**What Is Autism?**

*Staff Article provided by Autism Speaks*

**What Is Autism? What is Autism Spectrum Disorder?**

Autism spectrum disorder (ASD) and autism are both general terms for a group of complex disorders of brain development. These disorders are characterized, in varying degrees, by difficulties in social interaction, verbal and nonverbal communication and repetitive behaviors. With the May 2013 publication of the [DSM-5 diagnostic manual](http://www.autismspeaks.org/what-autism/dsm-5), all autism disorders were merged into one umbrella diagnosis of ASD. Previously, they were recognized as distinct subtypes, including autistic disorder, childhood disintegrative disorder, pervasive developmental disorder-not otherwise specified (PDD-NOS) and Asperger syndrome.

ASD can be associated with intellectual disability, difficulties in motor coordination and attention and physical health issues such as sleep and gastrointestinal disturbances. Some persons with ASD excel in visual skills, music, math and art.

Autism appears to have its roots in very early brain development. However, the most obvious signs of autism and symptoms of autism tend to emerge between 2 and 3 years of age. Autism Speaks continues to fund research on effective methods for earlier diagnosis, as early intervention with proven behavioral therapies can improve outcomes. Increasing autism awareness is a key aspect of this work and one in which our families and volunteers play an invaluable role.

**How Common Is Autism?**

Autism statistics from the U.S. Centers for Disease Control and Prevention (CDC) identify around 1 in 88 American children as on the autism spectrum–a ten-fold increase in prevalence in 40 years. Careful research shows that this increase is only partly explained by improved diagnosis and awareness. Studies also show that autism is four to five times more common among boys than girls. An estimated 1 out of 54 boys and 1 in 252 girls are diagnosed with autism in the United States.

ASD affects over 2 million individuals in the U.S. and tens of millions worldwide. Moreover, government autism statistics suggest that prevalence rates have increased 10 to 17 percent annually in recent years. There is no established explanation for this continuing increase, although improved diagnosis and environmental influences are two reasons often considered.

**What Causes Autism?**

Not long ago, the answer to this question would have been “we have no idea.” Research is now delivering the answers. First and foremost, we now know that there is no one cause of autism just as there is no one type of autism. Over the last five years, scientists have identified a number of rare gene changes, or mutations, associated with autism. A small number of these are sufficient to cause autism by themselves. Most cases of autism, however, appear to be caused by a combination of autism risk genes and environmental factors influencing early brain development.

In the presence of a genetic predisposition to autism, a number of nongenetic, or “environmental,” stresses appear to further increase a child’s risk. The clearest evidence of these autism risk factors involves events before and during birth. They include advanced parental age at time of conception (both mom and dad), maternal illness during pregnancy and certain difficulties during birth, particularly those involving periods of oxygen deprivation to the baby’s brain. It is important to keep in mind that these factors, by themselves, do not cause autism. Rather, in combination with genetic risk factors, they appear to modestly increase risk.

A growing body of research suggests that a woman can reduce her risk of having a child with autism by taking prenatal vitamins containing folic acid and/or eating a diet rich in folic acid (at least 600 mcg a day) during the months before and after conception.

Increasingly, researchers are looking at the role of the immune system in autism. Autism Speaks is working to increase awareness and investigation of these and other issues, where further research has the potential to improve the lives of those who struggle with autism.

**What Does It Mean to Be “On the Spectrum”?**

Each individual with autism is unique. Many of those on the autism spectrum have exceptional abilities in visual skills, music and academic skills. About 40 percent have average to above average intellectual abilities. Indeed, many persons on the spectrum take deserved pride in their distinctive abilities and “atypical” ways of viewing the world. Others with autism have significant disability and are unable to live independently. About 25 percent of individuals with ASD are nonverbal but can learn to communicate using other means. Autism Speaks’ mission is to improve the lives of all those on the autism spectrum. For some, this means the development and delivery of more effective treatments that can address significant challenges in communication and physical health. For others, it means increasing acceptance, respect and support.

**Twins and Autism Spectrum Disorders**

*Guest Author - Kris Bigalk*

Two studies, one in the United States (done by David Greenberg, a geneticist at Columbia University in New York) and other in Britain (done by Christopher Gillberg of St George's Hospital Medical School in London), found a higher rate of autism among twins. The rate of autism in identical twins was 12 – 14 times that of the general population, and the rate of autism in fraternal twins was about 4 times higher than the general population. Another study presented at a conference in Boston in 2005 postulated that birth month greatly affects the chances of twins suffering from autism with twins born in January having an 80% higher chance of developing the disorder than twins born in December.

