



# Touchstone Naturopathic Centre

**Autism, ADD, AD/HD and Behavioural Disorders**

**“Biomedical 101 – What to Know, and How to Get Started”**

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Congratulations on deciding to pursue biomedical treatments for your son or daughter. This handout will introduce you to the **Biomedical Approach** that is proving effective to treat children who have been diagnosed with Autism (or one of the Autistic Spectrum of Disorders), as well as behavioural conditions such as Attention Deficit Disorder (ADD) or Attention Deficit/Hyperactivity Disorder (AD/HD). Many factors that could contribute to these childhood disorders also apply to adults with chronic health problems such as Alzheimer's Disease, Parkinson's and Multiple Sclerosis, to name a few. Autoimmune conditions such as Rheumatoid Arthritis, Lupus (SLE) and Hashimoto's Thyroiditis should be investigated for similar factors.

The Biomedical Approach is a logical approach to healing based on diagnostic testing, dietary and lifestyle modifications, nutritional supplements and medications. The combination is integrated with therapies such as behavioural (ABA or IBI), speech, auditory and occupational therapies. The combined approach presents the best chance at optimizing the potential of each child, no matter how old they are or how long they have been diagnosed with Autism or ASD. Each child's health can be improved with individualized combinations of treatments, with the ultimate goal being a complete recovery.

The amount of available information related to the biomedical approach can be overwhelming. Knowing what to do first, how to prioritize testing and therapies, diet changes and supplements can leave parents confused or frustrated. This overview is written to guide you into the biomedical approach, and to help to make your decisions about testing and treatment easier.

The lack of knowledge or availability of this approach through mainstream medical channels (i.e. doctors, nurses) does not mean that is not effective. Naturopathic or biomedical therapies are not well recognized by the medical community, leaving parents confused about how to proceed. Many turn to books, articles, support groups and the internet to get help and information. Self-education along with direction of experienced practitioners (like Dr. Clack) will help you to make informed choices that will improve the outcomes for your child.

**Scott Clack, B.Sc., N.D.**

***Experience in treating children with ASD or Neurodevelopmental Disorders***

Scott Clack has been practicing as a licensed Naturopathic Doctor since September 1997. He graduated from the 4 year Naturopathic Medicine program of Bastyr University in June 1997 and successfully passed his NPLEX (Naturopathic Physicians Licensing Examinations) written in August 1997. After 2 years of practice in Surrey and Vancouver, B.C., he opened Touchstone Naturopathic Centre in April 2000. Dr. Clack was voted Naturopathic Doctor of the Year by his Ontario peers in October 2005.

His initial experience with ASD patients was through the practice of Allergy Desensitization using the NAET method (NAET is Nambudripad's Allergy Elimination Techniques; see [www.naet.com](http://www.naet.com) for more information including updates on a Phase 2 study with the NIH (National Institutes of Health) documenting the use of NAET with ASD children). His initial patients were already following Biomedical programs through DAN! (Defeat Autism Now) practitioners such as Jeff Bradstreet, M.D. and Jerry Kartzinel, M.D. Hence, these patients were already following GF/CF (Gluten-Free/Casein-Free) diets, receiving chelation therapy, and were taking many supplements (and occasionally prescription medicines). All patients benefitted from improvements in behavior, socialization traits, digestive system problems and other ASD-related complaints following the combined treatment protocols. One parent of the initial ASD children treated with NAET attributes her son's substantial gains in the first 12-18 months to the NAET treatments, in combination with other biomedical treatments.

Dr. Clack has attended a variety of training sessions and conferences on Biomedical Medicine for ASD children since 2002. He completed DAN! Physician training in September 2005 and updated his training in May 2008 in Chicago. He has also attended Physician Training through Great Plains Laboratory on five occasions since March 2006, and lectured at GPL training conferences (for parents and health care providers) in London and Kitchener, Ontario in 2007. He has also lectured about the Biomedical Approach at the following professional conferences: OAND (Ontario Association of Naturopathic Doctors) 2006 Annual Conference; the Restorative Medicine Conference in Sedona, AZ in October 2007; the AANP (Alberta Association of Naturopathic Physicians) First Annual Conference in Red Deer, AB in June 2008, and the American Chiropractic Autism Board conference in November 2009. He began speaking at Autism conferences in 2009, including Autism Today in Vancouver in March 2009, and Hope For Autism in Charleston, S.C. in November 2009. Dr. Clack has also been invited to speak at Surrey Place, the Halton Autism Society of Ontario, and the Canadian College of Naturopathic Medicine to share his knowledge about ASD children.

Since October 2005 Dr. Clack has met with families and consulted on the cases of over 300 ASD children. Most are from southern Ontario, but his consultations have also included children from British Columbia Saskatchewan, and Quebec, as well as from Europe.

As of the summer of 2008, Dr. Clack will begin his own research on the use of Naturopathic treatments (which are also classified as Biomedical) in ASD children and others with Neurodevelopmental issues. His submission for a poster-presentation at the Fall 2008 Geneva Centre conference in Toronto has been accepted. It will review the frequency of positive test results for urinary peptides from Casein or Gluten versus IgG food reactions to demonstrate which type of food intolerance directs the decision to begin (or continue) a GF/CF diet in Canadian children.

