

My name is Karen Lantz. I live in Kingston, PA, and I am the mother of two boys ages 13 and 12. My youngest son, Jonathan, is a type one diabetic or T1D. Jonathan was diagnosed with type one diabetes in 2009 at age 5, a mere two weeks before he was to start Kindergarten at Schuyler Avenue Elementary School.

I was a stay at home mom while my boys were young. I decided on a career change and entered the Luzerne County Community College Nursing Program in 2005. It is one of the top rated nursing programs in NEPA. I graduated in May 2009 from the program and was set to take my NCLEX in August to obtain my license.

Jonathan had been acting unusual since March of 2009, both at preschool and at home. My happy go lucky, helpful child became irritable, inconsolable, and unusually tired. We thought he was burnt out from attending two preschools. During the summer, nagging doubts began to creep into my mind. Jonathan seemed to be drinking a lot and urinating a lot, but it was hot, and he was very active. He also seemed to be "thinning out." Still, I scheduled an appointment for mid-July with our pediatrician, because alarm bells were still going off in my mind. I ended up cancelling the appointment because he seemed fine, (symptoms came and went as his failing pancreas tried to compensate) and we had another commitment. August 8th, 2009, my husband and I went out for the evening. My mother called at 10:00 for us to come home immediately. Jonathan had wet the bed (that started in March) and was complaining of a stomach ache. We rushed home and it all "clicked" into place; the excessive drinking, the excessive urination and bedwetting, the voracious appetite and the weight loss I saw through new eyes as I showered him and could see his ribs. He had diabetes and was going into DKA. Everything I learned in nursing school was not enough for me to connect the dots sooner. Jonathan was sent from WB General to Janet Weis in Danville with a blood glucose level of 400+, not in DKA and "walky, talky" as the nurses referred to him. They were happy, I was a wreck. Most kids they see at diagnosis are life-flighted in a coma, unlike Jonathan.

The topic of type one diabetes was touched upon for *one* day at nursing school. We were taught many misconceptions, including T1Ds were always "waif thin" from high blood sugars and most had poor management. Type two diabetes was taught three days. Despite this fact, had I not gone to nursing school, I would never have been able to diagnose my son. Managing type one diabetes is 24/7/365 days a year. Nursing school helped me diagnose, but it did nothing to prepare me for the war ahead. Most nurses, including the ones I graduated with, know little to nothing about type one and the constant vigilance needed to try and maintain ideal blood glucose levels. They are not aware how diet and exercise can impact blood glucose levels, often with a delayed reaction. I never ended up getting my nursing license. Taking care of a newly diagnosed five year old starting Kindergarten in two weeks was a full time job in and of itself. Ratios do not get nailed down in the hospital, it a trial and error process with constant consulting with the educator to find the ratios that work. Hospitals dump parents out with "survival skills," the basic skills needed to keep a type one alive. We arrived at the hospital Friday night. No one trained us until Monday. We had crash courses in nutrition, calculating ratios, how and when to give shots, and we were to be sent home Monday afternoon. I fought for another day, because we simply were not ready, despite Jonathan's optimal blood glucose levels.

Type one diabetes is an individualized disease. Basal insulin levels (the amount of long acting insulin that tries to match the liver's secretion of glucose and to keep the liver from over-secreting glucose) are different in every person, because of metabolic reactions, weight, activity level, hormones, the amount of insulin still being secreted by the pancreas (T1Ds "honeymoon" as their pancreas fails) and more. T1Ds must bolus, or inject fast acting insulin for everything

they eat. The ratio of insulin to carbohydrates varies for every person, and can vary for every meal because often more insulin is needed in the morning to counteract the liver's natural function of dumping glucose to wake up and have energy in the morning. Different foods metabolize differently. Sadly, T1D is not an $A+B=C$ disease. As a child grows, insulin needs also change. Puberty is the worst, because insulin resistance creeps in and peaks during mid puberty, then drops back down as puberty ends. Insulin needs can double or triple almost overnight. Parents depend on diabetes educators to navigate the changes.

It is essential for the Commonwealth to license diabetes educators. Type one diabetes is a complex, individualized disease that is globally on the rise. Technology and improved treatment methods can greatly improve quality of life for T1Ds and outcomes, but there much to learn and digest to ensure every type one diabetic's individualized care is optimized for them to maintain good blood glucose control and avoid complications later. Licensing diabetes educators makes sense morally and fiscally to ensure standard of care and continuing education to keep up with rapid changing technologies. Thank you for your consideration.

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