Special Diets and Autistic Spectrum Disorders

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Why Change Diet?

- Improve gut function
  - Leaky Gut
  - Malabsorption
  - Maldigestion
- Reduce inflammation
  - Allergy/Sensitivity
- Increase Intake/Absorption of Needed Nutrients
- Improve Detoxification

Why Change Diet?

- Remove offending Foods
  - Opioids-gluten, casein
  - Yeast
  - Oxalates
  - Salicylates/Phenols
  - Fructose
  - Other- lectins, amines, glutamate, fructose

What Constitutes An Optimal Diet?

- Individualized to:
  - Optimize nutrient density
  - Utilize therapeutic foods rich in probiotics, omega 3s etc
  - Provide adequate fiber to support bowel function
  - Avoid any trigger foods which cause physiologic, cognitive or behavioral reactions

Phase One

- Include Nutrient dense foods
  - Vegetables
  - Fruits
  - Legumes
  - Nuts, seeds
  - Pasture fed animal protein
  - Healthy fats
  - Probiotic rich foods

Phase One

- Remove Toxins
  - Excess sugar
  - Synthetic Additives
    - Colorings
    - Preservatives
    - Sweeteners
    - Hormones
    - Antibiotics
    - Pesticides

Phase Two

- Select Appropriate Special Diet
  - Understand Rationale for diet
  - Identify indicators for each diet
  - Understand benefits and challenges
  - Provide resources for successful implementation

Types of Diets

- Food Removal
  - Gluten/Casein Free
  - Allergen free (soy, egg, peanut, corn etc)
- Yeast Reduction
  - Specific Carbohydrate Diet (SCD)
  - Gut and Psychology (GAPS)
  - Body Ecology

Types of Diets

- Compound Specific
  - Low Oxalate Diet (LOD)
  - Low Phenol/Salicylate (Feingold/Failsafe)
  - Other
    - Lectins
    - Amines
    - Glutamates
    - Fructose

Gluten and Casein Free-Rationale

- Increased IgG antibodies to gluten/casein-allergies impair cognition, focus, relatedness
- Increase inflammation
- Opioid activity-peptides mimic morphine and cross blood-brain barrier-act as an opiate
- Gluten foods high in oxalates and lectins

GFCF-Who is a candidate?

- Craves gluten and casein
  - Pizza, mac and cheese, milk, yogurt, goldfish crackers, etc
  - Especially at the expense of other foods
- Poor tolerance to milk based formula
- Colicky infant and /or h/o ear infections
- Allergies to milk and/or wheat,
- Family h/o celiac or other gluten related disorder
- Abnormal bowel function
- Poor growth

GF/CF-Gluten

- Gluten found in wheat, barley, rye
- As additive in most processed food as thickener, emulsifier etc. (modified food starch)
- Substitute amaranth, quinoa, millet, buckwheat, sorghum, bean flour, rice, potato, tapioca
- Reduce total grain intake in diet-do not just replace gluten with the same amount of alternate grains
- Peptidase enzymes are not a substitute
- 1 in 133 people are sensitive to gluten

GF/CF-Casein

- Casein-Any milk based product including milk, cheese, yogurt, butter etc
- Substitute potato, coconut, hemp, almond or rice milk (watch high sugar)
- Can make nut yogurts, coconut "cheese"
- Avoid soy-cross reactivity

Gluten- and Casein-Free: How?

- Remove ALL gluten and casein
- Monitor cross contamination (toasters, knives, crumbs, etc)
- Watch for medication, supplements, even gum that may contain!
- All rice used as replacement should be ORGANIC

GFCF-Sample Day

- B: GFCF pancake, turkey bacon, orange, potato milk
- L: Corn tortilla, taco meat, lettuce, tomatoes, guacamole, pear, almond milk
- Snack: gfcf pretzels or Sensible Foods dried snack
- D: Meatballs, gfcf pasta, broccoli, water

GFCF-Cautions

- Avoid replacing regular "junk" food with GFCF "junk" food
- Allow ample time for trial
- Monitor B vitamins, Calcium, A and D
- Watch for hidden sources

Allergy/Sensitivity Free-Rationale

Remove causes of

- Increased cytokine production resulting in neurologic response
- Intestinal inflammation resulting in malabsorption

Allergen free-Who is a candidate?

- Known IgE, IgG or cell mediated response
- Allergic shiners, Denny's Lines
- Immune dysfunction
- Parent report of reactions to foods
  - Physical (rash, diarrhea etc)
  - Behavioral (hyperactivity, aggression etc)
- Evidence of chronic gut inflammation/ bowel abnormalities
- Frequent ingestion of specific foods

Allergies/Sensitivities

- Most common food allergies/sensitivities
  - Wheat
  - Milk
  - Soy
  - Egg
  - Peanut
  - Tree Nut
  - Seafood
- Others to consider- citrus, corn, chocolate, banana, etc

Allergen Free-How?

