

Complementary and Alternative Medicine Treatments for Attention Deficit Hyperactivity Disorder, Autism, and Learning Disabilities

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Conventional Medicine

- Definition: Medicine as practiced by holders of a medical doctor (M.D.) or doctor of osteopathy (D.O.) degrees and by their allied health professionals (physical therapists, psychologists, registered nurses, etc.).

National Center for Complementary and Alternative Medicine

Fresno Diagnostic Center, Department of Education

Complementary and Alternative Medicine

- Definition: A group of diverse medical and health care systems, practices, and products that are not presently considered to be part of conventional medicine.

National Center for Complementary and Alternative Medicine

Fresno Diagnostic Center, Department of Education

Complementary and Alternative Medicine

- Complementary Medicine:
 - Used with conventional medicine
 - Example: Use Aromatherapy to lessen a patient's discomfort after surgery
- Alternative Medicine:
 - Used in place of conventional medicine
 - Example: Use a special diet to treat cancer instead of surgery or radiation

Complementary and Alternative Medicine Therapies

- Alternative Medical Systems
 - homeopathic medicine
 - naturopathic medicine
 - traditional Chinese Medicine
- Mind-Body Interventions
 - meditation
 - prayer

Complementary and Alternative Medicine Therapies

- Biologically Based Therapies
 - dietary supplements
 - herbal products
- Manipulative and Body-Based Methods
 - massage
 - chiropractic
 - osteopathic

Diagnostic Criteria for Attention Deficit Hyperactivity Disorder (ADHD)

- Diagnostic and Statistical Manual of Mental Disorders Fourth Edition Text Revision (DSM-IV-TR) definition:

ADHD is a persistent pattern of inattention and/or hyperactivity-impulsivity that is more frequently displayed and more severe than is typically observed in individuals at a comparable level of development.

Diagnostic Criteria for ADHD

- Some hyperactive-impulsive or inattentive symptoms that cause impairment must have been present before age 7 years
- Some impairment from the symptoms must be present in at least two settings (home, school, work, etc.)
- There must be clear evidence of interference with developmentally appropriate social, academic, or occupational functioning

Diagnostic Criteria for ADHD

- The disturbance does not occur exclusively during the course of a Pervasive Developmental Disorder, Schizophrenia, or other Psychotic Disorder and is not better accounted for by another mental disorder (Mood Disorder, Anxiety Disorder, Dissociative Disorder, or Personality Disorder)

Diagnostic Criteria for ADHD

A. Either (1) or (2):

(1) Six (or more) of the following symptoms of inattention have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level:

Diagnostic Criteria for ADHD

Inattention

- Often fails to give close attention to details or makes careless mistakes in schoolwork, work, or other activities
- Often has difficulty sustaining attention in tasks or play activities
- Often does not seem to listen when spoken to directly

Diagnostic Criteria for ADHD

Inattention

- Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (not due to oppositional behavior or failure to understand instructions)
- Often has difficulty organizing tasks and activities
- Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (such as schoolwork or homework)

Diagnostic Criteria for ADHD

Inattention

- Often loses things necessary for tasks or activities (e.g., toys, school assignments, pencils, books, or tools)
- Is often easily distracted by extraneous stimuli
- Is often forgetful in daily activities

Diagnostic Criteria for ADHD

(2) Six (or more) of the following symptoms of hyperactivity-impulsivity have persisted for at least 6 months to a degree that is maladaptive and inconsistent with developmental level.

