

The 'Gut-Brain' Connection

Read or google the following doctors:

- Dr Alessio Fasano – Paediatrician, Researcher, Microbiologist etc.
- Dr David Perlmutter – Neurologist
- Dr Natasha Campbell McBride - Neurologist
- Dr William Davis – Cardiologist
- Dr Robin Pauc
- Dr Tom O'Bryan

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Today we live in a world of unfolding epidemics that appear to have symptoms and underlying causes which mysteriously overlap.

Have you or your child been touched by one of these rapidly growing conditions? Consider these questions...

- Do you or your child have a history of gastrointestinal (GI) discomfort, digestive issues, food allergies or food intolerances?
- Do you or your child suffer with dyslexia, dyspraxia, ADD, ADHD, or other learning disability?
- Do you or your child have a history of urinary tract infections or acne that was once treated with antibiotics, and you later developed abdominal pain, bloating, and symptoms of Irritable Bowel Syndrome (IBS)?
- Do you suffer from chronic cystitis, mood swings, anxiety, poor memory or difficulty with focus and concentrating?
- Did you or your child ever suffer from colic, loose stools, constipation, eczema, or asthma, and got treated with antibiotics for ear or upper respiratory infections?
- Do you or a loved one have a history of painful or irregular menstruation accompanied by migraines?
- Did your child appear "normal" in his or her first year of life, but then become autistic, hyperactive, aggressive, or develop other abnormal behaviours?
- Were you or your child bottle-fed as an infant and prone to colds and infections?
- Have you been diagnosed with depression, psychosis, or schizophrenia?
- Do you or a loved one suffer from an immune disorder?

Toxicity in your gut can flow throughout your body and into your brain, where it can cause symptoms of autism, ADHD, dyslexia, dyspraxia, depression and other disorders.

And that's not all... gut toxins can show up in both children and adults in the form of digestive and immune disorders.

According to Dr. Natasha Campbell-McBride, MD, a neurologist, we're experiencing an epidemic of so-called mental disorders that include autism, dyslexia, dyspraxia, Attention Deficit Disorder (ADD) and Attention Deficit Hyperactivity Disorder (ADHD).

Within the last twenty years we've seen a 40-fold increase in newly diagnosed cases of autism. It's a condition that ravages families as well as the life of the affected child.

ADD and ADHD impact every classroom in the U.S., Canada, Great Britain, South Africa and Australia, where one child in three is diagnosed with either of these conditions. They can often disrupt class time with uncontrollable behaviour and short attention spans.

Dyslexia is a disorder where the child cannot write or read with ease, and about half also have dyspraxia with poor fine and gross motor skills. These children can find it challenging to fit in socially, make friends, and excel academically or at sports.

Here's the interesting thing... when you take a closer look at all these individuals, you realize that they are also physically ill.

Most of these children (and adults) with so-called mental disorders also suffer from digestive disorders, asthma, eczema, frequent ear and chest infections, and allergies to foods, chemicals, animals, and much in their environment. They're unable to digest and absorb their food properly and typically have severe nutritional deficiencies. These nutritional deficiencies prevent the brain and immune system from functioning normally.

84% of your immunity is located in your gut wall. And if you don't have *healthy* gut flora, your immune system simply can't function optimally.

What does healthy gut flora look like? In a healthy individual with normal gut flora, you'll find about 500 different species of disease-causing, bad bacteria and fungi right along with good, beneficial bacteria. As long as the good bacteria reign, they'll keep the bad ones from harming you. There are many things that can wipe out your beneficial bacteria and disturb your gut flora, including stress, infections, antibiotics, poor diet, and prescription drugs such as contraceptive pills and steroids.

Dysbiosis is the condition that results when gut flora becomes damaged. Pathogenic bacteria, viruses, yeast and fungi flourish and grow out of control, often leading to a rise in allergies and autoimmune conditions.

When your gut lining is damaged by abnormal flora, you can have what's known as a "leaky gut." Foods aren't digested properly and they can ignite an immune system response when absorbed.

