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BY APRIL FRAWLEY BIRDWELL

Our HEAVIEST GEN

Expanding waistlines mean kids today may have lower life expectancy than their parents. But UF experts are trying to change that.

Susie Miller can't pinpoint exactly how it happened, but looking at her daughter Kimberly's clothes, she knew something didn't fit.

"Everything she put on was really tight," Susie remembered. "She says, 'Mom, I need a bigger size.'"

At the doctor's office during Kimberly's annual physical last December, pediatrician Carolyn Carter confirmed what the Millers already suspected: Kimberly was gaining weight. Too much weight. Her body mass index, the calculation doctors use to gauge whether a person is overweight, had swelled to 27.5, high for an 11-year-old, Carter says.



ERRATION?

Miller knew there was really only one thing to do. Her family had to change. That meant trading sugary sodas and sports drinks for bottled water, packing grapes in her daughters' lunches instead of oatmeal cream pies and getting out of the house in the afternoons instead of sitting on the couch.

It paid off. In March, when Kimberly checked back in with Carter, her BMI had dropped nearly a point.

"That's a big drop on the chart," says Carter, a UF professor of pediatrics. "She's doing great, and they're still working on it."



In some ways, Kimberly's progress isn't all that surprising. If weight loss were an equation to solve, adding apples, water and daily bike rides and subtracting oatmeal cream pies and soda would equal weight loss. It sounds simple. But like any equation, often it isn't. There are variables involved in equations and weight loss, and sometimes it isn't so easy to solve for X — or XXL.

More than a third of U.S. children and teens are overweight or obese — about 25 million — a statistic that has swelled during the past two decades, according to the Centers for Disease Control and Prevention. Considering that 70 percent of overweight teens stay overweight as adults, stopping the problem in childhood is key to keeping kids healthy, say UF experts who work with obese children. But getting to the root of the problem takes time, something that's in short supply in clinics. Some children wait months for an open appointment in a UF pediatric endocrine clinic held weekly for children who are overweight and at risk for complications such as type 2 diabetes, and often doctors have time to see only the most severe cases, says Dr. Janet Silverstein, a UF professor of pediatric endocrinology who has been working to combat childhood obesity for years.

That's one of the reasons UF researchers hope to establish



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a multidisciplinary obesity center that would offer services to children both at UF and in rural areas, where kids are apt to be heavier, and train students to work in the field, says David Janicke, an associate professor of clinical health and health psychology in the College of Public Health and Health Professions.

“What we're trying to do is bring experts together,” says Janicke, who studies childhood obesity in rural populations.

But helping patients in the clinic is just one aspect of what needs to happen to curb rising childhood obesity rates. UF researchers are also trying to find the best treatments for kids and ways to stop childhood obesity before it becomes a problem, even in children who are genetically predisposed to becoming overweight. Finding these treatments and helping families make changes is only one part of the solution, though, Janicke says.

“There needs to be change on so many levels,” he says. “What's marketed to kids, what types of foods are available in schools, the walkability of neighborhoods, how much exercise kids are getting. There are so many different levels that we need to intervene at that it's going to take a while.”

Kimberly isn't the only one in her family who's benefited from the changes she and her mother decided to make after

her doctor's appointment in December. It's actually helped the whole family, says Miller, a nurse at Shands at UF.

"It's the exercise," Miller says. "You feel so much better after you exercise."

The Problem

In 1971, only 7 percent of adolescents and 4 percent of children between the ages of 6 and 11 were overweight. By the early 1990s, those numbers had passed the double-digit mark. By 2004, those percentages had reached nearly 20 percent, according to the National Health and Nutrition Examination Survey results from those years.

The rising rates of obesity led researchers to a startling conclusion in 2005. Today's children would probably be the first generation whose life expectancies would not eclipse their parents because of obesity, scientists reported in *The New England Journal of Medicine*.

Everyone has an opinion on why kids are getting fatter even as doctors shed more light on the health problems obesity can cause: too many snacks, processed food, fast food, boot-shaped chicken nuggets, video games, less safe neighborhoods keeping kids inside, fattening school lunches, more parents who are overweight, high-fructose corn syrup, marketing junk food to kids, 700 cable channels and an endless list of other problems. But the truth is, it's not one thing, Janicke says. It's everything.

"It's a very complex problem and a vicious circle," says Dr. Milagros Huerta, a UF assistant professor of pediatric endocrinology who studies obesity's effects on endocrine disorders such as diabetes.