Diagnostic Criteria for ADHD

Hyperactivity

- Often fidgets with hands or feet or squirms in seat
- Often leaves seat in classroom or in other situations in which remaining seated is expected
- Often runs about or climbs excessively in situations in which it is inappropriate

Diagnostic Criteria for ADHD

Hyperactivity

- Often has difficulty playing or engaging in leisure activities quietly
- Is often “on the go” or often acts as if “driven by a motor”
- Often talks excessively

Diagnostic Criteria for ADHD

Impulsivity

- Often blurts out answers before questions have been completed
- Often has difficulty awaiting turn
- Often interrupts or intrudes on others (e.g., butts into conversations or games)

Types of ADHD

- Attention-Deficit/Hyperactivity Disorder, Combined Type
- Attention-Deficit/Hyperactivity Disorder, Predominantly Inattentive Type
- Attention-Deficit/Hyperactivity /Disorder, Predominantly Hyperactive-Impulsive Type

Diagnosing ADHD

- ADHD is a clinical diagnosis
- There are no laboratory or radiological studies to make the diagnosis
- Psychological rating scales completed by parents and teachers are useful in identifying symptoms in a child

Traditional Medicine Treatments for ADHD

- ADHD is a chronic neurodevelopmental disorder
- No cure presently
- Current treatment includes:
 - Counseling (child, parent, family)
 - Environmental Interventions
 - Medication
 - Evaluate for co-morbid conditions
 - Enroll child in organized sports activity

Complementary and Alternative Medicine Therapies for ADHD

- Energy Therapies

- biofield therapies (affect energy fields that purportedly surround and penetrate the human body)

- bioelectromagnetic-based therapies (involve the unconventional use of electromagnetic fields)

Complementary and Alternative Medicine Treatments for ADHD

- Modified diet:
 - Feingold
 - Elimination Diet
- Biofeedback:
 - EEG
 - EMG

Complementary and Alternative Medicine Therapies for ADHD

- Massage Therapy
- Chiropractic
- Accupuncture
- Homeopathy
- Vitamin/Mineral Supplements
- Herbal Supplements (not regulated by the FDA)

Complementary and Alternative Medicine Therapies for ADHD

- Current evidence present in medical literature does not support the use of CAM therapies as sole treatment of ADHD
- Some CAM therapies may be harmful (megadose vitamin/supplement therapy)
- More placebo-controlled, double-blind, randomized clinical trials need to study various CAM therapies for ADHD

Diagnostic Criteria for Autistic Disorder

Diagnostic and Statistical Manual of Mental Disorders Fourth Edition Text Revision (DSM-IV-TR) definition:

- (1) Qualitative impairment in social interaction, as manifested by at least 2 of the following:
 - (a) Marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression
 - (b) Failure to develop peer relationships appropriate to developmental level

Diagnostic Criteria for Autistic Disorder

(c) A lack of spontaneous seeking to share enjoyment, interests, or achievements with other people

(d) Lack of social or emotional reciprocity

Diagnostic Criteria for Autistic Disorder

(2) Qualitative impairments in communication as manifested by at least one of the following:

(a) Delay in, or total lack of, the development of spoken language

(b) In individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others

Diagnostic Criteria for Autistic Disorder

- (c) Stereotyped and repetitive use of language or idiosyncratic language

- (d) Lack of varied, spontaneous make-believe play or social imitative play appropriate to developmental level

Diagnostic Criteria for Autistic Disorder

- (3) Restricted repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:
 - (a) Encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus

Diagnostic Criteria for Autistic Disorder

- (b) Apparently inflexible adherence to specific, nonfunctional routines or rituals
- (c) Stereotyped and repetitive motor mannerisms
- (d) Persistent preoccupation with parts of objects

Diagnostic Criteria for Autistic Disorder

- B. Delays or abnormal functioning in at least one of the following areas, with onset prior to age 3 years:
- social interaction
 - language as used in social communication
 - symbolic or imaginative play
- C. The disturbance is not better accounted for by Rett's Disorder or Childhood Disintegrative Disorder

Diagnosing Autism

- Diagnosis is made using DSM-IV-TR criteria and standardized assessment tools:
 - Childhood Autism Rating Scales (CARS)
 - Autism Behavior Checklist (ABC)
 - Gilliam Autism Rating Scale (GARS)
 - Autism Diagnostic Interview-Revised (ADI-R)
 - Autism Diagnostic Observation Schedule (ADOS)