Some of the physical conditions that are connected to abnormalities in gut flora include multiple sclerosis, chronic fatigue syndrome, lupus, fibromyalgia, rheumatoid arthritis, and type 1 diabetes.'

Toxic Gut = Toxic Brain

Abnormal gut flora can affect your brain – and your entire body.

As the growth of disease-causing species of bacteria, yeast, viruses and other microbes rages unchecked in the digestive tract, devastating consequences can occur. The gut, which was once a source of nourishment for the body, now transforms into a cauldron of toxicity.

As food enters into the gut, this now abnormal mass of microbes digests it, creating hundreds of toxins that flow into the bloodstream through a damaged gut wall. These toxins

travel to the brain and latch onto different brain structures. Depending on which parts of the brain are affected, the symptoms can vary.

Autistic children are born with normal brains and normal sensory organs. Their brains become clogged with these toxins usually in the second year of life, often when breastfeeding stops and exactly when vital communication functions, and social and motor skills develop. For the autistic child, sensory information turns into a noise – a "mush." Some sounds can hurt. Some can't be heard at all. Some voices or noises sound like they're coming from underwater. Considering how garbled all the sensory input becomes to an autistic child, there's little wonder they develop the way they do.

You may be wondering... how can an infant develop such troublesome gut flora, especially if they haven't yet been exposed to antibiotics, prescription drugs and junk food? The answer is simply – from mom or dad. During birth, as a baby goes through the birth canal, he or she swallows the first mouthfuls of bacteria and that becomes the baby's gut flora.

Before the prolific use of antibiotics and birth control pills, most women had normal, healthy vaginal flora and that is what they passed on to their children. Today, both of these greatly affect the quality of a mom's gut flora – especially contraceptive pills, which have a particularly devastating effect.

Abnormal gut flora may not always be the mother's fault. There are times when a woman's flora may be perfectly healthy, but the man's gut flora is abnormal. During intercourse, men share their bodily flora with women and that can have an impact on their babies' gut flora.

A new-born depends upon normal healthy gut flora for the development of immune function. Without normal gut flora, the baby becomes immuno-compromised. This can open the door for eczema, colic, asthma, congestion, and other allergic reactions. Because the immune system isn't working well, the mucus membranes start overproducing mucus that can lead to frequent ear and chest infections.

Also, most babies in the U.S. receive more than 24 doses of vaccines by the time they are one year old. And so begins the vicious cycle of infections, antibiotic treatments, re-infections, and more antibiotics. Antibiotics wipe out any precious remaining beneficial bacteria these children may have. Consider antibiotics a "double whammy" for their already compromised immune systems.

But it doesn't end there. The average infant then starts receiving vaccinations – and lots of them. While vaccinations does not independently *cause* these conditions, they are inappropriate for immune-compromised children as they can serve to catalyse damage in the nervous system of children with compromised gut flora. Specifically children with the DQ-genes should not be vaccinated (see Dr Alessio Fasano's work on DQ-genes).

For them, even one vaccine can do serious damage and it may be the "straw that breaks the camel's back" and triggers nervous system damage. It is estimated that 30 percent of the children started their autistic symptoms after receiving either the MMR or DPT vaccination.

Next in the line of gut flora insults comes diet – the introduction of wheat and pasteurized dairy products. These foods, along with other processed foods, all feed the abnormal flora in the gut. By now, the gut dysbiosis is well developed, sending toxins throughout the child's body. The gateway to learning disabilities is now wide open.

Obviously, if nothing is done to correct the abnormal gut flora in infancy or childhood, the child grows into his or her teen years and beyond still harbouring – and suffering from – dysbiosis and whatever symptoms they carry into adulthood, both mental and physical.

What can be done for Gut Bysbiosis

Heal and Seal your Gut Lining!

Remember the list of questions we went through at the very beginning? No matter what symptoms you or your child may be experiencing, **diet is the place to start**. Whether it's something mental or physical, its root cause lies in the gut, so that's where treatment must begin.

