

disorders, and other comorbid diagnoses. Among individuals who are nonverbal or have language deficits, observable signs such as changes in sleep or eating and increases in challenging behavior should trigger an evaluation for anxiety or depression. Specific learning difficulties (literacy and numeracy) are common, as is developmental coordination disorder. Medical conditions commonly associated with autism spectrum disorder should be noted under the “associated with a known medical/genetic or environmental/acquired condition” specifier. Such medical conditions include epilepsy, sleep problems, and constipation. Avoidant-restrictive food intake disorder is a fairly frequent presenting feature of autism spectrum disorder, and extreme and narrow food preferences may persist.

Attention-Deficit/Hyperactivity Disorder

Attention-Deficit/Hyperactivity Disorder

Diagnostic Criteria

- A. A persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development, as characterized by (1) and/or (2):
1. **Inattention:** Six (or more) of the following symptoms have persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities:
Note: The symptoms are not solely a manifestation of oppositional behavior, defiance, hostility, or failure to understand tasks or instructions. For older adolescents and adults (age 17 and older), at least five symptoms are required.
 - a. Often fails to give close attention to details or makes careless mistakes in schoolwork, at work, or during other activities (e.g., overlooks or misses details, work is inaccurate).
 - b. Often has difficulty sustaining attention in tasks or play activities (e.g., has difficulty remaining focused during lectures, conversations, or lengthy reading).
 - c. Often does not seem to listen when spoken to directly (e.g., mind seems elsewhere, even in the absence of any obvious distraction).
 - d. Often does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace (e.g., starts tasks but quickly loses focus and is easily sidetracked).
 - e. Often has difficulty organizing tasks and activities (e.g., difficulty managing sequential tasks; difficulty keeping materials and belongings in order; messy, disorganized work; has poor time management; fails to meet deadlines).
 - f. Often avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort (e.g., schoolwork or homework; for older adolescents and adults, preparing reports, completing forms, reviewing lengthy papers).
 - g. Often loses things necessary for tasks or activities (e.g., school materials, pencils, books, tools, wallets, keys, paperwork, eyeglasses, mobile telephones).
 - h. Is often easily distracted by extraneous stimuli (for older adolescents and adults, may include unrelated thoughts).
 - i. Is often forgetful in daily activities (e.g., doing chores, running errands; for older adolescents and adults, returning calls, paying bills, keeping appointments).

2. **Hyperactivity and impulsivity:** Six (or more) of the following symptoms have persisted for at least 6 months to a degree that is inconsistent with developmental level and that negatively impacts directly on social and academic/occupational activities:

Note: The symptoms are not solely a manifestation of oppositional behavior, defiance, hostility, or a failure to understand tasks or instructions. For older adolescents and adults (age 17 and older), at least five symptoms are required.

- a. Often fidgets with or taps hands or feet or squirms in seat.
- b. Often leaves seat in situations when remaining seated is expected (e.g., leaves his or her place in the classroom, in the office or other workplace, or in other situations that require remaining in place).
- c. Often runs about or climbs in situations where it is inappropriate. (**Note:** In adolescents or adults, may be limited to feeling restless.)
- d. Often unable to play or engage in leisure activities quietly.
- e. Is often "on the go," acting as if "driven by a motor" (e.g., is unable to be or uncomfortable being still for extended time, as in restaurants, meetings; may be experienced by others as being restless or difficult to keep up with).
- f. Often talks excessively.
- g. Often blurts out an answer before a question has been completed (e.g., completes people's sentences; cannot wait for turn in conversation).
- h. Often has difficulty waiting his or her turn (e.g., while waiting in line).
- i. Often interrupts or intrudes on others (e.g., butts into conversations, games, or activities; may start using other people's things without asking or receiving permission; for adolescents and adults, may intrude into or take over what others are doing).

- B. Several inattentive or hyperactive-impulsive symptoms were present prior to age 12 years.
- C. Several inattentive or hyperactive-impulsive symptoms are present in two or more settings (e.g., at home, school, or work; with friends or relatives; in other activities).
- D. There is clear evidence that the symptoms interfere with, or reduce the quality of, social, academic, or occupational functioning.
- E. The symptoms do not occur exclusively during the course of schizophrenia or another psychotic disorder and are not better explained by another mental disorder (e.g., mood disorder, anxiety disorder, dissociative disorder, personality disorder, substance intoxication or withdrawal).

Specify whether:

314.01 (F90.2) Combined presentation: If both Criterion A1 (inattention) and Criterion A2 (hyperactivity-impulsivity) are met for the past 6 months.

314.00 (F90.0) Predominantly inattentive presentation: If Criterion A1 (inattention) is met but Criterion A2 (hyperactivity-impulsivity) is not met for the past 6 months.

314.01 (F90.1) Predominantly hyperactive/impulsive presentation: If Criterion A2 (hyperactivity-impulsivity) is met and Criterion A1 (inattention) is not met for the past 6 months.

Specify if:

in partial remission: When full criteria were previously met, fewer than the full criteria have been met for the past 6 months, and the symptoms still result in impairment in social, academic, or occupational functioning.

Specify current severity:

Mild: Few, if any, symptoms in excess of those required to make the diagnosis are present, and symptoms result in no more than minor impairments in social or occupational functioning.

Moderate: Symptoms or functional impairment between "mild" and "severe" are present.

Severe: Many symptoms in excess of those required to make the diagnosis, or several symptoms that are particularly severe, are present, or the symptoms result in marked impairment in social or occupational functioning.

Diagnostic Features

The essential feature of attention-deficit/hyperactivity disorder (ADHD) is a persistent pattern of inattention and/or hyperactivity-impulsivity that interferes with functioning or development. *Inattention* manifests behaviorally in ADHD as wandering off task, lacking persistence, having difficulty sustaining focus, and being disorganized and is not due to defiance or lack of comprehension. *Hyperactivity* refers to excessive motor activity (such as a child running about) when it is not appropriate, or excessive fidgeting, tapping, or talkativeness. In adults, hyperactivity may manifest as extreme restlessness or wearing others out with their activity. *Impulsivity* refers to hasty actions that occur in the moment without forethought and that have high potential for harm to the individual (e.g., darting into the street without looking). Impulsivity may reflect a desire for immediate rewards or an inability to delay gratification. Impulsive behaviors may manifest as social intrusiveness (e.g., interrupting others excessively) and/or as making important decisions without consideration of long-term consequences (e.g., taking a job without adequate information).

ADHD begins in childhood. The requirement that several symptoms be present before age 12 years conveys the importance of a substantial clinical presentation during childhood. At the same time, an earlier age at onset is not specified because of difficulties in establishing precise childhood onset retrospectively. Adult recall of childhood symptoms tends to be unreliable, and it is beneficial to obtain ancillary information.

