

Attention Deficit/Hyperactivity Disorder

DSM-IV Diagnostic Criteria for Attention Deficit/Hyperactivity Disorder (ADHD)

A Either 1 or 2:

1. Have six or more of the following symptoms of inattention persisted for a period of at least 6 months to a degree that is maladaptive and inconsistent with developmental level?

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
- ▶ 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)
- ▶ Often loses things necessary for tasks or activities
- ▶ Is often easily distracted by extraneous stimuli
- ▶ Is often forgetful in daily activities.

2. Have six or more of the following symptoms of hyperactivity/impulsivity persisted for a period of at least 6 months to a degree that is maladaptive and inconsistent with developmental level?

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 or climbs excessively in situations in which it is inappropriate (in adolescents and adults is limited to subjective feeling of restlessness)

- ▶ 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

Impulsivity

- ▶ Often blurts out answers before questions have been completed
- ▶ Often has difficulty waiting turn
- ▶ Often interrupts or intrudes in others (for example, butts into conversation or games).

- B** Were some of the inattention/hyperactivity-impulsivity symptoms causing impairment before 7 years of age?
- C** Is some impairment from the symptoms present in two or more settings?
- D** Is there clear evidence of clinically significant impairment in social, academic, or occupational functioning?

Treatment

Specific Considerations

- ◆ 3-5% of children have ADHD.
- ◆ Recent studies indicate that less than 14% of children with ADHD receive indicated treatment.
- ◆ More boys than girls have the disorder (4:1).
- ◆ Girls with ADHD are less likely than boys to be hyperactive and are often not diagnosed early enough.
- ◆ ADHD is manifested by an impairment of attention and executive functioning that results in inattention, lack of planning and organizational skills, impulsivity and possibly hyperactivity.
- ◆ Children with ADHD frequently have comorbid psychiatric conditions
 - ▶ In early childhood, learning disorders, Oppositional Defiant Disorder, Obsessive Compulsive Disorder, and Tourette’s Disorder.
 - ▶ In late childhood and early adolescence, Conduct Disorder, Bipolar and Major Depressive Disorder, and substance abuse may emerge as well.

- ◆ Children with long-standing difficulties with attention and organization have compounded problems with social skill development, demoralization, and low self-esteem.
- ◆ As ADHD is heritable disorder, one or more parents may have ADHD.

PSYCHOSOCIAL

- ◆ Coordination with a child's parents, pediatrician, teachers and other supports in the community is essential.
- ◆ Most children with ADHD benefit from an individualized educational program whether or not they have comorbid learning problems.
- ◆ Frequent monitoring of symptoms can be facilitated by direct clinical observation and completion of Conner's Global Index for Parents (Conners-P) and teachers (Teachers-C).
- ◆ Parent and child psychoeducation is essential.
- ◆ Support groups for parents and/or children may be helpful.
- ◆ Parents should be taught behavioral modification techniques and effective limit setting.
- ◆ Children can learn strategies for managing impulsivity, organizational planning and social skills.

PHARMACOTHERAPY

- ◆ Comorbid psychiatric disorders should be treated as indicated.
- ◆ Stimulants including methylphenidate [Ritalin] or dextroamphetamine [Dexadrine] are first line choices.
- ◆ Pemoline, a stimulant, may be used if liver functions are followed at baseline and biweekly, thereafter, as a second line choice.
- ◆ Second and third line choices are implemented when first lines fail. They should not to be used to augment first line choices.
- ◆ Tricyclic antidepressants including imipramine [Tofranil] or nortriptyline [Norpramin] may be used as second line agents, after stimulants.
 - ▶ Blood levels may need to be monitored since wide variations may occur.
 - ▶ Baseline EKG and follow up EKG may be indicated in certain patients.
- ◆ Some physicians prefer to use bupropion [Wellbutrin] to minimize the need to monitor cardiac status required with the tricyclic antidepressants.
- ◆ If stimulants or antidepressants prove to be ineffective or are accompanied by unacceptable side effects, clonidine and/or an alpha agonist can be used. Orthostatic blood pressure and pulse should be measured frequently.



