

Autism and Biomedical Research

Alissa McKechnie

Department of Computer, Electrical, and Biomedical Engineering, University of Rhode Island

Imagine a boy, three years old, playing with his toy cars in the corner of a preschool classroom. He is enjoying playing by himself and only simply wants to be left alone; he is in his own world. If disturbed, he reacts with frightening jerking movements, screaming, and rocking back and forth. This young boy suffers from autism.

Autism is a "severely incapacitating lifelong developmental disability" (DIAGNOSTIC). Autism affects a person's ability to react appropriately to his or her surroundings (BSCS). It is a disability that occurs in one out of every 1,000 children and is four times as more likely in males than females (DIAGNOSTIC). The cause of autism is unknown; it is treatable, but incurable. Early intervention has proved to be the most effective factor in lessening the impact of autism. The behavioral treatment approach for autism most often involves physical therapy (PT), occupational therapy (OT), speech therapy, and Applied Behavioral Analysis (ABA). Specialized devices, such as PECS boards, are often used as aids to create a more structured ambience in the classroom, which is more appealing to an autistic mind.

Advancements in biomedical research are improving the treatments that are available for those who suffer from autism. Two treatments that go hand-in-hand are chelation and the establishment of a gluten-free, casein-free diet (GFCF). Many autistic children lack the enzyme that allows for their bodies to break down the bonds in gluten and casein, substances found in wheat and dairy products respectively. Because of this condition, "improperly digested proteins may cross the intestinal membrane, travel in the blood, pass through the blood-brain barrier, and interfere with neurotransmission" and in turn can affect a child's behavior, attention, speech, and general health (Why). It has been found that the lack of the gluten and casein digesting enzyme may be caused by a blockage of mercury. Chelation is the process of removing metals from the body and because it is thought that mercury may play a large role in the cause of autism, the goal of chelation is to remove that metal. Chelation treatments are usually administered via an intravenous drip. The most commonly used chelation agent is Ethylenediaminetetraacetic acid (EDTA) (Why). The chelation agent finds and forms a single attachment to the mercury with one reversible ionic bond. Once that bonding has occurred, the mercury is grabbed onto, pulled off the cell and excreted.

These treatments were developed by researchers from the Autism Research Institute who implemented the DAN! Protocol. DAN! (Defeat Autism Now!) was

established by Dr. Bernard Rimland. Rimland was the forerunner for ABA, wrote a book about infantile autism, and founded the Autism Research Institute. He believes in using "laboratory tests to identify problems in children's metabolism which can be corrected through the use of diets, vitamins, minerals, amino acids and other safe and natural substances normally present in the body" (Autism Research Institute).

While DAN! is a "is a highly controversial biomedical approach to autism treatment," results of chelation have, at times, shown significant improvement in the patient (Why). Although it takes time because the treatment is regulated over weeks and months, hundreds of thousands of people have been safely treated with chelation over the past decades (Chelation). A GFCF diet along with chelation treatment theoretically corrects a child's GI tract, detoxifies the child, and improves his or her overall nutrition. With better nutrition comes better behavior, self awareness, and an overall healthier child.

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