Nourishing Hope for Autism

Get Started Now
Food and Nutrition Matter

Julie Matthews, CNC

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• PDF of today’s slides

• Julie’s Parent’s Guide  (5 published articles)
  1) Autism Diets Overview
  2) How and Why Diets Work
  3) Essentials of Implantation
  4) Addressing Food Sensitivities & Allergies
  5) Helping Picky Eaters

• GFCF Success Guide

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Autism and ADHD are **neurological** conditions – body chemistry influences brain chemistry.

Diet affects this chemistry (for healing or disease)
Body’s Effect on Brain
ADHD • Autism • Asthma • Allergies • Anxiety

**IMMUNE**
- Gut Inflammation
- Poor pathogen fighting
- Food sensitivities

**DIGESTION**
- Leaky gut
- Dysbiosis
- Less nutrient absorption

**DETOXIFICATION**
- Decreased detoxification
- Food additives

**NEUROLOGY**
- Brain Inflammation
- Opiates
- Microbial toxins
- Neurotransmitters
- Nutrient deficiencies

**Biochemistry**

- Metabolism:
  - THF
  - Recycling pathway
  - Folate acid cycle
  - Methionine
  - SAM: Universal Methyl donor
  - Methylation: Neurotransmitters, proteins, RNA, DNA, catecholamines, phosphatidylcholine, melatonin, myelin, creatine
  - Neurotransmitter function
  - Fatty acid metabolism
  - Allergic response
  - Myelination
  - Cell membrane and protein structure and function

- Transulfuration:
  - Cystathionine
  - Metabolism
  - Detox heavy metals
  - Protect brain from glutamate toxicity
  - Sulfate
  - Prevents scurvy
  - Sulfite
  - Transulfurization
  - Processing phenols

- Antioxidant production
- Detoxification

- Digestion
- Blood brain barrier
- Gut barrier
Effects of Faulty Biochemistry in Autism

Autism: Canaries in the Coal Mine

- Most sensitive children
- Telling us our world is too toxic and nutrient deficient
- Most other childhood disorders have similar underlying causes and contributing factors
  - Inflammation and immune dysfunction
  - Nutrient deficiencies
  - Poor digestion
  - Toxicity and impaired detoxification
- We can all learn a lot and apply these same principles for health and healing
As we improve the body and its systems, we help support health, learning and behavior.

**Importance of GI Health**

“All disease begins in the gut”

- Hippocrates, the father of modern medicine

Gut has constant contact with food

- **Immune:**
  - Physical barrier of defense against bacteria, viruses, etc.
  - Largest part of the immune system (70%) found in the gut

- **Neurotransmitters:**
  - The greatest amount (90%) of the “brain chemical” serotonin is found in the GI tract
  - Amino acids (absorbed from protein digestion) are precursors for neurotransmitters

- **Full body function:**
  - Vitamins/minerals absorbed in the gut are cofactors for enzyme reactions, metabolism, conversion of nutrients and fat
**Nutrition** is Essential for our **Brain, Body, and even our Genes**

Health is most affected by our **genetic expression**

- Good nutrition turns our genes towards health
- During pregnancy and throughout our lives
- Nutrient deficiencies turn our genes toward the direction of disease
- Toxins turn our genes toward the direction of disease
- DNA methylation for genetic expression: zinc, methionine, betaine, choline, folate, B12

SAD State

- Nearly 2/3 of children did not meet the RDA for vitamin E and zinc
- Half did not meet RDA for calcium
- 1/3 did not meet RDA for iron and B6
- Only 1% of children between 2 and 19 years of age met all the USDA Food Pyramid recommendations.
- Most pregnant women do not meet the RDA for iodine, calcium, magnesium, iron, zinc, vitamins A, B1, B2, B3, B6, B12, vitamin C, and folate from food sources.
Essential Nutrient Functions

- Zinc – cognitive and motor function, immune function, prenatal need high for organ systems
- Vitamin E – deficiency causes neurological symptoms, prenatal need for developing nervous system
- B6 - amino acid, glucose and lipid metabolism neurotransmitter synthesis
- Calcium – cellular and brain function
- Iron – deficiency can affect growth and may lead to learning and behavioral problems and anemia
- Iodine – deficiency associated with reduced intelligence and mental retardation
- Folate, B12, and B6 – essential for gene expression

On Average, Children Today Do Not Get Enough Nutrients

- To build neurotransmitters
- For adequate fuel for energy and motor function
- For strong immune function
- For genetic expression - toward health
- For proper cellular function and energy
- For brain function and highest cognitive potential
- For growth and repair, including the gut
- To mylenate their nerves
Diet and Nutrition are Essential

• Good health
• Growth and development
• Prevention of disease
• Healing

Healing Diets

Remove: Avoid offending foods and substances
  – Artificial additives
  – Gluten, casein, soy, corn, phenols, oxalates, starches

Replenish: Increase healthy foods
  – Whole and unprocessed foods *(sweet potatoes not potato chips)*
  – Organic and locally grown
  – Fermented foods: rich in probiotics
  – Grass-fed/pastured meat and eggs
  – Good fats
How Diet Can Help – Support Digestion & Biochemistry

• Leaky Gut and Gut Inflammation
  – Remove foods that inflame gut
  – Add foods that reduce inflammation and heal the gut
  – Add foods that supply beneficial bacteria

• Nutrient Deficiencies
  – Increase the quality of food and digestibility

• Yeast Overgrowth
  – Remove sugars
  – Reduce refined flour products and starches
  – Add probiotic-rich foods

