

**The Effectiveness  
Of  
Psychopharmacology  
With  
Autism**

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## **INTRODUCTION**

Christopher enters the office with his family. He is described as being angry, rebellious, smelling badly, and being uncooperative at school and at home. No disciplinary measures have been effective. The young patient is only 8, but physically presents as older. He is asked by the therapist to create something with wooden blocks. He lays the blocks side by side, but cannot imagine a castle or house or building. He is asked to draw something. He recreates a scale picture of a street intersection. He states that things like intersections bother him and that he must get them out of his head.

After much consideration and use of testing methods, the therapist tells the parents that he believes their son to have Autism. The family never returns.

A diagnosis of autism seems like the kiss of death to many parents. Diagnostic procedures are still underdeveloped, treatment is limited, and the outlook is bleak at this point in psychopharmacology. April 2, 2008 was the first ASD (Autism Spectrum Disorder). World Awareness Day. Perhaps a new emphasis on this disorder will begin to clarify what is now obscure, and solid diagnostic and treatment options will emerge. This therapist is treating more individuals and families in which autism is present, than ever before. He is searching for a combination of treatments that actually produce visible results and which give parents hope. His belief is that a somatic approach with proper medication is likely the way to go. There is yet to be anything approaching a "Best Practices" document for ASD.

## What Autism Is

Autism is one in the class of Pervasive Developmental Disorders or PDD, as defined in the DSM IV. (APA 1994). Autism is the most common of the PDDs. It is one of the categories of autism spectrum disorders or ASD. According to the Autism Society of America, “Autism is a complex developmental disability that typically appears during the first three years of life and is the result of a neurological disorder that affects the normal functioning of the brain, impacting development in the areas of social interaction and communication skills. Both children and adults with autism typically show difficulties in verbal and non-verbal communication, social interactions, and leisure or play activities.” (ASA 2008). The latter was the symptom observed in Christopher. He had no ability to play or be creative.

The prevalence of autism is reported by the CDC to be about 1 in 150 births currently. The odd and alarming thing is that the prevalence grows every year at about 17% per year. This causes one to pause and ask soberly what are we doing to create this phenomenon? Though it is found in every ethnicity and around the world, it occurs four times more in males than in females. At this point, no one can explain this fact.

One oddity of diagnosis is that white males are 2.6 times as likely to be diagnosed with autism on initial differentiation as black males. Black males are

more likely to be diagnosed with ADHD on the initial go round. (Mandel et al. 2006). Diagnosis, therefore, is still a guessing game to an extent.

### **Diagnosing Autism**

There is yet to be a diagnostic tool that is satisfactory. One of the early pioneers of testing was the ITPA in which a therapist gave directions to a patient, gave them a series of numbers to remember, and asked them to repeat tongue tanglers. Today the ITPA is the Illinois Tractor Pulling Association.

The main means of arriving at a diagnosis in our time is observation and checklists. The checklists may be filled out by parents, teachers, and therapists. These include the Vineland, which has become one of the standards. (Sparrow et al 2005). Other diagnostic tools include having a child copy figures such as in the Beery VMI (Visual Motor Integration, Beery et al 2005)..

The following are typically listed as symptoms to consider in diagnosing autism.:

An insistence on things being the same

Difficulty in expressing needs

Echolalia or repeating words instead of actually communicating

Demonstrating distress or crying for reasons unknown to others

Aloofness

Tantrums

Difficulty mixing with others and generally poor social skills

Lack of eye contact

Aversion to being cuddled

Sustained curious play

Lack of creative and typical play

Unresponsive to usual teaching techniques

Spinning objects or fascination with spinning objects

Obsessive attachment to objects

Over or under response to pain. In some cases such a child may be seriously injured and pay no attention to it.

No sense of danger

Uneven motor skills

Walking on tip toes

May seem deaf due to no response to auditory cues

There is a lack of sensory integration

Subtle sounds or sights may prove to be over stimulating or seemingly painful

Not able to follow simple directions

And the list goes on extensively.

