

Treating Autism with Biological Interventions:

A Mother's Success Story

By: Lori Knowles

Who Am I and Why am I Here?

- Just a DETERMINED Mom
- My fourth child Daniel was diagnosed with Autism at age 2.5 years
- Through intense pursuit of knowledge, I learned how I could help my child and become his Advocate
- After 4 yrs of interventions, at age 6.5, Daniel is considered recovered
- Tell my story to educate and inspire hope
- Manager of *New Beginnings Nutritional*

Who is ...

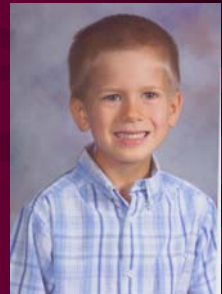


- A company started by Dr. William Shaw in 2003 created to provide high quality, potent, pure and absorbable nutritional supplements for children with autism and special needs.
- Provides food and dietary supplements that are free of wheat, dairy, harmful chemicals and other common allergens.
- Carefully selects supplements to help with nutritional deficiencies, detoxification, gastro-intestinal and immune function.
- Offers personalized customer service and support by parents of children with autism who can help support you in the area on nutritional supplement therapy.
- A company that keeps current with new autism research and is always updating and adding to their products line.

Meet Daniel



Age 3



Age 6

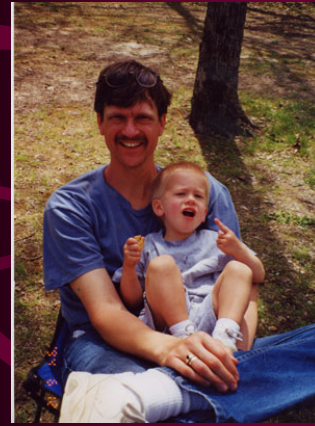
Video – 4 scenes

- Daniel in therapy at 2.5 yrs
- Testimony of Speech Therapist - who observed Daniel before and during gfcf diet implementation
- Testimony of 1st grade Teacher
- Daniel at 7 years – In classroom
- Recent Interview with Daniel

18 months



Daniel's 2nd Birthday



26 months

28 months



Warning Signs

- Late to crawl (12 months)
- Late to walk (14 months)
- Slow to speak
- Losing words

Other Warning Signs

- Spaced out
- Video-aholic
- No interest in others
- Trouble transitioning
- No normal play
- Sensitive to sunlight
- Poor receptive / expressive language
- Does not point
- Unexplained crying spells
- Spatially insecure
- Excessive drooling
- Poor muscle tone
- Sensory issues

Dealing With the Truth

- Pediatrician - Where was he? (CHAT)
- Information from the internet
- Need to Grieve
- Appt. to get a Diagnosis

Going From Depressed to Determined

- Early Intervention Therapist
- Dr. Shaw's Book - Biological Treatments for Autism and PDD
- Karyn's Seroussi's - Unravelling the Mystery of Autism and PDD
- DAN! Physician
- Lab Testing

What you should know about testing through the Great Plains Laboratory

- Main focus is Autism and related disorders
- A pediatric-focused laboratory – reference ranges account for both children and adults preventing false high and low values.
- Cares about accuracy:
 - Participates in proficiency testing with other labs
 - Runs in-house split samples to check internal accuracy
 - Reference Ranges verified by scientific literature and in-house studies of both normal and abnormal populations

Dietary Interventions

The Gluten/Casein Free (GFCF) Diet Does It Really Work?



- How could eating wheat and dairy products possibly be bad for my child?

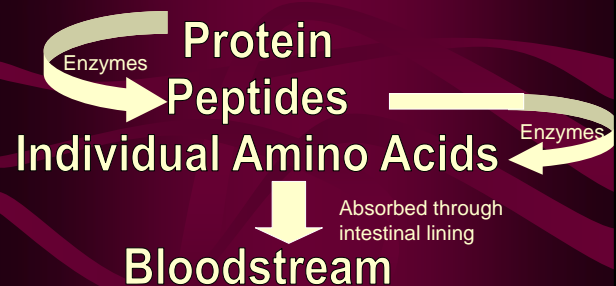
The Opioid Peptide Theory What does this mean?