• Toxicity and Poor Detoxification
  – Avoid food additives
  – Avoid toxins in food supply and meal preparation

• Faulty Methylation and Sulfation
  – Remove phenolic foods
  – Improve methylation and sulfation through supplementation

What Parents Report with Dietary Intervention

• Gastrointestinal problems relieved
• Diarrhea & constipation lessens
• Improved language skills and learning
• Greater focus and attention
• Reduced hyperactivity
• Eye contact
• More appropriate behavior
• Better sleeping
• Easier toilet training
• Skin rashes or eczema clear up

✓ General Health & Happiness Improved
# AVOID

## Top 7 Things to Get Out of the Diet

<table>
<thead>
<tr>
<th>Ingredients to Avoid</th>
<th>Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Food additives:</strong></td>
<td></td>
</tr>
<tr>
<td>Artificial colors/flavors and preservatives, Nitrite and sulfites</td>
<td>candy, cereal, “kids’ foods Bacon/lunch meat, dried fruit/wine</td>
</tr>
<tr>
<td>MSG (hydrolyzed protein, yeast extracts)</td>
<td>broth, bullion, soup, meat-flavored foods</td>
</tr>
<tr>
<td>Pesticides</td>
<td>non-organic produce and meat</td>
</tr>
<tr>
<td>Aspartame and other artificial sweeteners</td>
<td>Sodas, candy, and other foods</td>
</tr>
<tr>
<td>Trans fats</td>
<td>partially hydrogenated oil, commercial margarine, mayonnaise, peanut butter</td>
</tr>
<tr>
<td>(Added) Sugar</td>
<td>Sugary foods, high fructose corn syrup</td>
</tr>
<tr>
<td>Food allergens</td>
<td>Gluten, dairy, eggs</td>
</tr>
</tbody>
</table>

- Food additives can cause: Hyperactivity*, inattentiveness, aggression, irritability, headaches/pain, trigger asthma, can be addictive

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**Dirty Dozen**

1. Celery
2. Peaches
3. Strawberries
4. Apples
5. Blueberries
6. Nectarines
7. Bell Peppers
8. Spinach
9. Cherries
10. Kale/Collard Greens
11. Potatoes
12. Grapes (Imported)

* Environmental Working Group

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Sugar

- Feeds yeast
- Depresses the immune system
- Contributes to inflammation
- Refined sugar such as table sugar (white cane sugar) is devoid of nutrients/minerals that help process the sugar
- Natural, less-refined sugar (more minerals and less refinement): Raw honey, Maple syrup (grade B), sucanat, fruit, blackstrap molasses,
- 4-5 grams per serving (1 teaspoon “sugars”) = 2 oz fruit juice, 2 tsp dried fruit, 1 TBSP ketchup
Common Household Toxins

- AVOID chemicals in the food we eat, AND from our home and environment
- Room “freshener,” fragrance and perfume
- Flame retardant in car seats & clothing
- Fabric softener
- Chemical cleaners
- Sunscreens (nano and chemical)
- Toothpaste
- Flea treatments and ant sprays
- Food supply: Artificial additives, cookware and storage containers
Nutrient Deficiencies in Autism

- Magnesium, calcium, zinc, selenium, iron
- Vitamin B6, B12, folic acid, B1, B2, B3, biotin
- Vitamin D and A
- Vitamin C
- Omega 3 fatty acids
- Amino acids: glutathione, cysteine, l-carnitine, taurine, and glycine
Deficiency and Supplement Research on ADHD

- Magnesium and B6 deficiency and supplementation
- Omega 3/6 deficiency and supplementation
- Iron deficiency and supplementation
- Zinc deficiency and supplementation

Deficiencies stem from...

- Poor quality food consumption from the SAD diet
- Picky and restrictive eating
- Insufficient digestion or absorption (inborn or acquired)
- Ability for the cell to utilize nutrient
- Not converted to active form
- Improper enzymes or nutrients needed for biochemical pathways (methylation, transulfuration, and sulfation)
- Increased toxins and inflammation - use up needed nutrients
- Intestinal dysbiosis and lack of beneficial bacteria
- Medication induced nutrient depletion
Food vs. Supplements

• Food is the foundation for getting proper nutrition.
  – Food has phytonutrients, enzymes, probiotics and other compounds needed for good health

• However, for most children, additional supplementation may be required
  – A multivitamin/mineral formula helps ensure all children meet minimum requirements
  – Special diets may limit intake of certain nutrients (like calcium on a dairy-free diet), supplemental nutrients may be needed
  – For genetic/biochemical reasons, certain active forms or higher amounts may be necessary

First 9 Supplements to Consider

1. Digestive Enzymes
   – Houston Enzymes
2. Probiotics
3. Calcium (particularly important on a casein-free diet)
4. Magnesium
5. B6 - pyrodoxine or P5P
6. B12 - methylcobalamin
7. Folate - Folinic or 5-MTHF
8. Cod liver oil or fish oil
   – SPEAK by Speech Nutrients: See Morris study
9. Multivitamin/mineral formula
Holistic Nutrition Approach

STEP 4

#1 Cleaning up the Diet
#2 Cleaning up the Home
#3 Supplement Basics
#4 Diet Basics
#5 Beginning an ASD Diet
#6 Address Phytos

#7 Evolve diet: Nutrition Boosters
#8 Relining the ASD Diet
#9 Cleaning up the Gut
#10 Supplement Specifics
#11 Immune Support
#12 Detox