Manifestations of the disorder must be present in more than one setting (e.g., home and school, work). Confirmation of substantial symptoms across settings typically cannot be done accurately without consulting informants who have seen the individual in those settings. Typically, symptoms vary depending on context within a given setting. Signs of the disorder may be minimal or absent when the individual is receiving frequent rewards for appropriate behavior, is under close supervision, is in a novel setting, is engaged in especially interesting activities, has consistent external stimulation (e.g., via electronic screens), or is interacting in one-on-one situations (e.g., the clinician's office).

Associated Features Supporting Diagnosis

Mild delays in language, motor, or social development are not specific to ADHD but often co-occur. Associated features may include low frustration tolerance, irritability, or mood lability. Even in the absence of a specific learning disorder, academic or work performance is often impaired. Inattentive behavior is associated with various underlying cognitive processes, and individuals with ADHD may exhibit cognitive problems on tests of attention, executive function, or memory, although these tests are not sufficiently sensitive or specific to serve as diagnostic indices. By early adulthood, ADHD is associated with an increased risk of suicide attempt, primarily when comorbid with mood, conduct, or substance use disorders.

No biological marker is diagnostic for ADHD. As a group, compared with peers, children with ADHD display increased slow wave electroencephalograms, reduced total brain volume on magnetic resonance imaging, and possibly a delay in posterior to anterior cortical maturation, but these findings are not diagnostic. In the uncommon cases where there is a known genetic cause (e.g., Fragile X syndrome, 22q11 deletion syndrome), the ADHD presentation should still be diagnosed.

Prevalence

Population surveys suggest that ADHD occurs in most cultures in about 5% of children and about 2.5% of adults.

Development and Course

Many parents first observe excessive motor activity when the child is a toddler, but symptoms are difficult to distinguish from highly variable normative behaviors before age 4 years. ADHD is most often identified during elementary school years, and inattention becomes more prominent and impairing. The disorder is relatively stable through early adolescence, but some individuals have a worsened course with development of antisocial behaviors. In most individuals with ADHD, symptoms of motoric hyperactivity become less obvious in adolescence and adulthood, but difficulties with restlessness, inattention, poor planning, and impulsivity persist. A substantial proportion of children with ADHD remain relatively impaired into adulthood.

In preschool, the main manifestation is hyperactivity. Inattention becomes more prominent during elementary school. During adolescence, signs of hyperactivity (e.g., running and climbing) are less common and may be confined to fidgetiness or an inner feeling of jitteriness, restlessness, or impatience. In adulthood, along with inattention and restlessness, impulsivity may remain problematic even when hyperactivity has diminished.

Risk and Prognostic Factors

Temperamental. ADHD is associated with reduced behavioral inhibition, effortful control, or constraint; negative emotionality; and/or elevated novelty seeking. These traits may predispose some children to ADHD but are not specific to the disorder.

Environmental. Very low birth weight (less than 1,500 grams) conveys a two- to three-fold risk for ADHD, but most children with low birth weight do not develop ADHD. Although ADHD is correlated with smoking during pregnancy, some of this association reflects common genetic risk. A minority of cases may be related to reactions to aspects of diet. There may be a history of child abuse, neglect, multiple foster placements, neurotoxin exposure (e.g., lead), infections (e.g., encephalitis), or alcohol exposure in utero. Exposure to environmental toxicants has been correlated with subsequent ADHD, but it is not known whether these associations are causal.

Genetic and physiological. ADHD is elevated in the first-degree biological relatives of individuals with ADHD. The heritability of ADHD is substantial. While specific genes have been correlated with ADHD, they are neither necessary nor sufficient causal factors. Visual and hearing impairments, metabolic abnormalities, sleep disorders, nutritional deficiencies, and epilepsy should be considered as possible influences on ADHD symptoms.

ADHD is not associated with specific physical features, although rates of minor physical anomalies (e.g., hypertelorism, highly arched palate, low-set ears) may be relatively elevated. Subtle motor delays and other neurological soft signs may occur. (Note that marked co-occurring clumsiness and motor delays should be coded separately [e.g., developmental coordination disorder].)

Course modifiers. Family interaction patterns in early childhood are unlikely to cause ADHD but may influence its course or contribute to secondary development of conduct problems.

Culture-Related Diagnostic Issues

Differences in ADHD prevalence rates across regions appear attributable mainly to different diagnostic and methodological practices. However, there also may be cultural variation in attitudes toward or interpretations of children's behaviors. Clinical identification rates in the United States for African American and Latino populations tend to be lower than for Caucasian populations. Informant symptom ratings may be influenced by cultural group of the child and the informant, suggesting that culturally appropriate practices are relevant in assessing ADHD.

Gender-Related Diagnostic Issues

ADHD is more frequent in males than in females in the general population, with a ratio of approximately 2:1 in children and 1.6:1 in adults. Females are more likely than males to present primarily with inattentive features.

Functional Consequences of Attention-Deficit/Hyperactivity Disorder

ADHD is associated with reduced school performance and academic attainment, social rejection, and, in adults, poorer occupational performance, attainment, attendance, and higher probability of unemployment as well as elevated interpersonal conflict. Children with ADHD are significantly more likely than their peers without ADHD to develop conduct disorder in adolescence and antisocial personality disorder in adulthood, consequently increasing the likelihood for substance use disorders and incarceration. The risk of subsequent substance use disorders is elevated, especially when conduct disorder or antisocial personality disorder develops. Individuals with ADHD are more likely than peers to be injured. Traffic accidents and violations are more frequent in drivers with ADHD. There may be an elevated likelihood of obesity among individuals with ADHD.

Inadequate or variable self-application to tasks that require sustained effort is often interpreted by others as laziness, irresponsibility, or failure to cooperate. Family relationships may be characterized by discord and negative interactions. Peer relationships are often disrupted by peer rejection, neglect, or teasing of the individual with ADHD. On average, individuals with ADHD obtain less schooling, have poorer vocational achievement, and have reduced intellectual scores than their peers, although there is great variability. In its severe form, the disorder is markedly impairing, affecting social, familial, and scholastic/occupational adjustment.

Academic deficits, school-related problems, and peer neglect tend to be most associated with elevated symptoms of inattention, whereas peer rejection and, to a lesser extent, accidental injury are most salient with marked symptoms of hyperactivity or impulsivity.

Differential Diagnosis

Oppositional defiant disorder. Individuals with oppositional defiant disorder may resist work or school tasks that require self-application because they resist conforming to others' demands. Their behavior is characterized by negativity, hostility, and defiance. These symptoms must be differentiated from aversion to school or mentally demanding tasks due to difficulty in sustaining mental effort, forgetting instructions, and impulsivity in individuals with ADHD. Complicating the differential diagnosis is the fact that some individuals with ADHD may develop secondary oppositional attitudes toward such tasks and devalue their importance.

Intermittent explosive disorder. ADHD and intermittent explosive disorder share high levels of impulsive behavior. However, individuals with intermittent explosive disorder show serious aggression toward others, which is not characteristic of ADHD, and they do not experience problems with sustaining attention as seen in ADHD. In addition, intermittent explosive disorder is rare in childhood. Intermittent explosive disorder may be diagnosed in the presence of ADHD.