While this information may seem scary at first, it's important to note two things: most of these studies relied on small samples groups, which may not provide the most reliable information. Also, the Columbia study limited itself to twins with siblings with autism, which has been identified as a risk factor for developing the disorder, and may have skewed the results. Finally, most twins will not suffer from autistic disorders, and even if one twin does develop autism, there is no guarantee that the other will develop it as well (even amongst identical twins). One mother of twins kept a daily diary on her fraternal twins' development; through this diary, one can see signs of autism in one of the twins dating from six months of age. Now twelve years old, one twin is autistic, and the other is unaffected. However, the mother's documentation of the twins development opened the eyes of researchers and parents as to the pervasiveness of this disorder, and the possibility that it can be identified much earlier than previously thought.

For years, scientists, parents, and doctors have debated the causes of autism. At first, twin studies seemed to point to a genetic cause for the disease; however, the increased risk amongst fraternal twins (though not as high as that of identicals) seems to indicate that perhaps something about being a twin could also be a factor. This means that environmental factors in the womb, placental development, or even the experience of being raised with a same-age sibling could have some triggering effect for autism.

Some authorities estimate that the incidence of autistic disorders has increased over 172% since 1990. Others argue that the incidence of autism has remained static, but our ability to identify and assist autistic children has improved. For more information on the studies cited in this article, and to access information on having twins assessed for autism, see the links below:

Excess of Twins among Affected Sibling Pairs with Autism: Implications for the Etiology of Autism David A. Greenberg, Susan E. Hodge, Janice Sowinski, and Doug Nicoll from The American Journal of Human Genetics<http://www.journals.uchicago.edu/AJHG/journal/issues/v69n5/013031/013031.html>

Increased Rate of Twins among Affected Sibling Pairs with Autism
Catalina Betancur, Marion Leboyer, and Christopher Gillberg
from The American Journal of Human Genetics<http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=447617>

AWARES article on Boston Autism Conference
<http://www.awares.org/pkgs/news/news.asp?showItemID=546&board=&bbcode=&profileCode=§ion=>

Smile for the Camera—and for science (article about mom who kept twin diary) from the age.com.au
[http://www.theage.com.au/articles/2005/03/19/1111086056480.html](http://www.theage.com.au/articles/2005/03/19/1111086056480.html%3CBR%20rel%3D%27nofollow%27%3E)

Warning Signs and Symptoms of Autism and Pervasive Developmental Disorder (PDD) from Autismweb <http://www.autismweb.com/signs.htm>

**Author Talks About Son with Autism and "Breaking The Barriers"**

*Malva Freymuth Tarasewicz is first and foremost a mother. Her son, Benjamin, has long been the focus of her creative energies. She holds a doctoral degree in music and pursues activities as a professional musician, as a writer, and as an equestrienne competing in upper-level dressage. We talked with her recently about her new book, “Benjamin Breaking Barriers: Autism – A Journey of Hope,” which*[***is now available***](http://www.benjaminbreakingbarriers.com/)*.*

**So Malva, how did you come up with the title of your book?**

When Benjamin was a toddler, he became silent and withdrawn, losing the tiny bit of language he had acquired, and his sunny nature become obscured by what seemed like a dense fog. He was driven to obsessive behaviors and was often taken over by strange physical movements. When I learned that he had regressive autism, I immediately jumped into action, trying in every way possible to reach him, to develop communication, and to foster behaviors that would allow for skill building and social interaction.

My hopes for Benjamin’s future fueled my creativity and determination, but as the years went by, I naturally ran up against depression, exhaustion, and therapy burn-out. Nevertheless, I continually strove to see the glass half full, and I dug deep to keep my inner fire burning. Fostering Benjamin’s growth was—and continues to be—a journey of hope, love, and faith.

Now, Benjamin is a young adult and, although he still needs much support, we have forged a path that builds upon his strengths: he has developed into an exceptionally social person with a talent for public speaking, and he regularly gives an educational presentation titled, “Living With Autism: Breaking Through Barriers.” In fact, you can see a short demo-video of him speaking on YouTube and can access our blog and more information through our website [www.BenjaminBreakingBarriers.com](http://www.benjaminbreakingbarriers.com/).  When speaking, Benjamin shares his life-story, encouraging listeners to become more understanding and accepting towards the “differences” associated with autism. He also inspires people to tackle their own, personal barriers.