*From Nourishing Hope for Autism

The Nourishing Hope Food Pyramid

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Animal Protein

Protein (essential amino acids) building blocks for:
- Muscle and tissue growth and repair, neurotransmitters, immune responses, enzymes, detoxification
- Often need to focus on getting more in diet
- Some protein at each meal
- Bio individuality - amounts vary.
  - Some kids need more, some children cannot process protein well: High ammonia, low HCl, low zinc, B6, or iron
- Animal protein is easier to digest and has more concentrated amounts of protein for children in need of healing
Animal Protein

- Organ Meats
- Bone Broths
- Fish
- Red Meat
- Poultry
- Eggs
- Dairy (optional)

Vegetables
Vegetables

- Leafy green
- Red vegetables
- Orange/yellow vegetables
- Purple vegetables
- Green vegetable (green beans, celery, fennel)
- Cruciferous vegetables
- Sulfur-Rich/Immune Supportive
- Fermented vegetables
- Starchy tubers (optional)
- Some people avoid high salicylate and high oxalate vegetables

Leafy Greens

Sources

- Kale - Curly green kale, Red Russian kale, lacinato (dino) kale, black kale
- Collard greens
- Mustard greens
- Watercress
- Swiss chard
- Spinach
- Arugula
- Field greens
Leafy Greens

• The darker green the better
• Rich sources of: Calcium, folate, iron
• High oxalate sources that some people may avoid or limit: Swiss chard, spinach

Leafy Greens Cooking Ideas

• Add to smoothies
• Sauté with ghee and garlic
• Pan-fry with ground sausage
• Kale chips
• Add to soups and stews
• Sauté with other vegetables such as Brussels sprouts or broccoli

See *Cooking to Heal* for more vegetable and leafy green ideas
Fats / Oils

- Omega 3s, monounsaturated fat, and saturated fat
- Fat and saturated fat are essential for babies and brain development
- Breast milk is 53% fat & 25% saturated fat
- Hormone balance and mood
- Formation/fluidity of cell membrane
- Creating energy in cell and helps burns fat
- Omega 3s (very helpful with depression, hyperactivity, and inflammation)
- Animal fats are healthy and an important part of the diet

Get 40% (or more) of calories from fat
Fats / Oils

- Fish oil: Salmon, sardines, fish eggs/salmon roe, cod liver and fish oil supplements
- Plant oils: Olive oil, avocados, nuts/seeds
- Plant saturated fats: coconut oil, palm oil, macadamia nuts
- Animal fats: lard and bacon (pork), tallow (beef), chicken fat (Pastured sources)
- Dairy fat: casein-free ghee (Grass-fed sources)
- AVOID Vegetable oil: canola, safflower, corn, soy, and cottonseed oils

Study on Omega 3 and Vitamin E for Autism with Speech Delay

- Verbal apraxia
- Phenotype emerged - of male predominance, autism, sensory issues, low muscle tone, coordination difficulties, food allergy, and GI symptoms.
- In all, 181 families (97%) reported dramatic improvements in a number of areas including speech, imitation, coordination, eye contact, behavior, sensory issues, and development of pain sensation.
- Speak Supplement developed from study results

Saturated Fat

Vital Roles of Saturated Fat

- Brain — Saturated fats important brain development
- Bones – Saturated fats help body put calcium in bones
- Liver – Saturated fats protect the liver from poisons
- Lungs – Can’t function without saturated fats — protects against asthma
- Immune System – Enhanced by saturated fats—fights infection
- Essential Fatty Acids – Work with saturated fats

Coconut Oil

- Contains many antifungal and antiviral components
- Anti-inflammatory effects
- More easily digested and absorbed
- Used immediately to create energy
- Enhances absorption of minerals

Plant and animal saturated fat

<table>
<thead>
<tr>
<th>Plant</th>
<th>Animal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coconut</td>
<td>Meat/fat</td>
</tr>
<tr>
<td>Palm</td>
<td>Eggs</td>
</tr>
<tr>
<td>Macadamia</td>
<td>Butter</td>
</tr>
</tbody>
</table>
Animal Fat

• Contains:
  • Good fats:
    – Saturated fat
    – Monounsaturated fat
    – Essential fatty acids
  • Essential fat soluble vitamins: A, D, E, and K
    – Assimilation of minerals
    – Important for immune function
    – Antioxidant status or oxidative stress
    – Strong bones
  • Cholesterol

Uses of Cholesterol

• Brain development and function
• Aids digestion
• Builds strong bones and muscles
• Repairs damaged tissue
• Building block for hormones
• Regulates blood sugar
• Protects against infectious diseases
• Cholesterol is an activator for oxytocin receptors in the brain
The Foundations

Top Nutrition Boosters
4 Foundations from the Pyramid

- Grass-fed meat
- Broth and stock
- Fermentations
- Juicing
Grass-fed/Pastured Animal Protein

<table>
<thead>
<tr>
<th>Grass-fed/pastured</th>
<th>Conventional</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Rich in Vitamin A, D, and K and good fats</td>
<td></td>
</tr>
<tr>
<td>• Eggs from pastured hens higher omega 3 /DHA*</td>
<td></td>
</tr>
<tr>
<td>• Meat - Higher in CLA and tryptophan</td>
<td></td>
</tr>
<tr>
<td>• Cream/butter higher in vitamins A &amp; D</td>
<td></td>
</tr>
<tr>
<td>• Unhealthy animals-poor food</td>
<td></td>
</tr>
<tr>
<td>• Inflammatory grains-create inflammatory food</td>
<td></td>
</tr>
<tr>
<td>• Low Vitamins A&amp;D and others</td>
<td></td>
</tr>
<tr>
<td>• Higher in fats &amp; cholesterol-particularly bad fats</td>
<td></td>
</tr>
<tr>
<td>• Higher in arachidonic acid (inflammatory)</td>
<td></td>
</tr>
<tr>
<td>• Low in anti-inflammatory fats</td>
<td></td>
</tr>
</tbody>
</table>

