Ashley Melvin had a blast this summer—swimming at camp, walking her dog in her Eastern Shore hometown, celebrating her Sweet Sixteen at a bowling alley.

What a difference a year makes. In August 2002, paramedics rushed to Ashley’s house when she fell and her frightened grandparents realized they couldn’t help her get up. At 397 lbs, Ashley was dangerously overweight. The teen depended on oxygen 24 hours a day and her feet had swollen so large she could not wear shoes.

Ashley’s weight problem didn’t stem from poor eating habits. Ashley has Prader-Willi Syndrome, a genetic disorder that occurs in about one in 15,000 births. A defect in the hypothalamus region of the brain causes children with Prader-Willi to begin experiencing insatiable hunger during the preschool years. Combine this constant hunger with a tendency towards lower muscle tone and a reduced need for calories, and individuals with Prader-Willi develop a predisposition to obesity that can become life-threatening.

Doctors arranged for Ashley to be treated at Kennedy Krieger’s Pediatric Feeding Disorders Unit. Most children come to the unit because they cannot or will not eat. This time, Dr. Ann Scheimann and a team of nutritionists, physical therapists, and psychologists used the same multi-disciplinary approach to help Ashley lose weight. “Ashley was on a very restricted diet at first because we needed to aggressively get some weight off of her,” says Dr. Scheimann. “But we moved toward a plan that could be used at home, using foods the family normally eats.”

Ashley remained in the feeding unit for four months. The controlled environment of the unit allowed Ashley to get used to her new diet. “And while we needed physical therapy to get her moving again, she came to us with breathing and heart problems, so we had to monitor her very closely and make sure she could use the treadmill safely,” Dr. Scheimann says.

By following a low-carbohydrate, high-fiber diet heavy on lean meats and green vegetables, Ashley lost 138 pounds in the unit and has continued to drop weight at home. She no longer uses oxygen during the day, and should soon be able to go off it entirely. Barely able to move a year ago, Ashley stays active by walking her dog and working out to exercise videos.

Ashley’s still well above her goal weight of 114 pounds. But at 191 pounds in August, she weighed less than half what she did when she first came to Kennedy Krieger.

Grandmother Linda Sparks packs Ashley’s lunch daily, and Ashley’s teachers know about her strict diet. “They know I can only have a teeny piece of cake at parties,” Ashley says. Individuals with Prader-Willi usually require a controlled eating environment throughout their lives—often by living in a group home with others with Prader-Willi. Ashley’s cognitive impairments—common in individuals with the disorder—are severe enough that she will always need a guardian to monitor her meals.

The Kennedy Krieger team that worked with Ashley last year barely recognizes her now. Her grandmother sometimes has the same problem: “It’s remarkable. Sometimes I have to look twice to make sure it’s Ashley,” she says.