**In the book you discuss the impact of early intervention. What advice would you give to parents with newly diagnosed individuals on the autism spectrum?**

Hard as it may be to process the diagnosis of autism, to grieve, to vent, and to eventually reach acceptance, I urge parents to take immediate action. Your child needs all the support, therapeutic stimulation, and love that you can possibly provide, particularly in the early years when brain development is at its peak; this is your opportunity to make the greatest difference.

However, the brain continues in its capacity for change and adaptation, and we parents need to keep shaping and challenging our autistic children to grow and compensate for their disabilities as they move towards adulthood. At the same time, we need to be flexible and to define “success” in a manner that harmonizes with the particular child’s individuality, and we must identify the child’s gifts and develop his or her strengths. We are also responsible for being advocates, for helping our children to find their place in the world, all the while fostering an appreciation for what it means to be “special and different.”

**Both you and Benjamin seem to have a passion for music and theatre. How much of a role did that play in Benjamin's life growing up?**

Music has affected nearly every facet of Benjamin’s life. Right from the beginning, music was a means for touching Benjamin’s soul, and it gradually moved from being a playful activity to being a therapeutic discipline. Theatre, too, has been a therapeutic lifeline. Singing, learning various musical instruments, and rehearsing theatrical scenes has allowed us to work with speech and body language, to discuss interpersonal relationships, to build up self-confidence…the performing arts have nourished Benjamin, body, soul, and spirit.

**When did Benjamin decide he wanted to become a public speaker and share his message with others?**

Benjamin’s first foray into speaking was an informal session with a health class in middle school. Hoping to counteract the bullying that was going on, the teacher invited him to talk about living with autism. Benjamin found that he enjoyed this, and once he got to high school, he was ready to do something more structured. At that time, however, he was having severe difficulties with OCD, tics, anxiety, and ADD; this precluded him from participating in typical theatre productions. We needed to fill the gap and restore his self-identity. So, we created a formal presentation which allowed Benjamin to be himself on stage and to access necessary supports (i.e. using a script). Clearly, the idea has worked. Benjamin has had standing-room only audiences, and we are thrilled to be sharing our lifelong learning with the community.

**What is next for you and Benjamin?**

Well, Benjamin would like to be famous; he envisions traveling and speaking to huge crowds. He loves to sing and act; he also cares about our environment and would like to be involved with various conservation efforts. For my part, I dream of our story reaching the greatest audience possible—making a positive impact, changing lives for the better. I am getting Benjamin’s presentation out on DVD and am exploring the making of a documentary film; interested persons are welcome to contact me.

**Youngster pushing past autism, Tourette syndrome to compete at state powerlifting championships**

By [Mark Inabinett | minabinett@al.com](http://connect.al.com/staff/minabine/posts.html) AL.com
Email the author | [Follow on Twitter](https://twitter.com/AMarkG1)
on March 09, 2014 at 8:09 AM, updated March 09, 2014 at 8:10 AM

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |

LOXLEY, Alabama - Christopher Biggs has been carrying the twin weights of autism and Tourette syndrome throughout his life. Now, he's dealing with the ailments by picking up weight - the kind that powerlifters deadlift, bench press and squat. Biggs, a 12-year-old sixth-grader at Fairhope Intermediate School, plans to compete in the youth division at the [Alabama State Powerlifting Championships](http://topics.al.com/tag/Alabama%20State%20Powerlifting%20Championships/index.html), which will be held March 15-16 at USS Alabama Battleship Memorial Park.

"Christopher said this is going to teach people about autism," said his mother, Lynne Biggs. "He said he wants to show people that people with autism can do anything they can do."

Lynne Biggs and her husband, Harold Biggs, have high hopes for their son's powerlifting, too.

"I think it's going to give him a place," Lynne Biggs said, "something that people can look at him and he's not the kid with autism, he's not the kid who tics. He's the kid who's really strong and is in the powerlifting competition."

**THE POWERLIFTING FAMILY**

Lynne Biggs isn't basing her hopes on wishful thinking. She said she's seen positive effects from powerlifting since her son took up the sport in August.

"I saw an article in the paper, I think it was last summer," she said, "and it was about the Special Olympics (powerlifting) team and it talked about how it wasn't the person who lifted the most, it was the control, you had to follow the right methods just to compete. Christopher with his autism, he doesn't stop and think. He just jumps, and the idea of something that would teach him control sounded really good. And he's naturally very strong, so we wanted him to be able to be in control of that."

