

A lighthouse costs less than shipwrecks.



Prevention costs less than disease.

## The National Insulin Resistance Council

A not-for-profit disease prevention organization

### Lara's Discoveries

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Lara, a bright fifteen-year-old, encountered two unexpected changes during the preceding year and a half. Always a bit pudgy, Lara gained thirty more pounds, a lot on her five-foot-four body. More mysterious, her menstrual cycle completely stopped after over two years of reasonable regularity. She developed some strange marks on her abdomen, and she was tired frequently. These changes alarmed Lara's parents, Hal and Judy, who set about getting Lara some help.

Lara's pediatrician, Dr. Curly, is an excellent and caring doctor. He cared for Lara during her entire life, and did not register any real concern about Lara's symptoms. He soothed Hal and Judy, advising them that it is common for kids to add pounds given the stresses of high school and teen life, and menstrual irregularity is also common with stress. Let's wait and see, he prescribed.

Nearly a year later, by chance Hal saw Dr. Curly on Main Street where they stopped to talk. Dr. Curly asked how Lara was doing. Hal reported that Lara was better and explained that he and Judy had not been comfortable with his advice to just wait and see. Hal told Dr. Curly that they had consulted other doctors and related Lara's treatment and progress. Dr. Curly said that he was glad that Lara was better. Surprising Hal, Dr. Curly added that things had changed in the year since he last saw Lara. Up to then, he and the other doctors in his practice consciously avoided reacting to weight gain among teenage girls. They feared inducing eating disorders, which he and many other doctors continue to view as very dangerous. Dr. Curly then admitted that despite the danger of inducing eating disorders, in many cases including Lara's, this approach was no longer deemed to be good medicine. Dr. Curly told Hal that many pediatricians, not just his practice, had changed their clinical reaction to notable weight increases among teens and regretted not having done so sooner, for Lara's sake. Hal thanked Dr. Curly for his candor, but was saddened by Dr. Curly's admission that Lara was a victim of obsolete clinical practice in addition to what ailed her. Hal and Judy understood that Dr. Curly did not create Lara's condition, even if he didn't treat it well. It was more important that she was better despite Curly's miscue. And they were pleased that the poor clinical approach that touched Lara and them had given way to better ones.

Rather than follow Dr. Curly's advice to wait and see, Hal and Judy had consulted Dr. Bond, Judy's gynecologist and the doctor who had delivered Lara into the world. Dr. Bond reviewed Lara's case and examined her. He said he suspected something called PCOS, which sounded ominous. PCOS is the acronym for polycystic ovary sndrome, words that sound even worse. Dr. Bond said that he was confident about his diagnosis, but not about the exact treatment for a juvenile. He encouraged Hal and Judy to find an endocrinologist who dealt with young people. Living outside a major metropolitan area, they were able to find one locally. They later

learned that such doctors were actually quite rare, being members of one of medicine's most rarified and least populated specialties.

During the months between Dr. Curly's wait and see diagnosis and Hal's later chance meeting with him, Hal, Judy and Lara would learn what PCOS is, what causes it, and most importantly, what to do about it. And lucky for Lara that they did.

Lara's endocrinologist confirmed Dr. Bond's diagnosis of PCOS. He was able to do that based on Lara's blood test lab reports which contained three tell-tale results: excess insulin, a very high LH:FSH ratio, and excess testosterone. Even more important than confirming Lara's PCOS, they confirmed that Lara has *insulin resistance* and always will. PCOS symptoms were disturbing by themselves, but when Hal, Judy and Lara learned that unchecked *insulin resistance* was an undisputed cause of diabetes and heart disease, their attention was riveted.

Lara altered her lifestyle with improved eating habits and an aggressive exercise program. In large part because of her own informed determination to regain her health, within twelve months Lara lost about half the added weight that had set off alarm bells in the first place. Her menstrual cycle normalized and all of her other symptoms abated dramatically. A bonus of the improved diet was that her acne cleared up substantially. In the next twelve months, Lara lost another twenty pounds and her BMI, the measure of weight related to height, dropped to "normal" for the first time, where it remains today. She's smiling more, for good reason.

Both Hal and Judy have always carried extra pounds themselves. Judy had gestational diabetes (normally temporary) when pregnant with their first child four years before Lara's birth, but only now realizes that she also is *insulin resistant*. On her next routine visit to Dr. Bond, she asked that her insulin level be tested and, not surprisingly, it was mildly elevated, confirming her condition. Hal, as part of his annual physical, requested that his doctor add the test for insulin levels to the routine blood tests that include cholesterol and glucose. He has normal insulin levels, and thus does not have *insulin resistance*, though he is overweight. Sparked by desire to support Lara's efforts, and acting in their own best interests, to be sure, both Hal and Judy joined Lara in her weight management efforts. The three of them have lost dozens of pounds. Hal's cholesterol is down to 170. All three are wearing smaller clothing sizes.

Hal and Judy are glad that Lara's PCOS drew their attention to *insulin resistance* early in her promising life. Knowledge about her situation is what allowed them to act wisely and assertively and each was more strongly motivated to take action that wasn't always easy.

It all hinged more on knowledge about Lara's condition than on the condition itself. All of Lara's troubles were avoidable. Had Judy and Hal known that Lara was *insulin resistant* and what consequences that could create, they would have worked far harder and sooner to keep Lara from ever gaining so much weight in the first place, which was what activated her genetically coded condition.

And what of other people with *insulin resistance*, the one-in-ten of us who are directly affected, and most of whom have no clue?

The goal of the National Insulin Resistance Council (NIRC) is to *prevent* millions of non-infectious disease cases tied to *insulin resistance* including diabetes, heart failure, stroke and recently-linked Alzheimer's. It sponsors, operates, and collaborates with others on programs that lead to *early identification* of affected individuals and fosters targeted *active prevention* programs.