### **WHAT SHOULD PARENTS EXPECT?**

- Initiating and maintaining Biomedical treatments for your children is **difficult**
- If you expect a “quick-fix” or that one single treatment (or medicine) will “cure” your child, you do not yet understand this approach well enough
- Each child takes a different path – some improve quickly, others more slowly
- Some children don’t improve much at all – but testing will show that your efforts are making them healthier (e.g. fewer infections, better digestion or bowel habits)
- Expect to invest 2-4 years in applying Biomedical treatments; some may never stop
- The better parents understand the concepts and findings of the Biomedical Approach, they will find it to be more effective since there will be greater adherence to treatment protocols; this leads to quicker understanding of what works (and what doesn’t) for your child.

It is important that parents make an effort to educate themselves about the possible treatments. Please use these resources (see “Where to Start – Education”) over the next 3 months – it will make your start easier. Dr. Clack will offer regular seminars and handouts to add to your knowledge (ask at Touchstone Naturopathic Centre for dates, times and locations).

Parents should attend one of the conferences that now occur throughout North America (unfortunately rarely in Canada): Autism One, DAN! conferences (Spring and Fall, plus one-day mini-conferences through the year), Autism Today, and the NAA (National Autism Association) Conference in November. Learn the latest, and meet parents whose children are proof of the successful outcomes.

Each child's path through using Biomedical treatments is individualized. While many of the treatments overlap from one child to the next, the rate of progress and number of treatments varies. Basic treatments like diet changes, fish oils and use of antifungal medicines can result in significant improvements within the first 3-6 months for many children. Other children may not improve until they undergo heavy metal detoxification (or chelation) treatments. But some children do not seem to progress in spite of the best efforts of practitioners and family. ***Clinical experience and presentations at Autism conferences suggest that the average length of time required to "significantly recover" a child with an Autistic Spectrum Disorder is 3-4 years.***

If reading this booklet is your first step into the Biomedical Approach, it's very important that you keep reading and learning. The key for your child and family will be found somewhere amongst books or websites, at a conference or your next appointment with health care provider(s) who know these treatments are effective. Each child has to be taken on their own path to recovery: at Touchstone, we will do our best to help find the shortcuts that your child needs.

### ***Scheduling Appointments with Dr. Clack***

It is important that you plan and attend regular appointments to help you find your way through the Biomedical Approach puzzle. Appointments every 4-6 weeks to assess your progress and recommend additions or changes is suggested. Preferably these appointments will be conducted in person, but telephone consultations are an option (they must be booked in advance).

In the future we hope to conduct support-group sessions, beginning with videos or presentations discussing the Biomedical Approach or new treatments, along with group discussion of challenges that families encounter. Guest speakers will also be invited on a regular basis to introduce treatments or provide information that would benefit the families. If weekend seminars are of interest to families, please let us know that as well. The practitioners of Touchstone would be happy to schedule similar sessions throughout southern Ontario if anyone is aware that the need exists.

## Naturopathy vs. Biomedical Treatments?

From one perspective, the two terms are synonymous. All environmental factors known to contribute to ASD's can be successfully treated using naturopathic medicines: Vitamin and mineral supplements, and herbal medicines, plus therapeutic diets (e.g. Gluten-Free/Casein-Free, or Specific Carbohydrate Diets) are all in the scope of Naturopathic Doctors.

### **Exceptions:**

In Ontario, Naturopathic Doctors are currently regulated (licensed) according to the Drugless Practitioners Act (DPA) of 1926. Further information is available at [www.boardofnaturopathicmedicine.on.ca](http://www.boardofnaturopathicmedicine.on.ca).

Prescription Medicines are commonly used by DAN! practitioners (MD's) for ASD children but cannot be prescribed by ND's in Ontario.. He will recommend natural medicines that are often as effective as the prescription drugs (referrals to MD's are possible too). Please consider the following examples:

Prescription Medicine	Action/Effect	Naturopathic Substitute
<b>Nystatin, Diflucan</b>	Antifungal (Anti-Candida)	Garlic, Citrus Seed Extract, Coconut oil, Homeopathic formulas
<b>DMSA, DMPS, EDTA</b>	Chelation (heavy metal removal)	Pleo Chel, BioChelat, Lipoic Acid, N-Acetyl Cysteine, Cilantro
<b>Valtrex</b>	Antiviral	Echinacea, Licorice, Lemon Balm, IP-6, Cat's Claw, Oregano Oil, Lauricidin, Elderberry (Sambu)
<b>Low-Dose Naltrexone (LDN)</b>	Immunomodulator, enhance: cognition/language/socialization	See Antiviral; also St. John's Wort, Niacinamide, Inositol, DMG, Beta-Sitosterols, homeopathics

As you can see, there are alternatives to prescription medicines. You are free to follow an integrated care approach with your child, combining the use of prescription medicines (from an MD who is experienced in the DAN! Biomedical approach) as well as Naturopathic Treatments.

**IV therapy:** Dr. Clack is certified by the BDDT-N to offer Intravenous therapy to patients. Current BDDT- N guidelines do not allow IV therapy to be performed by ND's on children less than 14 years old.

### **Overview of Naturopathic Medicine & Philosophy:**

*"Nature is doing her best each moment to make us well. She exists for no other end. Do not resist. With the least inclination to be well, we should not be sick."*

*Henry David Thoreau*

"The practice of naturopathic medicine is the promotion of health, the assessment of the physical and mental condition of an individual, and the diagnosis, prevention and treatment of diseases, disorders and dysfunctions through education, common diagnostic procedures, and the integrated use of therapies and substances that promote the individual's inherent self-healing processes.

