



Another autism case report

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The Vitamin D Newsletter

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This month, I dedicate the entire newsletter to a mother's lengthy case report of her autistic son. Other than name and place of residence, the letter was not edited.

Dear Dr. Cannell:

At age 2.5 years, between December 2007 and January 2008, my son experienced a fairly dramatic onset of symptoms that led to his diagnosis of autism. His symptoms (many of which we did not even know the terminology for at the time they first occurred) included:

- The inability to sleep at night, we would put him to bed at 8:00 or 8:30 p.m. following his normal bedtime routine
- Development of anxiety and refusal to leave the house even to do preferred activities
- Obsessive-repetitive questions and monologuing/run-on speech
- Sensory issues (refusal to wear jeans or any fabrics other than fleece, screaming hysterically at bath time, complaining and covering eyes in sunlight, covering ears for everyday noises that had not bothered him before (toilets flushing, pulling pots and pans from cupboards, etc.)
- Toe-walking
- Flapping and self-stimulating behaviors (repeatedly tapping his cheeks and eyes with all ten fingers, continually twisting up his fingers in pretzel-like configurations, holding objects in his peripheral range of vision and straining to see them from the corner of his eyes)
- Development of an unusual pattern of stuttering/vocal tic at the end of words, he would repeat the last sound/syllable, "I don't want to go to the store-or-or-or-or-or-or. It won't be fun-n-n-n-n-n-n-n." He would make sounds even in his sleep "n-n-n-n-n-n" or "s-s-s-s-s-s-s"
- Loss of muscle tone (stopped walking up and down stairs and began crawling/sliding instead, decline in balance and motor skills)
- loss of handedness (began switching left to right hand, after seeming predominantly left-handed)
- Marked increase in hyperactivity
- Frequent spacing out/unresponsive episodes

Our son and his twin sister were born at 36 weeks, 5 days on March 17, 2005 after four months of bed-rest. As early as their 8 week appointment, I mentioned to our pediatrician that we had concerns about our son's eye contact and social responsiveness (in comparison to his sister). I felt that I was having more difficulty bonding with him. We were told "don't worry, but don't wait" and were referred to our state's Early On intervention program. At the end of June a physical therapist and speech pathologist from our intermediate school district came to our home to evaluate our then 3 month old son and told me that he was doing just fine and that I was worrying too much. I agreed that by the time they saw him he had begun smiling and making better eye contact.

We didn't worry again about our son until fall 2006. He had walked just before his first birthday, but by 18 months+ he still seemed clumsy and prone to falling compared to his sister. We took him back to the intermediate school district for evaluation and were told that all of his development seemed to be in the normal range and that we shouldn't worry. We were advised that we could take him to music and gym classes to work on his coordination and told that we could pay for private physical therapy if we elected. We followed all of the recommendations.

For a year, we didn't notice any other changes until the sudden onset of symptoms listed above when he was 2.5 years. With the sudden onset of symptoms above, we took our son to see a number of specialists during the winter of 2008 including a neurologist (who diagnosed him with Asperger Syndrome), a psychologist (who diagnosed with autism), and a second psychologist who specialized in the treatment of autism (who diagnosed him with Pervasive Developmental Disorder Not-Otherwise-Specified). All three diagnoses are on the autism spectrum. He also began seeing an occupational therapist, a speech therapist, a behavioral specialist, and a DAN! (Defeat Autism Now!) doctor for dietary interventions. We saw a dramatic improvement by April/May of that year. Nearly all the symptoms on the list above had resolved. We assumed the improvements were due to diet but he started to go into the sun around that time. Our son slept well and spent many peaceful, happy and anxiety-free months during the spring and summer after turning three.

In mid-November 2008, I sent the following e-mail to the DAN doctor who had been helping us with our son.

"You saw our son Jonathan Switzer a few times regarding his autism diagnosis and diet issues, etc. He had a regressive period last winter from about December through April when his autism was diagnosed, then did pretty well all summer. Nursery school started off okay, too, but now he seems to be having another regression.

Main symptoms:

- Great difficulty getting to sleep (fidgets for 2 plus hours most nights while he had been falling asleep easily for several months prior to that)
- Marked increase in anxiety (again refusing to leave the house even to do things he loves, frequently shaking/clenching and telling us "I'm scared")
- Onset of OCD-like behaviors (afraid to get hands dirty, get extremely upset if he gets even tiny drips of water on himself)
- Increase in self-stimulatory behaviors (flapping, fidgeting, noise-making)
- Frequent crying jags and telling us he's just giving up on everything

We have had other parents tell us that their kids on the spectrum have a worsening of symptoms during the winter months and we feel like we are observing this same pattern. We've done some reading about light therapy for depression/anxiety and to help correct disturbed sleep patterns and would like to give it a try for Jonathan.

