Nutritional Issues in Children: Obesity, Allergies and Asthma

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April 3, 2008

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• Private Practice in New York City
• President of the International and American Association of Clinical Nutritionists

The Current State of Health
• 30% of Children Aged 6 to 11 - overweight
• 15% - obese
• Same for Adolescents
• 79% Likelihood of Being Overweight or Obese Adults
• Children - Obesity has Quadrupled in 25 years
• Adolescents - Doubled in 25 Years
• Equal Ratio Boys to Girls

Increase in Obesity Prevalence(%) in Ages 6 to 11

<table>
<thead>
<tr>
<th></th>
<th>Boys</th>
<th>Girls</th>
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<tbody>
<tr>
<td>1999 - 2000</td>
<td>16</td>
<td>14.5</td>
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<tr>
<td>1988 - 1994</td>
<td>11.6</td>
<td>11</td>
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<td>1971 - 1974</td>
<td>4.3</td>
<td>3.6</td>
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Increase in Obesity Prevalence (%) in Adolescents

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<td>1971 - 1974</td>
<td>6.1</td>
<td>6.2</td>
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Adverse Health Effects

- Asthma - Prevalence Higher in Overweight
- Diabetes - Type 2:
  - 13 x more likely to be Hyperinsulinemic
  - 45% New Cases of Childhood Diabetes is Type 2
  - 4% in 1990 - now at 20% of Total Diabetes in Children
  - 1 in 4 Overweight Children Show Signs of Diabetes type 2
  - Youngest Reported Case is 7 years old

Hypertension

- 60% Overweight children have One Risk Factor for Heart Disease
- 5 Times More Likely to have HTN
- Persistently Elevated Blood Pressure
  - 9 times More Likely

Orthopedic Complications

- Growing Bones not Strong Enough to Support the Excess Weight
- Can Lead to Injuries and Bowing and Overgrowth of Leg Bones
- 30 to 50% of Overweight Children have Hip Pain and limited Range of Motion due to Stress on Hip

Psychosocial Effects

- Often Taller
- Greater Risk for Subsequent Eating Disorders amongst Girls
- Stigmatization - name calling, teasing, jokes, laziness, unclean, etc.
- 7% have Sleep Apnea with accompanied Deficits in Logical Thinking and Potential Learning Disorders

The Importance of Baseline Nutrition

Industrial Waste
A Healthy Choice?

Food as an Industry
- Food Industrial Complex: We eat more, companies make more
- Processing Foods Depletes them of Nutrients
- 17,000 New food Products Introduced Each year
- 4 Crops Account for 2/3 of all food Americans Consume: Corn, Wheat, Soybeans and Rice
- Oversupply of Macronutrients and Undersupply of Micronutrients
- Fast Food Industry = 200 Billion in Health Care Costs

Key Nutrition
- Most Recent Study Comparing Low Fat (Ornish) with Low Carbohydrate (Atkins), AHA, and Low Calorie Showed a Clear Winner = Low Carbohydrate
- Greater Sustained Weight Loss and Decrease in CVD Risk Factors
- Walter Willet - Low Carbohydrate with Low Glycemic Load = Hamptons Diet
- Mediterranean Wellness Approach to Weight Control

Our Grandparents Were Right!
- Lean Proteins
- Vegetables
- Whole Grains
- Fruits
- Healthy Fats
- Nuts and Seeds
- Whole Foods - Minimally Processed and Optimally Nutritious
- Fresh, Local, and Seasonal if Possible

The Truth About Fats
- Most Important Part of the Food Chain
- Eliminate Trans Fats
- Avoid Processed and Damaged Oils
- Reduce Pro-Inflammatory Omega 6
- Increase Anti-Inflammatory Omega 3
- Emphasize Monounsaturated Fats
- According to the NCEP 80% of the Fats in the Diet should be monounsaturated
- American Journal of Cardiology - landmark study on Inflammation and Monos
Monounsaturated Fat Sources

- Avocados
- Sunflower Seeds
- Macadamia Nut Oil
- Olives
- Some Nuts
- Avoid Heating Olive Oil

The Truth About Carbohydrates

- Not all are Created Equal
- Fruits
- Vegetables
- Grains
- Legumes
- Nuts
- Seeds
- Sugar

Vegetable Pyramid

- Salad Vegetables
- Other Vegetables
- Salad Vegetables

Fruits

- Encourage consumption of Lower Sugar Fruit
  - Avoid Tropical Fruit
  - One Banana = 6 teaspoons of Sugar

Pasta Anyone?