Oppositional Defiant Disorder

- A** Is there a pattern of negativistic, hostile and defiant behavior lasting at least six months, during which four (or more) of following are present?
- ▶ Often loses temper
 - ▶ Often argues with adults
 - ▶ Often actively defies or refuses to comply with adults' requests or rules
 - ▶ Often deliberately annoys people
 - ▶ Often blames others for his or her mistakes or misbehavior
 - ▶ Is often touchy or easily annoyed by others
 - ▶ Is often angry and resentful
 - ▶ Is often spiteful or vindictive
- B** Does the disturbance cause clinically significant impairment in social, academic or occupational functioning?

Treatment

Specific Considerations

- ◆ Oppositional Defiant Disorder [ODD] can represent a time-limited disorder, if identified early and treated aggressively.
- ◆ Some children with ODD go on to develop Conduct Disorder.
- ◆ Collaboration of parents, teachers, and other caretakers in implementing intervention strategies is essential.
- ◆ Treatment of comorbid ADHD, learning problems, mood and anxiety disorders maximizes efficacy of ODD specific treatment.

Psychosocial Intervention

- ◆ Focused examination of triggers of oppositional behavior leads to development of behavioral modification protocols utilizing positive reinforcement and “time out” for cognitive reframing.
- ◆ Social skills training serves to enhance strengths and the development of prosocial behavior.

Pharmacotherapy

- ◆ Has a limited role in ODD.
- ◆ May be used to target specific symptoms including irritability, low frustration tolerance and/or hyperactivity.
- ◆ Stimulants, clonidine and low dose atypical neuroleptics have been used as time limited adjuncts to behavioral interventions.



Conduct Disorder

DSM-IV Diagnostic Criteria for Conduct Disorder

- A** A repetitive and persistent pattern of behavior in which the basic rights of others, or major age-appropriate societal norms or rules are violated.

For Diagnosis, have three of the following been present in the last 12 months, one of which has been present in the past 6 months?

Aggression to people or animals

- ▶ Often bullies, threatens or intimidates others
- ▶ Often initiates fights
- ▶ Has used a weapon that can cause serious physical harm to others (for example, bat, brick, broken bottle, knife, gun)
- ▶ Has been physically cruel to people
- ▶ Has been physically cruel to animals
- ▶ Has stolen while confronting a victim (for example: mugging, purse snatching, extortion, armed robbery)
- ▶ Has forced someone into sexual activity

Destruction of property

- ▶ Has deliberately engaged in fire setting with the intention of causing serious damage
- ▶ Has deliberately destroyed others' property (in a manner other than fire-setting)

Deceitfulness or theft

- ▶ Has broken into someone else's car, building or house
- ▶ Often lies to obtain goods or favors or to avoid obligations (cons others)
- ▶ Has stolen items of nontrivial value without confronting victim (for example, shop lifting, but without breaking and entering, forgery)

Serious violations of rules

- ▶ Often stays out at night despite parental prohibitions, beginning before age 13
- ▶ Has run away from home overnight at least twice while living in parental or parental surrogate home (or once without returning for a lengthy period)

- ▶ Is often truant from school, beginning before age 13
- B Does the disturbance in behavior cause clinically significant impairment in social, academic or occupational functioning?
- C If the individual is over age 18, criteria are not met for Antisocial Personality Disorder.

Specific Considerations

- ◆ Antisocial behavior may be manifest briefly in children during the course of normal development.
- ◆ Strict diagnostic criteria must be met to endorse the diagnosis of Conduct Disorder.
- ◆ Conduct Disorder is one of the most prevalent childhood psychiatric disorders with a prevalence of 1.5-3.4% of children and adolescents.
- ◆ Most children with Conduct Disorder present late in childhood or early adolescence, although it may occur as early as 5 or 6 years.
- ◆ Conduct Disorder is a severe and complex form of psychopathology with patients presenting with impairment in several functional domains.
- ◆ To be successful, psychiatric care must be multimodal and address multiple domains of dysfunction over an extended period of time.
- ◆ More boys than girls present with Conduct Disorder.
- ◆ Predisposing factors include genetic vulnerability, temperament, the biologic effect of neglect, abuse and socioeconomic disadvantage.

