

Healthy Foundations for Children with PANDAS and PANS

Amy Joy Fishman Smith MSN, RN, NP

Malmo, Sweden

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Dedicated to children
with PANDAS / PANS
everywhere

And to their loving courageous families and providers

My Practice

- Nurse Practitioner since 1989
- Private (group) practice, Integrative Medicine, in Orange, California
- No current academic or institutional affiliation (privileges or constraints)
- Prior to my son's illness: mostly clinical nutrition / Food as Medicine practice
- July 7 2006 – my son's big PANDAS break
- Took 3.5 yrs to diagnose PANDAS and another 3.5 yrs to get him better
- Began treating children with PANDAS / PANS in 2010
- 100% of my practice is PANDAS / PANS children
- Treated over 600 children (40 sibling groups) and their families



As I share some tools I use in my practice, its important to talk to your provider before trying them

My son's illness taught me a lot about PANDAS / PANS

Structural / cranial

Dietary / gluten

**Immune /
autoimmune/celiac**

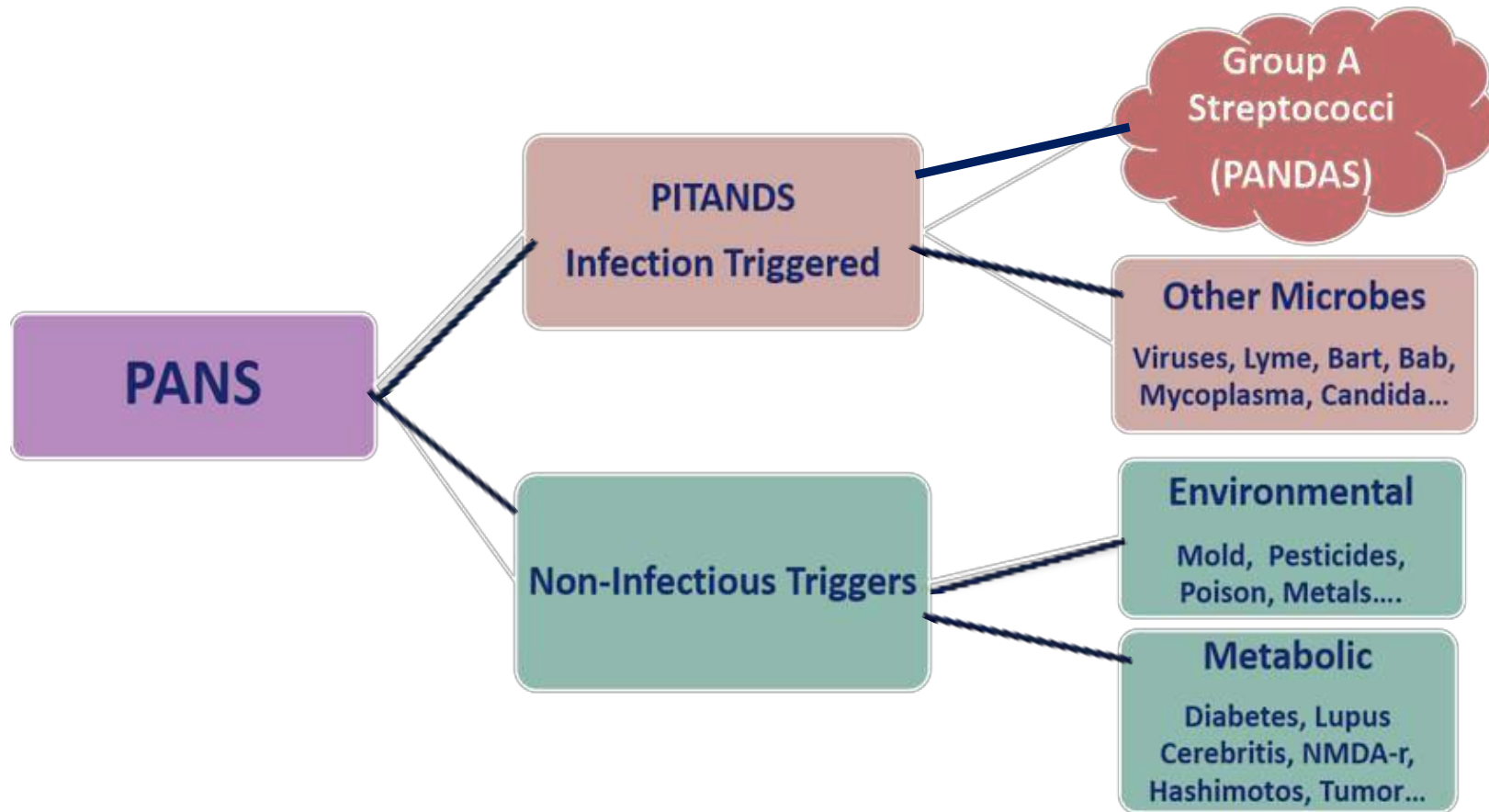
**Infections / strep, EBV, HME,
mycoplasma, staph, yeast**

Environmental / mold

**Recovery / trauma, limbic,
psychological, neurologic,
social**

multiple ear infections, rashes, GI	transient early episodes tics, sep anxiety, OCD-like worries, sensory integration, dysgraphia, balance/ataxia/gait – years of episodic PT/OT	strep x4 –once asymptomatic, last known episode 3 months prior to PANDAS onset, rash ONSET July 7, 2006	dx true celiac 11/2009 – going GF reduced his tics OCD and anxiety by 75% over 2 weeks	Dx PANDAS 12/2009
ASO 840 / AntiDnase B >1200	Jan 2010 Zithromax / KeFlex Better but it didn't stick	IVIg Nov 2010 Followed by significant remission x1yr	Jan 2012 – stopped abx, +strep pharyngitis within 72h all PANDAS sx came back	T & A in April 2012, sluggish return to baseline, exhausted
July 2012 Mycoplasma p Ehrlichia Doxycycline	2 nd IVIg December 2012	Better and better and better 2014 college with a full scholarship	2016 – profound relapse Known exposure to mold sinus impaction / surgery +staph and fungal Every side effect of Cipro	2017 – IVIg x2 Trauma / DNRS tx 2018 – back in school still recovering from Cipro

This is a Multifactorial Illness





Healthy Soil

(Not Compacted, Moist, Lots of Nutrients)

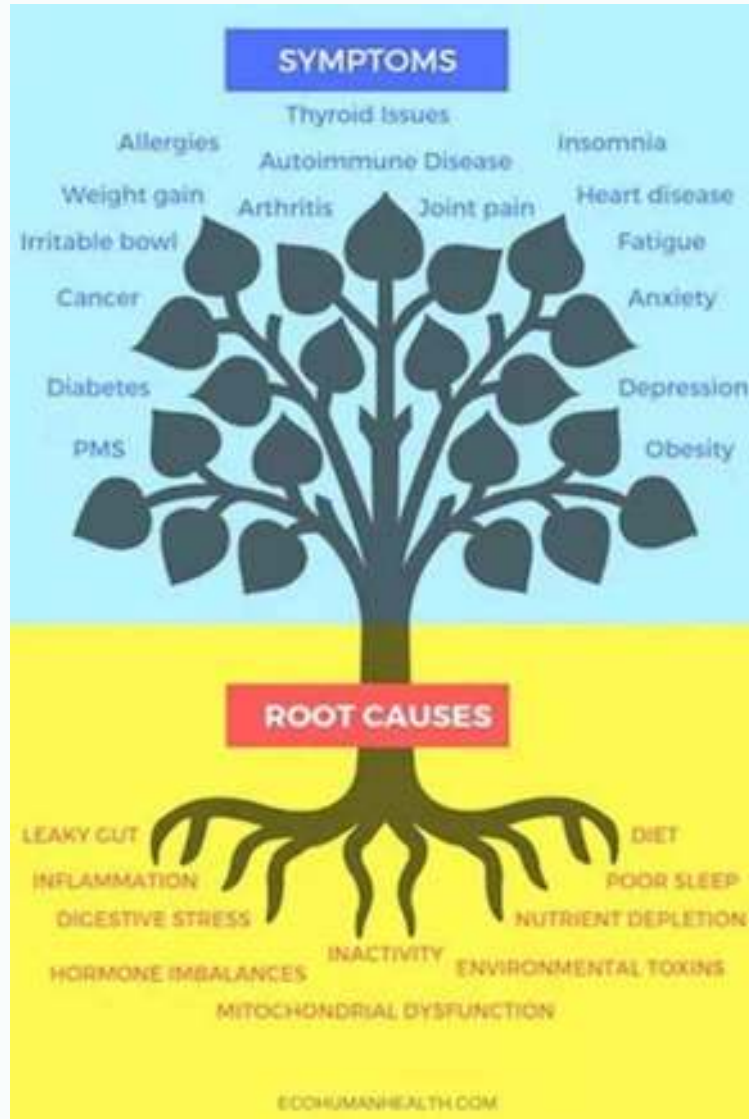
Unhealthy Soil

(Compacted, Dry, Lack of Nutrients)

Nothing happens in a vacuum



Integrative Medicine is simply a different way of looking



- Like a look under the hood
- Focus not just on the illness, but also on big picture health of the person and the many underlying factors that contribute to health or illness *regardless of and along side the illness itself*
- More about regulation of the “terrain” (personal metabolism) so that the person can better endure and heal from whatever stresses or exposures may come their way
- Address biological, chemical, structural, psychological, environmental, social and spiritual aspects of health and illness
- Open to evidence-based conventional, complementary and alternative therapies from around the world
- Sometimes called Functional Medicine



12th EUROPEAN CONGRESS OF INTEGRATIVE MEDICINE

Together in integrative medicine

II Congreso Nacional de Salud y Medicina Integrativa

1er Simposio Internacional de Educación y Salud Integrativa (12 Septiembre - Tarragona)

BARCELONA · 13 - 15 Septiembre 2019



Sociedad Española
de Salud y
Medicina Integrativa.



European Congress
of Integrative Medicine



There are resources in Europe

This kind of medicine is very personal to me

It saved my life more than once



How did I find it? It was fate

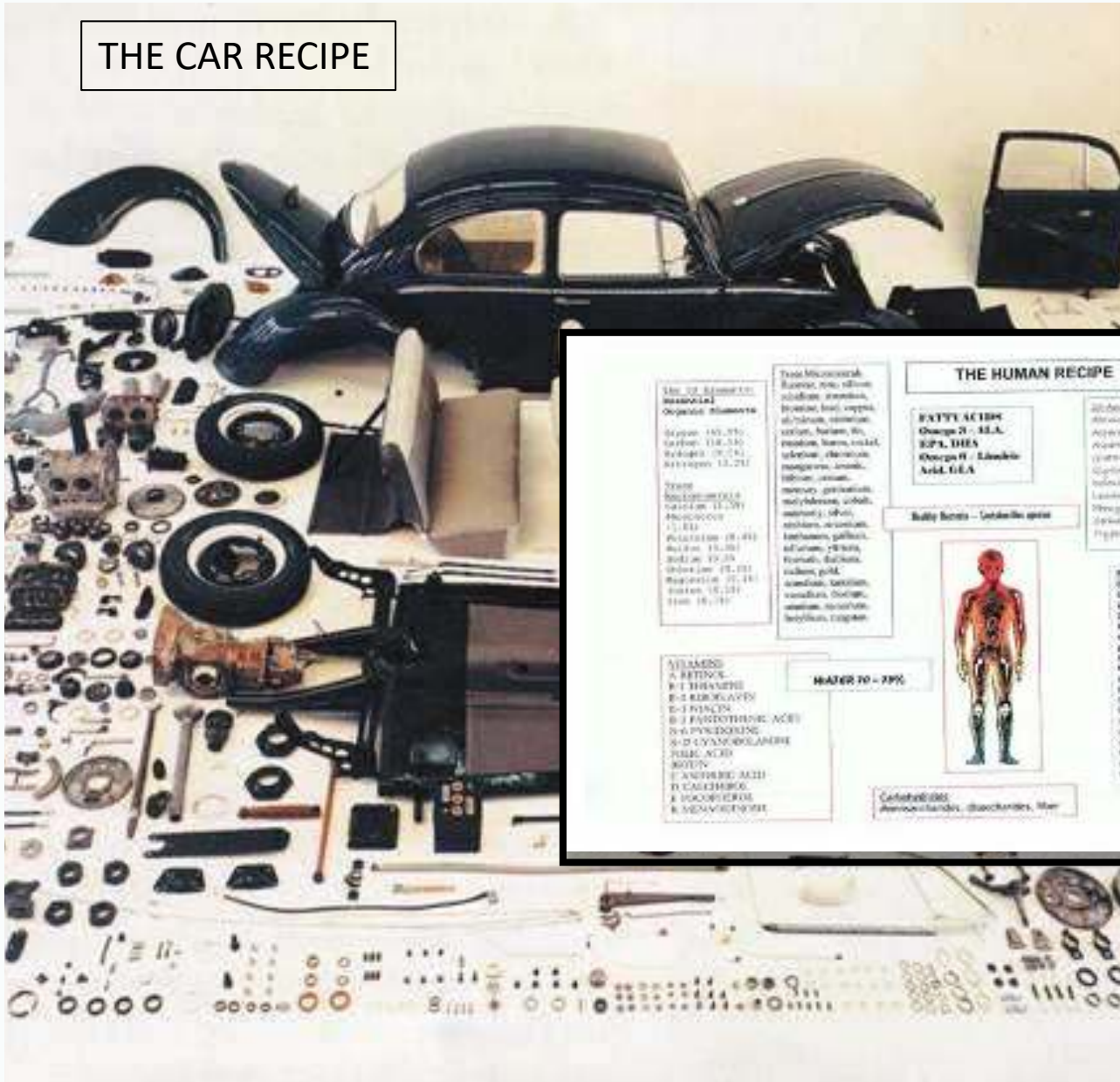
- 26 yrs old
- Charge Nurse Acute Peds surgical unit
- Almost Daily Headaches
- Fatigue / brain fog in the afternoons
- Told Normal for a 26 yr old
 - *“That’s why they make aspirin”*
 - *“That’s why they make coffee”*
- Before the days of Dr. Google
- My boyfriend knew a ‘holistic’ doctor in Boulder