Wondering if you have ever prescribed a light therapy box for pediatric patients before. Our insurance told us they will cover it with a diagnosis of Seasonal Affective Disorder, but I don't even know if that is something that can be diagnosed in children. Guess we're willing to try anything at this point. Do you know much about this type of therapy?"

Neither the DAN Doctor nor our pediatrician would write a prescription for a therapy light, so we purchased one on our own and found it made no discernible impact on his symptoms.

By December, our son's symptoms had worsened further and we decided to put him in a very expensive and intensive autism treatment program through our local hospital. He made slow progress during his participation in the program from January through April. He was also involved in speech and occupational therapy during the winter months. At his IEPC meeting at school in March, we were encouraged to put him in the district's program for children with developmental delays. We instead elected to register him for regular pre-school for the following year.

During that winter, I was crying to some friends about my son and describing his seemingly seasonal pattern of symptoms. We had just seen a second neurologist searching for help, and I was extremely frustrated when, after listening to my son's symptoms and history, he told me bluntly, "There is nothing seasonal about autism," then suggested that we put our son on an anti-depressant. We refused the medication. One of the friends I was crying to is a research librarian and the other is a medical researcher. After our conversation, they located and e-mailed me a few journal articles they thought might help, one of the articles was by Dr. Cannell and discussed his [vitamin D theory of autism](#). Reading the article was one of those "Aha!" moments and I felt hopeful that Dr. Cannell was on to something.

By June our son was released from both speech therapy and occupational therapy and we were told that he no longer showed any delays for his age. When he had begun occupational therapy in January, the OT had been astonished at our son's lack of muscle tone. She recommended that he also receive Physical Therapy services, so we went on a long waiting list. Our initial OT was in a car accident, and in May we were transferred to a new OT. When the new OT first saw our son, she said could not believe he was the same child described in the notes. By May the low muscle tone, hyperactivity and distractibility noted in his file, were no longer evident. His turn came up for physical therapy and we were told he no longer needed it.

Our son has always spent a lot of time outdoors in the summer, without sunblock. He had a happy and relaxing summer. As fall/back-to-school approached, I began to fear the onset of another regression and again read the article by Dr. Cannell my friend had sent. I visited his website and decided we would try a vitamin D supplement. Our pediatrician did not encourage any dose higher than 400 i.u. (that found in a typical multivitamin) but did write a script to have his 25-hydroxy level tested. In August his level was 37, so we started him on 5,000 iu daily and had his level retested on October 21st. By October his level was 96. The pediatrician was concerned that this was too high and told us he should not have more than 400 iu per day.

Knowing that Nov-March are typically his worst months, we reduced the dosage down only to 3,000 iu from October through mid-December. At an appointment in December our son was doing wonderfully (none of his usual fall/winter symptoms yet evident) and the pediatrician told us 3,000 iu was too much and that we should be giving no more than 400 iu. In mid-December we reduced the dose to 1,500 iu. By the beginning of January we noted a marked loss of eye contact. We also noted that our son was again interchanging his right hand for writing and eating (after using his left hand exclusively for 8+ months). We increased his vitamin D level to 4,000 iu daily in early January. On January 11 we had his 25-Hydroxy level checked on January 11 and found that it was 89. By the end of January, we and his grandparents noted improvement in his eye contact.

In January 2010 we attended his preschool conferences. The teacher had marked cards with the following code (1=age appropriate, 2=developing, 3=area of concern). Our son received 1s in all areas with the exception of hopping on one foot and balance beam where he received 2s. We were told that he is on par with or ahead of his peers in all areas (academic, fine motor, etc.), and that his teacher had noted no unusual symptoms or concerns.

During the fall/winter 2009-2010 our son has been free from nearly all of the most troubling symptoms that plagued him the previous two winters. The following example may demonstrate the improvement in his daily life since last winter.

One of our son's low points was a Christmas party we attended in December 2008. Before leaving the house to attend the party our son screamed and yelled about having to take a bath and because we would not let him wear sweatpants to the party. He then begged us not to make him leave the house. During the 40 minute trip to the party our son asked us repetitive questions and talked incessantly. Upon arriving at the party, he immediately walked into an unoccupied room adjacent to the room where the party was occurring, and put his face into the corner. Despite much coaxing by my husband and me, he refused to come out of the corner.