Every so-called psychological and mental disorder is a digestive disorder at its core – whether it is schizophrenia, bipolar, ADD/ADHD, Tourette's syndrome, obsessive-compulsive behaviour, substance abuse, depression or just a cranky teenager – you must first look at the digestive system.

90% falls on diet!

Heal with food by effectively combining essential fatty acids, probiotics, vitamins and minerals, digestive support, healthy oils and fats, and fresh, unprocessed cooked and raw foods.

First get tested for Food Sensitivities

The **ImuPro100** blood test from MDS Laboratories are in my view the most Conclusive test for Food Sensitivities.

If the test results shows positive for gluten and casein cut it out of the diet for life!

Change your Child's Diet

- Eat lots of fresh fruit and vegetables
- Add ground seeds on cereal
- Eat whole, unrefined foods and avoid junk foods
- Drink lots of water and add diluted fruit juice if necessary
- Avoid caffeinated drinks and drinks high in sugar
- Avoid sugar and chemical additives
- Limit foods that cause allergic reactions and behaviour problems
- NO Gluten and gluten foods!
- NO Casein!
- Eat foods high in fiber

Products

1. Build your child's Immune system and heal gut lining

I have found **Barleylife and Florafood** (from the AIM Companies) excellent products to do just that. Barelylife is a wholefood supplement that provides your child with all the nutrition he/she needs. Barleylife builds and strengthens the immune system, making the pH of the blood more alkaline. Barleylife has live enzymes making it a superior product when it comes to absorption. Barelylife has the healing power of chlorophyll. Chlorophyll puts oxygen in the blood and thus aids blood circulation. Barleylife helps keep your child's blood sugar more stable etc.

2. Provide enough Good Fats

Good fats and neurons

A lot of press coverage has been given to the effectiveness of Omega 3 and 6 for children. I believe in a balanced ratio of Omega 3, 6 and 9 on a daily basis. Apart from being good for your eyes, skin, joints etc, they are essential to brain functioning and help with concentration, making children (and adults) more alert and able to cope with day-to-day life as well as their schoolwork.

Typical signs of deficiency of Omegas or good fats in children:

- Learning difficulties
- Behavioural problems
- Poor short term memory
- Poor concentration
- Clumsiness
- Visual disturbances
- Recurrent infections and allergies

The brain consists of 60% fat. So certain fats are not only good for you, they are essential. Did you know: 25 % of the dry weight – with all the water taken out – of the brain is DHA (docosahexaenoic acid/omega 3)

The process of myelination – the covering and insulating – of nerves requires fat. Together the saturated and un-saturated fatty acids form the phospholipids that make up the myelin sheath that surrounds the neurons (nerves) and protects it.

Good fats

Found in: avocado, olives, olive oil, nuts like walnuts, almonds etc, sesame seeds, sesame oil, pumpkin seeds, sunflower seeds, corn oil, safflower oil, soybean oil, cottonseed oil, yellow sweetcorn.

Cold water oily fish like salmon, herring, mackerel, sardines, tuna.

Dark green leafy vegetables and fruits.

Bad fats

Saturated fats found in: animal fat, coconut oil, palm oil, kernel oil

Trans fats found in: biscuits, cookies, commercially fried foods.

It is suggested that we need 300-400mg of both EPA and DHA a day to remain healthy, and higher levels during growth periods. So children who are constantly growing need a good

supply. We also need more when things have gone wrong, as in the case of a child with ADD/ADHD

How often are oily fish on your children's plate? Ideally we need 3 x times per week to get the right amount through their diet. If your child can't eat fish the alternative is flaxseed oil or supplementing your child's diet with an EPA/DHA oil - I prefer **Metagenics Balanced Liquid Oil** - EPA/DHA oil

Great lemon flavour. No 'fishy' taste. Provides EPA and DHA in balanced ratios.

If you do not like the idea of putting your child on a liquid you may opt for **AlMega** in capsule form. AlMega has the right ratio of Omega 3, 6 and 9.