Other neurodevelopmental disorders. The increased motoric activity that may occur in ADHD must be distinguished from the repetitive motor behavior that characterizes stereotypic movement disorder and some cases of autism spectrum disorder. In stereotypic movement disorder, the motoric behavior is generally fixed and repetitive (e.g., body rocking, self-biting), whereas the fidgetiness and restlessness in ADHD are typically generalized and not characterized by repetitive stereotypic movements. In Tourette's disorder,

frequent multiple tics can be mistaken for the generalized fidgetiness of ADHD. Prolonged observation may be needed to differentiate fidgetiness from bouts of multiple tics.

Specific learning disorder. Children with specific learning disorder may appear inattentive because of frustration, lack of interest, or limited ability. However, inattention in individuals with a specific learning disorder who do not have ADHD is not impairing outside of academic work.

Intellectual disability (intellectual developmental disorder). Symptoms of ADHD are common among children placed in academic settings that are inappropriate to their intellectual ability. In such cases, the symptoms are not evident during non-academic tasks. A diagnosis of ADHD in intellectual disability requires that inattention or hyperactivity be excessive for mental age.

Autism spectrum disorder. Individuals with ADHD and those with autism spectrum disorder exhibit inattention, social dysfunction, and difficult-to-manage behavior. The social dysfunction and peer rejection seen in individuals with ADHD must be distinguished from the social disengagement, isolation, and indifference to facial and tonal communication cues seen in individuals with autism spectrum disorder. Children with autism spectrum disorder may display tantrums because of an inability to tolerate a change from their expected course of events. In contrast, children with ADHD may misbehave or have a tantrum during a major transition because of impulsivity or poor self-control.

Reactive attachment disorder. Children with reactive attachment disorder may show social disinhibition, but not the full ADHD symptom cluster, and display other features such as a lack of enduring relationships that are not characteristic of ADHD.

Anxiety disorders. ADHD shares symptoms of inattention with anxiety disorders. Individuals with ADHD are inattentive because of their attraction to external stimuli, new activities, or preoccupation with enjoyable activities. This is distinguished from the inattention due to worry and rumination seen in anxiety disorders. Restlessness might be seen in anxiety disorders. However, in ADHD, the symptom is not associated with worry and rumination.

Depressive disorders. Individuals with depressive disorders may present with inability to concentrate. However, poor concentration in mood disorders becomes prominent only during a depressive episode.

Bipolar disorder. Individuals with bipolar disorder may have increased activity, poor concentration, and increased impulsivity, but these features are episodic, occurring several days at a time. In bipolar disorder, increased impulsivity or inattention is accompanied by elevated mood, grandiosity, and other specific bipolar features. Children with ADHD may show significant changes in mood within the same day; such lability is distinct from a manic episode, which must last 4 or more days to be a clinical indicator of bipolar disorder, even in children. Bipolar disorder is rare in preadolescents, even when severe irritability and anger are prominent, whereas ADHD is common among children and adolescents who display excessive anger and irritability.

Disruptive mood dysregulation disorder. Disruptive mood dysregulation disorder is characterized by pervasive irritability, and intolerance of frustration, but impulsiveness and disorganized attention are not essential features. However, most children and adolescents with the disorder have symptoms that also meet criteria for ADHD, which is diagnosed separately.

Substance use disorders. Differentiating ADHD from substance use disorders may be problematic if the first presentation of ADHD symptoms follows the onset of abuse or frequent use. Clear evidence of ADHD before substance misuse from informants or previous records may be essential for differential diagnosis.

Personality disorders. In adolescents and adults, it may be difficult to distinguish ADHD from borderline, narcissistic, and other personality disorders. All these disorders tend to share the features of disorganization, social intrusiveness, emotional dysregulation, and cognitive dysregulation. However, ADHD is not characterized by fear of abandonment, self-injury, extreme ambivalence, or other features of personality disorder. It may take extended clinical observation, informant interview, or detailed history to distinguish impulsive, socially intrusive, or inappropriate behavior from narcissistic, aggressive, or domineering behavior to make this differential diagnosis.

Psychotic disorders. ADHD is not diagnosed if the symptoms of inattention and hyperactivity occur exclusively during the course of a psychotic disorder.

Medication-induced symptoms of ADHD. Symptoms of inattention, hyperactivity, or impulsivity attributable to the use of medication (e.g., bronchodilators, isoniazid, neuroleptics [resulting in akathisia], thyroid replacement medication) are diagnosed as other specified or unspecified other (or unknown) substance-related disorders.

Neurocognitive disorders. Early major neurocognitive disorder (dementia) and/or mild neurocognitive disorder are not known to be associated with ADHD but may present with similar clinical features. These conditions are distinguished from ADHD by their late onset.

Comorbidity

In clinical settings, comorbid disorders are frequent in individuals whose symptoms meet criteria for ADHD. In the general population, oppositional defiant disorder co-occurs with ADHD in approximately half of children with the combined presentation and about a quarter with the predominantly inattentive presentation. Conduct disorder co-occurs in about a quarter of children or adolescents with the combined presentation, depending on age and setting. Most children and adolescents with disruptive mood dysregulation disorder have symptoms that also meet criteria for ADHD; a lesser percentage of children with ADHD have symptoms that meet criteria for disruptive mood dysregulation disorder. Specific learning disorder commonly co-occurs with ADHD. Anxiety disorders and major depressive disorder occur in a minority of individuals with ADHD but more often than in the general population. Intermittent explosive disorder occurs in a minority of adults with ADHD, but at rates above population levels. Although substance use disorders are relatively more frequent among adults with ADHD in the general population, the disorders are present in only a minority of adults with ADHD. In adults, antisocial and other personality disorders may co-occur with ADHD. Other disorders that may co-occur with ADHD include obsessive-compulsive disorder, tic disorders, and autism spectrum disorder.

Other Specified Attention-Deficit/ Hyperactivity Disorder

314.01 (F90.8)

This category applies to presentations in which symptoms characteristic of attention-deficit/hyperactivity disorder that cause clinically significant distress or impairment in social, occupational or other important areas of functioning predominate but do not meet the full criteria for attention-deficit/hyperactivity disorder or any of the disorders in the neurodevelopmental disorders diagnostic class. The other specified attention-deficit/hyperactivity disorder category is used in situations in which the clinician chooses to communicate

the specific reason that the presentation does not meet the criteria for attention-deficit/hyperactivity disorder or any specific neurodevelopmental disorder. This is done by recording "other specified attention-deficit/hyperactivity disorder" followed by the specific reason (e.g., "with insufficient inattention symptoms").

Unspecified Attention-Deficit/ Hyperactivity Disorder

314.01 (F90.9)

This category applies to presentations in which symptoms characteristic of attention-deficit/hyperactivity disorder that cause clinically significant distress or impairment in social, occupational, or other important areas of functioning predominate but do not meet the full criteria for attention-deficit/hyperactivity disorder or any of the disorders in the neurodevelopmental disorders diagnostic class. The unspecified attention-deficit/hyperactivity disorder category is used in situations in which the clinician chooses *not* to specify the reason that the criteria are not met for attention-deficit/hyperactivity disorder or for a specific neurodevelopmental disorder, and includes presentations in which there is insufficient information to make a more specific diagnosis.