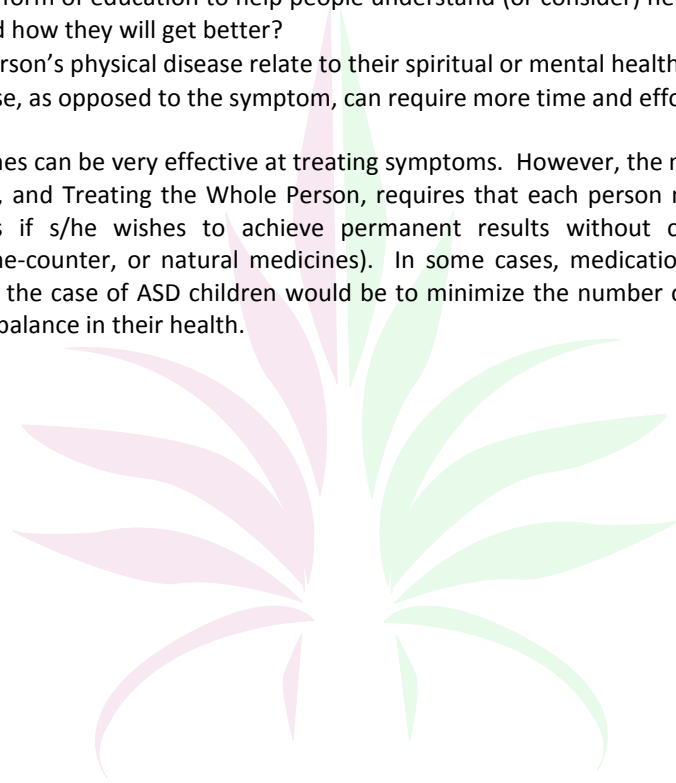
Naturopathic Doctors provide primary and adjunctive health care to people of all ages, focusing on the rational use of natural therapies to support and stimulate healing processes. Naturopathic Doctors

promote health and prevent illness, and diagnose and treat disease in a manner consistent with the body of knowledge and standards of the profession." (copied from the BDDT-N website)

Naturopathic Medicine has become a trusted primary health care service for the diagnosis, treatment and prevention of chronic and acute diseases. It emphasizes a holistic and individualized approach to health care that integrates traditional wisdom with current medical research. The basic philosophical premise of naturopathic medicine is that there is an inherent healing power in nature and within every human being. It is the Naturopathic Doctor's role to bring out or stimulate this innate healing within their patients. Part of this process involves addressing the root cause of illness rather than simply treating or suppressing symptoms. It also emphasizes patient education, health promotion, and disease prevention. In these modern times, many significant challenges face the person and the naturopathic doctor:

- What underlying functional weaknesses exist?
- What is the best form of education to help people understand (or consider) new concepts about why they are sick, and how they will get better?
- How does the person's physical disease relate to their spiritual or mental health?
- Treating the cause, as opposed to the symptom, can require more time and effort

Naturopathic medicines can be very effective at treating symptoms. However, the naturopathic principles of Finding the Cause, and Treating the Whole Person, requires that each person must make changes in their lifestyle habits if s/he wishes to achieve permanent results without continuing medication (prescription, over-the-counter, or natural medicines). In some cases, medication must be continued. However, the goal in the case of ASD children would be to minimize the number of medicines and their dosing to maintain a balance in their health.



### **WHAT IS TRIGGERING AUTISM AT ITS CURRENT RATE?**

A definitive cause of Autism is not known at this time. Mainstream medicine classifies Autism as a neurologic disorder that is likely caused by genetic abnormalities or errors. As a result of this position, the standard medical approach to treatment of Autistic children is with behavioural therapy, either known as ABA (Applied Behavioural Assessment) or IBI (Intensive Behavioural Intervention).

Over the past 20 years, a growing number of researchers and health care practitioners have improved the lives of thousands of Autistic children using treatments that:

- kill yeast or bacteria that produce neurotoxins (chemicals that harm nervous system tissues)
- change diets to eliminate foods that generate opioid and other food-sourced toxins
- eliminate heavy metals from nervous system tissues and other organs
- treating or eliminating oxidative stress and inflammation that damages organs as well as DNA and RNA (genetic building blocks)
- supplement with vitamins, minerals and other natural medicines that support metabolic problems

The Biomedical Approach believes that environmental triggers (infectious agents, vaccines, foods, pesticides, pollutants/heavy metals) accumulate to a threshold point where Autism starts. These factors can trigger Autism on their own, or in conjunction with genetic susceptibilities. Once Autism begins, untreated triggers and nutritional deficiencies will lead to a worsening of the condition. Starting Biomedical Approach treatments, along with Behavioural therapies, as early as possible increases the chances that Autistic behaviours can be reduced or possibly eliminated. Naturopathic medicine offers many treatment options, from therapeutic diets, herbal (botanical) medicines, vitamin and mineral supplements, to homeopathic remedies, hydrotherapy (water-based therapies such as foot baths and low-heat infrared saunas) and (needle-free) acupuncture.

## **WHERE TO START? EDUCATION**

Kurt Woeller, DO (Doctor of Osteopathy; also Medical Director of Great Plains Laboratory) reminds parents of one thing: Successful outcome of using treatments from the Biomedical Approach requires commitment to the process. To have this commitment, it is very important that you understand the Biomedical Approach as much as you can. The more familiar you are with various biomedical tests and therapies, the more you will feel confident that you are making an informed choice for your child/children.