What I learned from the “Holistic” Doctor *Food As Medicine*

- Orthomolecular Medicine = “correct molecule” = Nutrient therapy
- **Optimal health - achieved using substances already natural to the body** (vitamins, minerals, amino acids, trace elements and fatty acids)
- A person’s nutritional status and environment **influence the expression of genetic characteristics** and which diseases they get (“Epigenetics”)
- **Biochemical individuality**– subtle differences in how bodies respond to the environment, due to variations in anatomy, physiology and genetics. Because of this, to achieve optimal health, each person requires a slightly different balance of nutrients (Dr. Roger Williams)
- **Dr. Linus Pauling (1968)** was ahead of his time and won 2 Nobel Prizes

THE CAR RECIPE



THE HUMAN RECIPE

FATTY ACIDS
 Omega 3 - ALA
 EPA, DHA
 Omega 6 - Linoleic
 Arid. CLA

Water 70 - 75%

Carbohydrates
 Monosaccharides, Disaccharides, Polysaccharides

PROTEIN
 Alanine, Arginine, Aspartic acid, Glutamic acid, Glycine, Histidine, Isoleucine, Leucine, Lysine, Methionine, Phenylalanine, Proline, Serine, Threonine, Tryptophan, Tyrosine, Valine

MINERALS
 Calcium, Magnesium, Zinc, Iron, Selenium, Manganese, Copper, Molybdenum, Vanadium, Boron, Silicon, Fluorine, Nickel, Potassium, Sodium, Chloride, Phosphate, Sulfate, Nitrate, Bicarbonate, Magnesium, Calcium, Phosphorus, Potassium, Sodium, Chloride, Sulfate, Nitrate, Bicarbonate, Magnesium, Calcium, Phosphorus, Potassium, Sodium, Chloride, Sulfate, Nitrate, Bicarbonate

AMINO ACIDS
 A - ALANINE
 P - PROLINE
 E - GLUTAMIC ACID
 E - GLUTAMINE
 D - ASPARTIC ACID
 S - SERINE
 T - THREONINE
 V - VALINE
 I - ISOLEUCINE
 L - LEUCINE
 M - METHIONINE
 P - PHENYLALANINE
 P - PROLINE
 S - SERINE
 T - THREONINE
 V - VALINE
 I - ISOLEUCINE
 L - LEUCINE
 M - METHIONINE
 P - PHENYLALANINE

CELLULOSE
 Cellulose, Hemicellulose, Pectin

PROTEIN
 Alanine, Arginine, Aspartic acid, Glutamic acid, Glycine, Histidine, Isoleucine, Leucine, Lysine, Methionine, Phenylalanine, Proline, Serine, Threonine, Tryptophan, Tyrosine, Valine

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Why We Need A Wide Variety Diet

50-100 trillion cells require a lot of raw materials to build

These can only come into us through the content (nutrient value) of food- vitamins, minerals, enzymes, phytonutrients, fats...

Food takes on many meanings but our need for nutrients is black and white

What I discovered about my habits

(I had thought they were pretty good)

Never remember drinking a glass of water ever for any reason

Currently -ate same 4 foods every day - broccoli, apples, cheese and bread

(I thought it was the 4 food groups)

Grew up with 50% of my diet coming from Hostess, Coca Cola, and Captain Crunch

I drank milk maybe once a day growing up

Often got tired after I ate which I realized is why I didn't like to eat breakfast

Also realized I had been constipated my entire life

It would never occur to me in a million years that beans came from anything other than a can



The nutrient value and other properties of foods affect our body and our ability to produce healthy cells

Some foods contain **antioxidants** that protect cell and mitochondrial membranes, DNA

Some promote **inflammation** (excessive /processed carbs, sugars, processed meats, cooked fats, sodas)

Omeegas and phospholipids- membranes and nerve transmission (egg yolks, sunflower seeds, meats, fish, hemp chia flax seeds, EFA)

Some support **digestion** (ferments, bitters, demulcents, fibers, peptides)

Some are **anti-inflammatory** (fish oil, fruits and veg high in antioxidants, turmeric, ginger, seeds)

Some support the **structure** of tissues – glucosamine, collagen, calcium, minerals

Some supply nutrients that help body systems to **process-** vitamins, enzymes, glutathione

cooling, warming, mucous-producing, hydrating, drying, high or low glycemic (blood sugar regulating), high or low histamine ...

Foods Affect us in Many Ways



Treatment

- Half my plate vegetables and fruits
- Increase variety and colors of food
- Reduce/avoid cheese
- Drink water every day
- Multivitamin
- Digestive enzyme
- Include probiotic food (yogurt)

What came next surprised me

Results within 4 *WEEKS*

Headaches completely gone

Radical improvement in energy and focus

Better sleep

No brain fog after meals

Digestion felt better, lighter

Increased overall feeling of well being and optimism

I was hooked on learning this



Increased nutrient **variety** / density = increase in cofactors for processing as well as for structure



More **colors** (rainbow) = PHYTONUTRIENTS to work in different systems and **REDUCE INFLAMMATION**



Reducing cheese – unlocked more **protein** options, less constipation



Water = **hydration** – common denominator of every single process and chemical the body produces



Digestive enzymes – break down foods, liberate nutrients, clean out GI



Yogurt – probiotics – jump-started my own **fermentation** again

How could
that possibly
happen?



RED

Contains Lycopene, ellagic acid, Quercetin, and Hesperidin, fibre, Vitamin A and C. Some of these include watermelon, strawberries, cherries, tomatoes, red peppers, and red onions.



ORANGE AND YELLOW

Contains flavonoids, lycopene, potassium, vitamin C, and beta-carotene. Examples of these are oranges, grapefruit, lemons, bananas, carrots, sweet potatoes, pumpkin, and corn.



GREEN

Contains fibre, lutein, calcium, folate, vitamin C, Beta-carotene. Green fruits and vegetables include green apples, artichokes, arugula, asparagus, avocado, honeydew, green pears.



WHITE

Contains Beta-glutens, EGCG, SDG, and lignans. Examples are garlic, ginger, mushrooms, onions, white corn, turnips, white corn, and white peaches.



PURPLE & BLUE

Lutein, zeaxanthin, Vitamin C, fibre, flavonoids. These include eggplant, cabbage, endive, plums, and blueberries.

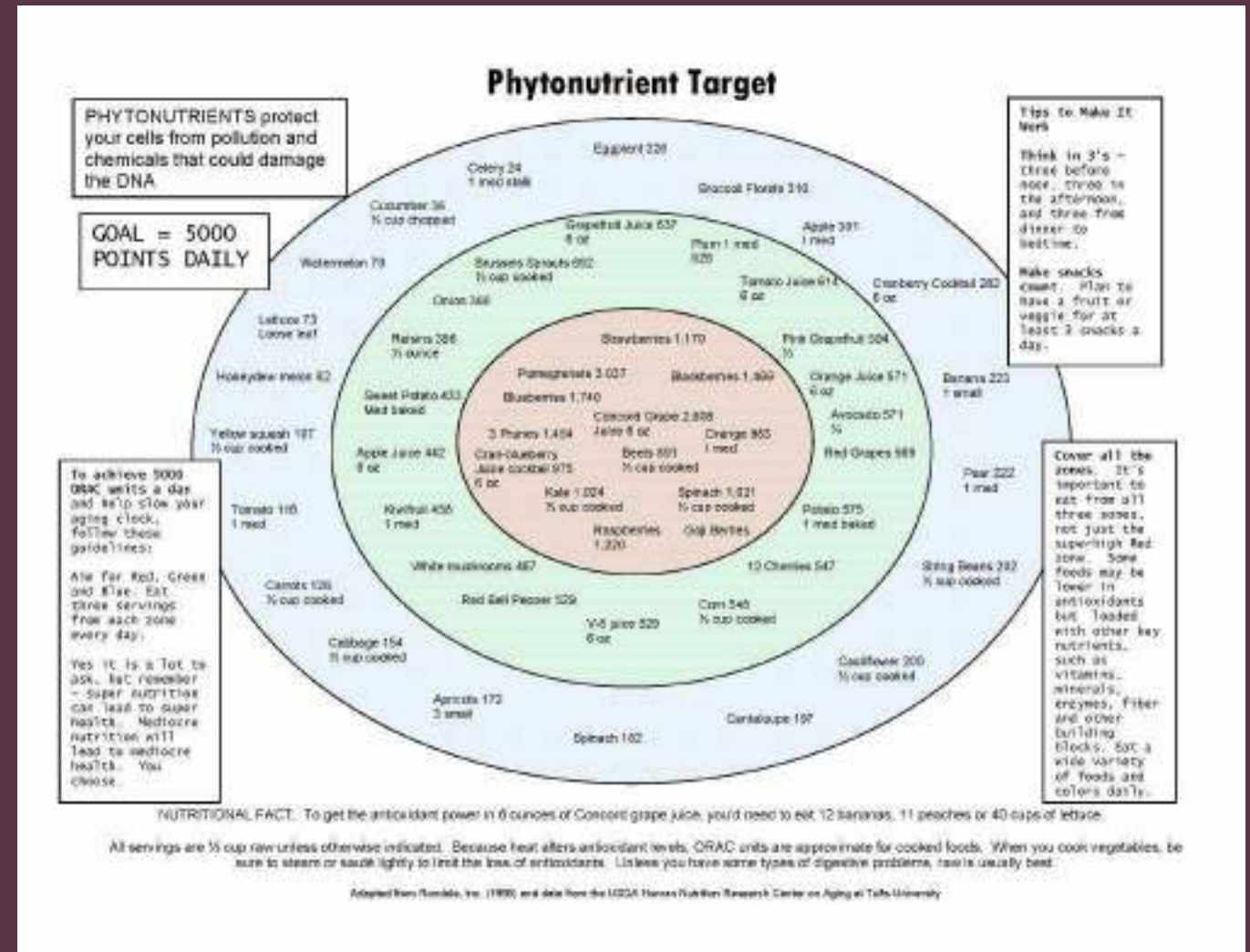
Rainbow Diet is Simple for Kids to Understand

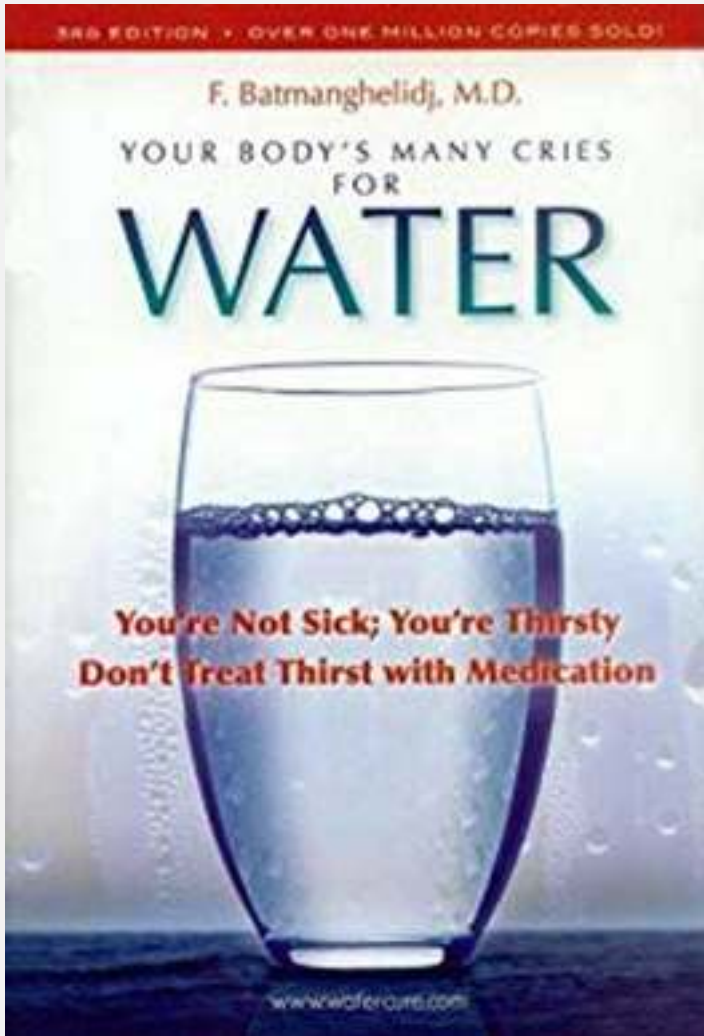


Anti-inflammatory Bingo

*Shoot for 5000 points
daily*

Phytonutrients contain anti-oxidants that protect cells and DNA from damage





Many kids I see are dehydrated...
and taking so many meds and supplements

WATER IS THE PRIMARY SUBSTRATE OF ALL CELLS TISSUES ORGANS

- How can things possibly dissolve and move around properly?
- How can they hydrate/cleanup cells /eliminate daily waste?
- How can they secrete enough digestive enzymes?
- How can they not feel brain fog and irritable and even dizzy?
- How can they not feel hot, tired, achy, headache, tightness?
- Not enough fluid = increased Histamine (thirst mechanism) –
- Dry Mouth is a Late Sign of dehydration, not an early sign

FIND THINGS TO DRINK THEY LIKE AND PUSH THEM

Hypoglycemia

Low Blood Sugar Symptoms



Many kids live on carbs, don't eat enough, or don't eat enough protein/fat to stabilize their blood sugar ...
how would you feel if you did that?