Treatment

- ✦ The multimodal treatment should address all areas of functional impairment as indicated.
- ✦ Aggressive school, family and social interventions are essential.
- ✦ Common comorbid psychiatric disorders (Attention Deficit/Hyperactivity Disorder, developmental disorders, substance use, mood disorders, or intermittent disorders) should be treated.
- ✦ Family interventions should include parental guidance, training and family therapy.
- ✦ Emphasis should be on identifying the strengths of a youth and the family.
- ✦ Consistency and clearly defined consequences are essential.
- ✦ Individual and group therapy may be helpful.
- ✦ Psychosocial skills-building is key.
- ✦ Pharmacotherapy is indicated for target symptom management.
- ✦ Lithium, valproic acid [Depakote], clonidine, and atypical antipsychotics [such as risperidone, olanzapine, quetiapine] have been used to treat aggression.
- ✦ Coordination with the juvenile justice system is essential, if the youth has committed an offense.

Pervasive Developmental Disorders

- ◆ Autistic Disorder
- ◆ Rett's Disorder
- ◆ Childhood Disintegrative Disorder
- ◆ Asperger's Disorder
- ◆ Pervasive Developmental Disorder, NOS

Of the Pervasive Developmental Spectrum of Disorders, Autistic Disorder, Asperger's Disorder and Pervasive Developmental Disorder are most prevalent. The diagnostic criteria and suggested treatments follow.

Autistic Disorder

- A** Are there a total of six or more items from 1, 2 and 3, with at least two from 1, and one each from 2 and 3?
1. Qualitative impairment in social interaction, as manifested by at least two of the following
 - ▶ Marked impairment in the use of nonverbal behaviors such as eye-to-eye gaze, facial expression, body postures, and gestures to regulate social interaction
 - ▶ Failure to develop peer relationships appropriate to developmental level
 - ▶ A lack of spontaneous seeking to share enjoyment, interests, or achievements with other people (for example, by a lack of showing, bringing or pointing out objects of interest)
 - ▶ Lack of social or emotional reciprocity
 2. Qualitative impairments in communication as manifested by at least one of the following:
 - ▶ Delay in, or total lack of, the development of spoken language (not accompanied by an attempt to compensate through alternative modes of communication such as gesture or mime)
 - ▶ In individuals with adequate speech, marked impairment in the ability to initiate or sustain a conversation with others

- ▶ Stereotyped or repetitive use of language or idiosyncratic language
 - ▶ Lack of varied, spontaneous make believe play or social imitative play appropriate to the developmental level
 - 3. Restricted, repetitive and stereotyped patterns of behavior, interests, and activities, as manifested by at least one of the following:
 - ▶ Encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus
 - ▶ Apparently inflexible adherence to specific, nonfunctional routines and rituals
 - ▶ Stereotyped and repetitive motor mannerisms(for example: hand or finger twisting or complex whole body movements)
- B** Are there delays or abnormal functioning in at least one of the following areas, with onset prior to three years of age?
1. Social interaction
 2. Language as used in social communication
 3. Symbolic or imaginative play

Rett's Disorder

- A** Are all of the following present?
1. Apparently normal prenatal and perinatal development
 2. Apparently normal psychomotor development during the first five months after birth
 3. Normal head circumference at birth
- B** Have all of the following occurred after a period of normal development?
1. Slowing of head growth between ages of 5 and 48 months.
 2. Loss of previously acquired hand skills between ages of 5 and 30 months with the development of stereotyped hand movements, such as hand wringing or hand washing
 3. Loss of social engagement early in the course (although often social interaction develops later)
 4. Appearance of poorly coordinated gait or trunk movements

5. Severely impaired expressive and receptive language development with severe psychomotor retardation

Childhood Disintegrative Disorder

- A Has there been apparently normal development for at least the first two years of life as manifested by the presence of age-appropriate verbal and nonverbal communication, social relationships, play and adaptive behavior?
- B Has there been a loss of at least two of these previously acquired skills?
 1. Expressive or receptive language
 2. Social skill or adaptive behavior
 3. Bowel or bladder control
 4. Play
 5. Motor skills
- C Are there abnormalities of functioning in at least two of the following areas?
 1. Qualitative impairments in social interaction
 - ▶ Impairment in nonverbal behaviors
 - ▶ Failure to develop peer relationships
 - ▶ Lack of social or emotional reciprocity
 2. Qualitative impairments in communications
 - ▶ Delay or lack of spoken language
 - ▶ Inability to initiate or sustain a conversation
 - ▶ Stereotyped and repetitive use of language
 - ▶ Lack of varied make-believe play
 3. Restricted, repetitive and stereotyped patterns of behavior, interests, and activities, including motor stereotypes and mannerisms

