Autism is a medical disorder

Studies and clinical experience have shown that many children on the autistic spectrum have a range of health problems, often concerning the gut and immune system, but involving other areas and body systems as well. These problems are characterized by some people as simply comorbid; that is, they exist independently of the autism. There is absolutely no evidence to indicate that is the case, and growing clinical and research evidence to show the opposite: these serious, often chronic health problems are in fact the cause of what we have chosen to call autism. Furthermore, by treating medical health problems in autism with biomedical interventions, we can address the root genetic and environmental causes of autistic symptoms.

Autism is defined and diagnosed solely on the basis of symptoms. That is, a paediatrician or other professional will note that the child has failed "to develop peer relationships appropriate to developmental level" (a criterion from the DSM-IV). If a child's symptoms meet enough of these criteria, a diagnosis of autism is given. What has to be understood though is that these 'autistic' behaviours are most often merely surface manifestations of underlying biomedical problems. For example, a very common biomedical problem found in children with autism is a chronic inflammatory state. This chronic inflammation can directly and negatively influence levels of hormones and/or neurotransmitters: they can cause heightened adrenergic/fear responses, fluctuations in levels of serotonin, and increased levels of glutamate (an excitatory neurotransmitter). All of these physical changes will have negative consequences on behaviours, cognitive function, sensory processing abilities, capacity to react to surroundings and ability to communicate.

In just the same way, the cognitive and emotional functions of someone with 'autism' will be affected negatively by physical problems that may not directly involve hormones or neurotransmitters. Many children endure ongoing problems that include constipation or impaction, irritable or painful bowel and other problems related to poor gut function; impaired blood flow to the brain (confirmed in autism through SPECT scans); abnormal glucose metabolism; low cellular energy production, with mitochondrial abnormalities having been confirmed in a large proportion of children and adults with autism; high levels of bacterial toxins circulating the blood (which correlate to severity of autism); impairments/delays in sensory processing; and inability to properly digest food, which results in reduction of available nutrients. Each of these conditions can affect cognitive and emotional function—imagine the children who suffer from all of them.

While there is currently no universal 'cure' for autism, all of these medical abnormalities are potentially treatable, and when they are successfully addressed their effects on cognitive and emotional function are also addressed. In other words, those surface systems that are the basis of an autism diagnosis diminish, sometimes disappear entirely.

One of the most disturbing health issues common in ASD is seizures. Latest research shows that one in three children with ASD will develop seizures in childhood or during adolescence. Medical problems such as epilepsy contribute to the fact that there is **more than double the risk of early death in individuals with autism** compared to healthy population.

How these medical problems, which can be many and varied, further develop to affect behaviour and learning will vary from child to child, as will effective treatments for them. Addressing identified health needs often has positive effects on what are perceived to be `autistic' behaviours and symptoms. While there is currently no agreed upon medical standard of care for autism that addresses all of these potential medical problems, many children are now improving thanks to biomedical interventions, some so much that they are losing their diagnosis of autism. If one looks at current research carefully, there is no debate: **autism is treatable**. Yet, sadly, every one of the hundreds of families that our charity Treating Autism represents believes that children and adults with autism are having their medical problems overlooked or even actively dismissed. Clearly, whenever this happens, these people are having their human rights violated.

Treating Autism survey on biomedical approach to treating autism

In a survey conducted by Treating Autism of over 200 families using biomedical interventions to treat autism 95% found it beneficial and of those, 24% found it "life changing". Read more on our survey results on our website (on page 3 of Useful Document section).

Perhaps what is most astonishing about these survey results is the fact that parents have had such good outcomes with very little support. Few practitioners are both willing and able to provide biomedical treatments for children with autism. And even those practitioners who are willing are not being provided the support they deserve in the form of sufficient appropriate research. It is not difficult to imagine that with more of the right type of support and treatments, these numbers would be even more astounding.

Many parents have shared those inspiring stories of hope, improvements and even complete recovery from autism with us (see Stories of Hope on treatingautism.co.uk).

But Do Biomedical Treatments for Autism Actually Work?

In spite of evidence that we can provide—survey results, children with 'lifelong disorders' who no longer have them, astounded specialists who have never seen such progress, etc.—we parents are often faced with the mantra that "there is no firm evidence that biomedical treatments for autism work."

That accusation is only partially true. On the one hand there are many very promising smaller-scale and case studies showing that some treatments do have enourmous potential for a large proportion of affected children and adults, resulting in greatly reduced severity of symptoms and improved functioning and quality of life. There are also many documented cases of individuals whose symptoms have improved to such degree that they no longer meet diagnostic criteria of autism. On the other hand there is at this point in time no definite, large, placebo-controlled double-blinded study that establishes beyond doubt that any single biomedical intervention is an effective treatment for everyone affected by autism. Why is this true? And why will it likely be true for a very long time to come?

There are a few answers to those questions, but one important one is the fact that we cannot define what autism is—or, perhaps more accurately, what 'autisms' really are. Neither can we yes say with certainty what biomedical treatment really means.

'Autism' (or ADHD for that matter), as I argued above, is an artificially constructed, descriptive term. Autism has no substance. It is merely a descriptive term for a collection of observable symptoms. Autism is defined and diagnosed solely by those surface symptoms. Take away those symptoms and this thing-without-substance-called-autism disappears.

And those symptoms are only surface manifestations of some of the body's biology gone awry.

Even if we assume, for the sake of argument, that those body systems are not functioning properly because of faulty genes, there is STILL something dysfunctional on the very basic physiological level that is causing a child to exhibit symptoms of that thing-with-no substance-called-autism.