- All carb diets are HIGH GLYCEMIC = turn to sugar very quickly in the blood, then bottom out
- Makes kids feel irritable, foggy, tired, restless, anxious
- Proteins, fats, fiber = LOW GLYCEMIC= Blood Sugar stability
- Kids cannot fall asleep or stay asleep if their blood sugar bottoms out – bedtime protein snack AND again if awakens
- FOOD / PROTEIN every 2-3 hours throughout the day at school, when they get home/ before after-school activities
- MUST find alternatives to processed food/grain diet – nut-based and bean-based flours and cereals
 - elanaspantry.com
 - <https://thecoconutmama.com/simple-coconut-flour-muffins>
- Generate a LIST of protein foods and snacks your child will eat and send to school – yogurt tubes, jerky, pre-mixed protein drinks, nuts or PBJ/ABJ/SBJ, chicken nuggets or sausage, ham/turkey rollups, cheese sticks, bean/ cheese quesadilla strips / mini quiche cupcakes / full fat dairy

Look for ways to sneak in – oils, collagen/egg protein

$$A + B = C$$

A= sickness symptoms

B= symptoms from
underlying issues and habits

C = sickness symptoms +
other symptoms

I'M SICK

EXTRA



Healthy Fats Create Healthy Cells and Brains



Fats, fatty acids and phospholipids must come in through FOOD =
“essential”

FATS CREATE STRUCTURE

-Scaffolding for cell and mitochondrial membranes, brain, nerve sheath, skin, hormones, neuro-transmitters, biliary tract

-Brain = 60% fat, and at least half of that is phospholipids

FATS CREATE FUNCTION – electricity and signal transmission in diverse systems and processes

-brain function and BBB, cell membrane transmission, DNA stability, immune function, skin barrier function, prostaglandin and hormone production, neurotransmitter signaling, absorbing fat soluble vitamins (A, D, E, K), digestive function, and bile production.

FAT IMBALANCE = BOTH not enough good fats + too many bad fats = displacement/inflammation/ poor foundation / wrong signaling / lost receptors

OMEGA 3 (DHA) and OMEGA 6 (arachidonic) are BOTH ESSENTIAL to brain function

*Currently 7228 studies on pubmed exploring fatty acids' role in **mental health***

Omega 3

- Impact size of neurons, learning & memory, auditory and olfactory responses to stimuli, nerve and brain growth, anti-inflammatory pathways, synaptic pathways, neurotransmission and **gene expression**
- **Supplementation 1g/day** = reduction of depression, anxiety, mania, mood disorders but very high dosages did not work (possibly due displacing Omega-6 off the membrane – but they don't work that well as membrane lipids and cause downstream problems)

Omega 6

- Structural, synaptic and membrane lipid
- Precursor of bioactive molecules that regulate inflammatory process in immune cells
- Become prostaglandins – support tissue healing, blood flow, proper clot formation, etc
- BUT Omega 6 in excess can = inflammation... anxiety, depression, mood disorders

THE BALANCE SHOULD FAVOR OMEGA 3 but need BOTH

Diet-Derived Fatty Acids, Brain Inflammation, and Mental Health



(Melo et al. Front Neurosci. 2019; 13: 265)

Omega 3 and Omega 6

Dietary Sources of Bioactive Lipids



OMEGA 3

- Fatty fish, caviar, seaweed, algae, walnuts, seeds /cold pressed seed oils (flax, hemp, chia) and olive oil to some degree

OMEGA 6

- Caviar, egg yolk, avocado, (ideally raw) nuts, seeds, sunflower butter, cold-pressed olive/safflower/ seed oils

OMEGA 6 to AVOID

- processed / over-processed / heat extracted oils, fast foods, oils as a leftover byproduct to food processing (soy, Crisco, corn, canola and 'vegetable' oils are good examples), burned, rancid, Hydrogenated or Partially Hydrogenated oils, Trans-fats (artificial fats made by hydrogenation – shortening and margarine)

PHOSPHOLIPIDS

- beef, chicken, fish, eggs, cabbage, carrots, leafy green, edamame/ soy

SATURATED FATS THAT DO NOT CONTAIN EFA's

- coconut oil / organic grass-fed butter / ghee –good but need to limit

Helpful tips to Improve Nutrition



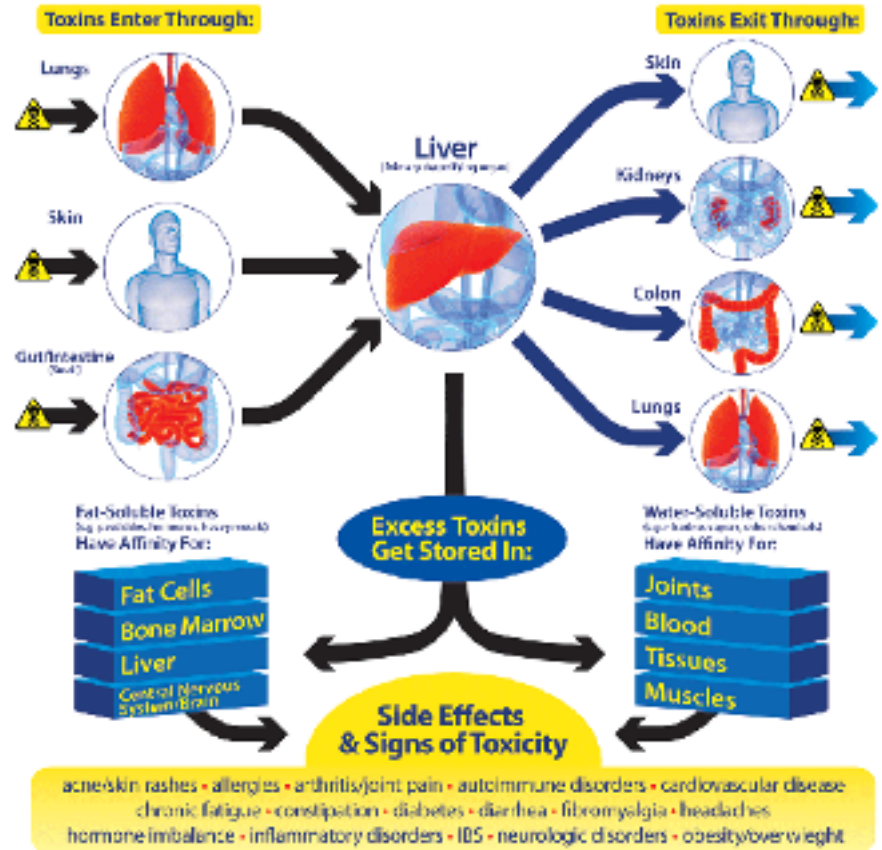
Correct nutrient deficiencies even if you have to sneak supplements in

- Collagen protein, liquid minerals (like Energy Boost by Morning Star) – no taste
- Many B12 supplements are teeny cherry candy tasting chews or liquids
- Essential fatty acids / healthy fats to foods/smoothies and/ or apply oils and phosphatidyl choline to skin (topical absorption!)
- If your child monitors the plating of food but you are able to cook their pasta, add vegetables or minerals or Elyte or Kombu seaweed into the cooking water, they won't know!
- Try bean or lentil pasta for added protein, eggs / egg protein
- Remember that fats, minerals and vitamins act as cofactors in every biological and cellular process
- Everyone is unique and requires or tolerates different things, but basics apply to everyone

Low Appetite?

Cyproheptadine, Grow and Thrive, digestive enzymes or Professional formulas Digestive Enzyme Drops (increase vagal tone), ginger candy or tea with honey and lemon, liver support, digestive bitters, hydration!

The Process of Detoxification and Elimination



Chemicals not normally found in nature that end up stored in body tissues are called Xenobiotics.

BIOACCUMULATION: When chemicals accumulate in the organs faster than the body can rid of them

Many pesticides, pollutants, heavy metals and mycotoxins accumulate in fat (“lipophilic”)

The brain and nerves and myelin and bone marrow are abundantly fat-based, as is breast milk and breast tissue.

Others dissolve in water so move around or accumulate in different tissues / organs.

Detoxification supports normal routes of excretion, also targeting and clearing chemicals in both fatty and watery tissues

What are toxins and where do they come from?



- Industrial pollution
- Food additives
- Water
- Air
- Clothing
- Fumes
- Mold and other microbial byproducts
- Building materials
- Body care products
- May impact every cell and organ system

Same child after detox program



NOTICE ALL THE METALS AND CHEMICALS ARE GONE

This test: IGL (German lab)

Another good testing option:
Great Plains GPL-Tox



What you can do about toxins in your home



- Find source and remove / mitigate (ie reduce plastics, use water filters, air purifiers, change cleaning products to more natural (Meyers, Thieves, Seventh Generation, Maleleuca, Ecover etc)
- Use only non-toxic bug sprays in your home (Evo-raider, Badger, Greener Ways...)
- Organic foods – focus on reducing the worst non-organic offenders:
 - Meat, Dairy, Apples, Baby Food, Strawberries/ Blueberries, Peaches / Nectarines, Celery, Peanut Butters, Potatoes, Milk, Greens, Tomatoes, Bell Peppers, Grapes, Cucumbers, Hot Peppers
 - These foods are often heavily sprayed with multiple dangerous pesticides you cannot simply wash off (no skin, or hold a lot of water...) or they concentrate pesticides (milk, meat)

What you can do about toxins in your child



Its best to start with low, intermittent doses and talk to your provider before starting supplements

Supplements are truly unique to each situation and child

Here are some of the things I use that may safely help their little bodies get rid of environmental toxins:

- *HYDRATION- you MUST wash them away – I suggest water/electrolytes
- Bioray Line – NDF Kids Calm or Focus for little ones, NDF drops for older
- PEKANA Line – Apo hepat, Renelix, Itires, Viscum, Tox Ex – organ supports
- Beyond Balance Line – ToxEase GL or capsules, Cognease Detox
- Results RNA ACZ spray / Coseva Advanced TRS spray (zeolite)
- Binders – Chlorella pyrenoidosa, GI Detox Plus, zeobind, charcoal (careful)
- B vitamins, Glutathione, calcium d-glucarate – support pathways
- *MINERALS – you must use minerals to replace toxins/metals from site
- Phosphatidyl choline COMPLEX – caps or liquid that must be blended in liquid, or intravenous therapy



Simple detox supports you can do at home

Epsom salt baths, baking soda baths, lymph scrubs or simple massage, castor oil pack on tummy followed by clockwise belly massage

Vigorous exercise for 5 minutes

Leafy greens, broccoli, lemon water, increasing fruits and vegetables in general, parsley, cilantro, ginger, celery, watermelon and many others, fermented veg and veg juice

Detox teas, ginger tea, warm broths

Far-infra red sauna, far-infra red heating pads, Biomat, Ampcoil / Bemer(?)

Mold and Mycotoxins

Molds and yeasts are a natural life form and recycle organic waste

Live in moist environments, on most agricultural products worldwide, and some thrive in water damaged building materials

Not all produce mycotoxins

Affects on Health

- Allergies
- Infections / overgrowth (intestine, skin, sinus...)
- Mold illness or Sick Building Syndrome from mycotoxins
- ***CIRS – Chronic Inflammatory Response Syndrome***

CIRS – priority if present

20-25% of people are genetically unable to breakdown and excrete mycotoxins efficiently. So if exposed, mycotoxins may build up in them, and a bunch of other downstream inflammatory cytokines run amuck

Mycotoxins can be immunosuppressive, inflammatory and even carcinogenic

Mycotoxins build up in different organs and in the endocrine system

They can also attach to DNA and literally change the way genes work or turn/off ('epigenetic')

Testing for Mold Illness and Mycotoxins

CHILD

- HLA = Genetic propensity to develop mold illness - HLA DRB1,3,4,5,DQB1 (Labcorp)
- Visual Contrast Sensitivity Testing (nervous system impact)
- Urine mycotoxins - Great Plains, Realtime Labs
- Biochemistry markers – TGFB1 / MMP9 / VIP / MSH
- MARCONS testing – special nasal culture – Microbiologydx.com
- Gene Expression by Nanostring: Inflammation Explained (GENIE) / ProgenX.com*

HOME

- ERMI Test – Environment Relative Mold Index
 - PCR Testing on collection of dust using cloths / vacuum bags done by you (parent)
- Air testing – good for allergens, possibly ineffective at identifying water damage molds that cling to surfaces and don't disperse in the air



**Dr Ritchie Shoemaker,
www.survivingmold.com*

ERMI RESULTS

Group 1; Water Damage Molds		Group 2; Common Indoor Molds	
Species	SE/mg	Species	SE/mg
Aspergillus flavus/oryzae	ND	Alternaria alternata	ND
Aspergillus fumigatus	14	Acremonium strictum	ND
Aspergillus niger	48	Aspergillus ustus	3
Aspergillus ochraceus	9,867	Cladosporium cladosporioides1	308
Aspergillus penicilloides	39,197	Cladosporium cladosporioides2	80
Aspergillus restrictus	114	Cladosporium herbarum	19
Aspergillus sclerotiorum	3	Epicoecum nigrum	71
Aspergillus sydowii	ND	Mucor amphibiorum	162
Aspergillus unguis	ND	Penicillium chrysogenum	133
Aspergillus versicolor	250	Rhizopus stolonifer	7
Aureobasidium pullulans	442		
Chaetomium globosum	25		
Cladosporium sphaerospermum	12		
Eurotium (Asp.) amstelodami	686		
Paecilomyces variotii	ND		
Penicillium brevicompactum	663		
Penicillium corylophilum	50		
Penicillium crustosum	442		
Penicillium purpurogenum	12		
Penicillium Spinosum	27		
Penicillium variable	4		
Scopulariopsis brevicaulis/fusca	18		
Scopulariopsis chartarum	22		
Stachybotrys chartarum	2		
Trichoderma viride	25		
Wallemia sebi	10,458		
		Sum of Logs	13.2

SE	= Spore Equivalents
SE/mg	= SE/milligrams of sample
Logs	= Logarithms
ND	= None Detected

Sample Size	5.0	mg
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HERTSMI -2 SCORECARD

We use a point system. Units are Spore E/mg.