Asperger's Disorder

- A** Is there qualitative impairment in social interaction, as manifested by at least two of the following?
1. Marked impairment in the use of multiple nonverbal behaviors such as eye-to-eye gaze, facial expression, body posture, and gestures to regulate social interaction.
 2. Failure to develop peer relationships appropriate to developmental level.
 3. A lack of spontaneous seeking to share enjoyment, interests, or achievements with other people
 4. Lack of emotional reciprocity
- B** Are there restricted, repetitive and stereotyped patterns of behavior, interests, and activities as manifested by at least one of the following?
1. Encompassing preoccupation with one or more stereotyped and restricted patterns of interest that is abnormal either in intensity or focus.
 2. Apparently inflexible adherence to specific, nonfunctional rituals or routines.
 3. Stereotyped and repetitive motor mannerisms
 4. Persistent preoccupation with parts of objects
- C** The disturbance causes clinically significant impairment in social, occupational, or other important areas of functioning.
- D** There is no clinically significant delay in language development.
- E** There is no clinically significant delay in cognitive development or in the development of age appropriate self help skills, adaptive behavior (other than social interaction) and curiosity about the environment.

Pervasive Developmental Disorder, NOS

This category should be used when there is a severe and pervasive impairment in the development of:

- ▶ Reciprocal social interaction

OR

- ▶ Verbal or nonverbal interaction

OR WHEN

- ▶ Stereotyped behavior, interests, and activities are present

BUT

- ▶ The criteria for a specific Pervasive Developmental Disorder, Schizophrenia, Schizotypal Personality Disorder, or Avoidant Personality Disorders are not met.

Treatment

SPECIAL CONSIDERATIONS

- ◆ Pervasive Developmental Spectrum Disorders are characterized by impairment in social, communicative, and cognitive skills and may be associated with mental retardation.
- ◆ 0.1% of children have autism, 1.0% have Pervasive Developmental Disorder, NOS.
- ◆ Impairment, first noted in infancy, may be compounded by mood and behavioral disruption in grade school and adolescent years.
- ◆ Initially a comprehensive evaluation of growth and developmental patterns, social, communicative and cognitive development is essential.
- ◆ Strengths of the child, parents, family members and community must be assessed and used to maximally support parents caring for a child with Pervasive Developmental Disorder.
- ◆ Medical assessment should include physical examination, screening for treatable disorders, audiological, visual, and neurologic assessment. Speech and language assessments are essential. Psychological testing, occupational, and physical therapy assessments may be indicated.
- ◆ Comorbid psychiatric conditions include Obsessive-Compulsive Disorder, verbal and motor stereotypes and tics, high levels of anxiety and occasionally psychosis.

PSYCHOSOCIAL

- ◆ Special educational services including speech, language, occupational and physical therapies should be provided through preschool and other school settings.
- ◆ Behavioral health interventions include parent education, parent training in behavior modification techniques and parent/sibling support groups.

PHARMACOTHERAPY

- ◆ Used for treatment of target symptoms.
- ◆ Atypical neuroleptics, particularly risperidone [Risperdal], have been used to diminish aggressive or disruptive behavior.
- ◆ Selective serotonin reuptake inhibitors (SSRIs), particularly fluoxetine [Prozac] and sertraline [Zoloft] have effectively diminished generalized anxiety, Obsessive Compulsive Disorder symptoms and self-injurious behavior.
- ◆ Clonidine and stimulants have been used to diminish inattentiveness



Special considerations for certain disorders when diagnosed in Children and Adolescents

Depressive, Major Depressive and Dysthymic Disorders

- ◆ Both Major Depressive Disorder (MDD) and Dysthymic Disorder (DD) are common and recurrent disorders in children and adolescents.
- ◆ These disorders are frequently associated with a high risk of suicide and comorbid substance abuse.
- ◆ MDD affects 2% of children and 4-8% of adolescents.
- ◆ In childhood, girls and boys are equally affected.
- ◆ In adolescence, girls are twice as likely to experience MDD than boys.
- ◆ Children presenting with neurovegetative signs of depression may also exhibit symptoms of anxiety, somatic complaints, temper tantrums, irritability, and auditory hallucinations.
- ◆ Adolescents may present with atypical depressive symptoms including increased sleep, appetite disturbance, delusions, suicidal ideation, behavioral disruption, and auditory hallucinations.