And although overweight children are primarily concerned with looking normal and fitting in, the problem is really the effects obesity has on the body. Type 2 diabetes used to be considered an adults-only disease, but today more children have it than ever, says Silverstein, the chief of the College of Medicine's pediatric endocrinology division. Heart disease, high cholesterol, sleep apnea and psychological problems affect more obese children, too, Huerta says.

Huerta decided to start her own study examining this problem when she was working as a pediatrician at a clinic in Brownsville, Texas. She noticed that many of the obese children she saw already had type 2 diabetes.

"As a fellow, most of what I had seen before 1997 was type 1 diabetes," Huerta says. "It's always heartbreaking to tell someone their child has diabetes. And as much as researchers have tried, we can't prevent it. But type 2 diabetes is preventable, and to be seeing these kids, it felt like we were not doing something to help them prevent it."

And more so than any other health issue, obesity is a family issue, not a child-only problem, Silverstein says.

"If you just target the children you can make an impact, much as the tobacco initiative made an impact," Silverstein says. "But the parents are still the ones who cook, they're still the ones who go shopping."

"They say food is addictive. Most addictions you get rid of by not using them, like cigarettes or recreational drugs. With food, you can't stop eating."

The Solution?

When Carter noticed Kimberly was gaining weight, she advised Susie Miller on some simple ways her family could help the girl lose weight, namely cutting back on the sodas and taking family walks or jumping rope.

As simple as it sounds, this advice is actually the first line of defense for preventing obesity and complications like type 2 diabetes before they occur, Silverstein says.

Unfortunately, that advice isn't always given or taken, she says. One of Huerta's studies is actually trying to find the best way to help kids lose weight and prevent type 2 diabetes and heart disease. She is comparing three groups of kids between 10 and 17: children who receive advice about diet and exercise, children who receive the drug metformin and children who take part in group treatment with their parents. The group teaches families a healthy lifestyle program, a modified version of the program Janicke uses in his own study, that covers everything from healthy cooking to helping parents motivate and support their children.



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"It's really nice to see the families start helping each other," Huerta says. "We have some families where the parents are making more progress than the kids, but it helps. Even if the child is not engaged, if the parent is changing the environment, making it healthier, it's making it easier for the child."

The program is easy for families to learn because it uses the "stoplight" method for selecting food. Foods are divided into categories based on fat content. For example, green for broccoli or apples, yellow for lean meats and red for more fattening foods such as pizza or a hamburger. During the program, counselors work with children and families on individual goals and encourage them to cut back on the number of red foods they eat.

"The last thing you want to do is badger kids into making changes," says Janicke, whose study with families in rural areas examines whether including both the parent and child in group treatment leads to more changes in the child's diet and exercise habits compared to working only with parents. "This is something that's going to take a long time. We don't want to push dramatic, large-scale changes all at once



because those things don't last and kids resist. We want parents to really be positive and work with kids and meet them where they are."

Silverstein has other goals she's been thinking about for a while too. She'd like to start retreats similar to the ones held for children with type 1 diabetes to help families battle obesity. As part of a group that recently helped improve nutritional standards in local schools, Silverstein is involved in a new group that wants to continue to help school wellness committees with programs aimed at keeping kids healthy. The group also wants to work with other local agencies to establish after-school programs that get kids off the couch.

"Inactivity is a huge piece of the puzzle," Silverstein says. "You can't do it with food alone."

But UF researchers aren't solely focused on helping children. Other UF researchers are trying to find ways to prevent obesity and battle it in people who are genetically predisposed to it, like those who have Prader-Willi syndrome or early-onset morbid obesity.

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THE "STOPLIGHT METHOD" FOR SELECTING FOOD

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Carrie Haskell-Luevano, Ph.D., an associate professor of medicinal chemistry in the College of Pharmacy, is working on discovering what causes a gene to go awry in about 6 percent of morbidly obese adults and children that prevents them from ever feeling full. A study she and others in her lab completed last year shows that mutations of the melanocortin-4 receptor, a gene in brain cells that plays a role in regulating hunger, cause it to miss signals that tell the body to stop eating. This discovery placed scientists a step closer to finding a treatment for this defect.

"If I can help improve the quality of life for people, especially for kids, then it's really exciting," Haskell-Luevano says. "That's what we're trying to work on."

Kimberly's main motivation to stick with the changes has actually been her clothes, her mother added. As her waistline shrinks, her wardrobe expands; she can now fit into a lot of her old clothes. ✕

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