The problem with the checklist methodology is misdiagnosis. A symptom list could readily produce symptoms that fit more than one diagnosis, such as the ADHD finding in black males as mentioned above. Some feel that the above list can be confused with personality disorders, especially narcissism. (McDowell 2002). Since personality disorders are not readily diagnosed until adolescence,

attempting a checklist diagnosis at an earlier age for autism has its problems. What is needed is a sure fire tool such as an EEG scan that could positively define the disorder at an early age.

One study of a rather small nonrandom sample showed a lateral asymmetry between boys with autism and normal boys. (Stroganova 2008). This study, however, was not a diagnostic tool. The subjects had already been diagnosed as either ASD or normal and this asymmetry showed as an effect of the disorder. It has not been taken to a diagnostic level. EEGs are important, since many with autism do have seizures. This therapist feels that today's checklists will become the Tractor Pulling Associations of tomorrow.

### **Causes of Autism**

Once again there is no clear resolution as to the cause of this disorder. The person generally credited with first recognizing autism as a disorder, Dr. Leo Kanner in 1943, felt it was due to bad parenting. (Kim 2008). If that were the case we would have an even greater instance of it. Popular mythologists like to go for the mercury poisoning in vaccinations. Robert F. Kennedy Jr. is the main proponent of this conspiracy theory of cause. As stated previously, that could conceivably account for the rise among infants, but it does not explain the reason most autistic children appear to arrive to the world with it already. (Kennedy 2000). Vaccinations are largely a Western development and autism is increasing worldwide. This therapist did, however, treat one young girl who went for a DPT shot, fell immediately into a coma and awoke with autism. It is unknown what

happened in that case. The girl may have had an allergic reaction to the shot. This is an extreme case and isolated occurrence.

One may not agree with Kennedy, but there does seem to be more toxins in the environment or taratogens. Heavy metals are part of these toxins. (ASA 2007). The ASA is conducting further study of environmental toxins. One other possibility is that there is an immune deficiency in autistic children. Still no one really knows at this point, and the theories that are out there do not adequately explain the explosion of autism.

The brain of a child with autism is different on a scan from a typical child's brain. The culprit seems to be genetic. Speculation is that it has to do with the X chromosome, but research is inconclusive to date. Autism appears to occur more frequently among families with a history of illness or genetic disorders.

There is also the history reconstruction theory, which is held by the Vineland group and others who are part of developing the diagnostic checklists. They believe that we are just getting better at diagnosing autism and the instance of the disorder is unchanged. This therapist received this piece of information directly from the Vineland school. One of the obvious problems with that theory is "Where then are all the undiagnosed adults who must have grown up with autism?"

### **Treatment of Autism**

Since we do not have good tools for diagnosis and do not know how it is caused, one might expect that we also do not have very reliable means of treatment. That would be correct. Most everything has been suggested as a good approach to treatment for autism. The two main ingredients that hold some validity is: 1. to see each case of autism as an individual and 2. to start early with treatment. The same would be good advice for any disorder. Consider the diversity of the following suggestions: (CDC 2008)

Chinese medicine such as acupuncture

Holistic or homeopathic medicine

Changes in diet

Applied behavioral analysis

Discrete trial testing

Incidental teaching

Verbal behavior intervention

Relationship development intervention

Sensory integration therapy

Occupational therapy

Language and speech therapy

Sign language

Balance training

Assistive technology

Art therapy

Music therapy

Service animals  
Herbal remedies  
Energy therapy  
Aquatic therapy  
Dolphin therapy  
Vitamins and minerals

In other words, try anything, it may or may not work. To date, hard research on all these various remedies has yet to be done, except in the case of some medications. Materials for these various teaching techniques are very expensive. A parent may waste a lot of money trying different methods that are useless in the case of their child.

There are, however, general strategies that have some merit worthy of consideration. These are: (Yapko 2008)

1. Be concrete
2. Add visual components to therapy
3. Concepts and skills should be taught for transfer to different areas
4. Develop concepts and skills that will help understand other's perspectives

### **Psychopharmacology with ASD**

The brain of a person with ASD is different than it is with normal individuals. It makes sense, therefore, that medication, as well as psychotherapy is for the purpose of treating symptoms. We are not able to undo the condition in which the brain entered the world. One drug, that will be discussed later, may target the actual source of the disorder. The list of medications will be similar, then, to those one might find with any co morbid disorder. There are subtle differences. Since the brain works differently with ASD, the results of a particular drug may not always be what are anticipated.