Treatment

- ◆ Intensity, duration and frequency should be determined by level of acuity.

Psychosocial

- ◆ Cognitive Behavioral Therapy (CBT) is the only evidenced-based intervention proven to be effective in treating adolescent MDD.
- ◆ Psychoeducation for children, adolescents and family members is key.
- ◆ Supportive and dynamic individual work is found to be helpful in addressing patient specific issues.

Pharmacotherapy

- ◆ While tricyclic antidepressants (TCAs) have been found effective in treating children and adolescents with MDD, SSRIs have fewer cardiotoxic effects and require less monitoring of cardiac status.

- ◆ SSRI, especially fluoxetine [Prozac] and sertraline [Zoloft] are effective antidepressants for children and adolescents.
- ◆ Adequate doses for a period of 4-6 weeks should be used prior to raising the dose or adding additional agents.

Bipolar Disorder

- ◆ 20% of adults with Bipolar Disorder experienced their first episode between the ages of 15-19 years.
- ◆ Very early onset occurs prior to age 13.
- ◆ Early onset occurs prior to age 18.
- ◆ Mapping of a life chart characterizing the course of the illness including frequency, duration, and severity of episodes and treatment response is essential.
- ◆ First episodes may be manic or depressive in youth.
- ◆ Boys and girls are equally effected.
- ◆ 20 - 30% of children and adolescents with a Major Depressive Episode will go on to develop Bipolar Disorder.
- ◆ Risk factors for developing a manic episode before age 18:
 - ▶ Rapid onset depression episodes accompanied by psychomotor retardation and psychosis
 - ▶ Family history of mood disorders, particularly Bipolar Disorder
 - ▶ History of hypomania or mania when treated with antidepressants
- ◆ Children with mania may have fluctuating symptoms of psychomotor agitation, labile mood, disorganization of thought, depressive symptoms and psychosis.
- ◆ Adolescents with mania may have mixed manic and depressive features, mood incongruent hallucinations, paranoia and thought disorder.
- ◆ Youths with Bipolar Disorder may have premorbid ADHD, Conduct Disorder or normal histories.

Treatment

PHARMACOTHERAPY

- ◆ Treatment should be phase specific.
- ◆ Anti-manic agents may require 4-6 weeks to reach maximum efficacy.
- ◆ Antidepressants may trigger a manic episode requiring treatment.
- ◆ Multiple medication changes and additions should be avoided.

MOOD STABILIZERS

- ◆ Lithium
 - ▶ Therapeutic serum levels in children and adolescents are the same as adults (0.6-1.2mEq/L).
 - ▶ Post-pubertal adolescents tolerate doses similar to adults.
 - ▶ Children generally have higher glomerular clearance than adults and require higher doses.
 - ▶ Starting dose is typically 30mg/kg/day in divided doses
- ◆ Anticonvulsant Mood Stabilizers
 - ▶ Valproate [Depakote]
 - Effective for youth with rapid cycling
 - More effective for treatment and prophylaxis of mania than depression
 - Therapeutic range is anticonvulsant (50-100 micrograms/ml) in serum
 - ▶ Carbamazepine [Tegretol]
 - Therapeutic range is anticonvulsant (4-12 micrograms/ml) in serum
 - Adolescent girls may develop polycystic ovary disease and should be monitored for menstrual abnormalities.
 - ▶ Benzodiazepines [Valium, Librium, Ativan, Restoril, Xanax]
 - No evidence-based studies support the use of benzodiazepines in children and adolescents.
 - Alprazolam [Xanax] may induce mania

6.18 Child and Adolescent Diagnoses

SPECIAL CONSIDERATIONS

- ▶ Neuroleptics
 - While no evidence-based studies support the use of neuroleptics in early onset mania, short-term use of atypical antipsychotics has been shown effective in case reports.
- ▶ Electroconvulsive Therapy (ECT)
 - May prove effective for youth with medication refractory symptoms, catatonia, pregnancy or neuroleptic malignant syndrome

Psychosocial Treatments

- ◊ Psychoeducation of child, adolescent, and family is necessary
- ◊ Relapse prevention strategies to minimize medication noncompliance are essential
- ◊ Individual and family psychotherapy to address essential individual's family specific issues.
- ◊ Treatment of comorbid substance abuse, disruptive disorders and/or suicidality is key.