Protein Digestion is Impaired

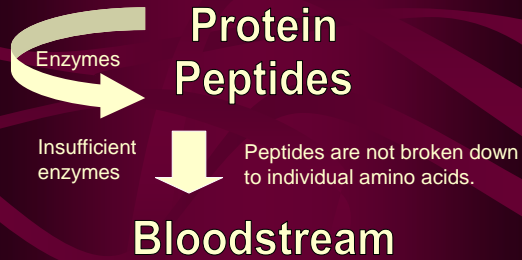
- Casein - The major protein in *milk*.
- Gluten - The major protein in *wheat*.

Proteins are made up of smaller molecule combinations called amino acids

Normal Digestion



Abnormal Digestion



Abnormal Digestion (cont.)

- Excessive amounts of peptides are measurable in the urine
- These peptides are called-
Gliadorphin from Gluten
Casomorphin from Casein
- Creates an opioid effect (like morphine) by binding to opiate receptor sites in the brain and gut.
- Studies show higher levels in urine in Autism

Symptoms can include:

- Spaced-out effect
- Constipation/diarrhea
- High pain tolerance
- Negatively affect brain function (speech and auditory integration)
- Limited food choices

Does the gluten and casein free diet work?

- Research studies of Cade, Reichelt, and Shattock showed improvement in approximately 80% of autistic individuals who STRICTLY removed gluten and casein from their diet.
- The younger the child, the more dramatic the improvement.
- Many AD(H)D individuals have also benefited from the diet.
- Eliminate **Soy** in the diet because the protein structure is similar to gluten and casein.

How do I know if my child will benefit?

- Do they exhibit any signs? (spaced-out, high pain tolerance, limited food choices, constipation/diarrhea, etc.)
- Have urinary peptides and IgG food allergies tested.
- Do a strict trial GF/CF/Soy free diet for at least 4 months.

Daniel's Progress on the Diet

- Marked improvement in receptive/expressive language
- Spaced-out effect gone
- Crying spells eliminated – happier child
- Increased awareness of others
- More effective therapy sessions
- Increased interest in toys
- Constipation disappeared
- Decrease in sensory issues
- Cured chronic sinus infections & asthma
- Gluten infraction caused serious regression

Reasons to give supplements for autism and PDD

- Dietary deficiencies due to special restricted diet
- Malabsorption problems due to lack of digestive enzymes or abnormal gastrointestinal flora
- Need for higher than normally recommended amounts due to abnormal metabolism or inborn errors of metabolism
- Help to detoxify toxic chemicals
- Prevent oxidative stress
- Contribute to the overall health of your child

Vitamins and Minerals

- Calcium Citrate/Chelate: 1000 mg (if GFCF diet)
 - Magnesium: 150 – 300 mg
 - B vitamins -
 - B6, Methylcobalamin, Folic acid, Niacinamide, Riboflavin, B-12 (methyl cobalamin)
 - Zinc: 25 – 50 mg
 - Selenium: 50 – 300 mcg
 - Cod Liver Oil – 25,000 IU Natural Vitamin A
- Avoid copper containing supplements*

Antioxidants

Give in divided doses

- **Vitamin C** (buffered): 1000 mg
- **Vitamin E**: 200 – 400
- **Vitamin A**: 1000 – 3000 IUs
- **Beta Carotene**: 5000 – 50,000 IUs
- **Co-Enzyme Q10**: 50 mg.
- **Glutathione**: 100 – 250 mg

Antioxidants are critical for protecting the cells from damage from toxins and stress!