Please consider reviewing the following resources:

### **Books:**

- ***“Changing the Course of Autism: A Scientific Approach for Parents and Physicians”*** by Bryan Jepson, MD (Note: current and parent friendly)
- ***“Children with Starving Brains”*** by Jacquelyn McCandless, MD (parent friendly)
- ***“Biological Treatments for Autism and PDD”*** by William Shaw, PhD. Can be ordered on-line at [www.greatplainslaboratory.com](http://www.greatplainslaboratory.com). (Technical)
- ***“Autism: Effective Biomedical Treatments”*** by Sidney MacDonald Baker, MD and Jon Pangborn, PhD (Technical)
- ***“Unraveling the Mystery of Autism and Pervasive Developmental Disorder”*** by Karyn Seroussi (ideal when starting the GF/CF diet)
- ***“Nourishing Hope: Nutritional Interventions for Autism Spectrum Disorders”*** by Julie Matthews (focuses on dietary interventions; covers other Biomedical treatments)

Many excellent books have been written on Autism/ASD. These books provide parents with comprehensive and concise overview of the Biomedical Approach, so they can be a one-stop resource for you to have at home.

A brief comment about Jenny McCarthy’s book, ***“Louder Than Words – A Mother’s Journey in Healing Autism”***. I admire what Jenny McCarthy has done in the past two years. Her words have inspired many parents who probably would not have otherwise sought out help with biomedical treatments. Her tenacity in the media (it hasn’t all been kind) has definitely raised awareness about biomedical treatments in the general population that didn’t exist before. Unfortunately her book is very short on details about the Biomedical Approach. If you have limited time to read and learn about treatments for your children, please choose one of the other books mentioned above.

### **Websites:**

[www.autism.com](http://www.autism.com) - the site for the Autism Research Institute. Archives studies, presentations and videos from past DAN! (Defeat Autism Now) conferences.

[www.autismone.com](http://www.autismone.com) - Autism One’s website; great information on studies and treatments. Archives.

[www.tacanow.com](http://www.tacanow.com) - a California support group website with great information about treating Autism, including information on diet, biomedical therapies, etc.

[www.holistichealth.com](http://www.holistichealth.com) - the website of Amy Yasko, PhD, ND; it contains several educational publications that parents find worthwhile to read

[www.drneubrande.com](http://www.drneubrande.com) - Dr. Jim Neubrande is a leading researcher in the use of vitamin B12 (methylcobalamin) therapy for treating ASD; his website has links to other researchers on the topic of B12 metabolism in neurodevelopmental disorders and other aspects of treating ASD.

[www.greatplainslaboratory.com](http://www.greatplainslaboratory.com) - good resource for information about laboratory testing recommended for ASD/neurodevelopmental problems, as well as conferences on the Biomedical Approach

**Conferences:** These conferences provide parents with the opportunity to learn about the latest outcomes and treatments for ASD children, to meet “the experts” and share information with other families.

- DAN! (Defeat Autism Now) – conferences are held in the Spring (east coast) and Fall (central or west coast), typically in April and September/October respectively. Check [www.danconference.com](http://www.danconference.com) for details about upcoming conferences, including 1-day mini-conferences that take place through the year. The website archives presentations and videos from past conferences.
- Dr. Yasko Conferences – check [www.holistichealth.com](http://www.holistichealth.com) for dates and information. You can also order DVD’s from past sessions.
- Great Plains Laboratory Biomedical Conferences – check [www.greatplainslaboratory.com](http://www.greatplainslaboratory.com) for upcoming conferences, held several times per year in various cities worldwide.
- Autism One
- National Autism Association

**Support Groups:** Highly recommended! Probably your source for independent, unbiased information about Biomedical therapies along with other therapies (Behavioural, Naturopathic, etc.). You learn and share with other parents so that you don’t have to “do it all yourself”.

- Autism Canada ([www.autismcanada.org](http://www.autismcanada.org))
- Autism Society of Ontario (ASO) – check their website ([www.autismontario.com](http://www.autismontario.com); [www.asohalton.org](http://www.asohalton.org) for the local Halton Branch) to find out if there is an ASO chapter in your community (or you can start one)
- On-line support groups through Google or Yahoo (too numerous to mention here)

## **DIAGNOSTIC TESTING**

In children with ASD or Neurodevelopmental disorders, lab tests confirm which environmental or lifestyle factors may be contributing to their behaviours or health problems. The results reflect the individuality of each child. For example, most children have (IgG) food allergies but a few don't. Most children have yeast overgrowth while others are infected by bacteria; some have both. Rather than assume each child needs to be treated with antifungal medicines or has to follow a strict hypo-allergenic diet, it can be helpful to test before deciding how to treat.

**Note: Testing is highly recommended but not mandatory at Touchstone Naturopathic Centre.**

Tests should be ordered by doctors/physicians based on the health history (signs and symptoms) of the patient. After 7 years of treating ASD children, it has been learned that testing is even more useful in the absence of symptoms:

- Lack of speech or language: your child may (can) not be able to describe symptoms they have
- ASD children commonly have high pain tolerance: this may also mask symptoms
- Historical details (e.g. use of antibiotics) may counter current symptoms (such as absence of digestive symptoms)
- Tests that identify metabolic problems (e.g. poor detoxification, imbalance of neurotransmitters) may be recommended because of trends known in ASD children; the test will help you and your physician to better understand your child's health.