10 points are assigned for
 Aspergillus penicilloides >500
 Aspergillus versicolor >500
 Chaetomium globosum >125
 Stachybotrys chartarum >125
 Wallemia sebi >2500

6 points are assigned for
 Aspergillus penicilloides 100-499
 Aspergillus versicolor 100-499
 Chaetomium globosum 25-124
 Stachybotrys chartarum 25-124
 Wallemia sebi 500-2499

4 points are assigned for
 Aspergillus penicilloides 10-99
 Aspergillus versicolor 10-99
 Chaetomium globosum 5-24
 Stachybotrys chartarum 5-24
 Wallemia sebi 100-499

HERTSMI -2
 Result = 32

Interpretation of HERTSMI-2 Score

<11 Statistically safe for re-entry for those with CIRS

11-15 Borderline; clean first and re-test before re-entry

>15 Dangerous for those with CIRS. Do not enter.

Disclaimer:

HERTSMI-2 is a building index. No one HERTSMI-2 can possibly show all areas of a given building.

HERTSMI-2 does not replace careful observation of symptoms and lab results obtained following re-exposure

DRB1*07:ANKVB
 DRB1*16:01
 1/34/5617/02:18
 DRB3*02:02
 DRB3*01:01
 DRB4*03:ANKJV
 DRB4*-
 DRB5*02:02
 DRB5*-
 DQB1*02:ASUEP
 DQB1*05:ASUEG
 1:02/02:04/02:0
 12:10/02:11/02:
 12:17/02:18/02

DRB1: 07
 DRB1: 16

DRB3: 02
 DRB3: 01

DRB4: 01
 DRB4:

DRB5: 02
 DRB5:

DQB1: 02
 DQB1: 05

The following HLA-DR
 haplotypes were detected:

 7-2-53 - Mold Susceptible
 16-5-51 - Post Lyme Syndrome

DRB1 * 01 : ABCDE

gene name

haplotype

*code translation
unnecessary*

*enter
this number
into the calculator*

Key Steps to Healing Mold Illness

REMOVE EXPOSURE

Most Important Thing

BIND MYCOTOXINS

Chlorella pyrenoidosa,
activated/coconut/bamboo
charcoal, clay, Chitosan,
Pectasol, CSM/Welchol (limit)

PROMOTE SYSTEMIC DETOX

Liver / GB/ kidney/ GI

*Herbals, Glutathione, supports like
Pure encapsulations LIVER-GI Detox*

Tox Ease by Beyond Balance

TREAT COLONIZING MOLDS / YEAST (LAST)

Anti-fungal oral medications: *(nystatin, Diflucan,
itraconazole, ampho B)*

Herbals: *Biocidin, GSE, Phytostan, SPF722, Garlic,
OnGarde /Thieves, monolaurin*

Nasal sprays: *Silver, Seagate Olive Leaf, GSE, BEG*
Biofilm – enzymes BFM-P

GI ISSUES

Why is the digestive tract and stool sampling important for children with PANDAS and PANS?

In The GI system we can find hidden triggers for children with PANDAS/PANS

- infections (strep, bacteria, fungal, protozoa)
- Inflammatory processes (test for this)
- Food allergies / gluten reactions
- The large intestine is primarily immune /lymphoid tissue (GALT)
- Increased GI permeability can trigger autoimmunity**

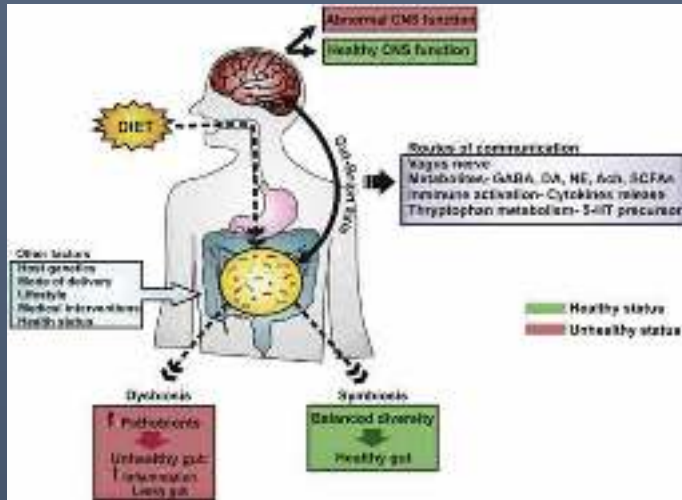


Many children with PANDAS and PANS have stomach aches and food intolerances



Mutualism with our intestinal microbiota is a prerequisite for healthy existence *(Slack et al, 2014)*

Mystery of the Microbiota-Gut-Brain-Immune Axis



Trillions of Gut Microbes exert direct effects on CNS / immune / organs

- Bi-directional dialogue with brain / CNS / HPA axis
- Immune / autoimmune – produce and modulate cytokines / Treg / Breg
- Inflammation - reduce microglial and systemic activation markers
- Possess antioxidant and free radical scavenging abilities
- Produce and modulate neurotransmitters and neuropeptides (some strain specific)
- Influence fermentation / digestion / nutrient absorption and production

Indirect effects - Bacterial metabolites - SCFA / butyrate

- SCFA are immunomodulatory
- interact with nerve cells by stimulating the sympathetic and autonomic nervous system via GPR 41 and 43
- Butyrate crosses BBB, modulate brain development, reduce neuro-inflammation
- regulate microglia homeostasis and are necessary for brain development and brain tissue homeostasis
- regulate release of gut peptides and tryptophan metabolism which in turn affect gut-brain hormonal communication
- Ammonia / D-lactate – pose known health issues

Microbiota-Gut-Brain-Immune Axis in PANDAS

Our intestines and the bacteria in them directly influence our emotions, moods and behavior, AND vice versa *

- Links between gut flora populations and mood, mental state, social behavior, repetitive behaviors, host innate and adaptive immunity, inflammation, redox capacity and oxidative stress and gene expression
- Changes in bacterial balance are associated with neurologic inflammation**
- Changes in the Gut Microbiome are associated with changes in brain development (glial cells) and Blood Brain Barrier ***

Bacteria can reduce depression and anxiety

BIFIDOBACTER LONGUM

- Reduced anxiety = celexa with stronger anti-depressant effects
- Thought to increase vagal tone
- Enhanced cognition and coordination in mice with anxiety (*Savignac et al, 2014 & 2015*)

LACTOBACILLUS HELVETICUS

- May attenuate depression and anxiety
- via GABA modulation in amygdala, cingulate, hippocampus, locus coeruleus, and prefrontal cortex (*Bravo et al, 2011*)

TRANS-GALACTOOLIGOSACCHARIDE (Prebiotic fiber)

- Promotes the growth of good bacteria, promotes fermentation
- Reduced anxiety induced by inflammation by modulating cortical 5-HT_{2A} receptor and IL-1 beta levels in male mice (*Schmidt et al, 2015*)

*Examples of mood probiotic brands:
GARDEN OF LIFE Mood+ Probiotic
LIFTED Mood Boosting Probiotic*



Constipation

DEAL WITH SEVERE CONSTIPATION right away – and before adding antibiotics if at all reasonable

- Water, electrolytes, probiotics, fiber, oils, magnesium citrate, demulcent foods, aloe, rhubarb, digestive bitters, ginger honey and lemon tea before meals, Ready Set Go, NDF Pooper, CleanseMore capsules, Easy Going, hot castor oil pack to belly / massage, digestive enzymes, Restore, buyrate, fermented foods, fresh organic celery/veg juice, stool softener, meds
- If none of these are working, consider the possibility of yeast, dysbiosis, parasites, food allergies, gluten, structural eval, cranial sacral or referral to GI specialist
- Kids need to poop every day at least once or more

GI Testing: Doctor's Data (pg 1)



LAB #: F15072109122
PATIENT: [REDACTED]
DOB: 05/30/1997 AGE: 22

CLIENT #: 46825
DOCTOR: Amy Joy Fishman Smith, NP
Amy Joy Fishman Smith

Comprehensive Stool Analysis / Parasitology x1

BACTERIOLOGY CULTURE		
Expected/Beneficial Flora	Commensal (Intestinal) Flora	Dysbiotic Flora
NI+ Bacteroides fragilis group 2+ Bifidobacterium spp. 4+ Eubacterium coli 2+ Lactobacillus spp. 3+ Streptococcus spp. 4+ Clostridium spp. NI = No Growth	2+ Alpha hemolytic strep	3+ Klebsiella pneumoniae subparacetam 4+ Proteus mirabilis

BACTERIA INFORMATION

Expected/Beneficial bacteria make up a significant portion of the total microflora in a healthy GI tract. These beneficial bacteria have many health-promoting effects in the GI tract including manufacturing vitamins, fermenting fibers, digesting proteins and carbohydrates, and protecting against tumor and anti-inflammatory factors.

Clostridia are prevalent both in a healthy intestine. Clostridia spp. should be considered in the context of balance with other anaerobes. Overgrowth of clostridia or over abundance relative to other expected/beneficial flora indicates bacterial imbalance. If Clostridium-associated disease is suspected, a Comprehensive Clostridium culture or targeted C. difficile DNA test is recommended.

Commensal (intestinal) bacteria are usually neither pathogenic nor beneficial to the host GI tract. Imbalances can occur when there are insufficient levels of beneficial bacteria and increased levels of commensal bacteria. Certain commensal bacteria are reported as a public at higher levels.

Dysbiotic bacteria consist of known pathogenic bacteria and those that have the potential to cause disease in the GI tract. They can be present due to a number of factors including consumption of contaminated water or food, exposure to chemicals that are toxic to beneficial bacteria, the use of antibiotics, and certain chronic or other medications such as low-dose and high-dose aspirin.

YEAST CULTURE	
Normal Flora	Dysbiotic Flora
No yeast isolated	

MICROSCOPIC YEAST

Result:	Expected:
Many	None - few

There is stool as expected at a level of normal. A microscopic finding of yeast in stool of low, moderate, or high may be helpful in identifying potential yeast overgrowth, or non-viable or dietary yeast.

YEAST INFORMATION

Yeast may normally be present in small quantities in the skin, mouth, and intestines. When investigating the presence of yeast, disparity may exist between culture and microscopic examination. Yeast are not uniformly dispersed throughout the stool and this may lead to undercount or low levels of yeast identified by microscopy, despite culture and identified yeast species. Conversely, microscopic examination may reveal a significant amount of yeast present but no viable yeast cultured. Yeast may not always survive through the laboratory. Available decontaminated yeast may also be isolated erroneously. Consideration of direct intervention for yeast detection, particularly should be made in the context of other findings and presentation of symptoms.

Comments:

BACTERIAL CULTURE

1. GREEN – Expected / Beneficial Bacteria

- No growth of entire bacteroides group
- Overgrowth clostridia species= metabolites (ammonia...)

2. YELLOW – Overgrowth

- Strep

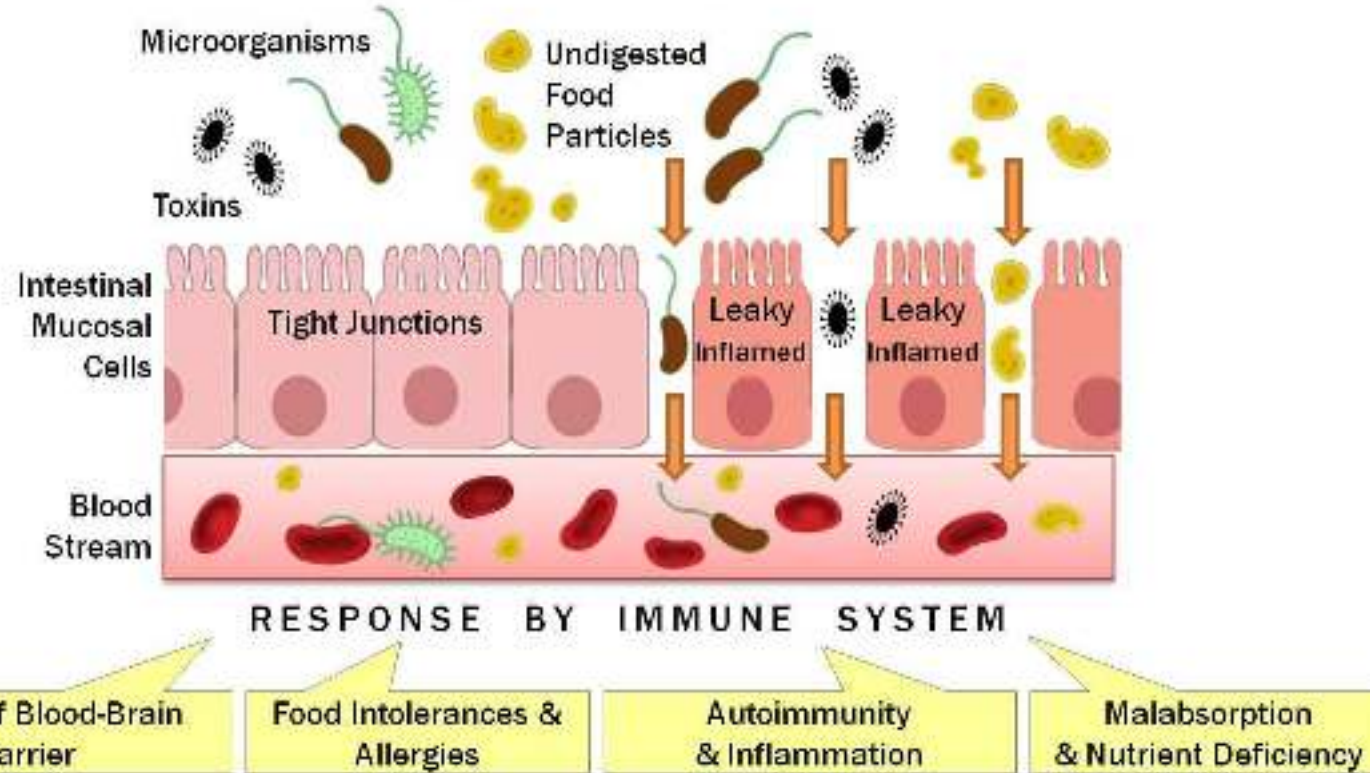
3. RED – Infection with 2 different bacteria