Other Important Supplements

- Essential Fatty Acids (omega 3s)
- Additional Vitamin B6
- Probiotics (Good bacteria)
- Digestive enzymes (heal gut, improve digestion)
- Natural anti-fungals (yeast control)
- Melatonin (for sleep issues)
- **GABA and 5-HTP** (anxiety, hyperactivity)
- Taurine (aids metabolism, immune system)
- Methylcobalamin (Vitamin B-12)

Important Things to Remember

- Nutritional supplements are only one piece of the puzzle
- Each child's biochemistry is unique: Testing can help determine deficiencies
- Purchase only high quality, gfcf supplements
- Try one at a time (every 3-4 days)
- Some shouldn't start with a full dose
- Be prepared for trial and error

How Supplements helped Daniel

- Immune system stronger (Colostrum, zinc)
- Eliminated Side glancing (Cod Liver Oil)
- Eczema cleared
- Increased cognitive abilities
- More calm and focused
- Began gaining weight (digestive enzymes)
- Maintained better yeast/bacteria control
- Overall better health

Nutritional Support Starter Package



- Specially designed to work together with Cod Liver Oil to provide the most important nutrients that research and clinical experience has shown to be important for children with autism.
- Includes essential vitamins, minerals, antioxidants, natural vitamins A and D and essential fatty acids.
- Carefully formulated to be tolerated by most children.
- Affordable and easy to follow.

Helpful Hints for giving supplements to young children

- Take a no nonsense sequential approach – **First** they must swallow/ or eat “this” **Then** they can do something they want (eat, watch TV, play, etc.)
- Open capsules and mix into small amounts of apple, pear, peach sauce, or mix into small amount of orange juice and use syringe
- Reward them **immediately** afterwards with a good tasting supplement they like (gummy vitamins, chewable vitamin C, etc) They will associate the bad with the good
- Not a good idea to try to hide into food.
- Don't let them win. They will stop fighting you if they know it is a losing battle.

Yeast and Bacteria

How do I know if yeast is a problem?

Yeast/Fungal			
citramalic	0.0 - 2.0	0.88	
5-hydroxymethyl-2-furic	0.0 - 80.0	10.48	
3-oxoglutaric	0.0 - 0.5	0.10	
furan-2,5-dicarboxylic	0.0 - 90.0	8.93	
furanocarboxylglycine	0.0 - 90.0	1.25	
tartaric	0.0 - 16.0	9.71	
arabinitose	0.0 - 17.0	180.28	H
carboxycitric	0.0 - 16.0	8.39	
Bacterial			
2-hydroxyphenylacetic	0.0 - 10.0	0.39	
4-hydroxyphenylacetic	0.0 - 50.0	20.22	
HPHPA formerly DHPPA-A	0.0 - 150.0	306.38	H
VMA analog	0.0 - 31.0	6.08	
Glycolysis			
lactic	0.0 - 100.0	5.13	
glyceric	0.0 - 10.0	11.34	H
pyruvic	0.0 - 50.0	3.25	
2-hydroxybutyric	0.0 - 2.0	0.48	
Krebs Cycle			
succinic	0.0 - 20.0	41.90	H
fumaric	0.0 - 10.0	1.68	
2-oxo-glutaric	15.0 - 200.0	7.85	L
3-hydroxy-3-methylglutaric	0.0 - 36.0	24.77	
acetic	0.0 - 25.0	18.08	
citric	180.0 - 560.0	606.10	H

Daniel's Organic Acid Test

How do you know if yeast is a problem?

Digestive Parameters			
Chymotrypsin	Normal	Abnormal	Reference
Triglycerides	7	355	>9.0 IU/g
Muscle fibers	0	0	0 kgf
Vegetable fibers	4	4	0-4 kgf
Absorption Parameters			
Cholesterol	220	220	< 250 mg/dl
Carbohydrates	Neg	Neg	
Steatorrhy %	4.6	4.6	0-9 %
Inflammation and Immunology			
Fecal sIgA	38	38	40-204 mg/dl
Lactoferrin	Neg	Neg	
Intestinal Health Markers			
pH	6.7	6.7	6.0 - 7.0
Ocalt Blood	Neg	Neg	Negative
WBC's	None	None	None
RBC's	None	None	None - Rare