--Organic is not necessarily grass-fed

Good sources near you–check out WestonAPrice.org chapter leaders


Eat Grass-Fed and Pastured Animal Foods

• Significantly higher levels of fat-soluble vitamins (Vitamins A, D, and K) that are essential for immune function, protein assimilation, and mineral absorption

• Contains important fatty acids for brain development and body/cellular functions
Vitamin A and D levels in Grass-Fed vs Conventional

- Eggs
  - 8x the vitamin D
  - 2x the vitamin A
- Butter
  - 3x the vitamin D
  - 10-13x the vitamin A
- Lard
  - 12x the vitamin D

*Tested by the Weston A Price Foundation

Broths

- Provides nutrients in easy to absorb form
- Bone Broths
- Rich in gelatin, amino acids, and minerals
- Vegetable Broths
- Adding vegetables to broths increases the vitamin and mineral content of the broth and adds flavor
Homemade Bone and Vegetable Broths

- Grass-fed/pastured chickens or beef bones
- Add 2 Tablespoons of vinegar - increases the calcium and magnesium
- Vegetables, seaweed, greens, nettles
- Nutrient dense, easy to assimilate nutrients
- Trace minerals, amino acids, calcium, magnesium, potassium, iron

Grandma knew best

Prepare soups, stews, casseroles with stock
Cook grains, soups, and/or pasta in broths - nutrients will absorb into food

Fermented Foods Rich in Probiotics

- Functions of good bacteria
  - Regulate peristalsis and bowel movements
  - Break down bacterial toxins
  - Make vitamins needed and utilize: B1, B2, B3, B5, B6, B12, A and K
  - Digest protein into amino acids (for use by the body)
  - Produce antibiotics and antifungals
  - Help breakdown sugars, lactose, and oxalates
  - Support immune system and increase number of immune cells
  - Balance intestinal pH
  - Protect against environmental toxins: mercury, pesticides, pollution

Raw fermented foods contain billions (even trillions) of bacteria/serving!
Fermented Foods
Rich in Probiotics

**Dairy-free:**
- Raw sauerkraut/Cultured vegetables
- Nut milk yogurt
- Beverages (contain yeast that kills candida):
  - Kombucha
  - Young coconut kefir
  - “Sodas” (hibiscus/rosehip tea with kefir starter)

**Dairy:** Milk-based yogurt/kefir

<table>
<thead>
<tr>
<th>Bacterial ferments (Lactobacillus)</th>
<th>Yeast and Bacteria ferments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cultured vegetables</td>
<td>Kefirs</td>
</tr>
<tr>
<td>Yogurts</td>
<td>Kombucha</td>
</tr>
</tbody>
</table>

Juicing

- Stored and pasteurized juices contain significantly less nutrients: zinc, iron, calcium, vitamins B1, B5, and B6
- Fresh and raw vegetable juice contain many times more vitamins & phytonutrients than bottled
- Higher concentration of nutrients
  - Chlorophyll and phytonutrients
- Get nutrients without needing to eat/chew vegetables
- Children that like liquids, juices and smoothies
Oxalates & Phytates Bind Minerals

- Avoid spinach
- Avoid large amounts of nuts and buckwheat
- Soak or ferment grains
- Soak beans
- Soak nuts and seeds

The Nourishing Hope Food Pyramid
Nourishing Practices

- Choose grass-fed animal protein and organic vegetables
- Include plenty of good fats
- Eat fermented foods
- Consume homemade broths
- Drink fresh pressed vegetable juices and eat some raw foods
- Drink pure water and use mineral-rich salt
- Soak and sprout grains, beans, and nuts

“Go to” TOP Nourishers

- Eggs/yolks (from pastured hens)
- Organ meats (liver and others)
- Full fat dairy & butter – or casein-free ghee
- Bone broth
- Fermented foods
- Vegetable juice or green smoothie
- Cod liver oil, oily fish, or fish eggs
### Top Diets

<table>
<thead>
<tr>
<th>Diet Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GFCF (Gluten-free and Casein-free)</strong></td>
<td>No gluten (wheat, rye, barley, spelt, kamut, and oats) or casein (dairy)</td>
</tr>
<tr>
<td><strong>Food Sensitivity Elimination/Rotation</strong></td>
<td>Eliminating all other food sensitivities: Soy, corn, eggs, citrus, peanuts, chocolate, cane sugar</td>
</tr>
<tr>
<td><strong>SCD (Specific Carbohydrate Diet)/GAPS</strong></td>
<td>Restricts carbohydrates to only fruits, non-starchy vegetables, and honey. No grains, starchy vegetables, or mucilaginous fiber</td>
</tr>
<tr>
<td><strong>Paleo/Primal Blueprint</strong></td>
<td>Meat, fruit, vegetables, fat and nuts. No grains or beans. Often removes potatoes and dairy too.</td>
</tr>
<tr>
<td><strong>Low Oxalate Diet</strong></td>
<td>Restricts high oxalate foods (nuts, beans, greens)</td>
</tr>
<tr>
<td><strong>Low FODMAPS Diet</strong></td>
<td>Low in fermentable, poorly absorbed carbs such as fructose, lactose and FOS.</td>
</tr>
<tr>
<td><strong>Body Ecology Diet &amp; other Yeast Diets</strong></td>
<td>Anti-yeast diet combining principles of anti-yeast diets including no sugar, acid/ alkaline, fermented foods</td>
</tr>
<tr>
<td><strong>Feingold/FAILSAFE Diets</strong></td>
<td>Restricts high phenolic foods, including all artificial ingredients and high salicylate fruits (and more)</td>
</tr>
<tr>
<td><strong>Weston A Price Dietary Principles</strong>:</td>
<td>Solid nutrition foundation for everyone</td>
</tr>
</tbody>
</table>
Gluten-Free/Casein-Free: (GFCF) & Other Food Sensitivities