For a parent, one of the most pressing symptoms is the behavioral aspects. As seen in the symptom list, there may be tantrums, outbursts, aggression, not following directions, laughing, crying, or over reacting to stimuli in the parents' eyes. These unwanted problems may be the first issues that bring a family to therapy. Parents plead for something to help them gain some control over these disruptive symptoms. The discussion of medications, that follows targets irritability, aggression, and self injurious behavior.

### ***Medications for disruptive behavior***

Interestingly, one of the older drugs, clomipramine, or Anafranil, manufactured by Novartis, has been tried and studied among those with autism. Anafranil is one of the tricyclic antidepressants. The initial impetus was that the medication was helpful in controlling obsessive/compulsive behaviors in the normal population and also anger. These two are among the most troubling to parents. The medication was also found to reduce irritability and stereotypic

behaviors. The recommended dosage was 56 mg per day. There are some serious potential side effects of this treatment. In one study there were instances of tachycardia, grand mal seizure, and the appearance of other unwanted behaviors. (Erickson et al, 2007)

The older antipsychotics have received some consideration, in particular Haldol. The main drawback found here is dyskinesia. Overall this avenue has not proven to be a viable route for treatment. The new antipsychotics, however, have experienced some more promising results.

The RUPP Autism Network conducted the first extensive double blind, placebo controlled study of risperidone or Risperdal. This drug was only approved for use in children with schizophrenia and bipolar in 2007. It was not possible to use the medication prior to that except for test purposes.

Parents were pleased with the results in this study because the drug at 2.7 mg per day, did effectively and significantly reduce aggression, agitation, hyperactivity, and repetitive behaviors. The regimen did produce the adverse effects of significant weight gain, increased appetite, fatigue, drowsiness, dizziness, and drooling. No parent removed their child from the study due to the adverse effects and 68% continued the post trial program. (Erickson 2007). Risperdal does, thus, appear to be a good possible choice for treatment working alongside psychotherapy, which will be discussed shortly.

Olanzapine, or Zyprexa showed similar results to the above, except only in about half of the participants and with more adverse effects, especially weight gain.

### ***Medications for Inattentive and hyperactive symptoms***

If a PDD diagnosis is found by a therapist, it trumps the ADHD diagnosis. Although there may be ADHD symptoms in a person with PDD, such as autism, the medication regimen may not work the same. Nevertheless, if ADHD symptoms can be controlled in autism the learning ability of an autistic person might be maximized.

The psychostimulants Ritalin and Concerta are the most commonly tested medications for ADHD symptoms for use with autism. Generally the results are that these drugs do not work as well with those with PDD as with the general ADHD population. So far there is not much enthusiasm about using these medications. Some medications that are used to control blood pressure have also been tested with similar outcomes.

The information on Adderral is anecdotal. It is not clear to this therapist as to the reason that Adderral has not been more widely tested. According to the Autism Research Institute, (ARI), about 32% of parents believed Adderral to be helpful for their children. On the same list, a greater percentage of parents felt that vitamin and herb remedies were more effective than prescriptive medications. (ARI 2008).

### ***Social interaction***

The remaining problem area for those with autism that might be addressed with medication is the social interaction domain. Three main drugs

have been examined to assist. These are Lamotrigine, Amantadine, and D-Cycloserine.

Lamictal is used widely for seizure control, but also is the first drug since lithium to be approved for mood stabilization, especially in bipolar disorder.

Amantadine, is an antiviral but is also used in Central Nervous System dysfunction such as Parkinson's. The third is an antibiotic that has been found to reduce social anxiety and has also been tried in treating Alzheimer's. In treating the social problems with autistic individuals, however, none of these has proven to be effective. Curiously parents who were polled by ARI, felt that the second drug Amantadine was helpful at 74% positive response.