Comprehensive stool Analysis - 1

Bacteriology Culture:			
Beneficial flora	Imbalances	Dysbiotic flora	
Bifidobacter	0+		
E.coli	4+		
Lactobacillus	1+		
Enterohemorrhagic E. coli	Neg	Neg	
Campylobacter EIA	Neg	Neg	
Yeast Culture:			
Normal flora	Dysbiotic flora		
No yeast isolated			
Parasitology Evaluation:			
Sample 1	Sample 2		
Few Blastocystis hominis	Many Blastocystis hominis		
Few Yeast	Mod Yeast		
Giardia lamblia EIA	Neg	Neg	
Cryptosporidium EIA	Neg	Neg	

Comprehensive stool Analysis - 2

Prescriptive agents			
	Sensitive	Intermediate	Resistant
Fluconazole	S		
Itraconazole	S		
Nystatin			R
Ketoconazole	S		
Natural agents			
	Sensitive	Intermediate	Resistant
Barberry	S		
Caprylic acid	S		
Uva Ursi	S		
Goldenseal	S		
Tanacet	S		
Oregano	S		

Comprehensive stool Analysis - 3

- ## Consequences of yeast and bacteria overgrowth
- Impaired cognitive function
 - Carbohydrate intolerance
 - Abdominal distension
 - Intestinal permeability/food allergies
 - Hypoglycemic symptoms
 - Behavioral Abnormalities
 - Sleep Disturbances

- ## How to control yeast and bacteria overgrowth
- Probiotics (rotate good bacteria)
 - Control sugar/carbohydrate intake (Xylitol)
 - Nonprescription anti-fungals (grapefruit seed extract, goldenseal, olive leaf extract, caprylic acid/MCT oil, uva ursi)
 - Prescription anti-fungal (Nystatin, Diflucan, Sporanox, Amphotericin B, Nizoral, Lamisil, etc.)

- ## Side effects associated with yeast “die-off” reaction
- Lethargy (tiredness)
 - Fever
 - Increased stereotypical behavior
 - Increased hyperactivity
 - Nausea and vomiting
- Alka-Seltzer Gold and Activated Charcoal can neutralize some of the toxic acid produced*

- ## Positive Responses to Anti-Fungal Therapy
- Increased focus and concentration
 - Decreased hyperactivity
 - Better sleep patterns
 - Increased vocalization and speech
 - Increased socialization
 - Reduced aggressive behavior
 - Reduced self stimulatory behavior (STIMS)

Chelation/Detoxification

Daniel's Hair Metals Test

TOXIC ELEMENTS		RESULT	REFERENCE RANGE	PERCENTILE	
		ppb		68 th	95 th
Aluminum	19		< 1		
Antimony	0.13		< 0.044		
Arsenic	0.19		< 0.10		
Bismuth	< 0.011		< 0.10		
Boron	0.17		< 0.13		
Cadmium	0.13		< 0.13		
Copper	0.4		< 1		
Fluorine	0.13		< 0.14		
Lead	< 0.003		< 0.005		
Mercury	< 0.001		< 0.005		
Nickel	0.096		< 0.100		
Thallium	0.012		< 0.04		
Vanadium	0.12		< 0.14		
Zinc	0.43		< 0.2		
Iron	0.33		< 1		
Thiobarbituric	3.2		< 1		

ESSENTIAL AND OTHER ELEMENTS		RESULT	REFERENCE RANGE	PERCENTILE				
		ppb		25 th	50 th	75 th	94 th	97.5 th
Calcium	152		12-100					
Magnesium	34		12-40					
Selenium	205		12-40					
Zinc	66		12-40					
Copper	19		12-40					
Zinc	180		100-300					
Manganese	0.05		0.1-0.35					
Chromium	0.31		0.15-0.5					
Vanadium	0.073		0.05-0.2					
Aluminum	0.071		0.05-0.13					
Boron	0.4		0.1-0.6					
Thiobarbituric	2.8		1.00-2.0					
Thallium	0.074		0.007-0.021					
Thiobarbituric	2.8		1.00-2.0					
Cadmium	1.7		0.25-1.3					
Selenium	0.13		0.1-0.4					
Strontium	1000		4000-13000					
Boron	0.3		0.1-0.6					
Chromium	0.012		0.01-0.05					
Iron	15		0-19					
Thiobarbituric	0.042		0.016-0.118					
Cadmium	0.94		0.02-0.1					

Chelating Agents

DSMA – (meso-2,3-dimercaptosuccinic acid or Succimer), FDA approved for use in children with lead poisoning, extensive safety record, available without a prescription.