Specific Learning Disorder

Specific Learning Disorder

Diagnostic Criteria

- A. Difficulties learning and using academic skills, as indicated by the presence of at least one of the following symptoms that have persisted for at least 6 months, despite the provision of interventions that target those difficulties:
1. Inaccurate or slow and effortful word reading (e.g., reads single words aloud incorrectly or slowly and hesitantly, frequently guesses words, has difficulty sounding out words).
 2. Difficulty understanding the meaning of what is read (e.g., may read text accurately but not understand the sequence, relationships, inferences, or deeper meanings of what is read).
 3. Difficulties with spelling (e.g., may add, omit, or substitute vowels or consonants).
 4. Difficulties with written expression (e.g., makes multiple grammatical or punctuation errors within sentences; employs poor paragraph organization; written expression of ideas lacks clarity).
 5. Difficulties mastering number sense, number facts, or calculation (e.g., has poor understanding of numbers, their magnitude, and relationships; counts on fingers to add single-digit numbers instead of recalling the math fact as peers do; gets lost in the midst of arithmetic computation and may switch procedures).
 6. Difficulties with mathematical reasoning (e.g., has severe difficulty applying mathematical concepts, facts, or procedures to solve quantitative problems).

- B. The affected academic skills are substantially and quantifiably below those expected for the individual's chronological age, and cause significant interference with academic or occupational performance, or with activities of daily living, as confirmed by individually administered standardized achievement measures and comprehensive clinical assessment. For individuals age 17 years and older, a documented history of impairing learning difficulties may be substituted for the standardized assessment.
- C. The learning difficulties begin during school-age years but may not become fully manifest until the demands for those affected academic skills exceed the individual's limited capacities (e.g., as in timed tests, reading or writing lengthy complex reports for a tight deadline, excessively heavy academic loads).
- D. The learning difficulties are not better accounted for by intellectual disabilities, uncorrected visual or auditory acuity, other mental or neurological disorders, psychosocial adversity, lack of proficiency in the language of academic instruction, or inadequate educational instruction.

Note: The four diagnostic criteria are to be met based on a clinical synthesis of the individual's history (developmental, medical, family, educational), school reports, and psycho-educational assessment.

Coding note: Specify all academic domains and subskills that are impaired. When more than one domain is impaired, each one should be coded individually according to the following specifiers.

Specify if:

315.00 (F81.0) With impairment in reading:

- Word reading accuracy
- Reading rate or fluency
- Reading comprehension

Note: *Dyslexia* is an alternative term used to refer to a pattern of learning difficulties characterized by problems with accurate or fluent word recognition, poor decoding, and poor spelling abilities. If dyslexia is used to specify this particular pattern of difficulties, it is important also to specify any additional difficulties that are present, such as difficulties with reading comprehension or math reasoning.

315.2 (F81.81) With impairment in written expression:

- Spelling accuracy
- Grammar and punctuation accuracy
- Clarity or organization of written expression

315.1 (F81.2) With impairment in mathematics:

- Number sense
- Memorization of arithmetic facts
- Accurate or fluent calculation
- Accurate math reasoning

Note: *Dyscalculia* is an alternative term used to refer to a pattern of difficulties characterized by problems processing numerical information, learning arithmetic facts, and performing accurate or fluent calculations. If dyscalculia is used to specify this particular pattern of mathematic difficulties, it is important also to specify any additional difficulties that are present, such as difficulties with math reasoning or word reasoning accuracy.

Specify current severity:

Mild: Some difficulties learning skills in one or two academic domains, but of mild enough severity that the individual may be able to compensate or function well when provided with appropriate accommodations or support services, especially during the school years.

Moderate: Marked difficulties learning skills in one or more academic domains, so that the individual is unlikely to become proficient without some intervals of intensive and specialized teaching during the school years. Some accommodations or supportive services at least part of the day at school, in the workplace, or at home may be needed to complete activities accurately and efficiently.

Severe: Severe difficulties learning skills, affecting several academic domains, so that the individual is unlikely to learn those skills without ongoing intensive individualized and specialized teaching for most of the school years. Even with an array of appropriate accommodations or services at home, at school, or in the workplace, the individual may not be able to complete all activities efficiently.

Recording Procedures

Each impaired academic domain and subskill of specific learning disorder should be recorded. Because of ICD coding requirements, impairments in reading, impairments in written expression, and impairments in mathematics, with their corresponding impairments in subskills, must be coded separately. For example, impairments in reading and mathematics and impairments in the subskills of reading rate or fluency, reading comprehension, accurate or fluent calculation, and accurate math reasoning would be coded and recorded as 315.00 (F81.0) specific learning disorder with impairment in reading, with impairment in reading rate or fluency and impairment in reading comprehension; 315.1 (F81.2) specific learning disorder with impairment in mathematics, with impairment in accurate or fluent calculation and impairment in accurate math reasoning.

Diagnostic Features

Specific learning disorder is a neurodevelopmental disorder with a biological origin that is the basis for abnormalities at a cognitive level that are associated with the behavioral signs of the disorder. The biological origin includes an interaction of genetic, epigenetic, and environmental factors, which affect the brain's ability to perceive or process verbal or non-verbal information efficiently and accurately.

One essential feature of specific learning disorder is persistent difficulties learning key-stone academic skills (Criterion A), with onset during the years of formal schooling (i.e., the developmental period). Key academic skills include reading of single words accurately and fluently, reading comprehension, written expression and spelling, arithmetic calculation, and mathematical reasoning (solving mathematical problems). In contrast to talking or walking, which are acquired developmental milestones that emerge with brain maturation, academic skills (e.g., reading, spelling, writing, mathematics) have to be taught and learned explicitly. Specific learning disorder disrupts the normal pattern of learning academic skills; it is not simply a consequence of lack of opportunity of learning or inadequate instruction. Difficulties mastering these key academic skills may also impede learning in other academic subjects (e.g., history, science, social studies), but those problems are attributable to difficulties learning the underlying academic skills. Difficulties learning to map letters with the sounds of one's language—to read printed words (often called *dyslexia*)—is one of the most common manifestations of specific learning disorder. The learning difficulties manifest as a range of observable, descriptive behaviors or symptoms (as listed in Criteria A1–A6). These clinical symptoms may be observed, probed by means of the clinical interview, or ascertained from school reports, rating scales, or descriptions in previous educational or psychological assessments. The learning difficulties are persistent, not transitory. In children and adolescents, *persistence* is defined as restricted progress in learning (i.e., no evidence that the individual is catching up with classmates) for at least 6 months despite the provision of extra help at home or school. For example, difficulties learning to read single words that do not fully or rapidly remit with the provision of instruction in phonological skills or word identification strategies may indicate a specific

learning disorder. Evidence of persistent learning difficulties may be derived from cumulative school reports, portfolios of the child's evaluated work, curriculum-based measures, or clinical interview. In adults, persistent difficulty refers to ongoing difficulties in literacy or numeracy skills that manifest during childhood or adolescence, as indicated by cumulative evidence from school reports, evaluated portfolios of work, or previous assessments.