- Remove Offending Food
- Substitute
- If no substitute, develop alternate
  - EX: replace peanut with almond (butter), cashew (butter), macadamia (butter)
  - EX: replace egg with flax seed/water, ripe banana, water/baking soda/oil/vinegar
  - EX: replace corn with beans, brown rice, sweet potato

Allergies/Sensitivities

- Consider rotation diet- eat food only every 3-4 days
- Attempt reintroduction after adequate time has passed

Allergies/Sensitivities-Cautions

- Insure replacement of nutrients in allergic food
- Monitor for onset or unmasking of additional reactants

Specific Carbohydrate Diet-Rationale

- Intractable yeast-not resolved with low yeast diet or continued antifungal therapy
- Removal of all grains and complex sugars that can ferment in the gut and feed yeast will cause the yeast to die off
- Focus is on protein, veggies, fruits and healthy fats with controlled amount of nuts, nut flours
- If gut is healed from within, new foods can be introduced later
- Elaine Gottschall ***Breaking the Vicious Cycle***

SCD-who is a candidate

- Chronic, intractable yeast
- History of antibiotic use
- Eczema, cradle cap
- Ridging on nails
- Craves carbs, sweets, sugar
- "Cherub" face
- Poor Stools
- Antifungal therapy does not maintain gut
- Yeast recurs
- All ASD kids can benefit

SCD-HOW?

- Remove all grains and starchy vegetables (di- and polysaccharides)
- Only sugars are monosaccharides
- Push protein, veggies, fruit
- Honey allowed as sweetener
- Fruits not limited
- Push nutrient rich broth
- Substitute nut flour in pancakes, muffins, quickbreads, etc
- **Milk technically allowed but not recommended for autistic kids

SCD Sample Diet

- B: chicken pancakes with spinach, blueberries, juice
- L: hamburger, carrots, zucchini pancakes, coconut milk, broth
- Snack: fruit, peanut butter brownie
- D: Pork chops, butternut squash, broccoli, juice

SCD Cautions

- Monitor for weight loss, nutrient deficiencies
- Avoid a low carbohydrate diet
- May see voracious appetite increase
- Most meds and supplements contain "illegals," including probiotics
- Ideal implementation starts with med/ supplement break

Gut and Psychology Syndrome (GAPS)-Rationale

- Based on SCD principles but:
- Essential components include bone broth, fermented veggies for gut healing
- Allows multistrain probiotic, EFA and MVI
- Detox is a component of protocol
- Natasha Campbell-McBride ***Gut and Psychology Syndrome***

GAPS- who is a candidate?

- Similar to SCD
  - Intractable yeast
  - Unresponsive to GFCF
  - Gut inflammation
  - Need for detox

GAPS Sample Diet

- B: eggs, sausage, veggies, fresh pressed fruit/veg juice
- L: Beef stew made with stock, vegetables, avocado,
- Snack: fruit, juice
- D: Pork chops, broccoli, broth, nut muffin

Body Ecology-Rationale

- Similar to SCD and GAPS
- Reduces high sugar and carbohydrate foods which feeds yeast
- Utilizes food combining principles to enhance digestion
- Fermented foods are essential component
- Acid/Alkaline balance to discourage candida
- Allows some grains-quinoa, millet etc

Body Ecology-Who is a candidate

- Similar to SCD/GAPS
- Intractable yeast
- Need gut healing
- Prefer to incorporate some grains in diet

Body Ecology-How?

- Vegetables allowed with all meals
- Meats and starches not eaten together
- Fruits in between meals
- Add fermented food daily
- Majority of diet is vegetables

Body Ecology Sample Day

- B: Lemon water and green probiotic drink, Eggs with cooked or raw veggies or soup
- L: Animal protein, fermented and raw veggies
- Snack: Fruit or Soaked almonds or blue corn chips and veggies
- Quinoa salad and veggies

Low Oxalate Diet-Rationale

- Oxalates-molecules that link with minerals (calcium) and crystallize
- Can increase or exacerbate inflammation, often seen with inflammatory bowel conditions
- Increased oxalate absorption with leaky gut
- Low lactobacillus reduces oxalate degradation
- Low B6/sulfur results in excess oxalates
- **health.groups.yahoo.com/group/Trying_Low_Oxalates/**

LOD-who is a candidate?