Grains

- Whole Grains - Low glycemic load
- Glycemic Load vs Glycemic Index
- “Whole” - the word must appear in the ingredients list
- Brown Rice, amaranth, buckwheat, quinoa, spelt, oats, etc.
Proteins

• Lean Protein - wild fish, poultry, pork, lamb and other red meats
• Decrease emphasis on processed meats such as bacon and sausages
• Cheeses, Nuts, and Seeds
• Whole Foods - not Protein Isolates
• Beans and Bean Products - adzuki, broad, kidney, lentils, chickpeas, peas, tofu, etc.
• Sea Vegetables - dulse, arame, hijiki, kombu, hakame and nori

Asthma

• Most Common Chronic Disease of Childhood
• **5 Million** Under the age of 18 (1 in 20)
• 200,000 hospital stays - **3rd leading cause**
• 340 deaths per year < 25 years old
• Rate doubled since 1993
• Boys > Girls
• Leading Cause of school absenteeism, **14 million** total missed school days

Allergy

• Allergies are defined by what **causes** them (inhalant, infectious, insect, drug, physical agent(cold), contact, food
• Allergies are defined by their symptoms (hay fever, eczema, hives, skin rashes, rosacea, anaphylactic shock)

Food Sensitivities

• Food Sensitivities – **allergies vs. sensitivities**
• Possibly the most under-diagnosed medical problem in history
• Food additives
  - artificial/natural colorings
  - artificial flavorings
  - sweeteners
  - preservatives or any other chemical

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Diagnosis</th>
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<tr>
<td>Dark circles under eyes</td>
<td>Constipation</td>
</tr>
<tr>
<td>Runny nose</td>
<td>Short attention span</td>
</tr>
<tr>
<td>Post nasal drip</td>
<td>Poor school habits</td>
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<tr>
<td>Throat tickle</td>
<td>Nausea</td>
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<tr>
<td>Difficulty getting to sleep or waking up</td>
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Testing for Food Sensitivities

• RAST - only tests IGE; sensitivities not IGE
• Cytotoxic - tests food products that are not predigested so many false negatives; varies from user to user
• Histamine Release - dependent on production of histamine
• ALCAT - this is my favorite right now; predigested food allergens -measures multiple components of the allergy pathway such as C3, C4, IGG, IGA and IGM
**General Elimination Diet**

**Dairy:**
All milk, cheeses, butter, ghee, margarine, sherbet, creamed soups, puddings, whey, casein, calcium supplements, protein bars, energy bars

**Wheat:**
Gluten and non-gluten grains (millet, rice, amaranth, teff, spelt, quinoa, wild rice, barley, buckwheat, oats, rye, whiskey, liverwurst, bologna, mayonnaise, chocolate

**Other:**
Cocoa, cocoa butter, cola drinks, carob, tannic acid teas, coffee, all caffeinated and decaf products, dark breads

**Salicylate Elimination**
- Aspirin
- Artificial and natural colorings
- Preservatives
- EDTA, BHA
- Sodium sulfite
- Sodium lauryl sulfate
- MSG
- ASA
- Raisins
- Nectarines
- Oranges
- Peaches
- Plums
- Almonds
- Apples
- Apricots
- Berries
- Cherries
- Cucumbers
- Pickles
- Currants
- Grapes
- Pomegranates
- Tomatoes
- Marmalade
- Breakfast cereals
- Jams & jellies
- Lunch meats
- Toothpaste

**Salicylate 2 Elimination**
- Mint flavors
- Gelatin products
- Candy
- Cake mixes
- Bakery products
- Frankfurters
- Mint flavorings, including wintergreen
- Red/White Wine
- Red/White Wine Vinegar
- Apple cider
- Apple cider vinegar
- Soft drinks
- Diet drinks
- Tea
- Beer
- Kool-Aid type products
- Gin and most distilled beverages except vodka
- Throat lozenges
- Perfumes
- Mouthwash
- Tartrazine
- Bath and body powders
- Throat lozenges
- Plastic food wrappers
- Some toothpastes
- Paper plates
- Brandy
- Bacon
- Baking mixes
- Ketchup
- Baking powders
- Instant coffee
- Powdered sugar
- Pickles
- Leavening agents
- Gelatin desserts
- Yeast
- Gum
- Gin
- Corn chips
- Cured hams

**Corn Elimination**
- Corn - hardest one
- all processed foods
- High fructose corn syrup
- Corn starch
- Corn oil
- Corn meal
- Glits
- Adhesives
- Aspirin
- Paper cups
- Paper cartons
- Gelatin capsules
- Gum on envelopes, stickers, stamps, tapes, labels
- Spray starch
- Peanut Butter
The Allergy & Asthma Cure

- **Find** Triggers and Remove Allergens
- Initiate a **Healthy Diet**
- Remove Candida
- Repair and Heal the Gut
- Nutritional Supplements