A second key feature is that the individual's performance of the affected academic skills is well below average for age (Criterion B). One robust clinical indicator of difficulties learning academic skills is low academic achievement for age or average achievement that is sustainable only by extraordinarily high levels of effort or support. In children, the low academic skills cause significant interference in school performance (as indicated by school reports and teacher's grades or ratings). Another clinical indicator, particularly in adults, is avoidance of activities that require the academic skills. Also in adulthood, low academic skills interfere with occupational performance or everyday activities requiring those skills (as indicated by self-report or report by others). However, this criterion also requires psychometric evidence from an individually administered, psychometrically sound and culturally appropriate test of academic achievement that is norm-referenced or criterion-referenced. Academic skills are distributed along a continuum, so there is no natural cutpoint that can be used to differentiate individuals with and without specific learning disorder. Thus, any threshold used to specify what constitutes significantly low academic achievement (e.g., academic skills well below age expectation) is to a large extent arbitrary. Low achievement scores on one or more standardized tests or subtests within an academic domain (i.e., at least 1.5 standard deviations [SD] below the population mean for age, which translates to a standard score of 78 or less, which is below the 7th percentile) are needed for the greatest diagnostic certainty. However, precise scores will vary according to the particular standardized tests that are used. On the basis of clinical judgment, a more lenient threshold may be used (e.g., 1.0–2.5 SD below the population mean for age), when learning difficulties are supported by converging evidence from clinical assessment, academic history, school reports, or test scores. Moreover, since standardized tests are not available in all languages, the diagnosis may then be based in part on clinical judgment of scores on available test measures.

A third core feature is that the learning difficulties are readily apparent in the early school years in most individuals (Criterion C). However, in others, the learning difficulties may not manifest fully until later school years, by which time learning demands have increased and exceed the individual's limited capacities.

Another key diagnostic feature is that the learning difficulties are considered "specific," for four reasons. First, they are not attributable to intellectual disabilities (intellectual disability [intellectual developmental disorder]); global developmental delay; hearing or vision disorders, or neurological or motor disorders) (Criterion D). Specific learning disorder affects learning in individuals who otherwise demonstrate normal levels of intellectual functioning (generally estimated by an IQ score of greater than about 70 [± 5 points allowing for measurement error]). The phrase "unexpected academic underachievement" is often cited as the defining characteristic of specific learning disorder in that the specific learning disabilities are not part of a more general learning difficulty as manifested in intellectual disability or global developmental delay. Specific learning disorder may also occur in individuals identified as intellectually "gifted." These individuals may be able to sustain apparently adequate academic functioning by using compensatory strategies, extraordinarily high effort, or support, until the learning demands or assessment procedures (e.g., timed tests) pose barriers to their demonstrating their learning or accomplishing required tasks. Second, the learning difficulty cannot be attributed to more general external factors, such as economic or environmental disadvantage, chronic absenteeism, or lack of education as typically provided in the individual's community context. Third, the learning difficulty cannot be attributed to a neurological (e.g., pediatric stroke) or motor disorders or to vision or hearing disorders, which are often associated with problems learning academic skills but are distinguishable by presence of neurological signs.

Finally, the learning difficulty may be restricted to one academic skill or domain (e.g., reading single words, retrieving or calculating number facts).

Comprehensive assessment is required. Specific learning disorder can only be diagnosed after formal education starts but can be diagnosed at any point afterward in children, adolescents, or adults, providing there is evidence of onset during the years of formal schooling (i.e., the developmental period). No single data source is sufficient for a diagnosis of specific learning disorder. Rather, specific learning disorder is a clinical diagnosis based on a synthesis of the individual's medical, developmental, educational, and family history; the history of the learning difficulty, including its previous and current manifestation; the impact of the difficulty on academic, occupational, or social functioning; previous or current school reports; portfolios of work requiring academic skills; curriculum-based assessments; and previous or current scores from individual standardized tests of academic achievement. If an intellectual, sensory, neurological, or motor disorder is suspected, then the clinical assessment for specific learning disorder should also include methods appropriate for these disorders. Thus, comprehensive assessment will involve professionals with expertise in specific learning disorder and psychological/cognitive assessment. Since specific learning disorder typically persists into adulthood, reassessment is rarely necessary, unless indicated by marked changes in the learning difficulties (amelioration or worsening) or requested for specific purposes.

Associated Features Supporting Diagnosis

Specific learning disorder is frequently but not invariably preceded, in preschool years, by delays in attention, language, or motor skills that may persist and co-occur with specific learning disorder. An uneven profile of abilities is common, such as above-average abilities in drawing, design, and other visuospatial abilities, but slow, effortful, and inaccurate reading and poor reading comprehension and written expression. Individuals with specific learning disorder typically (but not invariably) exhibit poor performance on psychological tests of cognitive processing. However, it remains unclear whether these cognitive abnormalities are the cause, correlate, or consequence of the learning difficulties. Also, although cognitive deficits associated with difficulties learning to read words are well documented, those associated with other manifestations of specific learning disorder (e.g., reading comprehension, arithmetic computation, written expression) are underspecified or unknown. Moreover, individuals with similar behavioral symptoms or test scores are found to have a variety of cognitive deficits, and many of these processing deficits are also found in other neurodevelopmental disorders (e.g., attention-deficit/hyperactivity disorder [ADHD], autistic spectrum disorder, communication disorders, developmental coordination disorder). Thus, assessment of cognitive processing deficits is not required for diagnostic assessment. Specific learning disorder is associated with increased risk for suicidal ideation and suicide attempts in children, adolescents, and adults.

There are no known biological markers of specific learning disorder. As a group, individuals with the disorder show circumscribed alterations in cognitive processing and brain structure and function. Genetic differences are also evident at the group level. But cognitive testing, neuroimaging, or genetic testing are not useful for diagnosis at this time.

Prevalence

The prevalence of specific learning disorder across the academic domains of reading, writing, and mathematics is 5%–15% among school-age children across different languages and cultures. Prevalence in adults is unknown but appears to be approximately 4%.

Development and Course

Onset, recognition, and diagnosis of specific learning disorder usually occurs during the elementary school years when children are required to learn to read, spell, write, and learn

mathematics. However, precursors such as language delays or deficits, difficulties in rhyming or counting, or difficulties with fine motor skills required for writing commonly occur in early childhood before the start of formal schooling. Manifestations may be behavioral (e.g., a reluctance to engage in learning; oppositional behavior). Specific learning disorder is lifelong, but the course and clinical expression are variable, in part depending on the interactions among the task demands of the environment, the range and severity of the individual's learning difficulties, the individual's learning abilities, comorbidity, and the available support systems and intervention. Nonetheless, problems with reading fluency and comprehension, spelling, written expression, and numeracy skills in everyday life typically persist into adulthood.