Food Allergies & Sensitivities

- Food allergies (IgE): immediate/acute
  - Hives, anaphylactic shock
  - Peanuts, eggs*
- Food Sensitivities (IgG): delayed
  - Digestive disturbances, inflammation, pain, hyperactivity, anxiety
  - Gluten, casein, soy, corn*

*Any food can be an allergy or a sensitivity
Gluten and Casein

• Common IgG reactions in autism
• Possible opiate response
• Inflammatory response
• Autoimmune response
• Other possible reactions
• Trying the diet is the “gold standard” of how a child reacts to gluten and casein
  
  = Try the diet

Digestive Enzymes Break Proteins into Amino Acids

When someone is unable to break down gluten or casein proteins into individual amino acids, they remain as protein chains or opioids
Opioid Peptides can cause...

- Addiction (foods)
- High pain tolerance
- Inattention and spacey behavior
- Aggression (self and others)
- Stimming
- Mood changes
- Poor eye contact
- Anxiety, depression, and irritability

Opiates

Gluten, casein, soy + Insufficient DPPIV enzyme + Leaky gut = Opioid activity
Digestive Enzymes

- Often a good way to start preparing for the GFCF diet – begin enzymes 30 days before starting the diet
- Enzymes with DPP-IV help break down gluten, casein and soy to prevent opiate production, help digest food for better absorption of nutrients, and reduce food reactions
- Use with or without the GFCF diet
  - Can help as you’re getting ready to implement the GFCF diet
  - Can help break down other sources of opiates from cross-contamination and other foods

Opioid Peptides can cause...

- Addiction (foods)
- High pain tolerance
- Inattention and spacey behavior
- Aggression (self and others)
- Mood changes
- Anxiety
- Depression
- Irritability
Gluten/Casein Studies in Autism (Evidence Level: A)

- Research on gluten and casein and Opioids in AUTISM

Gluten/Casein Studies in Autism (Evidence Level: A)

- DIGESTIVE PROBLEMS WITH GLUTEN & CASEIN in Autism

- REDUCED AUTISTIC SYMPTOMS with GFCF diet
Gluten/Casein on Mood and Children’s Health

• Research on gluten and Depression
• Research on gluten and Anxiety
• Research on gluten and Schizophrenia

Gluten/Casein on Mood and Children’s Health

• Research on food sensitivities for ADHD
• Casein opiates and SIDS:
Gluten Grains & Ingredients to Avoid

<table>
<thead>
<tr>
<th>Grains</th>
<th>Hidden Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wheat</td>
<td>Hydrolyzed Vegetable Proteins</td>
</tr>
<tr>
<td>Rye</td>
<td>MSG</td>
</tr>
<tr>
<td>Barley</td>
<td>Dextrin</td>
</tr>
<tr>
<td>Spelt</td>
<td>Malt</td>
</tr>
<tr>
<td>Kamut</td>
<td>Citric acid</td>
</tr>
<tr>
<td>Triticale</td>
<td>Artificial flavors &amp; coloring</td>
</tr>
<tr>
<td>Oats (commercial)</td>
<td>“Spices”</td>
</tr>
<tr>
<td>Semolina</td>
<td>Soy sauce (unless wheat-free)</td>
</tr>
<tr>
<td></td>
<td>Potato chips/fries</td>
</tr>
</tbody>
</table>

Casein–Containing Foods to Avoid

- Milk
- Cheese (all)
- Yogurt
- Butter
- Buttermilk
- Ice cream
- Kefir
- Cream
- Sour cream

- Whey
- Galactose
- Casein, Caseinate
- Lactose, Lactalbumin
- Lactic acid
- Sherbet
- Canned tuna
- Cool whip
- Artificial butter flavor
Other Food Sensitivities

• Soy
• Corn
• Eggs

• Citrus
• Peanuts
• Nuts

Avoid Soy

• Not good substitute for dairy or protein
• Very difficult to digest
• Irritate the gastrointestinal tract
• Blocks absorption - calcium, magnesium, iron, copper and especially zinc - due to phytic acid and oxalates
• Soy compounds block thyroid function
• Endocrine disruption in the reproductive hormones of both males and females
• Form opioids

Soy sources: tofu, soy protein, miso, tempeh, soy milk, soy cheese or ice cream, soy sauce, tamari, soy oil

Hidden soy: lecithin, vitamin E

Reduce/Avoid Corn

• Top 5 allergen
• Contains high level of fungus
• Herbicide Atrazine delays puberty in boys, affect endocrine function, fertility and thyroid
• GM corn: environmental experiment, RoundUp Ready. Genes from bacteria toxin added - BT toxin
• Eat ONLY organic, if at all

Beyond GFCF

• Soy-free
• Corn-free
• Specific Carbohydrate Diet
• Food additives
• Feingold Diet
• Dysbiosis - Adding probiotic/fermented foods, Body Ecology Diet
• Low Oxalate Diet
Specific Carbohydrate Diet (SCD) & GAPS Diet