Also a good form of fat to give your child on a daily basis is Lecithin - a rich source of choline, needed by the body to produce acetylcholine, an important neurotransmitter. Good sources: grains, fish beans and egg yolks.

Fats are essential for the brain's communication system

The brain is made up of millions of nerves. Most of us are born with a full complement of nerve cells (neurons). The main function of the brain is to be in continuous communication with the rest of our body.

A neuron can talk to other neurons either directly by electrical stimulation at what are called gap-junctions, or indirectly by the use of neurotransmitters that can cross the gap (synapse) between two neurons and pass a message on. The neuron needs to be in optimum condition to work effectively, and you can achieve this by providing good fats.

For some time now we have all been made aware of the importance of essential fatty acids to the development of our children's nervous systems. Now new research has shown that adding zinc sulphate enhances the action of these essential fatty acids both in the building of the cell wall and in the manufacture of certain neurotransmitters. Another reason why Barleylife is so important. Barelylife contains zinc and live enzymes - helping your child to absorb his nutrition.

The authors of one study stated - Zinc supplements may exert their positive effects by helping to regulate the function of the neurotransmitter dopamine. Dopamine signalling, which has been implicated in causing symptoms of ADHD, is believed to play an important role in the feelings of pleasure and reward.

This 'pleasure area' is thought to be the main reason why so many children with Developmental Delay Syndromes crave junk food and establish a carbohydrate diet for themselves thus fuelling their addiction. This seeming addiction to sugars and the high intake of E numbers complicates and perpetuates the underlying neurophysiological disorder. Currently, based on research from different parts of the globe it is suggested that adding zinc to the daily administration of omega 3 & 6 (essential fatty acids) enhances the action of Ritalin or may be used in its place.

This is very exciting news as at present there is a great deal of concern about the use of Ritalin and the long-term effects it may have. As zinc is a normal part of our diet and as far as we know has no side-effects apart from a metallic taste in the mouth and/or nausea in some cases, this may prove to be a valuable aid in the treatment of conditions such as ADHD.

3. Keep the digestive system clean and healthy

I believe that the digestive system especially your colon are the most important organ in the body. When it comes to ADD/ADHD I will tell you that the small intestines and large intestines are the two most important organs to look after.

They call the small intestines the 'little brain'. There is a direct connection between your child's brain and his small intestine. We have found that in children with ADD/ADHD the 'villi' or hairlike fingers on the inside of the small intestine are not functioning optimally and show signs of damage. When this happens the child cannot optimally absorb his/her nutrition, and food particles, and the condition of this small intestine has a direct influence on the brain.

AIM Florafood will aid your child in rebuilding the 'villi' on the inside of the intestines and will also help stabilize the bacteria count in the body. Florafood keeps the intestinal pH balanced and helps build and strengthen the Immune system.

See Appendix on Florafood.

Another important factor when it comes to digestive health is to make sure that your child's colon is clean and functioning optimally. Always look at the quality and the quantity of your child's elimination or teach them to look themselves.

Herbal Fiberblend will help your child to have proper bowel elimination every day, will keep the colon clean (it works like a broom by sweeping out old faecal matter). Herbal Fibreblend teaches the colon to make its peristaltic movements and is an excellent dewormer.

You need to deworm your child at least twice a year!!!

Thus:

1. Wholefood supplements like **Barleylife** support the Brain and build the immune system
2. Good Essential Fats like **AIMega/Metagenics Balanced Liquid Oil** feeds and nourish the brain
3. **Florafood** helps the small intestine/'little brain' and Villi to function better and builds your child's immune system
4. **Herbal Fiberblend** keeps the colon clean and regular and helps keep blood sugar stable. Also excellent dewormer

3 weeks Before and During Exams:

5. Composure to help calm the nervous system, help focus
6. Peak Endurance to give Energy

This is not an easy journey, but...at the end of this journey I would like you to say:

This is my child: a child who is healthier, happier, coping better at school and who has a higher level of self-esteem.

I know that your child has the ability to fulfil their potential and go on to lead a 'normal life' and the best life that they can.

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