### **Frequently ordered tests:**

**Organic Acid Test:** Great Plains Laboratory. Sample: Urine (first of morning)

"If only one test could be afforded, this is the one to go with."

Over 65 compounds are tested. Some key determinants are:

- Several markers are from yeast/fungal/mold overgrowth
- Clostridia (anaerobic bacteria) excretes a chemical that is eliminated by urine: HPHPA
- Deficiencies in the body's energy production (Kreb's Cycle) or use of Fatty Acids
- Metabolic defects, possibly genetic anomalies
- Detoxification defects identified by pyroglutamate,  $\alpha$ -hydroxybutyrate, methylmalonic acid
- Oxidative stress
- Deficiencies in B vitamins (folic acid, B6, B12) or hormones that effect mood and sleep can be found on this panel.

**Urine Porphyrin Test:** Laboratoire Philippe Auguste or Great Plains Laboratory

- Chemical analysis of the urine assesses levels of porphyrins that are produced from heme molecules caused by contamination from heavy metals such as mercury, lead, arsenic, cadmium, aluminum. This test confirms the burden of heavy metal toxicity that a person has, but does not determine the specific heavy metals.

Alternate tests: Hair Analysis; Fecal or Urine Toxic Metals analysis (preferably following the use of a supplement or medicine that promotes detoxification/elimination of heavy metals); RBC (Red Blood Cell) Elements test.

**Comprehensive Stool Analysis:** Great Plains Laboratory (also Genova, Doctors Data)

- Analysis of the stool for bacterial, parasite and/or yeast growth
- Any bacteria that are cultured are tested for their response to antibiotics and antibacterial herbal medicines

- Markers indicating digestive problems (inflammation, digestive enzyme deficiency) that can affect absorption of nutrients and fatty acids from foods
- Status of probiotic (beneficial) bacteria. Low/abnormal levels of probiotics are related to birthing and breastfeeding history, use of antibiotics, or competition from pathogenic bacteria in the intestines.

**IgG Food Allergy testing:** Great Plains Laboratory (also Rocky Mountain Analytical or other labs)

Many children today suffer from delayed-hypersensitivity food reactions, which can be identified through blood testing for antibodies known as IgG. This panel tests 96 common foods for their degree or severity of reaction.

**Gluten/Casein Peptide Test:** Great Plains Laboratory

Opioid peptides are created from the digestion of proteins in grains and dairy products, known as gluten and casein. These peptides bind to receptors in the nervous system causing varying effects or symptoms common in ASD. This “digestion problem” occurs because of a deficiency of DPP-IV (dipeptidyl peptidase); the deficiency most likely is caused by mercury toxicity.

For more detailed information on these tests, and their costs, check the Great Plains Laboratory website ([www.greatplainslaboratory.com](http://www.greatplainslaboratory.com)). The Hair Analysis test through Doctor’s Data is \$50 U.S.

**Other recommended diagnostic tests:**

- Complete Blood Count (CBC), Chemistry panel (liver and kidney tests), Serum Copper/Plasma Zinc
- Immune Deficiency Panels: testing for antibodies in the following classes: IgE, IgA, IgG (and subclasses), and IgM
- Prealbumin: if this blood test is low, the child is not digesting protein well and may be protein deficient – this affects growth and neurotransmitter metabolism
- Inhalant (IgE) Allergy testing for pollens, dust, or for Immediate-Reaction Food Allergies
- Essential Fatty Acid testing: EFA’s are critical for brain health, and controlling inflammation or oxidation
- Amino Acid testing (urine or plasma). Available from Great Plains Laboratory, ICMT, or other labs.
- Infectious disease testing: for viral infections (e.g. Measles, Herpes) and Lyme Disease
- Cholesterol Panel: low cholesterol can cause defects in the membranes of nerve cells
- Streptococcal Antibodies: This bacteria causes throat and ear infections. Sub-acute infections or movement of Streptococcus to the nervous system causes symptoms that mimic Autism; different treatments are necessary than those typically provided in the Biomedical Approach.
- Nutrigenomic testing to identify known genetic polymorphisms that may contribute to ASD traits

The first five tests (under “Other recommended diagnostic tests”) are available through local medical labs such as Gamma Dynacare, CML and/or Life Labs (unless otherwise indicated). Your family physician could order these tests; if they aren’t covered by OHIP, Extended Health insurance might reimburse for them. Immune problems (recurring infections) and allergies are common but may not be apparent by symptoms; testing gives you confirmation of what needs to be treated. Other tests, such as the CBC, Chemistry panel, and Immune Deficiency panels give valuable information about the child’s general health. If heavy metal detoxification is indicated for the patient, these tests ensure that they are well enough for the treatment.

Further questions should be directed to Scott Clack, B.Sc., N.D.

**Question:** Are the costs of the tests covered by OHIP or Insurance?

**Answer:** Most of the tests are not covered by OHIP. Few families receive any reimbursement from Extended Health Insurance companies (usually partial reimbursement). Retain your receipts for all tests and submit them as a Medical Expense deduction with your annual Income taxes (receipts must be mailed to Revenue Canada even if you file your return electronically).