TD-DMPS – (2,3-dimercaptopropane-1-sulfanate). Previously given orally and by I.V. Transdermal form (DMPS – TD) now available.

EDTA – (calcium disodium) IV, oral, or suppository

***Anyone attempting chelation should only do so under the supervision of a knowledgeable medical professional

Chelating Daniel

- 25 Mg. DMSA, every 4 hours
- 3 days on, 11 days off
- Increase Antioxidants (Vitamins A, C, E)
- Supplement with extra Minerals/Zinc
- Milk Thistle for liver protection
- Drink lots of liquids
- Side effects – lethargy, cold symptoms
- Steady improvement seen after each cycle

Far Infrared Sauna Therapy (FIR)

- Sweating allows detox through the skin
- FIR allows sweating at low temperature
- Detoxifies heavy metals AND chemicals
- Reduces pain and inflammation
- Recommend **Sunlight Saunas**
 - Wider/more even distribution of FIR waves
 - No glues, plastics, hypo-allergenic wood
 - Portable sauna available (SOLO system)

Ionic Footbath

- Non invasive and easy detoxification method
- Sit for 20 minutes with feet in warm water
- Detoxifies metals and chemicals (i.e. aluminum, chlorine, copper, lead etc.)
- Water becomes very dirty – like sludge
- Bypasses the intestinal tract and liver
- Results seen with 5-10 treatments
- Treatments average \$30-\$40
- Unit cost averages \$3,000 (10% discount for autism)

How Daniel Improved

- Improved focus and concentration
- Needed less prompting at school
- Handwriting and creative writing improved
- Improvements in mental reasoning and overall cognition
- The last piece of the puzzle that helped my son no longer need an IEP.
- We give footbaths every other day

Applied Behavioral Analysis

- One-on-one setting
- Teach in small measurable steps with repetition
- Use of reinforcers
- Scientifically proven to be the most effective way to teach children with autism
- Not just for “low functioning” children
- Expensive but worth it.
- Early childhood “center based” classrooms not always adequate
- Helped teach Daniel abstract concepts
- Enabled him to catch up faster to his chronological age level
- Combined sensory, fine and gross motor, play therapy, and academic programs

Final Important Points

- Be a DETERMINED PARENT - persevere
- Don't be deterred by cost of treatments (cannot count on insurance)
- Continually research new treatments (conferences, books, internet list serves)
- Be your child's medical and educational advocate.
- Successes will vary – not all kids will recover but many will see significant improvement!
- The whole family can benefit but don't forget to take care of Mom too!

Alternative treatments that may be an important piece of the puzzle for your child

- Osteopathic manipulation/cranial sacral
- Energy healing modalities (NAET, BioSet)
- Homeopathic remedies
- Far infrared saunas (sunlight saunas)
- Ionic Footbaths
- Hyperbaric oxygen therapy (HBOT)

Seek referrals by other parents

Where we are today...(7 years)

- Mainstream 2nd Grade
- No longer requires IEP
- Plays appropriately with peers
- Responsive and engaged with environment
- Academically advanced
- Still struggle with yeast
- Normal expressive & receptive language
- Daniel's recovery is managed

Why there is reason hope... *Before*



18 months



2 years

After



Daniel and Dixie – 6 months into treatment

Outreach Clinic

*For Children with Autism, PDD, ADD/HD, and
Behavior Disorders*

Atlanta, Georgia

August 28, 2005

Simpsonwood Conference Center

Brooks Complex

4511 Jones Bridge Circle

Norcross, GA 30092

Spaces still available. See Christianne at registration table