Changes in manifestation of symptoms occur with age, so that an individual may have a persistent or shifting array of learning difficulties across the lifespan.

Examples of symptoms that may be observed among preschool-age children include a lack of interest in playing games with language sounds (e.g., repetition, rhyming), and they may have trouble learning nursery rhymes. Preschool children with specific learning disorder may frequently use baby talk, mispronounce words, and have trouble remembering names of letters, numbers, or days of the week. They may fail to recognize letters in their own names and have trouble learning to count. Kindergarten-age children with specific learning disorder may be unable to recognize and write letters, may be unable to write their own names, or may use invented spelling. They may have trouble breaking down spoken words into syllables (e.g., "cowboy" into "cow" and "boy") and trouble recognizing words that rhyme (e.g., cat, bat, hat). Kindergarten-age children also may have trouble connecting letters with their sounds (e.g., letter b makes the sound /b/) and may be unable to recognize phonemes (e.g., do not know which in a set of words [e.g., dog, man, car] starts with the same sound as "cat").

Specific learning disorder in elementary school-age children typically manifests as marked difficulty learning letter-sound correspondence (particularly in English-speaking children), fluent word decoding, spelling, or math facts; reading aloud is slow, inaccurate, and effortful, and some children struggle to understand the magnitude that a spoken or written number represents. Children in primary grades (grades 1–3) may continue to have problems recognizing and manipulating phonemes, be unable to read common one-syllable words (such as mat or top), and be unable recognize common irregularly spelled words (e.g., said, two). They may commit reading errors that indicate problems in connecting sounds and letters (e.g., "big" for "got") and have difficulty sequencing numbers and letters. Children in grades 1–3 also may have difficulty remembering number facts or arithmetic procedures for adding, subtracting, and so forth, and may complain that reading or arithmetic is hard and avoid doing it. Children with specific learning disorder in the middle grades (grades 4–6) may mispronounce or skip parts of long, multisyllable words (e.g., say "conible" for "convertible," "aminal" for "animal") and confuse words that sound alike (e.g., "tornado" for "volcano"). They may have trouble remembering dates, names, and telephone numbers and may have trouble completing homework or tests on time. Children in the middle grades also may have poor comprehension with or without slow, effortful, and inaccurate reading, and they may have trouble reading small function words (e.g., that, the, an, in). They may have very poor spelling and poor written work. They may get the first part of a word correctly, then guess wildly (e.g., read "clover" as "clock"), and may express fear of reading aloud or refuse to read aloud.

By contrast, adolescents may have mastered word decoding, but reading remains slow and effortful, and they are likely to show marked problems in reading comprehension and written expression (including poor spelling) and poor mastery of math facts or mathematical problem solving. During adolescence and into adulthood, individuals with specific learning disorder may continue to make numerous spelling mistakes and read single words and connected text slowly and with much effort, with trouble pronouncing multisyllable words. They may frequently need to reread material to understand or get the main point and have trouble making inferences from written text. Adolescents and adults may

avoid activities that demand reading or arithmetic (reading for pleasure, reading instructions). Adults with specific learning disorder have ongoing spelling problems, slow and effortful reading, or problems making important inferences from numerical information in work-related written documents. They may avoid both leisure and work-related activities that demand reading or writing or use alternative approaches to access print (e.g., text-to-speech/speech-to-text software, audiobooks, audiovisual media).

An alternative clinical expression is that of circumscribed learning difficulties that persist across the lifespan, such as an inability to master the basic sense of number (e.g., to know which of a pair of numbers or dots represents the larger magnitude), or lack of proficiency in word identification or spelling. Avoidance of or reluctance to engage in activities requiring academic skills is common in children, adolescents, and adults. Episodes of severe anxiety or anxiety disorders, including somatic complaints or panic attacks, are common across the lifespan and accompany both the circumscribed and the broader expression of learning difficulties.

Risk and Prognostic Factors

Environmental. Prematurity or very low birth weight increases the risk for specific learning disorder, as does prenatal exposure to nicotine.

Genetic and physiological. Specific learning disorder appears to aggregate in families, particularly when affecting reading, mathematics, and spelling. The relative risk of specific learning disorder in reading or mathematics is substantially higher (e.g., 4–8 times and 5–10 times higher, respectively) in first-degree relatives of individuals with these learning difficulties compared with those without them. Family history of reading difficulties (dyslexia) and parental literacy skills predict literacy problems or specific learning disorder in offspring, indicating the combined role of genetic and environmental factors.

There is high heritability for both reading ability and reading disability in alphabetic and nonalphabetic languages, including high heritability for most manifestations of learning abilities and disabilities (e.g., heritability estimate values greater than 0.6). Covariation between various manifestations of learning difficulties is high, suggesting that genes related to one presentation are highly correlated with genes related to another manifestation.

Course modifiers. Marked problems with inattentive behavior in preschool years is predictive of later difficulties in reading and mathematics (but not necessarily specific learning disorder) and nonresponse to effective academic interventions. Delay or disorders in speech or language, or impaired cognitive processing (e.g., phonological awareness, working memory, rapid serial naming) in preschool years, predicts later specific learning disorder in reading and written expression. Comorbidity with ADHD is predictive of worse mental health outcome than that associated with specific learning disorder without ADHD. Systematic, intensive, individualized instruction, using evidence-based interventions, may improve or ameliorate the learning difficulties in some individuals or promote the use of compensatory strategies in others, thereby mitigating the otherwise poor outcomes.

Culture-Related Diagnostic Issues

Specific learning disorder occurs across languages, cultures, races, and socioeconomic conditions but may vary in its manifestation according to the nature of the spoken and written symbol systems and cultural and educational practices. For example, the cognitive processing requirements of reading and of working with numbers vary greatly across orthographies. In the English language, the observable hallmark clinical symptom of difficulties learning to read is inaccurate and slow reading of single words; in other alphabetic languages that have more direct mapping between sounds and letters (e.g., Spanish, German) and in non-alphabetic languages (e.g., Chinese, Japanese), the hallmark feature is

slow but accurate reading. In English-language learners, assessment should include consideration of whether the source of reading difficulties is a limited proficiency with English or a specific learning disorder. Risk factors for specific learning disorder in English-language learners include a family history of specific learning disorder or language delay in the native language, as well as learning difficulties in English and failure to catch up with peers. If there is suspicion of cultural or language differences (e.g., as in an English-language learner), the assessment needs to take into account the individual's language proficiency in his or her first or native language as well as in the second language (in this example, English). Also, assessment should consider the linguistic and cultural context in which the individual is living, as well as his or her educational and learning history in the original culture and language.

Gender-Related Diagnostic Issues

Specific learning disorder is more common in males than in females (ratios range from about 2:1 to 3:1) and cannot be attributed to factors such as ascertainment bias, definitional or measurement variation, language, race, or socioeconomic status.

