

The Nutritional Management
of Attention Deficit Disorder,
Attention Deficit/
Hyperactivity Disorder,
and Hyperactivity

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Hyperactivity Today

- ◇ 4-12% of schoolchildren diagnosed with ADHD
- ◇ more conservative diagnostic criteria for ADHD projected to lower this to 3%
- ◇ 20% of all children have some type of behavioral problem

ADHD Starts When?

- ◇ Higher incidence of hyperactivity in infants who:
 - don't like to be held
 - have poor or irregular sleep
 - have colic
 - have feeding problems

Rationale for Effective Treatment

- ◇ 25-60% of students with ADHD will drop out of school before high school graduation
- ◇ 25-60% will have contact with legal authorities
- ◇ Excessive alcohol use rates will be higher

Rationale for Effective Treatment

- ◇ Self esteem is often lower
- ◇ Interpersonal relationships will likely be strained
- ◇ Aggressiveness behavior appears to be a strong predictor of long-term poor social outcome

Proposed Etiology of ADHD

- ◇ Psychological factors
- ◇ Behavioral factors
- ◇ Genetic factors
 - ◇ 1. 1/3 of fathers (with ADHD as a youth) produced a child with ADHD
 - ◇ 2. A majority of identical twins both have ADHD
- ◇ Gender predisposition

Proposed Etiology of ADHD

- ◇ Cerebral neurotransmitter abnormalities:
dopamine and serotonin
- ◇ Environmental pollutants such as lead
- ◇ Exposure to fluorescent lights
- ◇ Perinatal factors (maternal phenylketonuria)
- ◇ Smoking during pregnancy
- ◇ Parental behavior

Proposed Etiology of ADHD

- ◇ Hypersensitivity
- ◇ Allergy

Hypersensitivity or Allergy?

◇ Hypersensitivity

- a non-allergenic reaction to the chemicals contained in food, possibly due to an inherited biochemical predisposition
- can occur as a threshold response, or all-or-nothing response

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Hypersensitivity or Allergy?

◇ Allergy

- an immediate IgE mediated response where antibodies are produced, or
- a delayed, lymphocyte mediated response involving gastrointestinal symptoms

BOTH!!

- ◆ Either hypersensitivity, or allergy, or a combination of both can occur

Behavioral Toxicology

- ◇ Challenging to isolate the effect of a single substance
- ◇ Difficult to isolate a nutritional effect from the placebo effect
- ◇ Difficult to completely remove psychotropic agents from the diet
Examples: soft drinks, tea, coffee

Diet Affect

- ◇ No substantial difference between the diets of hyperactive children and non-hyperactive children (ex. - sugar)
- ◇ Consistent sub-group of children who improve, and then exhibit symptoms when challenged with the offending foods

No Single Cause and No Single Cure

- ◇ Psychotropic prescription medications only effective while being taken – they provide no cure
- ◇ Dietary intervention demonstrates improvement in certain individuals
- ◇ Dietary intervention appears to have a longer lasting effect

Nutritional Recommendations

- ◇ 1-2 month trial of the Feingold diet
 - eliminate artificial colors (especially tartrazine)
 - eliminate artificial flavors
 - eliminate salicylates
 - ◇ ex.-almonds, apples, apricots



Nutritional Recommendations

- monitor vitamin C consumption
 - ◊ since high levels can reduce renal clearance of the salicylates
- monitor adequate protein intake
- monitor total nutrient intake

Nutritional Recommendations

- ◇ A high protein/ low carbohydrate diet
- ◇ Supplement with:
 - ◇ Niacin
 - ◇ Thiamine
 - ◇ B6
 - ◇ Choline
 - ◇ Magnesium
 - ◇ Calcium

Questionable Benefit?

- ◇ Sugar reduction
- ◇ Copper
- ◇ Iron
- ◇ Magnesium
- ◇ Manganese
- ◇ Zinc

Additional Therapies

- ◇ Increasing physical activity
- ◇ Tutoring
- ◇ Family counseling
 - Increasing parent tolerance

What Can the Physician Do?

- ◇ Ensure the child has been accurately diagnosed
 - to rule out other diseases
 - to rule out the absence of any disease
- ◇ Perform a food allergy and sensitivity assessment
- ◇ Discuss dietary modification
- ◇ Recommend nutritional supplementation
- ◇ Recommend increased physical activity
- ◇ Refer for family counseling, remedial teaching, and psychiatric treatment

BE WELL and BE HAPPY!!



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