**Question:** Why do the tests have to be sent to labs in the U.S.?

**Answer:** Currently the only labs offering the core biomedical tests (e.g. OAT, Amino Acid panels, Urine Peptides) are operating in the U.S. Canadian labs such as Gamma Dynacare/CML/LifeLabs (MDS) have been contacted and do provide testing for IgG/IgE allergies, Essential Fatty Acid tests, and urine Amino Acids (note: the ordering physician must specify that quantitative results be reported; otherwise results from these labs may not be useful). ICMT (located in Ottawa) is a private lab that provides Organic Acid, Urinary Peptide, and Amino Acid tests but they are not as comprehensive as the U.S. labs.

**Question:** How soon are the test results ready?

**Answer:** Expect 4-6 weeks from the time of shipping the samples to the lab, to receiving the printed report. Email results can be requested and will be available sooner; please advise our office or the lab if you choose to receive the results electronically.

### Testing: Alternative Choices

As Dr. Clack is registered as a DAN! practitioner, he is required to inform you of tests that conform to DAN! methodology. This testing is based on the U.S. medical insurance system where physician use of private lab testing is more common and often is reimbursed by insurance companies. The cost of this testing is sometimes prohibitive to Canadian families, and this is recognized. You will be asked to sign a waiver confirming that you have been informed of your rights to choose (or refuse) these DAN! recognized tests.

Other tests that may be recommended by Dr. Clack include:

1. **In-House Urine Tests:**
  - a. Oxidata Test – a marker for Oxidative Stress
  - b. Indican, Koenisbourg, Sulkowich and Vitamin C – mentioned in previous versions of this booklet, these tests are not currently available
2. **Electrodermal Testing:** currently using the VegaTest methodology on the VegaTest Expert
  - a. Pretest screening: checks the balance of physiologic/biochemical factors that effect health
  - b. Organ screening: checks the health (or dysfunction) of each organ
  - c. Food Allergy/Sensitivity testing: over 300 foods/food substances can be checked
  - d. Airborne/Environmental Allergy Testing
  - e. Supplement tolerance & efficacy testing: checks individual supplements or combinations

Electrodermal (also known as Electroacupuncture) test methods were developed in the 1950's by Dr. Voll. He used a small probe to test the electrical conductivity of selected points along the body's acupuncture meridians (based on Traditional Chinese Medicine). Changes from base-line readings revealed dysfunction with the organ associated with that meridian. Current testing with the VegaTest

Expert measures the electrical conductivity of skin on the patient's fingers or toes, and the changes in conductivity (or skin resistance) from intolerances to foods or other allergens, infectious agents (bacteria, viruses, fungi, molds, parasites) or heavy metals.

Note: This method of testing is considered to be "Investigational" by the BDDT-N (Naturopathic Regulatory College in Ontario). It is not considered to be diagnostic and therefore its use should be considered carefully in the overall care of patients. Dr. Clack concurs with this policy and will recommend screening or diagnostic testing where it is indicated for each patient.



### **TREATMENT: THE BIOMEDICAL APPROACH**

This section provides generalized information. After test results are received, a comprehensive individualized treatment plan will be developed.

**Reducing Toxic Stress:** Toxins come from various sources, including foods, household/yard chemicals, heavy metals and infections. It is possible that the (epidemic) increase in autistic-spectrum disorders over the past 15 years has occurred because the effected children have developed susceptibilities to problems with natural elimination of toxins compared to normal children. Some individuals develop problems more rapidly and severely than others, even though we're all exposed to this environmental toxic burden.

One area to consider reducing toxins is in the home: it has become more toxic than the outdoor environment. From chemical cleaners, pesticides, perfumes and colognes, air fresheners and laundry detergent, to the food in your kitchen cupboards, there are many agents that affect your child's neurodevelopmental health. It will take time to learn about alternative products but fortunately many are becoming available on a retail level. For example, non-toxic laundry detergent instead of Tide, or fresh squeezed juices instead of pop, Fruitopia, or fruit "drinks" that are made with portions of concentrates. It is recommended to explore your local health food stores or specialty markets/grocery stores for natural product alternatives to purchase, although Dominion, Longo's and Loblaw's have health food sections too. Melaleuca is a multi-level marketing company that produces many products for environmentally safe homes too. Products can be purchased from Touchstone Naturopathic Centre if you wish to try them.

A good resource for improving the living environment of your home, and eliminating chemicals and unnecessary additives and preservatives in foods and beverages is "Non-toxic, Natural and Earthwise" by Debra Lynn Dadd. Two videos about toxins in the modern home are available for viewing from Touchstone Naturopathic Centre. Dr. Josef Krop has also written a book about environmental toxicity called "Healing the Planet One Patient at a Time".

**Reducing Allergy and Inflammation:** Toxins in the body will increase the potential for allergy, and this in turn generates inflammation. The definition of allergy can be broadly interpreted as the abnormal response to agents in the environment; it does not necessarily refer only to allergies to dust, pollens, pets and peanuts. Neurological conditions such as Parkinson's Disease, Alzheimer's and Multiple Sclerosis are all worsened by inflammation. It is assumed that autistic spectrum disorders involve neurological inflammation too. Foods, bacteria, viruses, yeast/molds/ fungi, chemicals, heavy metals, etc. can generate inflammation.

One proven and effective method of reducing "allergy" symptoms to foods and environmental triggers is NAET (Nambudripad's Allergy Elimination Techniques). This form of natural therapy utilizes acupressure to alter the impulses created by the brain in the presence of allergens. This treatment has been successfully used with many autistic-spectrum children at Touchstone Naturopathic Centre, and is currently under formal scientific/medical research in the U.S.