Repair and Heal the Gut

- GI tract harbors **100,000 billion** viable bacteria
- Between 33 and 50% of fecal mass is bacteria
- Between 20 and 40% of colonic microflora are unculturable and thus unknown
- Intestinal microflora is fully formed by age 2
- Different microbial types found in different parts of the GI tract

Typical Microbial Flora

- Mouth/Stomach - Lactobacilli
- Duodenum - Lactobacilli/Streptococci
- Jejunum - Lactobacilli; Streptococci; Enterobacteria; Bifidobacteria; Yeasts
- Ileum - Bifidobacteria; lactobacilli; streptococci; bacteroides; enterobacteria
- Large Intestine - Bacteroides; Eubacteria; Bifidobacteria; Anaerobic cocci; Clostridia; lactobacilli; enterobacteria; Streptococci

Is a Healthy Flora Necessary?

- Can detoxify and transform substances
- Binds heavy metals for excretion
- Releases lignases and phytoestrogens
- Release quercetin and rutin
- Releases polyphenols
- Can Suppress or Stimulate cytochrome P450

Microbial Flora Function

- Essential to normal physiologic and anatomic development of the intestinal mucosa
- Provides Immunological Protection against Infection
- Stimulates Maturation and Balancing of the Immune System at birth and then stimulates and primes immune system throughout life
- Facilitates a variety of metabolic functions

The Role of Nutritional Supplements

“The preservation of good health and the treatment of disease by varying the concentrations in the human body of substances that are normally present in the body and are required for health”

-Linus Pauling
MultiVitamin

Supplement Facts

- Multivitamin Specifically formulated for growing children
- Chewable
- Strawberry/Kiwi Flavored

Omega 3 Fish Oils

- FDA issued a Qualified Health Claim - “supportive but not conclusive research shows that consumption of EPA and DHA omega 3 fatty acids may reduce the risk for coronary heart disease.”
- EPA
- DHA
- ALA

Alpha Linolenic Acid

- Primary vegetarian source of omega 3
- Found primarily in flax seed
- Strong Deficiency in the American Diet
- Need Delta 6 Desaturase to convert ALA to the more active EPA and DHA
- Other co-factors include: vitamins C, B6, B3, zinc and magnesium

Eicosapentaenoic Acid

- Found in cold water fatty fish
  - Salmon
  - Sardines
  - Trout
  - Mackerel
- Anti-inflammatory - important with the rise in inflammatory conditions such as heart disease and diabetes in children
- Dose Range = 100 to 300mg three times/day
- EPA/DHA ratio important - different in adults and children

Docosahexaenoic Acid

- Brain Food
- Human Brain is 60% fat
- DHA is the most Abundant Fat
- Found in Neurons and Protective Myelin Sheaths
- If Deficient, the Brain will not develop the correct neural pathways; essential for eye development
- Increase in ADHD, behavioral disorders, PDD
- Can improve learning, problem-solving skills, focus, concentration, vocabulary and memory
- Dose range: 200mg to 800mg three times per day

Allergy/Asthma Specific

- **Quercetin** - citrus bioflavonoid which inhibits mast cell degranulation; natural antihistamine; fights off an enzyme that neutralizes cortisol, a natural anti-inflammatory; alleviates inflammation and reinforces the immune system
- Dose Range = 100 to 500 mg three times per day
Other Key Nutrients

- **Bromelain** - derived from pineapples, it has mucolytic properties supporting normal mucosal tissue function and enhances the absorption of quercetin; natural anti-inflammatory; dose range 25 to 75 mg three times per day
- **Stinging Nettles Leaf** - blocks enzymes in the arachidonic acid cascade - dose range = 100 to 300 mg three times per day

Another Essential Nutrient

- **N-acetyl Cysteine** - an amino acid which is a natural mucolytic reducing its viscosity; also recharges cellular glutathione - a main antioxidant; used in conventional medical inhalants; complements vitamin C by breaking up the mucus
  - Dose Range = 25 to 300 mg three times per day
  - May be used in a Nebulizer

Additional Nutrients

- **Vitamin C** - 75 to 1000 mg three times per day; Acts as an Immune Enhancer, natural anti-histamine and works as a co-factor with other supplements
- **Vitamin A** - work as an anti-mucolytic; Do not be afraid to dose high; Range from 2000 IU to 10000 IU three times per day
- **Vitamin D3** - 100 to 1000 IU three times per day; natural anti-histamine and anti-inflammatory
- **Fish Oils** - 250 to 750 mg three times per day; natural anti-inflammatory