- Klebsiella p. and Proteus m.
- Gram neg bacteria can= leaky gut, autoimmune triggers
- Produce endotoxin called Lipopolysaccharide (LPS)

YEAST CULTURE – No growth but

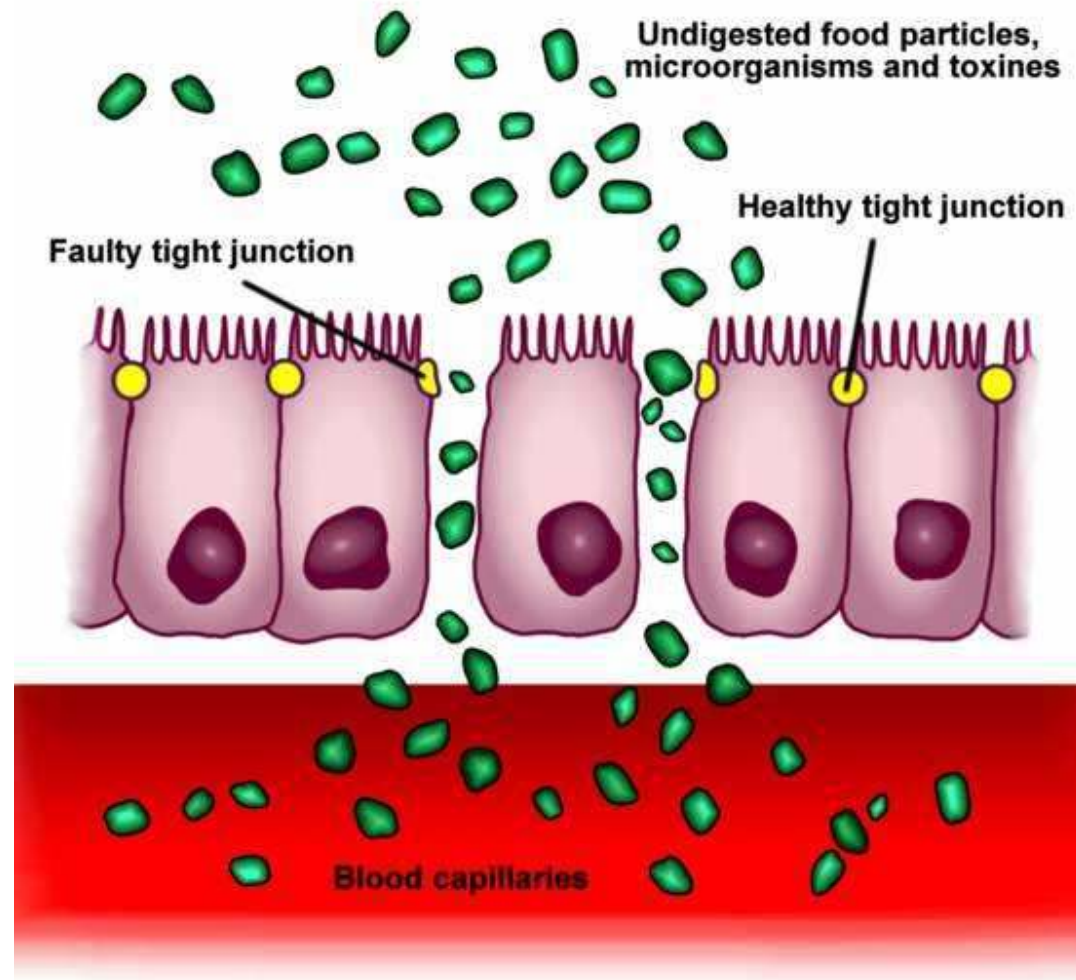
YEAST MICROSCOPIC – Many yeast seen

The Leaky Gut Syndrome



Restoring microbial integrity can reverse this process

- Integrity of intestinal lining maintained by 'tight junction' cells
- Changes in microbial balance cause inflammation
- Inflammation breaks down barrier proteins in tight junction cells
- Undigested food particles, toxins, bacteria and fungal microbes and metabolites "leak" into bloodstream
- Immune system recognizes these as invaders and sound the alarm – immune activation / autoimmune / mast cell / inflammation / pain
- Altered BBB / CNS effects
- Unique situation where pathogenic bacteria inducing autoimmune reactions may be treated with antibiotics – is this part of what we're seeing with abx therapy?



**INFLAMMATORY, IMMUNOLOGICAL,
AUTOIMMUNE AND NEOPLASTIC REACTIONS**

GI Testing: Doctor's Data (pg 2)


LAB # P168232132-2
PATIENT ID: [REDACTED]
SEX: Male
DOB: 05/08/1997 **AGE:** 22
CURR #: 46506
DOCTOR: Amy Joy Fishman Smith, NP
 Amy Joy Fishman Smith

Comprehensive Stool Analysis / Parasitology x1

PARASITIC	POS	NEG	POS	NEG	INTERPRETATION	
PROTOZOA						
Ascaris lumbricoides	None Detected				<p>Examination revealed no abnormal infestations of the gastrointestinal tract that have the potential to cause disease to their host. The presence of any parasite other than the time sensitivity could be that the patient has acquired the organism through food and contamination. Damage to the host includes protein malnutrition, dehydration and diarrhea. Hematology, immunology, hypereosinophilia, malabsorption, and cytotoxicity also can be large side of the pathology of these diseases. The infective stage often leads to severity of the disease and rapid involution can be achieved.</p> <p>In general, acute manifestations of parasitic infections may include diarrhea with or without mucus and/or blood, fever, nausea, or abdominal pain. However, these symptoms are not always seen.</p> <p>Consequently, parasitic infections may not be diagnosed or considered if all untreated, chronic parasitic infections can cause damage to the intestinal lining and can be an unreported cause of illness and fatigue. Chronic parasites are able to cause death with increased levels of parasitosis. It is also cause symptoms, fatigue, bone marrow, malabsorption, protein malnutrition, weight loss, and pain, allergic reactions, and decreased immune function.</p> <p>One negative parasitology in specimen does not rule out the possibility of parasitic disease, parasitology of its immunology. This test is not designed to detect <i>Cryptosporidium parvum</i> or <i>Microsporidium</i>.</p>	
Giardia lamblia	None Detected					
Cryptosporidium	None Detected					
Trichinella spiralis	None Detected					
Strongyloides stercoralis	None Detected					
Enterobius vermiciformis	None Detected					
Trichostrongylus axei	None Detected					
Parascaris equorum	None Detected					
Capillaria philippinensis	None Detected					
Capillaria hepatica	None Detected					
Enterobius vermiciformis	None Detected					
Hookworm eggs	None Detected					
Strongyloides stercoralis	None Detected					
Trichostrongylus axei	None Detected					
CESTODES - TAENIAE						
Diphyllobothrium latum	None Detected					
Diphyllobothrium latum	None Detected					
Hymenolepis diminuta	None Detected					
Hymenolepis nana	None Detected					
Taenia eggs	None Detected					
TRICHOCEPHALINA						
Trichostrongylus axei	None Detected					
Parascaris equorum	None Detected					
Parascaris equorum	None Detected					
Trichostrongylus axei	None Detected					
SPOROZOAN						
Cryptosporidium	None Detected					
OTHER FINDINGS						
Yeast	Many					
Red Blood Cells	None Detected					
White Blood Cells	None Detected					
Charcot-Leyden Crystals	None Detected					
Foam	None Detected					
IMMUNOASSAY						
Giardia lamblia	Neg		Neg			
Cryptosporidium	Neg		Neg			

Comments:

Date Collected: 05/21/2019
 Date Received: 05/23/2019
 Date Reported: 05/23/2019 **Microbiology, Microscopy, EA**

1000 North 104th, St. - ARDEN - 155 North Avenue, St. Charles, MO 63030 - LAB #R- 5th Bldg, 33 - CLIA ID NO: 14D080676

PARASITOLOGY – NEG

YEAST - MANY





LAD #: F19923-0132-2
 PATIENT ID: [REDACTED]
 SEX: Male
 DOB: 05/26/1997 AGE: 13

CLIENT #: 46826
 DOCTOR: Amy Joy Fishman Smith, NP
 Amy Joy Fishman Smith

Comprehensive Stool Analysis / Parasitology x1

DIGESTION / ABSORPTION			
	Within	Outside	Reference Range
Diastase	> 500	> 200	Ug/mL
Fat Stain	None	None - Mod	
Muscle Fibers	None	None - Rare	
Vegetable fibers	Rare	None - Few	
Carbohydrates	Neg	Neg	

Diastase findings can be used for the diagnosis of the presence of exocrine pancreatic insufficiency. Correlations between low levels and chronic pancreatitis and cancer have been reported. **Fat Stain:** Microscopic determination of fecal fat using Sudan IV staining is a qualitative procedure utilized to assess for absorption and to detect steatorrhea. **Muscle fibers** in the stool are an indicator of incomplete digestion. **Bleeding, flatulence, feelings of "fullness"** may be associated with increases in muscle fibers. **Vegetable fibers** in the stool may be indicative of inadequate chewing or eating "on the run". **Carbohydrates:** The presence of reducing substances in stool specimens can indicate carbohydrate malabsorption.

INFLAMMATION			
	Within	Outside	Reference Range
Lactoferrin	4.8	< 7.3	Ug/mL
Calprotectin*	22	<= 50	Ug/g
Lysozyme*	106	<= 500	ng/mL
White Blood Cells	None	None - Rare	
Mucus	Neg	Neg	

Lactoferrin and Calprotectin are reliable markers for differentiating organic inflammation (IBD) from functional syndromes (IBS) and for management of IBD. Monitoring levels of fecal lactoferrin and calprotectin can play an essential role in determining the effectiveness of therapy, are good predictors of IBD remission, and can indicate a low risk of relapse. Lysozyme* is an enzyme secreted at the site of inflammation in the GI tract and elevated levels have been identified in IBD patients. **White Blood Cells (WBC)** and **Mucus** in the stool can occur with bacterial and parasitic infections, with mucosal irritation, and inflammatory bowel diseases such as Crohn's disease or ulcerative colitis.

IMMUNOLOGY			
	Within	Outside	Reference Range
Secretory IgA*	173	51 - 204	ng/dL

Secretory IgA* (sIgA) is secreted by mucosal tissue and represents the first line of defense of the GI mucosa and is central to the normal function of the GI tract as an immune barrier. Elevated levels of sIgA have been associated with an upregulated immune response.

Comments:

Date Collected: 06/23/2019
 Date Received: 06/23/2019

*For Research Use Only. Not for use in diagnostic procedures.
 Metabolism, B12, Microbiology, Colocalization.

GI Testing: Doctor's Data (pg 3)

DIGESTION /absorption - normal

INFLAMMATION – normal BUT

- Lactoferrin and calprotectin are well within the range BUT...most kids have zero or non-detectible levels = evidence of low grade inflammation

IGA – immune activation - normal

- often high with infection or significant food reactions like gluten, dairy
- Low – possibly inborn, but could be long standing issues, poor fermentation, low butyrate
- If low – SBI Protect, enteragum, butyrate, probiotics, colostrum, arabinogalactan, other prebiotics



LAB #: F180823-0120-3
 PATIENT ID: [REDACTED]
 SEX: Male
 DOB: 05/24/1997 AGE: 22

CLIENT #: 46626
 DOCTOR: Amy Joy Fishman Smith, MD
 Amy Joy Fishman Smith

Comprehensive Stool Analysis / Parasitology x1

SHORT CHAIN FATTY ACIDS			
	Within	Outside	Reference Range
% Acetate	Green	Red 81	49-75 %
% Propionate	Green 3.7	Red	3-25 %
% Butyrate	Green	Red 3.5	3-37 %
% Valerate	Green	Red 3.2	0.5-7 %
Butyrate	Green	Red 0.62	0.8-4.5 mg/mL
Total SCFA's	Green 7.0	Red	4-18 mg/mL

Short chain fatty acids (SCFAs): SCFAs are the end product of the bacterial fermentation process of dietary fiber by beneficial flora in the gut and play an important role in the health of the GI as well as protecting against intestinal dysfunction. Lactobacilli and bifidobacteria produce large amounts of short chain fatty acids, which decrease the pH of the intestines and therefore make the environment unsuitable for pathogens, including bacteria and yeast. Studies have shown that SCFAs have numerous implications in maintaining gut physiology. SCFAs decrease inflammation, stimulate healing, and contribute to normal cell metabolism and differentiation. Levels of Butyrate and Total SCFA in mg/mL are important for assessing overall SCFA production, and are reflective of beneficial flora levels and/or adequate fiber intake.

INTESTINAL HEALTH MARKERS			
	Within	Outside	Reference Range
Red Blood Cells	Green None	Red	None - Rare
pH	Green 4.7	Red	5-7.8
Occult Blood	Green Neg	Red	Neg

Red Blood Cells (RBC) in the stool may be associated with a parasitic or bacterial infection, or an inflammatory bowel condition such as ulcerative colitis, Crohn's disease, and fistulas, and hemorrhoids should also be ruled out.

pH: Fecal pH is largely dependent on the fermentation of fiber by the beneficial flora of the gut.

Occult blood: A positive occult blood indicates the presence of free hemoglobin found in the stool, which is released when red blood cells are lysed.