### ***Autism and Aricept***

Michael Chez is the pioneer in this research. He has conducted one pilot study and one larger controlled study. The idea for Dr. Chez is not to just treat symptoms, but to actually kick start the brain toward more normal functioning. He uses Aricept or donezepil for the purpose. To date this is the only medication and trial that has taken that tact. The medication enhances cholinergic function in the brain by reducing the activity of the enzyme acetyl cholinesterase. In people with autism, Aricept may help improve attention, learning, and memory. Possible benefits of Aricept are being tested in children and adults with ADHD, and schizophrenia, as well as autism.

Chez's early findings are promising. Speech is greatly improved for autistic children both in expression and reception. One of the drawbacks discovered so far is that the regimen works only for mild and moderate cases of

autism. The study has now gone to trials funded by the NIH. The results of that research are not yet published. (Arehart-Treichel 2001).

A similar study conducted at Stanford by Dr. Antonio Hardon was not as enthusiastic. There were some positive results namely: “children somewhat improved their performance on tests aimed at measuring spatial executive functioning (the Design Fluency Test), selective attention (the Color-Word Interference Test), and the California Verbal Learning Test.” (Bates 2007). One set of parents, however, reported anecdotally, that Aricept did wonders for their child of age 13. There is obviously still more work to be done in this quarter.

### ***Pharmacology conclusions***

The studies to date have focused on one drug being tested by itself. No studies could be found of coactive medications, which would treat disparate groups of symptoms simultaneously. Also, the drug tests have not included psychotherapy and educational approaches at the same time.

Hopefully treatment in actual practice would not depend on a single medication and no other treatments for results. In the near future studies that take these things into account will be happening. The results should be much improved.

### **Medication Plus Psychotherapy**

Generally, the non-medication approaches to treating autism can be summarized as:

- Biochemical (food allergies food and vitamin supplements)
- Neurosensory (sensorial integration, over stimulation and patterning, auditory training, facilitated communication, daily life therapy)
- Psycho-dynamic (holding therapy, psychotherapy and psychoanalysis)
- Behavioral (without aversion)

There are a few success stories for each of these types of treatment, but most of it is anecdotal. Hard evidence of real success is difficult to find among the four approaches. The one oft referred to psycho educational approach is called TEACCH, ( treatment and education of autistic and related communication-handicapped children). This program was begun in the 1970s and needs to change its name since “handicapped” is a very non-proper word currently. Also, autism is not simply a communicative disorder. The materials and ideas available from this organization, based in North Carolina, are seventy-ish in their approach.

This therapist feels that the best treatment that is currently available would be a combination of Risperdal and/or Aricept, when it arrives on the market for this purpose, somatic therapy designed for each individual, and family psychotherapy. The somatic ingredient will vary from case to case. Some clients, for example, respond well to the martial arts. Others find it too stimulating and socially challenging. Some find equine therapy productive while others hate horses. A few find music and music therapy helpful.

This therapist is experimenting with numerous somatic treatments during this year to determine the ones that work best for the widest audience. The

family, however, must have supports in place to cope with the many challenges that appear from having an autistic member. Many parents give up and seek institutional care for their children.

Some things that this therapist has found that will help parents are:

- Maintain the tight routine that helps the children feel comfortable.  
Do not move the household unless it is absolutely necessary.
- Make rules and discipline concrete and provide concrete ways for the child to see where he is in accomplishing those.
- Keep expectations of the child alive and do not capitulate to difficulties with getting them met.
- A much tighter connection with the schools should be sought.

### **Summary**

ASD is yet a mysterious and devastating disorder. Helpful treatments, both in pharmacology and psychotherapy are severely lacking. Despite the energy placed on the disorder by the Institute of Mental health since the 1970s, little has been accomplished.

Only two medications demonstrate reliable assistance for the majority of patients. The others, to date, have been of small use.

The greater issue is what is to happen to all these children when they arrive at adulthood. Supported employment is an option for a few, but general employment is not a realistic outcome. That reality will leave the citizens of this country with a huge and growing burden to carry.

Autism is a disorder that has sneaked up on the country. While we were looking another direction it exploded in our midst. Research in medication and psychodynamic treatment must be escalated exponentially. We must find out the cause of the increase in this disorder and stem the tide. This one therapist plans to do the small amount that he is able in one locale.

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