-gallon tubs of cookies 'n cream ice cream at 3 a.m. She devoured eight cinnamon rolls at breakfast. Often, she ate in secret. By the time she was in her mid-40s, her weight had soared to 265 pounds on her 5-foot, 4-inch frame, and she was struggling with type II diabetes and arthritis.

Then, four years ago, Ms. Worrells joined the rush of Americans signing up for gastric-bypass surgery and had her stomach reduced to a tiny pouch. She dropped 134 pounds in a year. For the first time in decades, she could fit comfortably in a restaurant booth and board an airplane without glares from other passengers.

Ms. Worrells was elated -- until a new craving took over. Never a heavy drinker before surgery, she found herself going out for drinks more often with friends. Eighteen months after her surgery, she was downing 15 to 20 shots of tequila almost every night. She often woke up in the morning with bruises and scratches from drunken falls she couldn't remember.



John Bashman/Reuters

Patty Worrells lost 134 pounds after undergoing weight-loss surgery but gained a new addiction: alcoholism.

"I drank the way I ate," Ms. Worrells says. "There was no such thing as enough."

Before her surgery, alcohol never gave Ms. Worrells much of a buzz. But food was a reliable source of solace. Growing up in Akron, Ohio, a blue-collar rubber-manufacturing town, Ms. Worrells was always a little on the heavy side. (She remembers wincing when her dad, a truck driver, introduced her to friends by saying, "That's my daughter Patty -- she likes her supper.")

When she reached her early 20s, her weight began to spiral out of control. Her high-school boyfriend, recently returned from military service overseas, was intent on marrying her, but she had fallen in love with her best friend, a woman she went to high school with. In the end, she ditched both.

Ms. Worrells sank into a deep depression. "I decided I'd be alone forever," she says. "Food became my comfort."

Feeling isolated and untethered, she joined a conservative church. For more than a decade, she threw herself into church activities, leading bible studies and joining the chorus.

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But the loneliness endured. At night, she consoled herself with heaping portions of pasta casseroles, French bread smothered in peanut butter, and pineapple cream pie. The cravings were intense. She gained 130 pounds, doubling her body weight.

"I had this emptiness inside of me that needed filling," she says.

That began to change in her mid-30s, when she went back to school, eventually earning an undergraduate degree in psychology, which she followed up with a master's degree in clinical counseling. But her weight was taking a toll on her health.

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In 2002, she made a snap decision to get gastric-bypass surgery. As her body weight melted away, her diabetes and arthritis all but vanished. The day her weight dropped below 200 pounds, she cried and took a photograph of the scale.

Like many bariatric patients who have long been isolated by their weight, she became more social, joining a support group for bariatric patients and developing a clique of close friends. Most members of the group were in their 30s and 40s, but they began partying like wild teenagers, hosting karaoke parties, going camping, and getting into romantic entanglements.

"We felt like we had a lot of fun to make up for," says Mary-Jo Banish, a member of Ms. Worrells's circle. "When we were huge, we were never the life of the party."

Ms. Worrells still remembers the massive rush she got from her first sip of liquor after her surgery. "It was like putting alcohol directly into a vein," she says. "Boom!" Her reaction isn't uncommon, as bypass surgery enables food and drink, including alcohol, to pass more rapidly into the patient's system.

Ms. Worrells, who is gentle and soft spoken when sober, developed a reputation as an out-of-control partier with a taste for tequila. At parties, she often crashed into furniture and got into screaming matches with her partner for the past six years, Debbie Anello. Friend Ginny Altomari recalls hosting a Halloween party where she unsuccessfully tried to put an inebriated Ms. Worrells to bed.

Ms. Worrells wasn't the only member of the group drinking too much. At a recent meeting of her bariatric-patient support group at a Denny's restaurant in Parma, Ohio, several other women in the group recounted their own stories. "My children were devastated," recalled Jeannine Narowitz, a mother of seven who had bariatric surgery in 2003 and began drinking heavily the following year. Once, she woke up with a black eye from a drunken fall she couldn't remember. She finally forced herself to quit after she discovered that her 15-year-old son had poured all of her liquor out and refilled the bottles with water.

Ms. Worrells had plenty of experience with addiction long before her own problem started. Her father was an alcoholic who died at age 54. Her younger sister Peggy also struggled with serious addiction problems for her entire life. Ms. Worrells struggled desperately to hide her alcohol problem from her family, and avoid disappointing her mother and sister. She never drank at family gatherings, and avoided phone calls when she was drunk.

She worked as clinical director of a substance-abuse clinic, and sometimes led group-therapy sessions for drug addicts. She says she never drank at work, but began quietly leaving the clinic at

lunch to buy tequila, just to make sure she would have it when she got home at night. She frequented five different liquor stores in the area so the clerks wouldn't realize how often she was buying it.

Within eight months of her first drink after surgery, her food cravings had vanished. But she was drinking every night at home until she passed out. She stopped taking calls from her mother and sister in the evenings so she could focus on drinking, lining up shots on the stove and downing 15 to 20 shots in the course of the evening.

"The progression was unstoppable," says Ms. Worrells.

"I've never seen a person change so fast," recalls Ms. Anello, who often drank with her in the evenings and was developing her own issues with alcohol. "She became a monster."

It was a single phone call to her mother that got Ms. Worrells to seek help. One evening while Ms. Worrells was cursing and shouting in the midst of a drunken rage, Ms. Anello picked up the phone in desperation and dialed Ms. Worrells's mother. "Listen to your daughter," she said, and held up the receiver.

Ms. Worrells instantly froze -- mortified that her mother had heard her cursing. Even at age 50, she couldn't bear to let her mother down. The next day, 10 months after her drinking began, Ms. Worrells went to her first 12-step-program meeting.

Three weeks later Ms. Worrells got an evening call from her mother. Her sister Peggy had died of what was later determined to be an overdose of Xanax. Ms. Worrells remembers feeling grateful that she was sober that night, as she drove to her mother's house to take care of her.

Recovery didn't come easy. For the first eight months, she relapsed regularly, going three or four days without drinking before succumbing again. She finally had her last drink after becoming frightened by an episode when she drove drunk -- something she had vowed she would never do.

Ms. Worrells still sometimes feels the same gnawing emptiness that drove her to overeat, and later to drink. Instead of drinking in the evenings, she and Ms. Anello visit the great blue herons that nest in Cuyahoga Valley near their home, or visit a wildlife preserve.

She still attends four 12-step-program meetings a week, but she says she has no regrets about the surgery: "I'd do it again in a heartbeat."

Write to Jane Spencer at jane.spencer@wsj.com

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