HECOTOLOGIC APPEARANCE		
	Appearance	Expected
Color	Blue Brown	Brown
Consistency	Blue Soft	Firm/Soft

Color: Stool is normally brown because of pigments formed by bacteria acting on bile introduced into the digestive system from the liver. While certain conditions can cause changes in stool color, many changes are harmless and are caused by pigments in foods or dietary supplements.

Consistency: Stool normally contains about 75% water and ideally should be formed and soft. Stool consistency can vary based upon transit time and water absorption.

GI Testing: Doctor's Data (pg 4)

SHORT CHAIN FATTY ACIDS

End result of fermentation

SCFA's are like The Mom - keep everyone in order

Absorb ammonia/reduce inflammation

Butyrate is part of the Gut-Brain-Immune Axis

- Modulate brain inflammation / microglial cells during prenatal development AND BEYOND

TOTAL Butyrate low –

Acetate high (evidence of imbalance/inflammation)



The contribution of the (maternal) gut microbiome to neurodevelopment and neuropsychiatric disorders

(Warner, 2018) *(through butyrate production)*



Butyrate, neuroepigenetics and the gut microbiome: Can a high fiber diet improve brain health?

(Bourassa et al, 2016)



Mid-life microbiota crises: middle age is associated with pervasive neuroimmune alterations that are reversed by targeting the gut microbiome.

(Boehme, 2019) *(through butyrate production)*

Butyrate and SCFA's

Link intestinal function to the brain

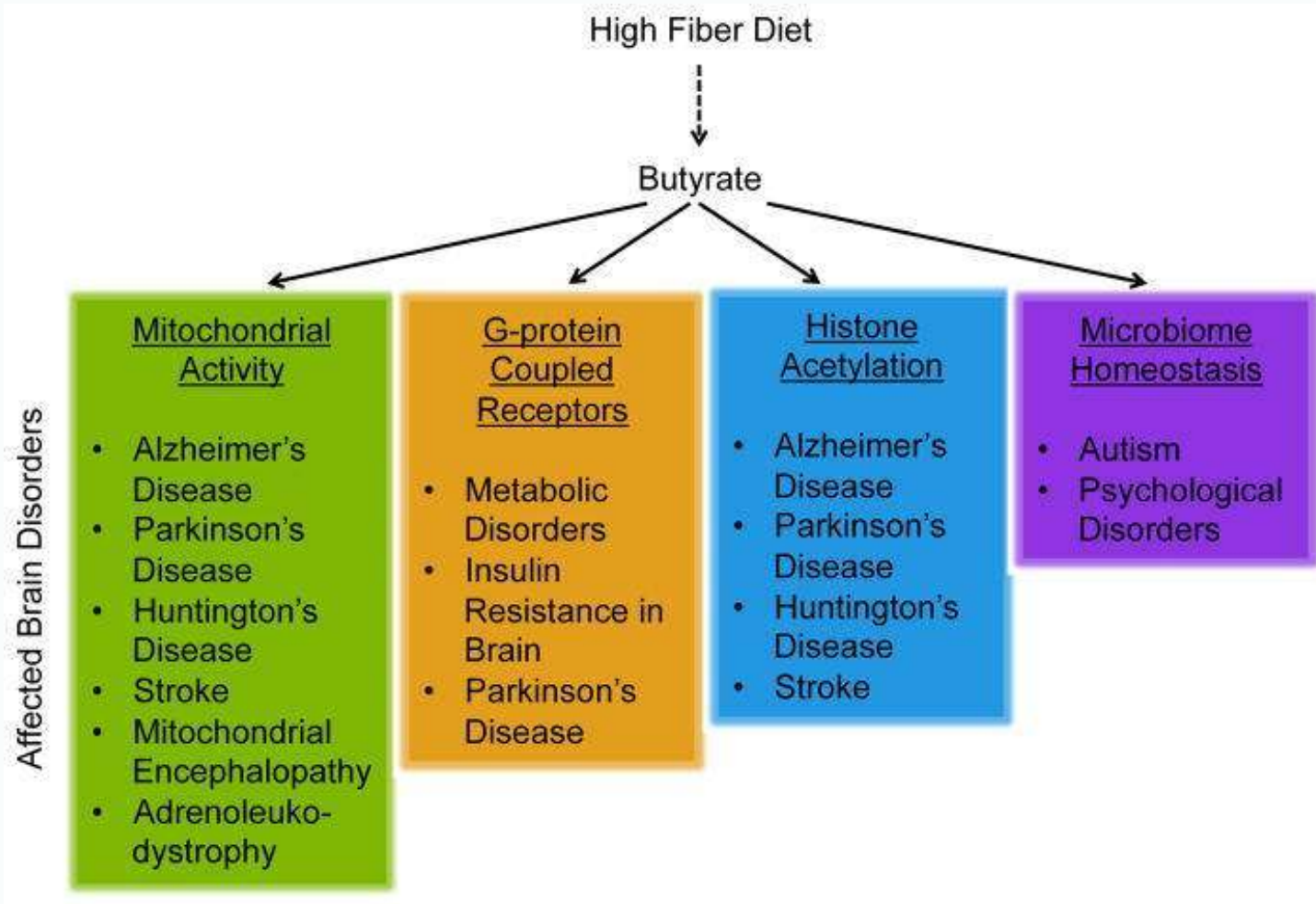
ORAL:

Cal-mag butyrate

Sodium butyrate

Butyrate rectal suppositories
or enemas for severe IBD

Just Adding Fiber can do WHAT??



“The proposed mechanisms for the neuroprotective effects of butyrate and the diseases which may benefit from butyrate treatment or a high fiber diet.”

Increasing Butyrate Naturally

- Foods high in resistant starch such as beans, oats, and potato salad or pasta salad (potato and pasta that are eaten cold).
- Foods high in pectin such as apples, peaches and apricots.
- Foods high in inulin include chicory root fiber, Jerusalem artichoke, onions and leeks.
- One highly researched soluble dietary fiber is chicory root fiber, the most common source of inulin used in supplements. It is best known for its ability to increase bifido-bacteria (butyrate producing) in the colon.
- Probiotic foods and ferments

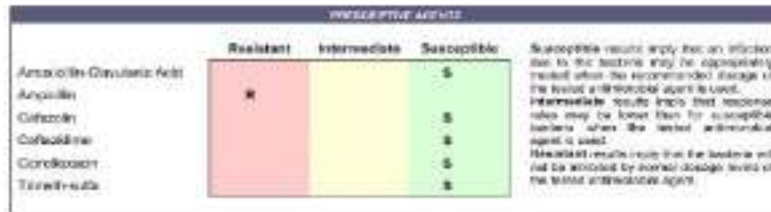
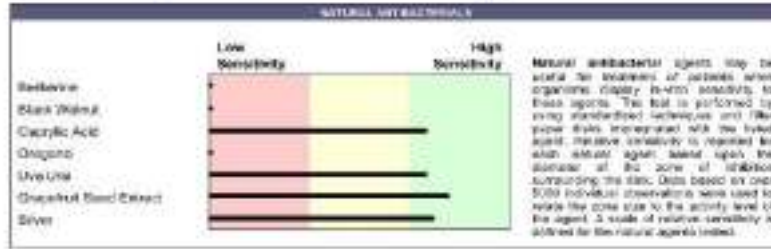
Adapted from Peter Finkle, 2018



LAB #: F19623-0152-2
 PATIENT ID: [REDACTED]
 SEX: Male
 DOB: 05/15/1967 AGE: 52

CLIENT #: 49828
 DOCTOR: Amy Jay Fildesal Smith, NP
 Amy Jay Fildesal Smith

Bacterial Susceptibilities: Klebsiella pneumoniae ssp pneumoniae



Comments:
 Date Collected: 08/23/2018
 Date Received: 08/23/2018
 Date Reported: 08/26/2018

Minimal antimicrobial agent susceptibility testing is intended for research use only. Not for use in diagnostic procedures.

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GI Testing: Doctor's Data (pg 5)

SENSITIVITY

Whenever they find an infection, they test the microbe to see what it responds to (of their choices)

Look for something in the GREEN ZONE to treat with

Principles of GI Treatment

Replenish Put in the Good bacteria which may be missing

Remove Take out the Bad or overgrown bacteria, yeast etc

Reduce Reduce inflammation

Repair Repair the environment and gut lining

This Patient's Treatment

Spore forming + prebiotic
(Megasporebiotic / megaprebiotic)

Uva ursi for one month, followed
by a month of IMN-GI, then
Biocidin

Cal-Mag Butyrate (before #2)

Demulcent foods
PC (90% of mucous lining)
Mega-mucosa – add in one
month

Understanding Food Allergy / Sensitivity Testing

IgE Food Reactions

Usually – inborn allergies that produce histamine

Mast cell activation syndrome – you may see elevated and changing IgE responses

IgA Food Reactions

- Inborn, gut-based reaction against food (antibody produced by the mucous membrane / intestinal lining)
- In times of GI inflammation, its possible the gut will react against foods temporarily with more IgA reactions

IgG Food Reactions

- Developed sensitivities against foods due to a leaky gut
- Minute food particles drift out of intestine through the leaky lining and into the blood stream, where the immune system sees it and launches an attack against it

When to consider mast cell activation

- IgE (histamine type) food reactions that weren't there before
- Histamine food reactions that keep changing from one day to the next
- Child cutting out more and more foods (not associated with OCD / sensory) "don't feel good"
- Allergy symptoms with negative allergy testing
- Histamine reactions with food i.e flushing, sweating, stomach aches, dizzy, palpitations, red ears, just not feel good with eating
- Allergists most likely to diagnose



TESTING

Blood: IgE, serum tryptase, histamine, chromogranin-A, food allergies

Urine: n-methyl histamine or prostaglandin-D

TREATMENT – often need to layer

Mast cell stabilizer medicines:
ketotifen, gastrocrom

Natural: Isoquercetrin, Neuroprotek

Anti-histamines often help

DAO Enzymes (ie Hist-DAO) if histamine is really built up or DAO snps

Low histamine diets and probiotics

TEST	RESULT			
	IN RANGE (Normal)	EQUIVOCAL*	OUT OF RANGE	REFERENCE (ELISA Index)
Array 3 – Wheat/Gluten Proteome Reactivity & Autoimmunity				
Wheat IgG	0.46			0.3-1.5
Wheat IgA	0.59			0.1-1.2
Wheat Germ Agglutinin IgG	0.82			0.4-1.3
Wheat Germ Agglutinin IgA	0.63			0.2-1.1
Native & Deamidated Gliadin 33 IgG			2.18	0.2-1.2
Native & Deamidated Gliadin 33 IgA			1.40	0.1-1.1
Alpha Gliadin 17-mer IgG	0.63			0.1-1.5
Alpha Gliadin 17-mer IgA	0.32			0.1-1.1
Gamma Gliadin 15-mer IgG	<0.50			0.5-1.5
Gamma Gliadin 15-mer IgA	0.29			0.1-1.0
Omega Gliadin 17-mer IgG	0.68			0.3-1.2
Omega Gliadin 17-mer IgA	0.34			0.1-1.2
Glutenin 21-mer IgG			1.74	0.1-1.5
Glutenin 21-mer IgA	0.76			0.1-1.3
Gluteomorphin + Prodynorphin IgG			1.35	0.3-1.2
Gluteomorphin + Prodynorphin IgA	0.50			0.1-1.2
Gliadin-Transglutaminase Complex IgG			2.00	0.3-1.4
Gliadin-Transglutaminase Complex IgA	0.62			0.2-1.5
Transglutaminase-2 IgG	0.87			0.3-1.6
Transglutaminase-2 IgA	0.76			0.1-1.6
Transglutaminase-3 IgG			1.68	0.2-1.6
Transglutaminase-3 IgA	0.94			0.1-1.5
Transglutaminase-6 IgG			1.63	0.2-1.5
Transglutaminase-6 IgA	0.72			0.1-1.5

Cyrex blood test array for gluten

Gluten can attack the brain directly with no stomach involvement (TTG3 & 6)

Gluten can create a morphine-like molecule called gluteomorphin

Routine testing is INSUFFICIENT

If your child has a gluten problem, letting them eat it is making everything worse

Some special diets

Gut and Psychology Diet (GAPS) – excellent reboot for extreme imbalance

- True induction phase is highly limited, lots of prep BUT you can simply incorporate some of the healing foods even without doing it 100%, and you will still get a lot of benefit
- High histamine – heavy on bone broth and fermented foods

Membrane Diet – modified ketogenic – Patricia Kane

- Clean protein, healthy fats and oils, vegetables, very low grain but some other carbs ok

Specific Carbohydrate Diet (SCD) – for GI health and yeast reduction

- Limit on sugars, specific starches / carbs – focus on whole foods, veg, protein, meat, good oils

Autoimmune Diet – anti-inflammatory – very similar, usually grain free

Low FODMAP – specific for SIBO (small intestine bacterial overgrowth)

- limits foods with certain kind of sugar that can cause severe bloating

High Alkaline Diet – anti-inflammatory diet (50-60%+ vegetables and fruits)

Mediterranean Diet – anti-inflammatory

- focus on fish, veg, nuts, whole grains, olive oil

GI Yeast

- Many children have been on and off antibiotics their entire lives without probiotics or yeast treatment
- Yeast overgrowth can cause behavior issues, brain fog, stomach aches
- Yeast overgrowth in sinus, ear canal, mouth (thrush), stool, vagina, scalp – culture everything
- Blood testing candida IgM, IgA, IgG / elispot (Armin)
- Consider oral anti-fungals with long term antibiotic to prevent /treat overgrowth
- Nystatin (locally acting in GI), Diflucan (systemic)
- LOW SUGAR DIET with natural ferments
- Herbals or monolaurin– (watch out for high doses of oregano – hot)
- Topical anti-fungals – OTC, tea tree, garlic oil, nutribiotic drops, rx
- Routine use of multiple high dose probiotics with antibiotic use (2 or more) – shoot for 25-50 billion in smaller children/100 billion daily for bigger kids – PLUS Sacchyromyces boulardii / cal-mag butyrate
- Yeast can produce a Die-off reaction (flare of symptoms or Jarish-Herxheimer reaction) – use a binder like charcoal, pectasol, GI Detox, chlorella 1-2 hours after taking the medicine, with molybdenum