So let's suppose for a moment that all symptoms of autism are caused by faulty genes, the exact pathology will still differ greatly from child to child. For example, a great majority of monogenetic SLO Syndrome kids exhibit symptoms of autism, but so do most of Timothy Syndrome individuals, and very many PKU kids, and very many Fragile X, most of Retts individuals etc. In those monogenetic disorder individuals their symptoms of autism are not caused by the (dys)functioning of the same gene—in fact these disorders all involve different genes. Nor are the same downstream pathways involved of fundamental relevance. Given that the autism of these children is the result of different genes and different downstream pathways, we would certainly not attempt to address their autism in the same way!

For example SLOS is a monogenetic disorder of dysregulated cholesterol metabolism and membrane caveolin signalling. The affected children are very sick and the great majority of them also have autism (as well as gastrointestinal and immune dysfunction). There is lots anecdotal evidence that SLOS children, when treated with supplemental cholesterol, also lose their autism symptoms. In this case supplemental cholesterol IS their biomedical Intervention for autism. Or, to put it more accurately, supplemental cholesterol is the biomedical intervention for their dysregulated cholesterol metabolism, and at the same stroke it can end the symptoms of autism. (And let's be reminded, once again, that there is nothing to ANY autism apart from the surface symptoms. The thing is without substance or dimension.

Timothy Syndrome is a result of a monogenetic mutation affecting calcium trafficking via cell membrane. The great majority of those affected also have autism. There is good reason to believe (some promising research in this area) that blocking calcium channels, or correcting some of the downstream pathways that are thrown out of balance due to dysfunctioning of those calcium channels, might work towards reducing autism symptoms in these cases.

Now to the point: if we were to design a study to test whether cholesterol supplementation improves symptoms of autism, should we include Timothy syndrome kids alongside SLO kids? Would you also throw some Rett's and Fragile X kids into the mix? Similarly, if calcium blockers are shown to treat autism in Timothy syndrome individuals, would you automatically assume that it will work the same way for autism in kids with Fragile X?

There is every reason to believe that 'idiopathic' autism (that is, autism from unknown causes, not the types I have mentioned above) is a mixture of genetic susceptibility to a variety of environmental insults. This means that the exact pathology will be different in each case—in other words, although children with autism share symptoms (otherwise they would not be labelled autistic) they may have arrived there by a great many different paths. This is no doubt why some children are so severely affected and others not. The best we can hope for at the moment is to get a clearer idea of different 'subgroups' of autism, and to get clear biomarkers for those subgroups. Some will be overlapping and fluctuating, no doubt, which is exactly why we need to do the research. Only then it will become possible to design meaningful treatment studies that can 'prove' anything beyond doubt.

Having said that, while there is little we know little about exact pathology and how it differs between individuals, what we DO know is that there is lots and lots that is medically very abnormal in our children. There are plenty of good quality studies providing evidence of a whole-body, systemic disease process in autism (references below.

Perhaps just as importantly, we know that there are kids who have already recovered. Studying what changed the health of these children could give us crucial answers to the question of what caused their autism in the first place. The ongoing study by NIH on recovered children will hopefully be a starting point to addressing this question. But the will to undertake in-depth research has to be more widespread. Autism is a complex medical disorder, likely of many etiologies. It's a simple concept to grasp, but one that medical professionals, researchers, and government officials have been **incomprehensibly and inexcusably slow to embrace**.

Summary of abnormal biomedical findings in autism:

> generalised immune dysfunction and inflammation including microgliosis and astrogliosis (inflammation of brain microglia and astrocytes) and raised inflammation in the CSF, vascular endothelial inflammation, abnormal vasoconstriction and permeability, reduced blood flow to brain, oxidative stress, systemic glutathione depletion, mitochondrial dysfunction, autoimmune reactivity, mast cell activation, cardiovascular abnormalities (raised median diastolic blood pressure, abnormal QRS complex), increased intestinal permeability, microbial translocation (presence of bacterial toxins in the blood), hyperplasia of intestinal epithelial cells, pancreatic enzyme deficiency, disaccharide intolerance and malabsorption, autonomic/vagal stem dysfunction, abnormal cytokine profiles, antibodies to folate receptors, increased presence of polyomaviruses in the brain, incresed bacterial and viral infections, abnormal gene methylation, celebral folate deficiency.

Further reading

Changing the Course of Autism, by Dr Bryan Jepson
The Myth of Autism, by Dr Micheal Goldberg
Healing the New Childhood Epidemics, by Dr Kenneth Bock
Autism: Effective Biomedical Treatments - Individuality in an Epidemic, by Jon Pangborn PhD and Dr Sidney Baker MD
Special Diets for Special Kids, by Lisa Lewis
The Puzzle of Autism, by Dr Amy Yasko & Dr Garry Gordon
Treating Autism: Parent stories of Hope & Success, by Dr Steve Edelson

Further viewing

Autism Research Institute free online conference webcasts: http://www.autism.com/pro_webcasts.asp
What if this is not autism? conference webcast by Dr M Goldberg at Tarzana Medical Centre http://tinyurl.com/7sqadj3
The Immune System & Autism interview with T Theoharides MD PhD http://autismmedia.org/media3.html
AutismRecoveryVideos.org www.recoveryvideos.com

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This article was written by a parent who has researched biomedical aspects of autism for seven years. Her son, formerly diagnosed with moderate autism, is now thriving and no longer meets diagnostic critera for autism thanks to biomedical interventions. Thanks to Anita from Treating Autism for editing and suggestions.