Autism: Separating Fact From Fiction

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Public awareness of autism has increased markedly in the new millennium because of increased media coverage and a rapidly expanding body of knowledge about **autism spectrum disorders** (ASDs).

Parents and caregivers understandably have many questions about what they read on the Internet, and hear on the media and from friends. Much information is offered in the media about ASDs; some of it is true or partly true, some of it is entirely false, and all of it is very confusing. This guide has been given to you because you have expressed a desire to learn more about what medical science presently knows about autism, which is not to say that everything is known about this complex and perplexing disorder. Far from it.

We at McKenzie Pediatrics hope that you will take the time to read through the following information carefully. What is presented here is a *brief* attempt to explain the basics of ASDs. This article is by no means a complete encyclopedia of knowledge about autism spectrum disorders. Hopefully, with continuing advances in medical science and our understanding of the brain and of genetics, there will someday be such an encyclopedia.

What Is Autism?

It is most important to first understand that autism is not a single thing, just as a cold is not a single thing. There are hundreds of viruses that cause the common cold. And there are many known and doubtless many more unknown causes of autism.

ASDs are categorized in three distinct ways: **autistic disorder** (AD), **Asperger syndrome** (AS), and **Pervasive Developmental Disorder – not otherwise specified** (PDD-NOS). In addition to being a *spectrum disorder*, autism has *wide* variability with respect to the presence and intensity of symptoms. Just as a cold can cause symptoms ranging from mild to severe, so can autism.

How Common Is Autism?

When all children with AD, AS, or with PDD-NOS are included under the umbrella of “autism”, as many as 1 of every 150 children in the US meet criteria for an ASD.

There is much debate about whether ASDs are truly becoming more common. Research has suggested that quite possibly autism has in fact not become more common, but that instead physicians are just applying the diagnosis far more commonly and correctly than in the past. As much more becomes known about autism, physicians and developmental specialists are more quickly and widely recognizing this disorder, and the labels that were used in decades past for such children are today hardly used. We call this phenomenon *diagnostic substitution*. Undoubtedly diagnostic substitution accounts for a *large* part of the “rise” in autism; nevertheless, it remains unclear to researchers whether it accounts for *all* of it.

What Causes Autism?

Although ASDs are neurodevelopmental conditions with strong biological/genetic roots, the exact explanations remain unknown. What is known is that autism is highly heritable: while the chance of having a child with autism currently stands at 0.6 percent, the chance of having a *second* child with autism is 10 to 20 percent! And 90 percent of identical twins of a child with an ASD *also* have an ASD!

Environmental explanations have been widely put forth in recent years, such as the administration of vaccines (specifically the Measles-Mumps-Rubella vaccine, or MMR) or the preservative thimerosal that was until January 2003 used for many decades as an additive to vaccines to prevent bacterial and fungal contamination. However, large population studies the world over have failed to find any link between either the MMR vaccine or thimerosal and autism; at the time of this writing, thimerosal has been out of U.S. vaccines for nearly five years, and yet the rate of children being diagnosed with an ASD has remained the same and in some areas even continues to rise.

Additionally, the rate of ASDs is the same in children who don’t receive the MMR vaccine, thereby making it extraordinarily unlikely that this vaccine is a cause. Besides which if administration of the MMR vaccine led to the development of an ASD, why are we not seeing evidence of four and five year-olds suddenly developing autism after receiving their MMR booster?

Studies are continuing, and may yet reveal some connection between environmental exposures and autism. Some have posited that the wide variety of toxins present in our so-called “advanced” Western societies

may be playing a role, possibly as *triggers* or *switch-flippers* for the genetic potential for autism a child might already have been born with, and such possibilities are under wide study. Evidence also exists for the possibility that exposure to toxins during *fetal* development is one of the causes of autism.

As of today there are no automatic "tests", such as a blood test, for autism. But several gene markers have been identified, and the day may soon come when infants might be screened for whether they have the genetic potential to develop autism.

Are There Other Causes of Autism?
This is where things get a bit tricky, especially when it comes to information read on the Internet, or heard on the morning talk shows or from friends and acquaintances. Again, keep in mind that *autism is not a single thing*. It is a spectrum – in other words, there is a wide range of symptoms or features of autism, and each of these features may range from mild to severe. The diagnostic criteria for autism cast such a wide net that many children with *other primary medical conditions or diseases that have developmental consequences or lead to developmental regression will be labeled as "autistic", when in fact "autism" is not their primary disease, but rather a consequence of their primary disease.*

Confused? Don't feel bad, because even experts sometimes get this a bit mixed up. To say it a different way: *some children early in childhood develop diseases, and sometimes suddenly, that affect their development in such a way that it is slowed, stopped, or caused to regress*. The resulting developmental symptoms can sometimes then fit into the criteria of one of the autism spectrum disorders, and the child becomes labeled "autistic". While in a sense they are, nonetheless this is not their underlying condition, but rather a sort of "secondary autism", if you will.

Such diseases include various forms of epilepsy (the peak age at which epilepsy develops is early childhood), Inborn Errors of Metabolism (of which there are many types), Childhood Disintegrative Disorder, Landau-Kleffner Syndrome, Rett Syndrome, Tuberous Sclerosis, Fragile X, Lead Poisoning, Angelman Syndrome, Prader-Willi Syndrome, and others.

Epilepsy – which is another "catch-all" word, like "autism" – is a common and under-recognized cause of autism. There are in fact many types of epilepsy, otherwise known as seizure disorders, which are disruptions of the electrical activity of the brain. Most are not evidenced by the classic jerking that everyone thinks of when they think of a seizure. Many seizure disorders are "subclinical", meaning that they are difficult to recognize without electroencephalographic testing (an EEG); as many as *one-third* of children diagnosed with an ASD have an abnormal EEG. More remains to be learned about this connection.

What Are The Features of Autism?
Again, there is a very wide spectrum to autism, hence the term "autistic spectrum disorders". But a few things can be safely said: in all forms of ASDs, social skill deficits exist to some degree, and unusual and repetitive patterns of behavior, interests, and activities are noted. Significant language delays are also a key feature of Autistic Disorder and PDD-NOS, though not of Asperger Syndrome (AS).

ASDs are often not detected until toddlerhood when the parent begins to realize that their child is not communicating as expected for their age, and as compared to their peers. But true autism often has signs even in infancy, such as contentedness with being alone, ignoring of parents' bids for attention, infrequent eye contact, and infrequent seeking of attention with gestures or vocalizations. Autistic children are often described as "easy babies" for not needing much attention except when hungry, tired, or soiled. Some autistic children, on the other hand, are extremely fussy and irritable as babies, due to excessive intolerances to environmental stimuli that persist as older children.

For a more complete list of the many possible signs of an ASD, please download the Autism Screening Questionnaire, found under this website's heading "Parent Forms". While specifically designed for parents of children age 18 months and older, if your child is younger than 18 months this questionnaire will give you an excellent idea of what you are watching for when worried about an ASD. Chances are it will also greatly reassure you that your child is developing normally.

Conclusion
This article is meant to be an *overview* of autistic spectrum disorders, so that you become better able to understand what is meant and not meant by the term "autism". Understanding of ASDs is constantly evolving and improving, and more is being learned every day about the causes of autism. So stay tuned!