**Detoxification:** As you begin to decrease the allergy and inflammation through dietary control, supplementation, etc., you can begin the process of detoxifying your child's inner body. Detoxification involves reactions in the liver and kidney that metabolize and safely eliminate toxins. The human body generates many chemicals that naturally help to do this. The skin, liver and kidneys are the primary organs that flush the toxins out. Autistic-spectrum children have reduced detoxification capacity and therefore must be assisted with this critical process.

Simple steps such as Epsom salt baths can be taken: 2-3 cups per bath, 3-5 times per week. Infra-red saunas have been studied and documented for their effectiveness in treatment persons with toxic overloads. Heavy metal detoxification and/or chelation as part of your child's treatment will be discussed in a few months. Ionic footbaths as well as detoxification pads applied to feet are also effective.

**Neurological Healing and Recovery:** New information is being learned by practitioners every year. Nutritional supplements like fish oils and Glutathione lead the way in healing damage to the nervous system. HBOT (hyperbaric oxygen therapy) has been found in recent years to be an effective adjunctive treatment to detoxification.

## **BIOMEDICAL APPROACH II: DIET & SUPPLEMENTS**

### **The Diet: What Your Child Eats Really Does Make a Difference!!**

As "scary" as this topic can be, it really does make a big difference in your child's health: sometimes dramatically. The improvements commonly seen with many autistic children have to do with attention, communication, eye contact, etc. Gluten (from wheat and other grains) and casein (from dairy) are two of the most common food offenders for autistic-spectrum children. The gluten free/casein free diet has been used for many years with good success. Is it difficult to follow? Sometimes. Do children become healthier through biomedical therapies without the diets? Sometimes. However, enough children (at least 65-70%) show improvement in cognitive changes that make the GF/CF diet worthwhile trying for a minimum of 3 to 6 months. NAET can help lower a child's food and environmental allergies and sensitivities to the point that they can handle wheat and dairy in their diet without adverse reactions. As you read and learn more about Biomedical Approach treatments, you will also hear about SCD (Specific Carbohydrate Diet) and Low-Oxalate diets. These diets benefit smaller percentages of children and can be more difficult to implement and sustain; sometimes they are the final key to recovery.

It is very important to remember that gluten, casein, and food allergens are toxic to the brains of many children and constant avoidance of the foods must be done. These foods have adverse chemical effects similar to opiate drugs and cause "addictive-like" problems with the brain.

Digestive enzymes seem to help some children to diminish the adverse effects of gluten and/or casein containing foods when accidentally eaten; they cannot be considered an alternative to the GF/CF diet in the beginning of treatment. Enzyme supplements like AFP Peptizide, Zyme Prime, Enzym-Complete with DPP-4, Digest Right and others can be purchased.

Several resources are available to help you successfully implement the dietary changes. Registered Holistic Nutritionists can consult with you to make the changes easy; please book an appointment to see our nutritionist, or ask Dr. Clack to refer you to someone. Books and websites are also helpful:

- "Special Diets for Special Kids" by Lisa Lewis
- [www.tacanow.org](http://www.tacanow.org)
- [www.gfcfdiet.com](http://www.gfcfdiet.com)

When considering that autistic-spectrum children have difficulty eliminating toxins, it is important to consider other options of avoiding them. Organic fruits, vegetables and meats should be integrated in the diet when possible. Avoid fast-food (junk food), sodas, and refined pastries. If you're not sure about these suggestions, consider viewing the video "SuperSize Me" for documentation of an extreme example of what fast-food can do to a person's health.

Incorporating health foods and whole foods into the daily diet will take time. Consulting nutritionists and books will make this easier for you. Consider:

- “The Body Ecology Diet” by Donna Gates ([www.bodyecologydiet.com](http://www.bodyecologydiet.com))
- “Total Health Program” by Joseph Mercola ([www.mercola.com](http://www.mercola.com))

Juicing can be an important part of any nutritional program. Juicing fresh organic fruits and vegetables is an excellent way to get high-density vitamins and minerals into a child’s diet. Champion and Omega juicers are better brands to consider when buying a juicer; they are proven to retain higher levels of vitamins and minerals over lower-priced models.

Whole food products contain many of the antioxidants, vitamins, minerals, and plant nutrients that make our bodies healthy. No amount of regular supplements can make up for an unhealthy diet that includes sodas, fast foods, unhealthy fats and refined sugars. Junk and fast foods are nutritionally deficient. Two products have been found to be helpful in providing high levels of nutrients. These can be mixed with water or natural juices, taken along with supplements:

- “Miracle Greens” ([www.miraclegreens.com](http://www.miraclegreens.com)) or “Greens First” by Doctor’s Choice
- Xango juice ([www.goxango.com](http://www.goxango.com))

If your child is being treated for Candida and/or bacterial overgrowth, please be careful with giving juices and fruit to them. The natural sugars they contain are “food and fuel” to these pathogens. Juices and fruit sauces concentrate sugars, so they need to be diluted or used in small quantities. Add natural, calorie-free sweeteners like Stevia extract or Xylitol to add a more desirable flavour to liquids when giving supplements.