Immune Enhancers

- **Echinacea** - reinforces our natural defenses; supports the ability of the white blood cell to perform its phagocytic function; targets viral and bacterial invaders; can speed recovery time; does not destroy gut bacteria
  - Dose range = 150 - 350 mg standardized herbal extract 3 times per day

Other Immune Enhancers

- **Goldenseal** - excellent source of berberine which blocks bacterial growth, yeast overgrowth and some parasites; enhances white blood cell activity; and is especially suited against invaders of the body’s mucous membranes

Immune Enhancers

- **Cinnamon Bark** - helps to soothe the stomach where much of the mucous in a child ends up due to inability to cough appropriately; flavor enhancer
More Immune Enhancers

- **Pau D'Arco** - strong antibacterial, antiviral and antifungal properties; helps to improve immune function (used in cancer therapies)
- **Coriander** - calmative effect on digestive tract and high in polyphenols

Other Immune Enhancing Agents

- In general look for alcohol free formulas
- **Bee Propolis** - potent bioflavanoid produced by bees to protect their hive; anti-flu, antimicrobial, antiviral and anti-herpes; upper respiratory infections; anti oxidant - use standardized extracts
- **AHCC** - medicinal mushroom used in > 700 hospitals in Japan; dose range is 250 to 750 mg three times per day

Digestive Tract Repair

- **Saccharomyces boulardii** - proven effective in the prevention and treatment of antibiotic associated diarrheas and in C. difficile recurrent infections; widely used in Europe for the treatment and prevention of any childhood diarrhea
- Dose Range = 25 to 250 mg three times per day
- Prebiotics are important for full effect - fructooligosaccharides

Common Childhood Strains

- **Lactobacillus acidophilus**
- **Lactobacillus rhamnnosis**
- **Bifidobacterium bifidum**
- **Lactobacillus casei**
- **Bifidobacterium longum**
- **Streptococcus thermophilus**
- Dose range of at least 5 billion units per day

Anti-Candida Supplements

- **Garlic** - can help to break down the cell wall; dose range 100 to 300 mg t.i.d.
- **Caprylic Acid** - also helps to break down the cell wall; dose range as above
- **Grapefruit Seed Extract** - rids the body of the mycelia; dose range 50 to 200 mg t.i.d.
- **Castor Bean Oil** - helps the body to flush the toxins from the fungus as it is dying; dose range 50 to 150 mg three times per day
- **Nystatin** - a drug but extremely NON toxic; used in range from 100,000 to 1 M units t.i.d

Alternative Medicine?

- In 1990, **425 million** visits were made to providers of “unconventional” therapies - exceeded the number of visits to primary care physicians
- In 1997, **629 million** visits we made to alternative practitioners at a cost of 27 billion - far exceeding the number of visits and out-of-pocket payments to conventional physicians
Toxins, Disease and our Children
• Over 200 chemicals linked to birth defects
• Childhood Cancer risen 26% since 1973
  – NHL by 30%
  – Brain by 21%
• Autism has increased by a factor of 10 since the mid 1980’s; up to 1:110 children
• ADHD has increased similarly
• Sperm Counts have decreased; Girls are reaching puberty earlier

Death by Medicine
• Conventional Medicine is our leading cause of death - 783,936 deaths per year
• 8.9 million unnecessary operations
• 7.5 million superfluous surgeries
• 88,000 nosocomial deaths
• 225,000 deaths from iatrogenic causes

Big Pharma
• Top Ten US pharmaceutical companies have profits that exceed the other 490 companies in the Forbes 500 combined.
• 31% of sales ($217 billion) spent on marketing
• 14% on R & D
• 3 Billion spent on DTC
• Lobbyists spent 758 Million
• 1.5 lobbyists per politician
• New Market: Children - fastest growing market for anti-psychotics

Children’s Nutritional Supplements

Super Nutes
Supplement Facts
• Multivitamin
  Specifically formulated for growing children
• Chewable
• Strawberry/Kiwi Flavored

Orthomega Pearls
• Supports healthy brain, heart, skin, joints, eyes and immune system!
• Safe- tested for purity and free of contaminants
• Kids love the great tasting orange berry flavor of these chewable pearls!
D Hist Junior
- Sweet Tart Lemon/Lime Taste
- Chewable for Kids
- Top Ingredients for Natural Allergy and Asthma Support

Imu A
- Generally Used in Younger Kids
- Use During Allergy Season
- Use for Colds/Flus
- Used as a Preventative
- Useful for Teething Issues

Imu-Max
- Used in Older Children although may be used in younger ones
- Berry Flavor
- Anti-Inflammatory Properties

Flora Boost
- Formulated Specifically for Growing Guts
- Species from each part of the digestive tract
- Saccharomyces boulardii - added proven benefit for children