SCD Studies
Helpful with Digestive Conditions

Lack of Carbohydrate Enzymes

SCD Studies on Celiac and IBD
Specific Carbohydrate Diet™

• Removes disaccharides and polysaccharides
  – (most sugars & starches)

• Allows only monosaccharides
  – (honey, fruit, non-starchy vegetables)

From: Breaking the Vicious Cycle

SCD/GAPS Specifics

• Begin as casein-free
• Consider the Intro diets

<table>
<thead>
<tr>
<th>Foods to avoid</th>
<th>Foods to eat</th>
</tr>
</thead>
<tbody>
<tr>
<td>▪ No grains or corn</td>
<td>✓ Vegetables (non-starchy)</td>
</tr>
<tr>
<td>▪ No potatoes (white or sweet)</td>
<td>✓ Fruit</td>
</tr>
<tr>
<td>▪ No soy products</td>
<td>✓ Fruit juice not from concentrate</td>
</tr>
<tr>
<td>▪ No sugars except honey</td>
<td>✓ Honey</td>
</tr>
<tr>
<td>▪ No cornstarch, arrowroot powder, tapioca, agar-agar or carrageenan</td>
<td>✓ Meat</td>
</tr>
<tr>
<td>▪ No pectin in jams</td>
<td>✓ Eggs (if tolerated)</td>
</tr>
<tr>
<td>▪ No chocolate or carob</td>
<td>✓ Nuts/seeds and nut milks (if tolerated)</td>
</tr>
<tr>
<td>▪ No baking powder (baking soda OK on SCD)</td>
<td>✓ Certain beans</td>
</tr>
<tr>
<td></td>
<td>✓ Ghee</td>
</tr>
</tbody>
</table>
GAPS Diet Differences

- GAPS is a whole program not just a diet: diet, supplementation, and detoxification.
- Same food list as SCD (for the most part)
  - Some minor differences: baking soda, cocoa
- Supplement differences: more supplements allowed on GAPS than SCD such as higher strength probiotics, CLO
- Also has Intro diet – but different foods
- Healthy food staples: bone broths, fermented foods

Phenols & Salicylates
Feingold Diet & Failsafe Diet
Effects of Faulty Biochemistry in Autism

Phenols, Salicylates, and Amines

Can cause:
- Hyperactivity
- Red cheeks/ears
- Itchy skin
- Upset stomach
- Asthma
- Headaches
- Bedwetting
- Fatigue
- Diarrhea
- Depression
- Irritability
- Aggression
- Defiant behavior
- Sleep issues
- Cravings for (and diets high in) salicylates, amines, and/or glutamates.
Phenols/Salicylates on Feingold

- Almonds
- Apples
- Apricots
- Berries, raspberries, cherries
- Chili powder
- Cider and cider vinegar
- Cloves
- Coffee
- Cola drinks
- Cucumbers and pickles
- Curry powder
- Endive
- Grapes, raisins, currants
- Honey
- Nectarines and peaches
- Oranges and oranges
- Paprika
- Peppers (bell and chili)
- Pineapple
- Plums and prunes
- Radishes
- Tea
- Tomatoes
- Wine and wine vinegar
- Oil of wintergreen

Failsafe is based on RPAH Elimination Diet and Anne Swain
Royal Prince Alfred Hospital in Australia

Failsafe/RPAH Elimination Diet
Low Salicylate, Amine, and Glutamate

**Salicylates**
- Avocado
- Broccoli
- Spinach
- Cantaloupe
- Watermelon
- Dates
- Watercress
- Artichoke
- Herbs and spices
- Berries

**Amines**
- Banana
- Cheese, yellow
- Aged or blue cheese
- Chocolate/cocoa
- Wine/beer
- Fermented foods: sauerkraut, yogurt, tempeh
- Soy sauce
- Bone broths
- Meat and aged meat

**Glutamates**
- MSG
- Autolyzed yeast
- Soy sauce
- Parmesan cheese
- Vegemite/Marmite
- Sauerkraut
- Bone broths
- Gelatin
- Peas
- Corn
- Tomatoes

Failsafe is based on RPAH Elimination Diet and Anne Swain
Royal Prince Alfred Hospital in Australia
Failsafe founder Sue Dengate: fedup.com.au
Yeast Diets

Intestinal Flora for Health

• Good bacteria helps digest food, creates vitamins, breaks down used hormones and environmental toxins
• Yeast/pathogens can cause
  – Physical problems: inflammation/leaky gut, negatively affect digestion, reduce good bacteria balance.
  – Mental health: anxiety, depression, OCD, and foggy thinking.
  – Special diets, probiotics and biocidal complexes (such as Biocidin) help address pathogens
Focus on a Caveman Diet for Yeast Overgrowth

• Focus on diet consisting of mainly meat, eggs, fish, fats, vegetables, fruit, nuts
• Reduce or avoid starches and grains and added sugar
• Add fermented foods
• Paleo, Primal, SCD/GAPS

Candida Diet – Avoid

• Avoid:
  – All sugars: maple syrup, honey, cane sugar, etc.
  – Foods high in mold, or fungus:
    • Cheeses, dried fruits, melons, peanuts, mushrooms, corn and rye
  – Bakers yeast including bread and other products such as pretzels
  – Vinegar-ferments:
    • Vinegar, ketchup, mustard, Worcestershire sauce, pickles
  – Fruit:
    • Avoid bottled fruit juice and dried fruit
    • Best to eliminate all fruit for the first 3-4 weeks. Fresh fruits in moderation and ideally sour is OK. Eliminate grapes and plums.
  – Hot dogs, salami, processed lunch meats
Candida Diet – Add