- Genital pain or rubbing
- Frequent urination
- Family history of kidney stones
- Craving high oxalate foods
- Poor tolerance to sulfur supplements
- Bouts of pain after a meal
- Eye poking
- Yeast

Low Oxalate Diet-How

- Remove oxalates
  - Nuts
  - Seeds
  - Beans
  - Soy
  - Specific vegetables and fruits
    - Spinach
    - Beets
    - Sweet potato
    - Figs

Low Oxalate Diet-How

- Allowed foods (in general)
  - Animal protein-not organ meat
  - Dairy
  - Fats
  - Some fruit
  - Some vegetables
  - Coconut, lentil, water chestnut
  - Honey, fruit preserves

Low Oxalate Diet-Sample Diet

- B: Omelet with shredded zucchini, golden delicious apple, bacon
- L: Hamburger with steamed or sautéed peas, mashed cauliflower, grape juice jello
- Snack: pumpkin-seed butter with 1/2 banana.
- D: Chicken, rice and fruit muffin, coconut bread, sautéed cabbage
- Snack: watermelon

LOD Cautions

- Meds/Supplements to avoid/reduce
  - Vitamin C
  - Vitamin D
  - Nystatin
  - Fish oil
  - PEG compounds
- Calcium or Mg citrate important with meals to bind oxalate
- Consider Acid/Alkaline principles

Phenols/Salicylates-Rationale

- Phenol sulfur transferase inadequacy impairs ability to process phenols
- Likely due to sulfur processing defect, low sulfate
- Cumulative effect of increased phenols causes symptoms

Phenols/Salicylates-who is a candidate?

- Red cheeks
- Inappropriate laughter
- Self stims
- Night waking
- Hyperactivity
- Headaches
- Mood swings
- Phenol cravings

Phenols/Salicylates-How?

- Remove phenolic foods
  - Artificial colors, flavors, preservatives etc
- Salicylates
  - Apples, red grapes, berries, almonds, honey, tomato, many others
  - Aspirin

Other Compounds

- Fructose
- Lectins
- Amines
- Glutamates

Customizing the Diet

- Start with the most appropriate based on signs and symptoms
- Assess response
- Modify
  - Add foods-healing foods, child's preferred etc
  - Remove foods-sensitivities, textural issues etc
  - Switch diet
  - Layer one diet upon another
- Repeat

Cautions

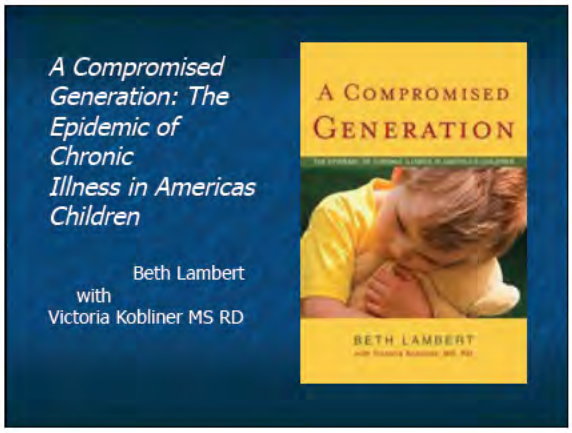
- As with meds and supplements- ONE change at a time
- Do not eliminate multiple foods without insuring the child has enough choices left!
- Avoid overwhelming parents with complex diets without support
- SIMPLE DIET HANDOUTS ARE NOT ENOUGH!

Individualizing Special Diets

- Time
  - Plan individualized meal plan
  - Assess nutrient adequacy
  - Follow up frequently
  - Trouble shoot problems
- Knowledge
  - Recipes
  - Cooking techniques
  - Allowed and avoided foods

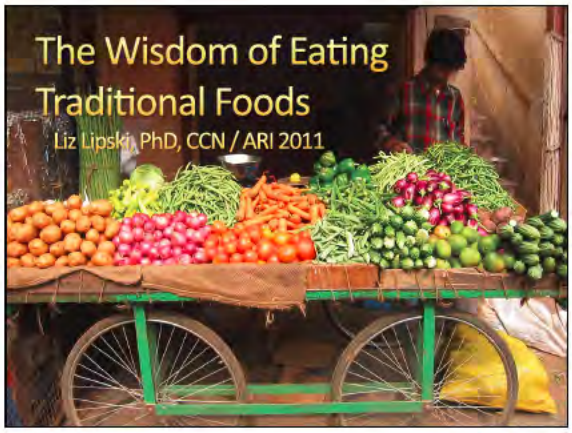
Making It Work

A Dietitian/Nutritionist should be an integral part of any ASD team


A Compromised Generation: The Epidemic of Chronic Illness in Americas Children
Beth Lambert
with
Victoria Kobliner MS RD
A COMPROMISED GENERATION
BETH LAMBERT