After approximately 45 minutes of standing in the corner we managed to get him out through the promise of some food rewards. He proceeded to walk around and around the perimeter of the living room where all of the other kids were playing. He rubbed himself along the walls and covered his ears as he walked. He finally settled into playing alone in a corner of the room. All of the kids at the party participated in a book exchange. Our son refused to come to the area where the other kids were gathered. We coaxed him over only to have him throw the book he received and refuse to thank the parent who had purchased it for him. He spent much of the evening in time-outs for that and other inappropriate behavior.

In June of 2008, after playing in the sun for several months, we met for a picnic with the same group of friends at a local park. Our son ran up to the other children and joined right in playing bulldozers in the sand with them. He behaved and interacted in a completely appropriate and typical way during the picnic which lasted several hours.

This year (2009) we attended the same Christmas party at the same house. Our son got ready and left for the party without anxiety or incident. He chatted normally during the drive to the party. He walked into the house, said, "Hey, check out my new train," to some of the kids already playing and settled in to playing happily with the other kids. During the book exchange, he received a book, smiled and gave a big hug to the person who gave it to him.

In December of 2008, I took a leave from my job so I could get my son to the intensive behavioral treatment program he was in and to all of his other therapy appointments. I dedicated 40-60 hours per week to my son's various appointments and home therapy program.

This winter (January 2010), a former colleague asked me what Jonathan's current therapy program consists of. I told her I spend about 30 seconds each day opening the jar of vitamins and giving him his chewable vitamin D. In my opinion, the 3 minutes or so I spend each week giving him his vitamin D have been much more effective, and much less expensive, than any other treatment we have pursued.

Thank you.

Jeanette, Wisconsin

Dear Jeanette:

You're welcome. Several things need comment. First, the symptoms are typical of autism. Second, the seasonality of symptoms suggest a vitamin D deficient disease. Third, the treatment in the spring of 2008 seemed effective but, in hindsight, it was simply due to spring sun exposure. Fourth, as you may now know, light boxes for seasonal affective disorder make no vitamin D. Fifth, your pediatrician knows little about Vitamin D other than what committees tell him; your decision to ignore his advice probably saved your son's brain from further injury, as autism is a progressive inflammatory destruction of brain tissue. Sixth, the fact that you needed bed rest and gave birth prematurely suggests you were Vitamin D deficient during your pregnancy.

Seventh, his twin sister has never had autism, despite the same intrauterine environment. This is consistent with my theory, that autism is caused from a quantitative, not qualitative, variation in one of the enzymes that metabolize Vitamin D. That is, there are no structural differences in these enzymes in autism, only

a genetically determined difference in the amount present. These enzymes are responsive to estrogen; estrogen protects the brain from being damaged by low Vitamin D, probably by increasing the amount of activated Vitamin D present, explaining why boys are four times more likely to have the disease.

The report that your son deteriorated when his dose was reduced from 3,000 to 1,500 IU suggests autistic children need adult doses of Vitamin D. When you reduced the dose from 3,000 to 1,500 IU/day he worsened although his level on 1,500 IU/day was probably still greater than 50 ng/ml. This makes me think that dosage needs to be stable and suggests that Professor Reinhold Vieth's theory of a detrimental seasonal resetting of the intercellular metabolism of Vitamin D may even be true at levels above 50 ng/ml, where the body is storing the parent compound, cholecalciferol, in muscle and fat.

His current dose of 4,000 IU per day is perfectly safe and will give him a level of 80-100 ng/ml, inside the reference ranges of American laboratories. Toxicity (asymptomatic high blood calcium) begins somewhere above 200 ng/ml. Generally speaking, autistic children should take 2,000 IU per every 25 pounds of body weight for six weeks, then have a 25(OH)D blood test and adjust the dosage to get into the high end of the reference range, 80-100 ng/ml.

Although I first published the [Vitamin D theory of autism](#) theory 3 years ago, few autistic children are currently treated for their Vitamin D deficiency. This is due to several reasons. One, those who think, correctly, that autism is a genetic disease, stop thinking after that, reasoning that genetic diseases are untreatable. Such thinkers do not understand epigenetics (upon the genome). Vitamin D is probably the heart of epigenetics, as nothing works upon the genome like vitamin D.

Secondly, the "all autism is caused from vaccinations" crowd cannot accept the Vitamin D possibility as it threatens their core beliefs. They simply cannot change their minds.

Finally, as you now know, organized medicine would say you should stop the vitamin D and watch your son deteriorate, which is why slavery to evidence based medicine is fine for scientists and unethical for practitioners.

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