• Add
  – Lacto-fermented foods:
    • Yogurt, kefir, kombucha, raw cultured vegetables, apple cider vinegar
  – Alkalizing vegetables
  – Coconut oil
  – Antifungal spices

Low sugar diet
Fermented foods

Body Ecology Diet

• Low sugar: Avoids all sugars including fruit. Only sour fruit allowed at the beginning: Lemons, limes, black currants, cranberries. Future: Grapefruit, kiwi, and green apples.
• Addition of fermented foods: Young coconut kefir, raw sauerkraut/cultured vegetables
• Acid/Alkaline- The intention is to keep the blood slightly alkaline. This is thought to discourage the growth of systemic candida.
  – 20% acid-forming foods: meat, grains, eggs, and 80% alkaline-forming foods: vegetables, raw apple cider vinegar.
  – Grains: quinoa, amaranth, millet, buckwheat. No rice or other grains.
• Food Combining- Macronutrients need different conditions in the stomach, especially for weak digestion. Doesn’t combine protein and starch at a meal
Low FODMAPS Diet

- Low FODMAPS eliminates the following during the elimination phase:
  - High fructose, fructan, polyol-rich fruits and vegetables
    - Apple, pear, mango, fig, tomato paste, apricots, plums, artichokes, asparagus, onions and garlic
  - Lactose and Gluten
  - Polyols
    - Sorbitol, mannitol, xylitol, and maltitol
  - Galactans
    - Legumes, peas, beans
- Low FODMAPS is an elimination/provocation diet – introductory restrictions meant to be tested back
Low FODMAPS
Scientific Rationale

• Studies have shown it to be helpful with Crohn’s & Colitis \(^1,^2\)

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Low Oxalate Diet
Low Oxalate Reported Improvements:

- Energy
- Sleep
- Skin
- Motor skills
- Mood
- Growth
- Chronic pain and inflammation
- Gut and yeast issues

Thanks to the Autism Oxalate Project for gathering this information

Oxalate is an Anti-Nutrient Inhibits Mineral Absorption

- Availability of calcium in spinach is very poor
- Spinach – oxalate levels are so high they bind the existing calcium in the food making it unavailable, AND bind to the calcium (and other minerals) from the other sources in the diet – rendering them unusable as well.
- Oxalate Level in Spinach - 100 grams/3 oz equals 1,000 mg oxalate from raw spinach
- Oxalate reduces the quantity and quality of bone formation/density.

Prudent to avoid or limit significantly extremely high oxalate foods

- Included in the Nourishing Hope Food Pyramid, as good advice for all.

These contain 200-700 mg/serving
- Spinach
- Swiss Chard
- Peanut and cashews
- Almonds and Almond flour
- Chia seeds
- Sesame seeds and tahini
- Buckwheat
- Rhubarb
- Plantain
- Soy

Oxalate Study

“A Potential Pathogenic Role of Oxalate in Autism”
European Journal of Paediatric Neurology, September 2012

3-fold greater plasma oxalate (2.5 fold in urine) in children with autism
Yeast and Oxalate

• Contrary to rumor, yeast/candida does not appear to make oxalate
• However, oxalate can cause yeast problems
  – Oxalate impairs the function of biotin dependent enzymes, and person is more susceptible to candida overgrowth.
  – Parents report yeast flare ups when their child is having an oxalate dump
• For people with oxalate problems, the low oxalate diet is a great diet to use to address yeast

Gut Issues and Oxalate

• Leaky gut and low beneficial bacteria (common in autism) may add to problems.
• While sometimes necessary, antibiotics kill bacteria in our gut that degrades oxalate
• Without certain probiotics to break oxalate down, not enough minerals to bind the oxalate, and a leaky gut allowing it to absorb – problems with oxalate are more likely
• Fat malabsorption problem- the extra fat binds to calcium (normally binding to oxalate) – allowing the oxalate free to get into the blood/cell.
Exogenous or Endogenous

• Oxalates may come from food or generated by the body.
• Exogenous: Certain diets can be very high in oxalate: SCD/GAPS (nut flours) and Body Ecology (buckwheat, quinoa, amaranth)
  – Changing diet or modifying it for oxalate is important for people with oxalate issues
• Endogenous: Some people create oxalate internally.
  – This is even more problematic because it is made inside the cell and can directly cause havoc.
  – Supplementation can be helpful with these unique biochemical needs
  – See: http://lowoxalate.info/supplements/supplements_pos.html

Oxalates in Food

High oxalates (50-300 mg)
• Nuts, especially almonds & peanut
• Beans, most
• Beets
• Figs
• Rhubarb & Swiss chard
• Field greens and spinach
• Amaranth, buckwheat, and quinoa
• Soy
• Sweet potatoes
• Some berries - Goose berries, raspberries and blackberries
• Chocolate
• Citrus peel
• Kiwi and starfruit
• Tea

Lower oxalate Choices
• Avocado
• Animal foods except organ meats
• White (preferred)/brown rice
• Wild rice
• Corn - on cob or 1 cup popcorn
• Collard greens, kale, mustard greens
• Bok choy & cabbage
• Broccoli and other cruciferous
• Pear, apple, mango, papaya, melons
• Black eyed peas, garbanzo, lima, and mung beans
• Lentils
• Pumpkin seeds & sunflower seeds
When oxalates are an issue

• Lower oxalates in the diet (low oxalate diet)
• Add supplements to bind oxalates (calcium citrate, etc.), support biochemistry, and help manage “dumping” symptoms
• Addressing oxalate involved more than just “diet”
• The Autism Oxalate Project led by Susan Owens: lowoxalate.info and their Yahoo group