Daryl Haskew, the coach of the ARC of Baldwin County powerlifting team, recommended the Biggses start Christopher at TOADS, a personal-training facility in Mobile, working with Brock Cole. The ARC team was on vacation at the time, and when it restarted, its workout schedule conflicted with his school day.

"He used to have a regular day," his mother said, "but the stress was so much that we've cut gradually back trying to get a day he can work with and remain calm and focused."

Christopher now goes to school from 8:30 to 11:30 a.m. The shorter day allows him to attend the ARC workouts on Tuesday and Thursday afternoons, and he's done so for about two months. At the ARC gym in Loxley last week, Christopher worked out, clowned and interacted like a 12-year-old with Haskew, Claudette Baker Steele (his "other mother") and ARC powerlifters Michael Cline, Neil Frazier, David Hall and Kelby Sanders.

"It's wonderful," Lynne Biggs said. "When Christopher comes here, it's like family to him. He knows everybody. He's completely relaxed. Not a bit of stress. When he goes to TOADS, he works out with a young man named Brock Cole, who's been teaching him since August, and it's the same thing. He's proud of what he does."

**AUTISM AND TOURETTE SYNDROME**

Christopher's mother said his autism leaves him prone to sensory overload while Tourette syndrome can send him spiraling into sudden, repetitive movements and vocalizations.

"Christopher has a lot of sensory problems," Lynne Biggs said. "His olfactory sense is very strong. His sense of hearing is extremely strong, so much that we have to have noise-cancellation earmuffs just for him to do something like go to the movies. When he's relaxed, those things are not as bad. They've been trying to get him used to the gym in here with a lot of noise. He hasn't had to wear his earmuffs one time. When we went to the (Mardi Gras) parade the other night with all the noise, he was cringing without the earmuffs. Here he's so relaxed, it doesn't matter how much noise there is. He doesn't cringe. He just enjoys it.

"Christopher's tics are vocal and motor. The vocal ones have been the worst because he'll screech, he'll hoot, make animal noises. It's disturbing to people around him, and when he gets caught up in the cycle of doing it, it's frightening to him. He never tics while he's here working out. His tics overall are much better, and I think it's because he relieves stress when he's here, when he's working out, and it carries over to the rest of the week."

**THE POWER OF POWERLIFTING**

Haskew said anecdotal evidence, at least, suggests weight training has a positive effect for the autistic.

"What I've learned about autism," Haskew said, "and I'm trying to get more information from the experts - and to me the experts are the parents - so I've gotten some input from parents who've said the focus required and also the pressure - the actual feeling of resistance - for people who have autism is doing something within their body or mind to help them. I don't know what it does, but I've noticed over the years that autistic people really, really enjoy doing the sport."

Lynne Biggs can't cite a scientific study to support Haskew's assessment, but she knows what she's seen in her son since he began powerlifting: The ability to wait until he hears "Bar is loaded" before stepping up to lift. The patience to follow the commands of the lift judge to record an acceptable weight.

"We're very enthused about it," she said. "We've tried other things. We've been looking for something to make him feel good about himself, and this has been it.

"Christopher's never just stood up there and waited for anything in his life. Christopher, he's strong. He's just incredibly strong, and he doesn't have an off switch and he just lunges. And now he puts his feet in the right position, and he waits until they tell him what to do. I knew he could lift, but I wasn't sure he could do that part, and he's doing wonderfully.

"It gives him something that really impresses people his age, and Christopher doesn't have many things to impress people his age. It gives him confidence, and I can see he's starting to get control over things that he couldn't before. With his strength, he doesn't slam into everything as much as he used to. He's started to be a little bit more careful and tried to get a grip on it."

**'LITTLE VICTORIES'**

While others are only surmising how powerlifting makes Christopher feel, he knows.

"It makes me feel good," he said. "It calms me down."

But Christopher is excited about participating in the Alabama State Powerlifting Championships.

"I think it's very great, excellent," he said.

Christopher, who weighs around 90 pounds, said he hopes to set a personal best in each of the three lifts. His personal bests in qualified lifts are 125 pounds in the deadlift, 85 pounds in the squat and 65 pounds in the bench press. He said he likes the deadlift best.

The ARC of Baldwin County powerlifting team will have 15 members competing at the state meet. While powerlifting may connote macho to the max, Haskew said Christopher's participation, like that of the ARC lifters, couldn't be farther removed from that stereotype.

"That's got nothing to do with I'm the biggest, baddest guy on the block or anything like that," Haskew said. "Those little victories, man, to me that's what it's all about."