Another cautionary point about certain fruits and vegetables: some ASD children are extremely sensitive to phenols in foods (also present in chemicals such as household cleaners). Apples, bananas, and strawberries have high amounts of phenols. Eliminate these fruits for 4-5 days to determine if any improvement in behaviour or cognitive function is observed. If your child improves, these foods should be limited in their diet; or they can be given specific enzymes that digest and neutralize the phenols (e.g. Houston’s No-Fenol)

Finally, it is important to learn that chemicals in processed foods can aggravate the nervous system. These “excitotoxins” are found in fast foods, soda/pop, desserts and in a variety of other “modern” foods. MSG and aspartame (“NutraSweet”) are the two most common recognized excitotoxin food additives but other additives (food colouring, preservatives such as nitrates and nitrites) are equally damaging to the brains of children and adults alike. To learn more about excitotoxins, look up:

- “Excitotoxins: The Taste that Kills” by Russell Blaylock, MD
- Amy Yasko, PhD, ND [www.holistichealth.com](http://www.holistichealth.com) - articles are on this website

**Supplements:** The basis of the Biomedical Approach is the use of supplements (vitamins/minerals, herbal or homeopathic medicines, probiotics, etc.) that do the following:

- correct dietary or genetically-induced nutrient deficiencies
- treat yeast or fungal, or bacterial overgrowths and replace beneficial organisms (probiotics)
- promote the elimination and/or detoxification of heavy metals
- support or improve neurotransmitter function

This handout will not give detailed information about the individual supplements; references given earlier will help you in this way. Giving supplements combined with other supportive therapies will begin improving the deficits and impaired behaviours that autistic-spectrum children and their families live with everyday. Remember that the improvements will vary from child to child; keep working with practitioners to refine treatments for your child's optimal outcome.

Basic or starter supplements are important for every children, especially autistic-spectrum children. Several multivitamin products have been formulated to meet the specific needs of ASD patients and should be considered first, rather than health food store children's multivitamins. The premium price is usually worth paying. Typical supplements recommended at the first consultation include:

- **Multivitamins: NuThera (capsules) by Kirkman, or Basic Nutrients Plus** by New Beginnings Nutritionals – 2 capsules daily
- **Chewable Calcium with Magnesium (New Beginnings)** – 2 chewable tablets daily
- **Antioxidant Formula (New Beginnings)** – 2 capsules daily
- **Carlson's Cod Liver Oil** (Lemon Flavoured) – 1 teaspoon daily
- **Zinc Picolinate (New Beginnings, or others)** – 1 capsule per day
- **Probiotics:** Ultra Flora Plus (Metagenics) or HMF Neuro (Genestra)

You may wish to add **B-Complex Plus** (New Beginnings). B vitamins are helpful in promoting detoxification, and support nervous system function. Supplements can be purchased from several sources: Touchstone Naturopathic Centre or other local health food stores (recommended stores include Nature's Source, Hooper's, York Downs or Smith Pharmacies – all in Greater Toronto Area; most can ship to you).

**Starting Supplements: One wise piece of advice – Don't start everything at once.** It's wise to plan introducing or adding new supplements separately, at intervals of 4 to 7 days. Adding supplements separately prevents side-effects from overstimulating the child's biochemistry. It is easier to know which supplement may be causing a side-effect when added separately. It is also easier to advise you if the side-effect will stop on it's own or may need other supportive treatments to allow its continued use.

New Beginnings Nutritionals and Kirkman supplements, as well as other lines developed for ASD patients can be conveniently ordered from Spectrum Supplements in Montreal ([www.spectrumsupplements.com](http://www.spectrumsupplements.com), or call 514-371-7122). Shipments from Spectrum are received in 2-3 days (depending on availability), and shipping costs are included if your order exceeds \$100. Please let them know you are a patient of Touchstone Centre. New Beginnings offers a **Starter Package**, providing 3 months of supplements. You may order the package from [www.nbnus.com](http://www.nbnus.com) or call 877-575-2467. Most U.S. produced supplements have not been approved for sale in Canada according to Health Canada's new regulations for Natural Health Products. This does not mean that U.S. supplements are unsafe; they just aren't officially approved for sale.

One key therapy to learn about involves the use of vitamin B12, specifically methylcobalamin. Please read "The Use of Methylcobalamin Injections to Support Methylation Problems in Autistic-Spectrum Children" that should be available at [www.drneubrandner.com](http://www.drneubrandner.com) to develop an understanding of this important therapy. It will be recommended during the discussion of your first set of test results.

### ***Treatments Beyond Supplements***

In that past two to three years, several recognized DAN! practitioners have studied and reported positive results from the following treatments:

- Nambudripad's Allergy Elimination Techniques (NAET; see [www.naet.com](http://www.naet.com) for info)
- Hyperbaric Oxygen therapy (HBOT)
- Infrared Sauna therapy
- Ionic Foot baths or clay foot baths
- Homeopathy – Constitutional remedy prescribing, Drainage programs (e.g. The Brain Protocol)

These treatments compliment diet changes and supplement regimens, as well as treatments such as NAET (Allergy Desensitization treatments), Cranial Sacral therapy, H.A.N.D.L.E., and Biofeedback Therapy. All of these therapies are now available for all patients at Touchstone Naturopathic Centre (with the exception of HBOT).

Thank you for taking the time to read and understand this document. If you have any questions, please contact me. Otherwise, let's get started!!

Sincerely,

Scott Clack, B.Sc., N.D.  
And the staff of Touchstone Naturopathic Centre