GI Take Aways



We may never understand it in our lifetime, but we cannot ignore it

- Information about the gut, the gut-brain-immune- axis and microbiome is inconsistent and still evolving
- Do the best you can to ensure a healthy digestive tract
- Use probiotics with antibiotics – probiotics and fermentation end products may reduce depression, anxiety and inflammation
- Treat for intestinal yeast
- Use fermented foods and fiber daily
- Don't minimize GI symptoms
- Find a way to do testing – even kids with minimal GI issues + brain issues – there IS a connection

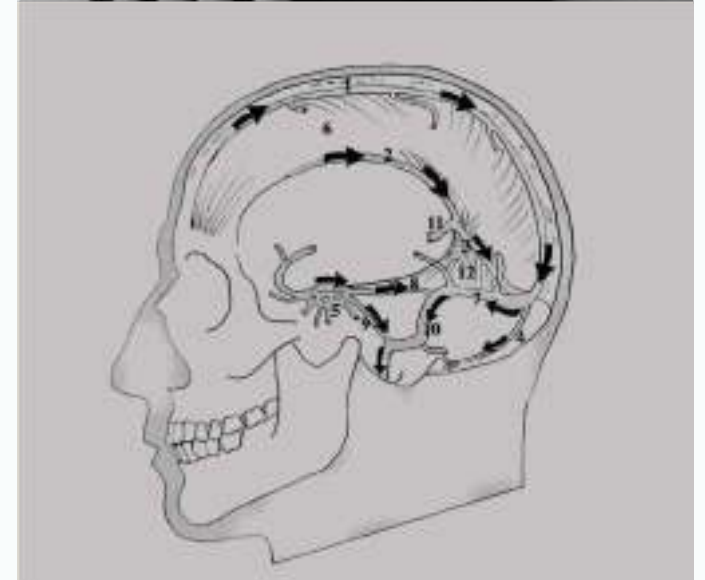
Structure Cranial Work

I have seen cranial and other structural work, in the hands of the most skilled professionals – be a ***game changer***.

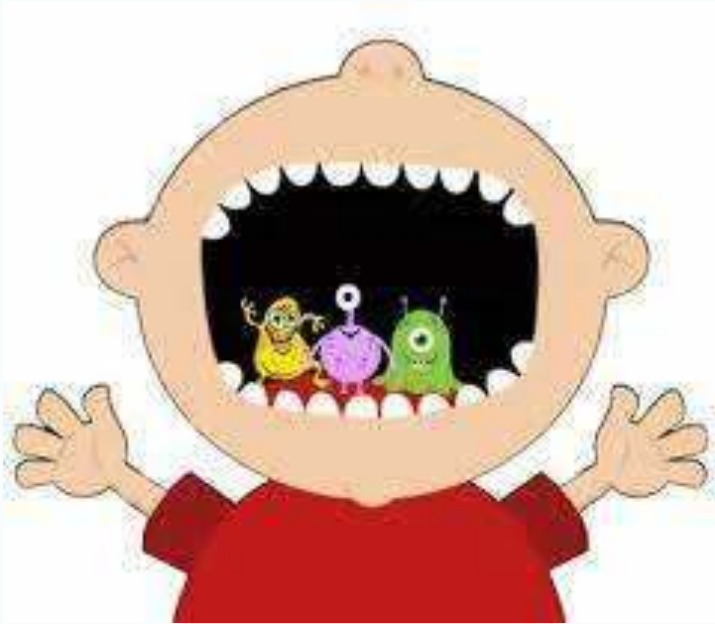
This may come from promoting the flow of blood, lymphatic drainage and CSF in the head, so everything can move and drain, and being sure that the cranium and neck are in proper alignment.

Inefficient blood and lymph drainage can put pressure on and damp down the functions of the cranial nerves especially the Vagus nerve (CN X - digestion and respiration), glossopharyngeal (CN IX - swallowing, and gag reflex) and spinal accessory nerves CN XI (motor control of the head and neck muscles)

Cranial / Craniosacral therapy decongests the drainage system to promote free flow of fresh CSF and drain waste and debris into the lymphatic system for excretion.



Reducing Infections during school



- Wash hands and change clothes after school especially during the winter
- Suck on probiotic lozenges after school, such as Metagenics Ultra Flora Children's chewable to reduce oral microbial load
- Xylitol gum, rinses or lollipops are also antimicrobial and good for the ride home from school
- Consider simple herbal immune supports like elderberry syrup, olive leaf, ginger, Viralox spray during the winter months; IMN-B (formulated for strep by Susan McCamish)
- Prophylactic antibiotics

Reducing Inflammation

NSAIDs- can cause GI side effects

- use demulcents to protect mucous layer – bone broth, slippery elm, aloe, DGL, root vegetables baked or in soup (turnips, parsnips, carrots, rutabaga, potato), baked apples, prebiotics (arabinogalactan, SBI protect, Megaprebiotic / mucosa)

Herbs and nutrients that may suppress TH17

- Japanese knotweed, boswellia, ginger, allicin, nettles, hydrangea, curcumin (mixed experience, possibly liposomal is better)
- Dan shen / skullcap
- Vit D, bioflavonoids quercetin, low dose Vit A

Herbal blends I like a lot

- Inflammaway (capsules), Cyflacalm II (glycerite), Advanced Inflammation Control (capsules), Relax and Restore, Baikal/ Red Sage (woodland essence) Boswellia Phytosome, Neuro Protek

Reducing Inflammation

Essential Fatty Acids

- SPM Active, DHA/EPA, Body Bio Balance Oil, phospholipids, butyrate

Low Dose Naltrexone LDN (may reduce glial activation)

Steroids

Reduce allergens

- Dust mite protocol, anti-histamines /air filters / sinus oils, lufel, neti pots, xylitol nasal rinse, DHIST, Isoquercetrin
- Please AVOID foods you know your child cannot tolerate or is allergic to

Clean Eating Reduces Inflammation

Reducing Symptoms: support sleep



- Liposomal melatonin, magnesium, theanine, PharmaGABA (liposomal or lozenge), phos serine, skullcap/passion flower/lemon balm, Relax and Restore (mainemedicinals.com) California poppy, magnolia, catnip, zizyphus sleep, Somcupin, Sleep Rescue, Calm Spirit by Health Concerns, Resolve and Stabilize, consider Clear Heat by Health Concerns if child is very hot, or Quiet Calm by KAN (may help tics)(talk to your provider first)
- Warm bath with oil and essential oils like lavender, vetiver, bergamot in bath, on feet or in diffuser; massage warm coconut oil on feet/head/spine, foot massage / reflexology
- Nighty-night Tea by Traditional Medicinals – soak 2 bags covered for 20 minutes and drink
- Hypoglycemia: if your child wakes up at night or has unstable blood sugar – AVOID sugars/ carbs in the evening, protein snack before bed and at wake up
- Weighted Blanket



Reducing symptoms

Reduce anxiety

- Low dose SSRI / neuro transmitter modulating supplements (like L-Theanine / PharmaGABA, 5-HTP, glycine, taurine, inositol)(consider testing through Drs Data, ZRT or Meridian labs)
- Magnesium, Chinese skullcap / passion flower / lemon balm, ashwaghandha, ANS/CNS spray, NeuroImmune Stabilizer (methylation) cream, Psy-stabil, Rescue remedy, Dan shen, phosphatidyl serine, magnolia
- All the anti-inflammatories
- Increasing Detox supports may help dramatically

Reduce fatigue

- Adaptogenic herbs as eleuthero, ashwaghandha, schisandra, holy basil, licorice, Juvecal, Vital or Power Adapt, or adrenal tissue like cytozyme-AD for severe fatigue, post steroid fatigue, rebound
- Homeopathics like HAD adrenal drops, Bioactiv Adrenal drops, Pekana Supren, Energetix Adrenal Tone

Reducing symptoms

Reduce stress

- Extra fluids, minerals, cooked foods, baths, oils consumed and rubbed on skin, extra sleep, less sugar, modified school attendance or other activities, throwing a ball, playing badminton in the backyard, bike, dance at home
- Body centered therapies – cranial, structural, lymphatic, massage, acupressure
- Cognitive Behavioral Therapy; Family Support; PT, OT (motor and sensory or spatial issues)
- Any possible ways of remembering to find or create JOY or humor even for a minute

Parents

- You **MUST** find ways to stay connected to each other
- Find ways to connect to others to reduce the isolation - online, support groups, gym or yoga class, force yourself to get outside or to participate in any possible activity you can retain to feel normal
- ***THERAPY FOR SUCCESS and STRENGTH – Family / Marital / Personal***

Parent Support Groups*

62 support groups in 36 states

11 International groups (Australia, UK, Italy, Netherlands, Canada)

106 Facebook Support Groups

“PANDAS moms on Facebook people my world where my friends used to be”



*<http://www.pandasnetwork.org/research-resources/support-groups/>

Recovery



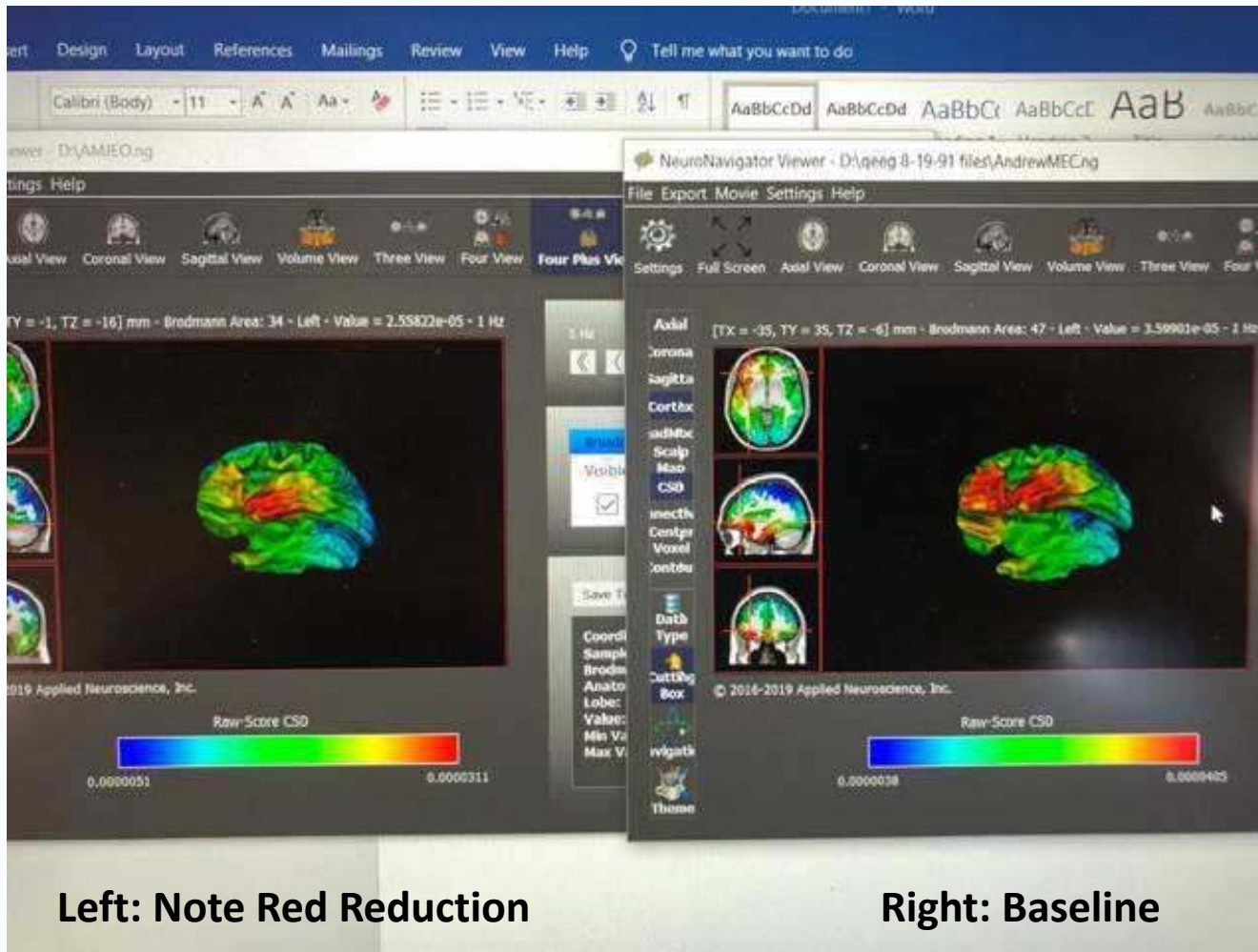
Repairing the Damage

- Neurological Retraining / Repatterning / Neurofeedback
- Cognitive Behavioral Therapy
- PTSD and trauma therapy
- Somatic or Body centered therapies (Feldenkrais, Alexander Technique, Mastugova, Bowen etc)
- Limbic Retraining – DNRS, Brain spotting
- Family therapy
- Plenty of EFA's and phospholipids for mitochondrial and cell membrane rehabilitation
- Continue GI supports / be sure there is no yeast left behind

Recovery / Repatterning

Repetitive thoughts driven by
brain inflammation and OCD
become habits and need to be
untangled and re-wired



