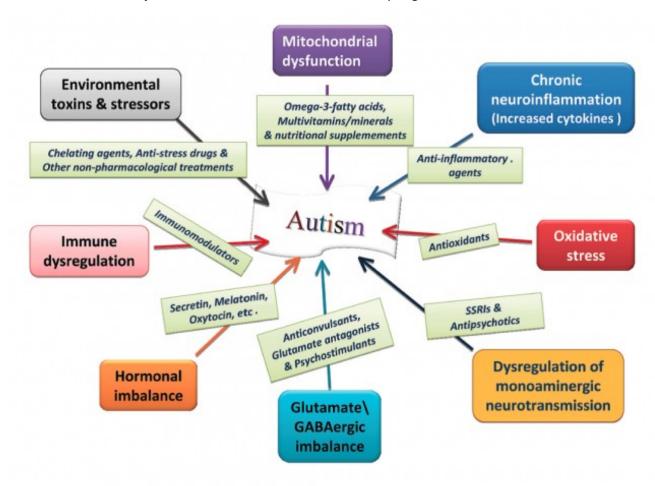
Treatment

While finding a cause and a cure is the ultimate goal.

Parents cannot spend a lifetime waiting for it.

As a parent with a child on the spectrum I know how it feels to be told by the medical professionals that there is little more than behavioural therapy or drug treatment for your child. We did do early intervention therapy and tried Ritalin for our son. One week on Ritalin, and seeing the side effects, was enough to motivate me to look for alternative options. Parent surveys report 29% of children got better on Ritalin, while 46% got worse. In the same surveys children on cod liver oil, 55% got better while 4% got worse. www.autism.com/reatment_ratings_asd. There were similar benefits for vitamin B6 and magnesium and dietary interventions. The survey of over 27,000 parents, logically could not be ignored. The options were safe with minimal side effects. Besides I was a medical scientist and had access to journal articles, and so our son's recovery began.



Parental observations are anecdotal and not equal to rigorous scientific investigations, but *they are important to document at this early stage of therapeutic treatment*.

Changing the way we think about treating autism.

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Helping Children Achieve Their Full Potential

There has been an explosion of research which is identifying subgroups of ASD children with underlying co morbidities, at the same time explaining and validating why there are subsets of children that do well when their comorbidities are properly treated.

"I am yet to meet a child that has only autism, they present with a variety of behavioural co-morbidities, medical co-morbidities, a number of biomarkers that may be readily available or through research and genetic findings. So children present with a <u>host of different</u> profiles." Jeremy Veenstra-VanderWeele

Pathways to New Treatments in Autism, Jeremy Veenstra-VanderWeele. Associate Professor of Psychiatry, Pediatrics, and Pharmacology, Vanderbilt University School of Medicine. SFARI Webinar.http://sfari.org/sfari-community/community-blog/webinar-series/2014/webinar-jeremy-veenstra-vanderweele-talks-routes-to-treatment.

Even in psychiatry, Associate Professor Jeremy Veenstra-VanderWeele is now proposing to begin identifying these small sub-groups of children that respond well to pharmaceutical medications. What is evident in most studies is that there is a poor response to most treatment options. However, if you zoom in on the small percentage of responders, there is a significant number that show marked improvement. This type of improvement to treatment would be striking if seen in clinic. But what we don't know is who those individuals are to target them for treatment. We need a way of identifying the potential responders. (eg. mitochondrial dysfunction, gene testing, generalised head size, elevated blood serotonin, gastrointestinal pathology or symptoms, regressive autism, etc).



If we identify and target specific sub-groups of children of distinct ASD phenotypes, it would make sense that we would get more evidence based studies supporting particular therapies, drugs, dietary interventions, supplements, etc best suited to these particular children. Academics can discuss the validity of studies, *unfortunately parents do not have the luxury of time to wait and are desperate to help their children now*. To consolidate previous research which subtypes autism, the Autism Research Institute is currently running their *ARI E-2 Survey*. The survey aim is to determine,

based on parent responses, possible underlying causes and the effectiveness of various interventions in relation to each subtype (http://www.ariconference.com/survey.html). Their original survey was an invaluable guide in helping parents make decisions in relation to drugs, diet and supplements. The current survey will utilise this parental database of knowledge, which although anecdotal, is a valuable tool which will provide valuable clues as to possible autism subtypes that respond favourably to specific treatments.

What are some of the behavioural, medical co-morbidities or biomarkers that are being used to identify ASD phenotypes that can respond well to treatment?

- Gastrointestinal dysregulation constipation, loose stools, abdominal bloating, abdominal pain
- ☑ Gastrointestinal pathologies esophogeal eosinophitis??
- Microbial imbalance clostridia, yeast, streptococcus
- Dietary intolerances- salicylates, amines, oxalates
- Dietary opioids caseomorphins, gliadomorphins
- ☑ Nutritional deficiencies zinc, iodine, iron, folate, B12, omega-3
- ☑ Oxidative stress high urinary markers of oxidative stress
- Environmental toxins artificial colours, additives, heavy metals, pesticides, polychlorinated biphenyls (PCBs), solvents, and pesticides
- ✓ Immune dysregulation
- ☑ Cerebral folate deficiency anti-folate receptor antibodies
- Hormonal imbalances melatonin, oxytocin
- Mitochondrial dysfunction abnormal urinary fatty acid metabolites