Oxalates are Important in Autism

• Oxalates can cause:
  – Oxidative stress
  – Inflammation
  – Mitochondrial damage
  – Seizures
  – Faulty sulfation

As a community, we need to look into the role of oxalates in autism!
Possible Causes Picky Eating

- Addictions to opiates (gluten/casein) cause consumption of primarily wheat and dairy containing foods
- Addictions to chemicals (MSG, artificial additives) cause restriction to one brand or large preference for processed foods
- Nutrient deficiencies (zinc) makes everything taste bad or bland.
- Yeast, viral, and microbial overgrowth may cause focus on eating mainly high carb and sugar foods
- Sensory sensitivities can restrict the consumption of certain textures - Seek a feeding therapist when needed
Ideas for Picky Eating

• Remove addictive foods
• Improve nutrient status with supplementation
• Get creative with TEXTURE
  – Chicken pancakes and meatballs for protein
  – Vegetable Laktes and Carrot/Kale Chips for vegetables
• Incorporate (“hide”) pureed vegetables in muffins, pancakes, meatballs, pasta sauce
• Visual Presentation

Words of Encouragement

• Though not always easy at first, the improvements make it all worthwhile
• You WILL get the hang of it - not hard to do
• Children improve physically and their autism/ADHD symptoms decrease or even go away
• As symptoms decrease, parents have more free time to do fun things with their child and the gains your child can make are priceless
• There is no downside to improving diet
Healthy GFCF

<table>
<thead>
<tr>
<th>Eat</th>
<th>Avoid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Protein at breakfast and throughout day</td>
<td>Sugar cereals</td>
</tr>
<tr>
<td>Fresh fruit</td>
<td>Loads of GFCF cookies and high sugar foods</td>
</tr>
<tr>
<td>Get creative with adding vegetables</td>
<td>Just “kids foods” without many nutrients - hotdogs, fries, pizza</td>
</tr>
<tr>
<td>Healthy snacks with protein and/or</td>
<td>Processed snacks/reinforcers - chips, pretzels, gummy bears</td>
</tr>
<tr>
<td>vegetables - chicken pancakes, carrot chips</td>
<td></td>
</tr>
<tr>
<td>Fresh made vegetable juice</td>
<td>Fruit juice</td>
</tr>
<tr>
<td>Fermented foods</td>
<td>Food ruts and jags (add new health foods)</td>
</tr>
</tbody>
</table>

Step-by-Step Guide to GFCF Success

Visit the NourishingHope BOOTH to sign up...
Step-by-Step Guide to GFCF Success

1. Get educated on the Gluten-Free and Casein-Free Diet (GFCF), as well as Soy-Free (SF)
2. Experiment. Discover choices your child likes. Before removing any foods from the diet, identify new GFCF alternatives.
3. Create a meal plan. Develop a list of diet compliant meals and snacks your child will eat or ideas that you would like to try.
4. Shop
5. Begin the GFCF diet!

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Meal Plan

<table>
<thead>
<tr>
<th>Breakfast</th>
<th>Lunch/Dinner</th>
<th>Snacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bacon</td>
<td>Meat patties with liver</td>
<td>Apple or pear with nut butter</td>
</tr>
<tr>
<td>Eggs</td>
<td>Butternut squash fries</td>
<td></td>
</tr>
<tr>
<td>Pancakes with pureed vegetables</td>
<td>GF pasta and meatballs</td>
<td>Chicken pancakes</td>
</tr>
<tr>
<td>and/or added protein</td>
<td>Pureed veggie in sauce</td>
<td></td>
</tr>
<tr>
<td>Sausage patty</td>
<td>Peas</td>
<td></td>
</tr>
<tr>
<td>French toast or GF toast with</td>
<td>Chicken nuggets</td>
<td>Smoothie or fresh vegetable juice</td>
</tr>
<tr>
<td>nut butter</td>
<td>Dipping sauce</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Steamed vegetables</td>
<td></td>
</tr>
<tr>
<td>Gluten-free porridge</td>
<td>Nut-free PB&amp;J - Sunflower butter</td>
<td>Hummus and raw vegetables or</td>
</tr>
<tr>
<td>Chicken or turkey sausage</td>
<td>and jam sandwich</td>
<td>gluten-free bread/crackers</td>
</tr>
<tr>
<td>Smoothie</td>
<td>Bean burgers or Indian lentil</td>
<td></td>
</tr>
<tr>
<td>Meat/sausage patty</td>
<td>pancakes with cooked or shredded</td>
<td>Veggie latkes</td>
</tr>
<tr>
<td></td>
<td>vegetables</td>
<td></td>
</tr>
<tr>
<td>Chicken pancakes and fruit</td>
<td>Roasted meat</td>
<td>Applesauce</td>
</tr>
<tr>
<td>(Add fruit to any breakfast)</td>
<td>Potatoes or Cauliflower mashed</td>
<td>Carrot chips</td>
</tr>
<tr>
<td></td>
<td>“potatoes”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Veggie latkes</td>
<td></td>
</tr>
</tbody>
</table>

Meals: Add fruit, starches, and more vegetables as tolerated.
Diet & Nutrition Learning Tools
Autism • ADHD • Learning and Development Delays

Nourishing Hope for Autism
Autism Diet & Nutrition Guide
Independent Publisher Book Awards
Most Progressive Health Book

Nourishing Hope for Autism
Cooking to Heal
Online Nutrition & Cooking Class

Cookbook & VIDEO

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