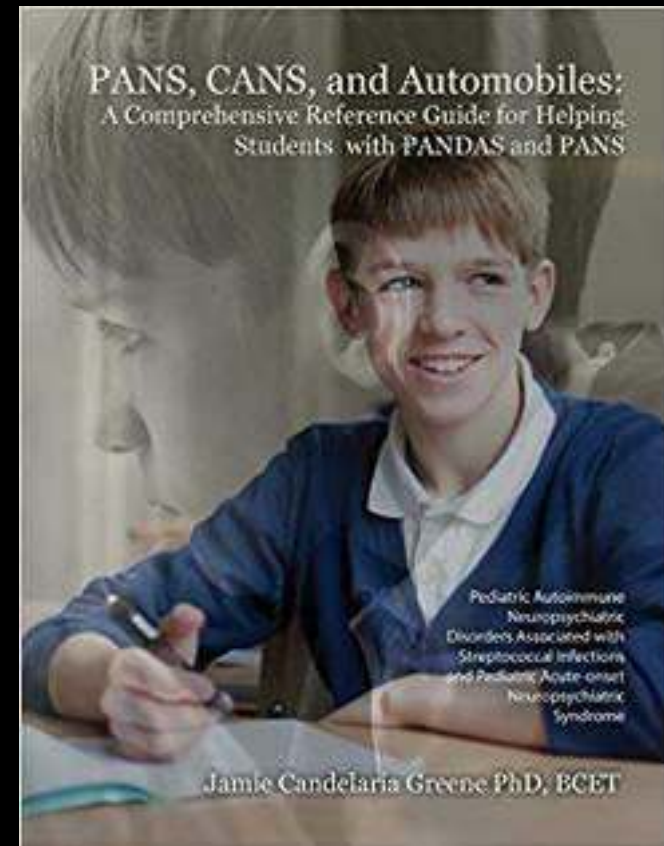
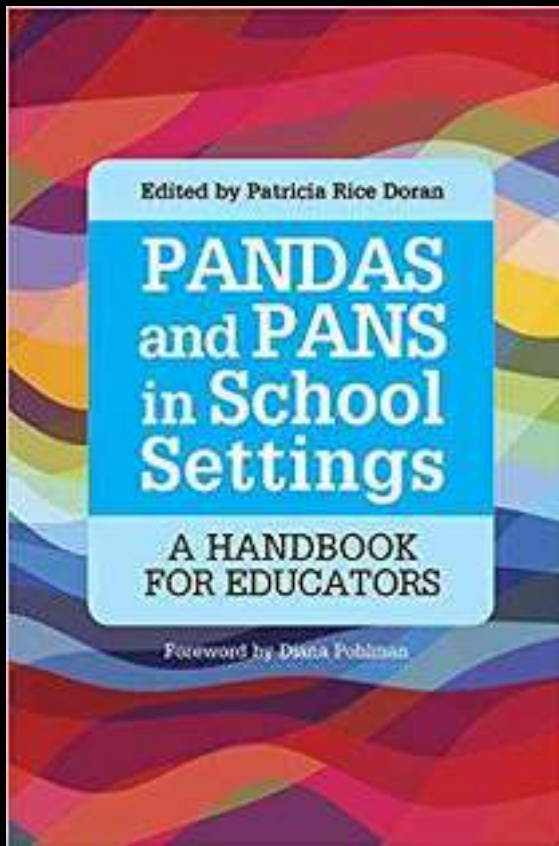


Left: Note Red Reduction

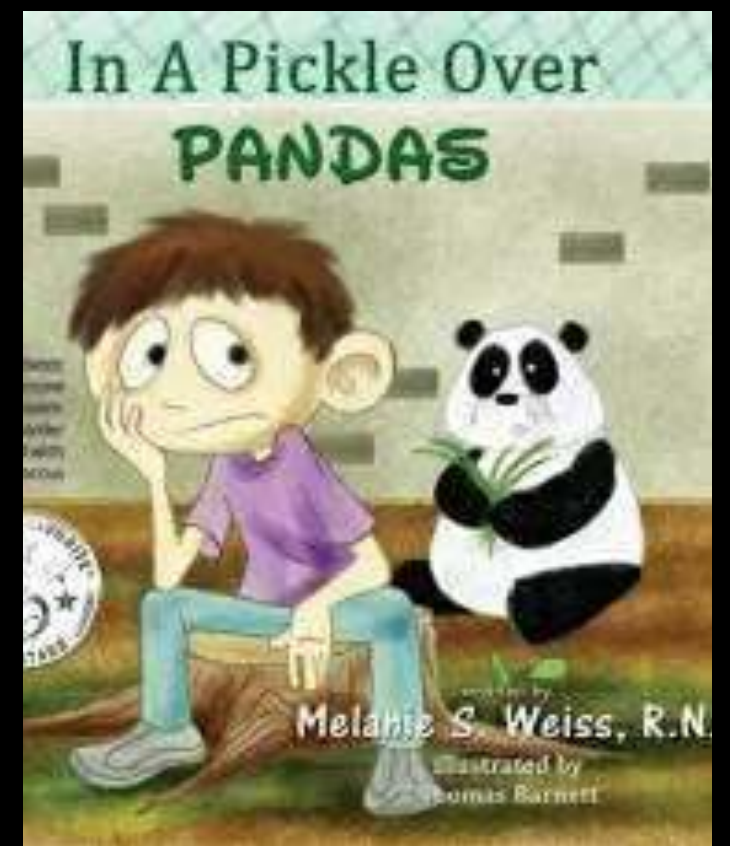
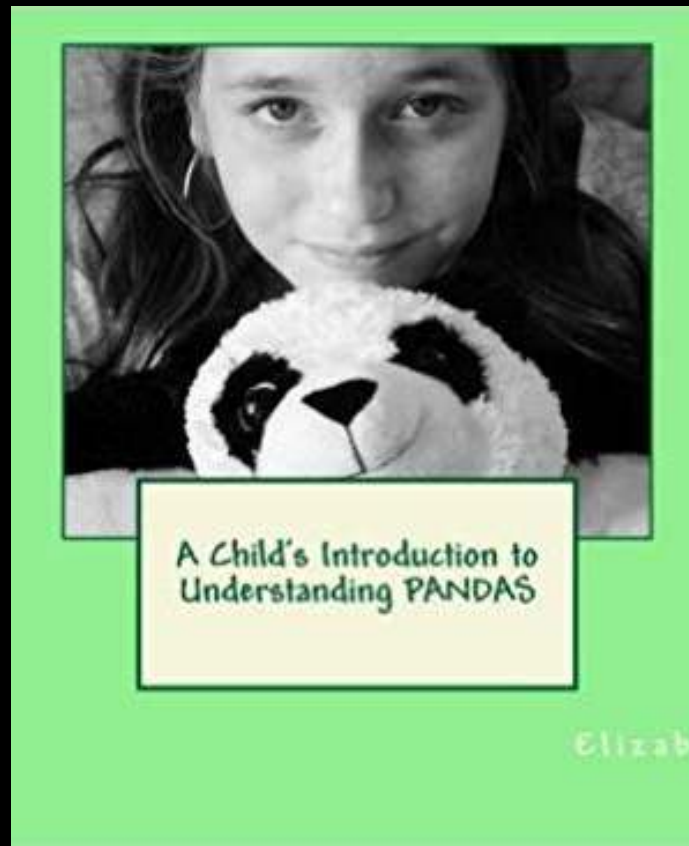
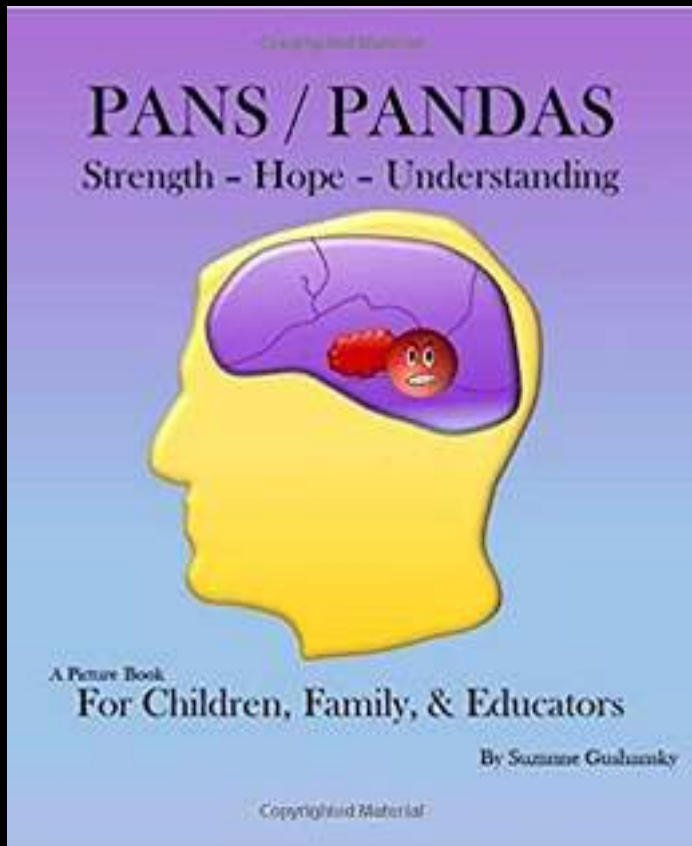
Right: Baseline

Brain map comparison after just 2 neurofeedback sessions

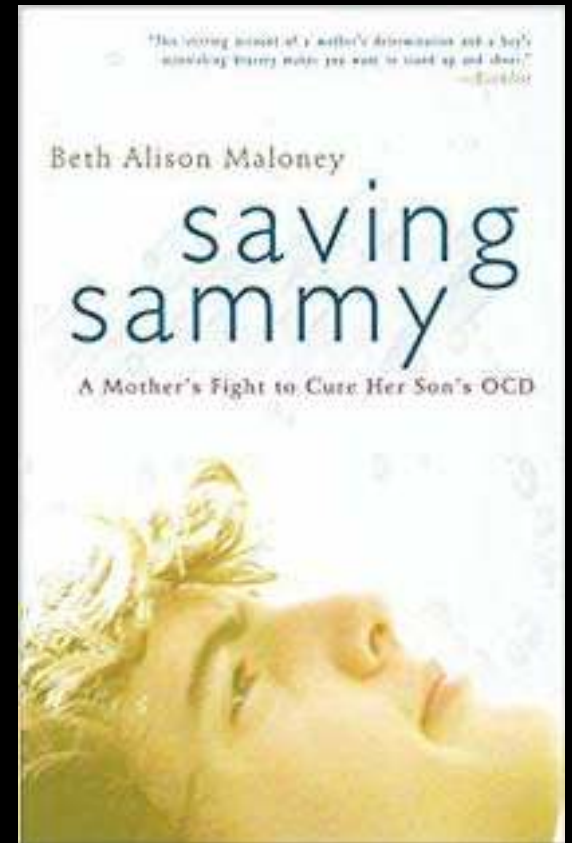
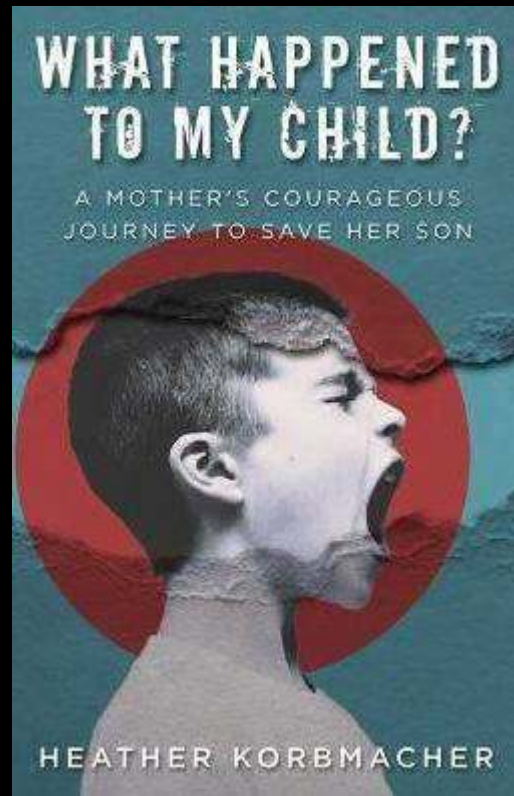
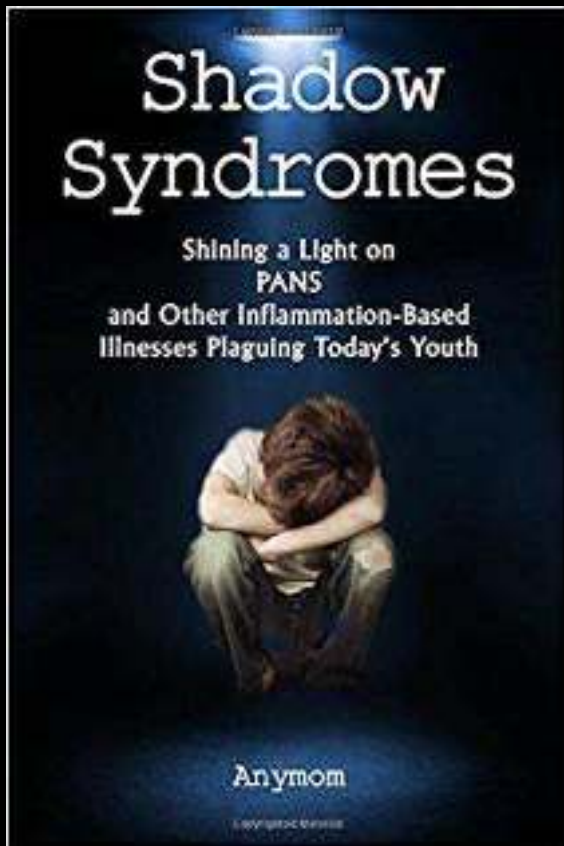
- Neurofeedback uses the information as a guide to retrain the brainwaves towards optimal function
- Addresses mental imbalances by catering to certain brainwaves and patterns
- Over multiple sessions maybe provide decrease or elimination of pathological conditions or imbalances



Books for educators



Books for children



Books for parents

ABOVE ALL

*Never Ever Ever
Give Up...
on your child or on
yourself*