Functional Consequences of Specific Learning Disorder

Specific learning disorder can have negative functional consequences across the lifespan, including lower academic attainment, higher rates of high school dropout, lower rates of postsecondary education, high levels of psychological distress and poorer overall mental health, higher rates of unemployment and under-employment, and lower incomes. School dropout and co-occurring depressive symptoms increase the risk for poor mental health outcomes, including suicidality, whereas high levels of social or emotional support predict better mental health outcomes.

Differential Diagnosis

Normal variations in academic attainment. Specific learning disorder is distinguished from normal variations in academic attainment due to external factors (e.g., lack of educational opportunity, consistently poor instruction, learning in a second language), because the learning difficulties persist in the presence of adequate educational opportunity and exposure to the same instruction as the peer group, and competency in the language of instruction, even when it is different from one's primary spoken language.

Intellectual disability (intellectual developmental disorder). Specific learning disorder differs from general learning difficulties associated with intellectual disability, because the learning difficulties occur in the presence of normal levels of intellectual functioning (i.e., IQ score of at least 70 ± 5). If intellectual disability is present, specific learning disorder can be diagnosed only when the learning difficulties are in excess of those usually associated with the intellectual disability.

Learning difficulties due to neurological or sensory disorders. Specific learning disorder is distinguished from learning difficulties due to neurological or sensory disorders (e.g., pediatric stroke, traumatic brain injury, hearing impairment, vision impairment), because in these cases there are abnormal findings on neurological examination.

Neurocognitive disorders. Specific learning disorder is distinguished from learning problems associated with neurodegenerative cognitive disorders, because in specific learning disorder the clinical expression of specific learning difficulties occurs during the developmental period, and the difficulties do not manifest as a marked decline from a former state.

Attention-deficit/hyperactivity disorder. Specific learning disorder is distinguished from the poor academic performance associated with ADHD, because in the latter condition the problems may not necessarily reflect specific difficulties in learning academic skills but rather may reflect difficulties in performing those skills. However, the co-occurrence of specific learning disorder and ADHD is more frequent than expected by chance. If criteria for both disorders are met, both diagnoses can be given.

Psychotic disorders. Specific learning disorder is distinguished from the academic and cognitive-processing difficulties associated with schizophrenia or psychosis, because with these disorders there is a decline (often rapid) in these functional domains.

Comorbidity

Specific learning disorder commonly co-occurs with neurodevelopmental (e.g., ADHD, communication disorders, developmental coordination disorder, autistic spectrum disorder) or other mental disorders (e.g., anxiety disorders, depressive and bipolar disorders). These comorbidities do not necessarily exclude the diagnosis specific learning disorder but may make testing and differential diagnosis more difficult, because each of the co-occurring disorders independently interferes with the execution of activities of daily living, including learning. Thus, clinical judgment is required to attribute such impairment to learning difficulties. If there is an indication that another diagnosis could account for the difficulties learning keystone academic skills described in Criterion A, specific learning disorder should not be diagnosed.

Motor Disorders

Developmental Coordination Disorder

Diagnostic Criteria

315.4 (F82)

- A. The acquisition and execution of coordinated motor skills is substantially below that expected given the individual's chronological age and opportunity for skill learning and use. Difficulties are manifested as clumsiness (e.g., dropping or bumping into objects) as well as slowness and inaccuracy of performance of motor skills (e.g., catching an object, using scissors or cutlery, handwriting, riding a bike, or participating in sports).
- B. The motor skills deficit in Criterion A significantly and persistently interferes with activities of daily living appropriate to chronological age (e.g., self-care and self-maintenance) and impacts academic/school productivity, prevocational and vocational activities, leisure, and play.
- C. Onset of symptoms is in the early developmental period.
- D. The motor skills deficits are not better explained by intellectual disability (intellectual developmental disorder) or visual impairment and are not attributable to a neurological condition affecting movement (e.g., cerebral palsy, muscular dystrophy, degenerative disorder).

Diagnostic Features

The diagnosis of developmental coordination disorder is made by a clinical synthesis of the history (developmental and medical), physical examination, school or workplace report, and individual assessment using psychometrically sound and culturally appropriate standardized tests. The manifestation of impaired skills requiring motor coordination (Criterion A) varies

with age. Young children may be delayed in achieving motor milestones (i.e., sitting, crawling, walking), although many achieve typical motor milestones. They also may be delayed in developing skills such as negotiating stairs, pedaling, buttoning shirts, completing puzzles, and using zippers. Even when the skill is achieved, movement execution may appear awkward, slow, or less precise than that of peers. Older children and adults may display slow speed or inaccuracy with motor aspects of activities such as assembling puzzles, building models, playing ball games (especially in teams), handwriting, typing, driving, or carrying out self-care skills.

Developmental coordination disorder is diagnosed only if the impairment in motor skills significantly interferes with the performance of, or participation in, daily activities in family, social, school, or community life (Criterion B). Examples of such activities include getting dressed, eating meals with age-appropriate utensils and without mess, engaging in physical games with others, using specific tools in class such as rulers and scissors, and participating in team exercise activities at school. Not only is ability to perform these actions impaired, but also marked slowness in execution is common. Handwriting competence is frequently affected, consequently affecting legibility and/or speed of written output and affecting academic achievement (the impact is distinguished from specific learning difficulty by the emphasis on the motoric component of written output skills). In adults, everyday skills in education and work, especially those in which speed and accuracy are required, are affected by coordination problems.

Criterion C states that the onset of symptoms of developmental coordination disorder must be in the early developmental period. However, developmental coordination disorder is typically not diagnosed before age 5 years because there is considerable variation in the age at acquisition of many motor skills or a lack of stability of measurement in early childhood (e.g., some children catch up) or because other causes of motor delay may not have fully manifested.

Criterion D specifies that the diagnosis of developmental coordination disorder is made if the coordination difficulties are not better explained by visual impairment or attributable to a neurological condition. Thus, visual function examination and neurological examination must be included in the diagnostic evaluation. If intellectual disability (intellectual developmental disorder) is present, the motor difficulties are in excess of those expected for the mental age; however, no IQ cut-off or discrepancy criterion is specified.

Developmental coordination disorder does not have discrete subtypes; however, individuals may be impaired predominantly in gross motor skills or in fine motor skills, including handwriting skills.

Other terms used to describe developmental coordination disorder include *childhood dyspraxia*, *specific developmental disorder of motor function*, and *clumsy child syndrome*.

Associated Features Supporting Diagnosis

Some children with developmental coordination disorder show additional (usually suppressed) motor activity, such as choreiform movements of unsupported limbs or mirror movements. These "overflow" movements are referred to as *neurodevelopmental immaturities* or *neurological soft signs* rather than neurological abnormalities. In both current literature and clinical practice, their role in diagnosis is still unclear, requiring further evaluation.

Prevalence

The prevalence of developmental coordination disorder in children ages 5–11 years is 5%–6% (in children age 7 years, 1.8% are diagnosed with severe developmental coordination disorder and 3% with probable developmental coordination disorder). Males are more often affected than females, with a male:female ratio between 2:1 and 7:1.