Diagnosing Autism

- Complete history and physical examination (search for etiology—tuberous sclerosis, fragile X, Angelman syndrome)
- Audiologic Evaluation
- Comprehensive speech and language evaluation
- DNA for routine chromosomes, DNA for fragile X testing
- ?? Lead level, EEG, MRI, plasma amino acid assays

Conventional Medicine Treatments for Autism

- Autism is a chronic neurodevelopmental disorder
- No cure presently
- Current treatment includes:
 - Behavioral management
 - Parent training
 - Habilitative therapies (speech, OT, and PT)
 - Medication (symptomatic relief)

Complementary and Alternative Medicine Therapies for Autism

- Supplementation with high-dose vitamins and minerals (Vit C, Vit B6, Vit B-12, Mg)
- Nutritional supplements (DMG)
- Elimination Diets (gluten-free, casein-free diets)
- Polyunsaturated Fatty Acid (PUFA)
- Immune globulin therapy (IVIG)
- Antibiotic or Antifungal therapy

Complementary and Alternative Medicine Therapies for Autism

- Secretin therapy
- Chelation therapy
- Sensory integration training
- Auditory integration training
- Facilitated communication

Complementary and Alternative Medicine Therapies for Autism

- Current evidence present in medical literature does not support the use of CAM therapies as sole treatment of Autism
- Some CAM therapies may be harmful (megadose vitamin/supplement therapy, chronic administration of antiviral agents, chronic use of antifungal agents, chelation therapy)
- More placebo-controlled, double-blind, randomized clinical trials need to study various CAM therapies for Autism

Diagnostic Criteria for Learning Disorders

Diagnostic and Statistical Manual of Mental Disorders Fourth Edition Text Revision (DSM-IV-TR) definition:

Learning disorders are diagnosed when the individual's achievement on individually administered, standardized tests in reading, mathematics, or written expression is substantially below that expected for age, schooling, and level of intelligence.

Learning Disorders

Learning Disorders include:

- Reading Disorder (dyslexia)
- Mathematics Disorder (dyscalculia)
- Disorder of Written Expression (dysgraphia)
- Learning Disorder not otherwise specified

Conventional Medicine Treatments for Learning Disorders

- Neurodevelopmental disorder
- No cure for learning disorder
- Rule-out impaired vision or hearing
- Treat co-morbid diagnoses:
 - ADHD
 - Oppositional Defiant Disorder (ODD)
 - Conduct Disorder (CD)
 - Major Depressive Disorder (MDD)
 - Anxiety Disorder

Complementary and Alternative Medicine Therapies for Learning Disorders

- Vitamin/Mineral supplements
- Special diets
- Vision Therapy

Complementary and Alternative Medicine Therapies for Learning Disorders

- Vision therapy not recommended by American Academy of Pediatrics or American Academy of Ophthalmology to treat learning disabilities or dyslexia

Summary

- More research needed (placebo controlled, double-blind, randomized clinical trials) to evaluate the role of CAM therapies used in ADHD and Autism
- Some CAM therapies can be harmful to children
- Discuss CAM therapy with child's physician before implementation

Resources for Families

- **CAM Resources:**

- National Center for Complementary and Alternative Medicine (www.nccam.nih.gov)
- The Longwood Herbal Task Force (www.mcp.edu/herbal/default.htm)

- **ADHD Resources:**

- Children and Adults with ADHD (www.chadd.org)
- National Institute of Mental Health (www.nimh.nih.gov)
- National Information Center for Children and Youth with Disabilities (www.nichcy.org)

Resources for Families

- **Autism Resources:**
 - Autism Society of America (www.autism-society.org)
 - National Institute of Mental Health (www.nimh.nih.gov)
- **Learning Disability Resources:**
 - National Institute of Mental Health (www.nimh.nih.gov)
 - National Institute of Child Health and Human Development (www.nichd.nih.gov)
 - Learning Disabilities Association of America (www.lidaamerica.org)
 - National Center for Learning Disabilities (www.ld.org)