DEMO CLINIC
Friday
10:00 - 10:30
12:30 - 2:00
4:00 - 4:30
Saturday
10:00 - 11:15
12:00 - 1:00
2:30 - 3:00
Sunday
10:30 - 11:00

AUTISM360™ LETTING THE DATA TALK
www.Autism360.org
Autism 360 is a site that …
Allows you to have a password-protected record
Provides the ability to track symptoms & progress
Manages complex data on ASD patients
Can be used to compare with others (anonymously)
Gives the option to share data with your providers
And….the service is free!
Moody's in the community
The Moody's Foundation



http://naturevsnurtureinchildren.files.wordpress.com/2011/07/nature_vs_nurture.jpg

Diet Changes

- Modern Agriculture
- Food Industry
- Average Diet is deficient
- Where we eat
- Who we eat with
- What we eat
- Harmony of food
- Easy, convenient, fast

Dr. Albert Schweitzer

Arrived in West Africa 1913. Stayed 41 years.

"On my arrival in Gabon, I was astonished to encounter no cases of cancer…I cannot positively say that there was no cancer at all, but like other frontier doctors, I can only say that if any cases existed they must have been quite rare."

Gary Taubes, *Good Calories, Bad Calories*

Denis Burkitt, MD

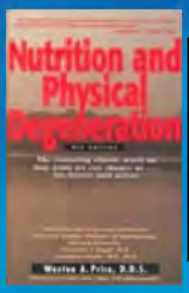
- 24 years Uganda/WWII until 1962
- Out of 52 hospitals:
  - 44 had never seen a case of:
  - Colon cancer
  - Heart Disease
  - Diverticulitis
  - Cancer

Robert McCarrison, MD Hunzas/1960-1978

- During the period of my association with these people, I never saw a case of asthenic dyspepsia, of gastric or duodenal ulcer, or appendicitis, or mucous colitis, or cancer. . . . Amongst these people the span of life is extraordinarily long; and such service as I was able to render them during some seven years spent in their midst was confined chiefly to the treatment of accidental lesions, the removal of senile cataract, plastic operations for granular eyelids, or the treatment of maladies wholly unconnected with food-supply. Appendicitis, so common in Europe, was unknown.

McCarrison SR. "Studies in Deficiency Disease". London: Oxford Medical Publications; Henry Frowde and Hodder & Stoughton; 1921.

Dr. Weston Price



Photos from Nutrition & Physical Degeneration, published by Price-Pottenger Foundation

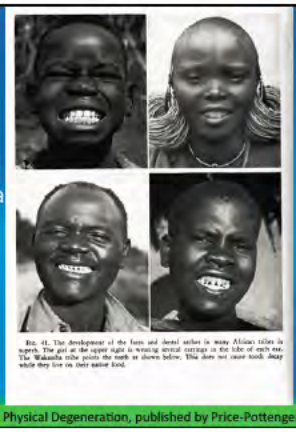
Switzerland

Photos from Nutrition & Physical Degeneration, published by Price-Pottenger Foundation

Modernized Swiss

Photos from Nutrition & Physical Degeneration, published by Price-Pottenger Foundation

African Wakamba Tribe



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African Plantation Workers

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Modernized African Males

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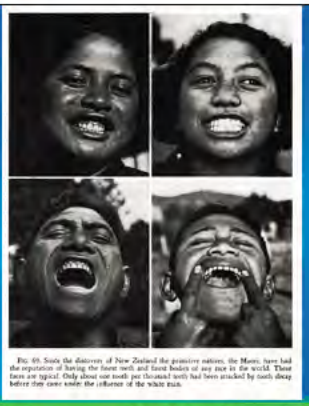
New Zealand Maori



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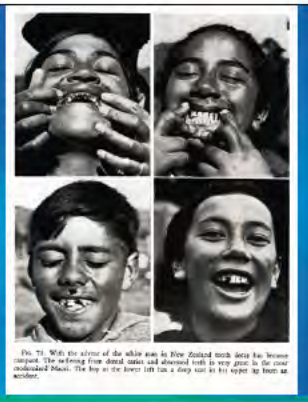
Modernized Maori



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Inuit Health Before Modern Culture

Samuel Hutton, MD 1902

- Cancer:"I have not seen or heard of a case of malignant growth in an Eskimo."
- No appendicitis

Henry E Goodrich:

- 15 years 2000 people, one case of cancer

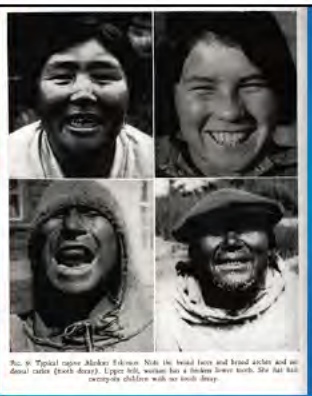
Canadian Physicians in 1975

- No breast cancer in an Inuit patient before 1966.
- 1967-1974 only 2 cases

Inuit Today

- Life expectancy 4.6 years less than average US population, 11 years less than Canadian men, and 12 years less than Canadian women
- Cancer is the leading cause of death
- Tuberculosis (500%)
- Diabetes (>195%)
- Homicide (>92%)

Alaskan Inuit



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Modernized Inuit

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Samuel Hutton, MD 1902-1908 American Indians

"I have seen how the natives degenerate when they take to European food. They lose their natural coating of fat to a great extent, and need more clothing to withstand the cold; they become less robust, less able to endure fatigue, and their children are puny."

Isaac Levin, MD 1919

- "While cancer is occasionally met with in primitive races, it occurs so seldom among the American Indians for instance, that this race may be considered practically immune against the disease."

Levin I III. The Study of the Etiology of Cancer Based on Clinical Statistics. *Ann Surg.* 1919;51:768-781.

Tohono O'odham Tribe/Sonoran Desert

- Grew own food until mid-20th C.
- 20,000 acres, now 25 acres
- Until 1960's no Diabetes
- Now 50% of population have Type 2 Diabetes
- Tuberculosis 6x national average
- Life expectancy 6 years less than average US

Seminole Indians Florida

Photos from Nutrition & Physical Degeneration, published by Price-Pottenger Foundation

Modernized Seminole Indians

Photos from Nutrition & Physical Degeneration, published by Price-Pottenger Foundation

Standard American Diet: 2006

% of Calories from a few foods:

- Flour and cereal products: 23%
- Added fats: 24% (cooking oils: 11.8%, shortening 6.9%, butter 1.2%)
- Added sugars 17% (corn: 9.4, honey: 0.1)
- (Sweetened soft drinks: 5% [Teens 20%])
- Meat, eggs, and nuts: 17%
- Dairy 10%
- Fruit 3%
- Vegetables 5%

Source: USDA/Economic Research Service. Data last updat

Where we eat

- 45 percent of meals away from home, up from 39 percent in 1980 and 34 percent in 1970
- 34% of dinner entrees are homemade; Nearly 7% of those are sandwiches
- 25% of meals at home are frozen or prepared from a market or restaurant

Newsweek, Feb 9, 2004

Fast Food Consumption

- 26.5 percent adults eat at fast food restaurants
- Fast foods contributed >1/3 of total calorie intake
- < levels vitamin A, carotenoids, vitamin C, calcium, magnesium, fruits, vegetables
- > soft drinks

SA Bowman, BT Vinyard,. J Amer College Nutr, Vol. 23, No. 2, 163–168 (2004)

"The sad truth is that most people in the United States and other Western countries eat a diet that puts them in a constant proinflammatory state"

W. J. Meggs MD, PhD, Inflammation Cure, p. 101

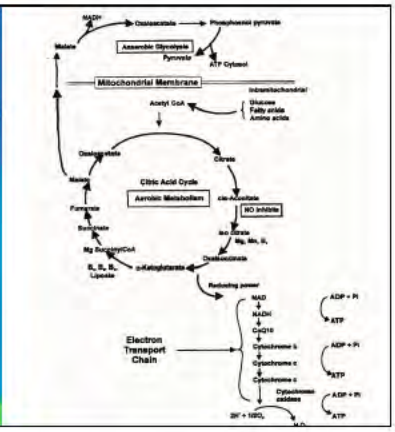
Total Diet Study

- Over half of all Americans ate less than 80% of the RDA for: Calcium, magnesium, iron, zinc, copper and manganese.
- 90% marginal in chromium
- 80% deficient in B6
- 20% women iron deficient.

FDA/Total Diet Study, 2005

Krebs Cycle

B1, B1, B3, B6, Lipoic Acid, Mg, Mn, Zn, CoQ10, Glucose Fatty acids Amino acids



Stages of Nutritional Depletion

- Tissue Depletion/without symptoms
- Tissue Depletion measurable through labs/ without symptoms
- Physiological and psychological changes, malaise, fatigue, depression, mood swings, anxiety, nerves
- Disease and medical intervention