Development and Course

The course of developmental coordination disorder is variable but stable at least to 1 year follow-up. Although there may be improvement in the longer term, problems with coor-

dinated movements continue through adolescence in an estimated 50%–70% of children. Onset is in early childhood. Delayed motor milestones may be the first signs, or the disorder is first recognized when the child attempts tasks such as holding a knife and fork, buttoning clothes, or playing ball games. In middle childhood, there are difficulties with motor aspects of assembling puzzles, building models, playing ball, and handwriting, as well as with organizing belongings, when motor sequencing and coordination are required. In early adulthood, there is continuing difficulty in learning new tasks involving complex/automatic motor skills, including driving and using tools. Inability to take notes and handwrite quickly may affect performance in the workplace. Co-occurrence with other disorders (see the section “Comorbidity” for this disorder) has an additional impact on presentation, course, and outcome.

Risk and Prognostic Factors

Environmental. Developmental coordination disorder is more common following prenatal exposure to alcohol and in preterm and low-birth-weight children.

Genetic and physiological. Impairments in underlying neurodevelopmental processes—particularly in visual-motor skills, both in visual-motor perception and spatial mentalizing—have been found and affect the ability to make rapid motoric adjustments as the complexity of the required movements increases. Cerebellar dysfunction has been proposed, but the neural basis of developmental coordination disorder remains unclear. Because of the co-occurrence of developmental coordination disorder with attention-deficit/hyperactivity disorder (ADHD), specific learning disabilities, and autism spectrum disorder, shared genetic effect has been proposed. However, consistent co-occurrence in twins appears only in severe cases.

Course modifiers. Individuals with ADHD and with developmental coordination disorder demonstrate more impairment than individuals with ADHD without developmental coordination disorder.

Culture-Related Diagnostic Issues

Developmental coordination disorder occurs across cultures, races, and socioeconomic conditions. By definition, “activities of daily living” implies cultural differences necessitating consideration of the context in which the individual child is living as well as whether he or she has had appropriate opportunities to learn and practice such activities.

Functional Consequences of Developmental Coordination Disorder

Developmental coordination disorder leads to impaired functional performance in activities of daily living (Criterion B), and the impairment is increased with co-occurring conditions. Consequences of developmental coordination disorder include reduced participation in team play and sports; poor self-esteem and sense of self-worth; emotional or behavior problems; impaired academic achievement; poor physical fitness; and reduced physical activity and obesity.

Differential Diagnosis

Motor impairments due to another medical condition. Problems in coordination may be associated with visual function impairment and specific neurological disorders (e.g., cerebral palsy, progressive lesions of the cerebellum, neuromuscular disorders). In such cases, there are additional findings on neurological examination.

Intellectual disability (intellectual developmental disorder). If intellectual disability is present, motor competences may be impaired in accordance with the intellectual disabil-

ity. However, if the motor difficulties are in excess of what could be accounted for by the intellectual disability, and criteria for developmental coordination disorder are met, developmental coordination disorder can be diagnosed as well.

Attention-deficit/hyperactivity disorder. Individuals with ADHD may fall, bump into objects, or knock things over. Careful observation across different contexts is required to ascertain if lack of motor competence is attributable to distractibility and impulsiveness rather than to developmental coordination disorder. If criteria for both ADHD and developmental coordination disorder are met, both diagnoses can be given.

Autism spectrum disorder. Individuals with autism spectrum disorder may be uninterested in participating in tasks requiring complex coordination skills, such as ball sports, which will affect test performance and function but not reflect core motor competence. Co-occurrence of developmental coordination disorder and autism spectrum disorder is common. If criteria for both disorders are met, both diagnoses can be given.

Joint hypermobility syndrome. Individuals with syndromes causing hyperextensible joints (found on physical examination; often with a complaint of pain) may present with symptoms similar to those of developmental coordination disorder.

Comorbidity

Disorders that commonly co-occur with developmental coordination disorder include speech and language disorder; specific learning disorder (especially reading and writing); problems of inattention, including ADHD (the most frequent coexisting condition, with about 50% co-occurrence); autism spectrum disorder; disruptive and emotional behavior problems; and joint hypermobility syndrome. Different clusters of co-occurrence may be present (e.g., a cluster with severe reading disorders, fine motor problems, and handwriting problems; another cluster with impaired movement control and motor planning). Presence of other disorders does not exclude developmental coordination disorder but may make testing more difficult and may independently interfere with the execution of activities of daily living, thus requiring examiner judgment in ascribing impairment to motor skills.

Stereotypic Movement Disorder

Diagnostic Criteria	307.3 (F98.4)
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- A. Repetitive, seemingly driven, and apparently purposeless motor behavior (e.g., hand shaking or waving, body rocking, head banging, self-biting, hitting own body).
- B. The repetitive motor behavior interferes with social, academic, or other activities and may result in self-injury.
- C. Onset is in the early developmental period.
- D. The repetitive motor behavior is not attributable to the physiological effects of a substance or neurological condition and is not better explained by another neurodevelopmental or mental disorder (e.g., trichotillomania [hair-pulling disorder], obsessive-compulsive disorder).

Specify if:

With self-injurious behavior (or behavior that would result in an injury if preventive measures were not used)

Without self-injurious behavior

Specify if:

Associated with a known medical or genetic condition, neurodevelopmental disorder, or environmental factor (e.g., Lesch-Nyhan syndrome, intellectual disability [intellectual developmental disorder], intrauterine alcohol exposure)

Coding note: Use additional code to identify the associated medical or genetic condition, or neurodevelopmental disorder.

Specify current severity:

Mild: Symptoms are easily suppressed by sensory stimulus or distraction.

Moderate: Symptoms require explicit protective measures and behavioral modification.

Severe: Continuous monitoring and protective measures are required to prevent serious injury.

Recording Procedures

For stereotypic movement disorder that is associated with a known medical or genetic condition, neurodevelopmental disorder, or environmental factor, record stereotypic movement disorder associated with (name of condition, disorder, or factor) (e.g., stereotypic movement disorder associated with Lesch-Nyhan syndrome).

Specifiers

The severity of non-self-injurious stereotypic movements ranges from mild presentations that are easily suppressed by a sensory stimulus or distraction to continuous movements that markedly interfere with all activities of daily living. Self-injurious behaviors range in severity along various dimensions, including the frequency, impact on adaptive functioning, and severity of bodily injury (from mild bruising or erythema from hitting hand against body, to lacerations or amputation of digits, to retinal detachment from head banging).

Diagnostic Features

The essential feature of stereotypic movement disorder is repetitive, seemingly driven, and apparently purposeless motor behavior (Criterion A). These behaviors are often rhythmical movements of the head, hands, or body without obvious adaptive function. The movements may or may not respond to efforts to stop them. Among typically developing children, the repetitive movements may be stopped when attention is directed to them or when the child is distracted from performing them. Among children with neurodevelopmental disorders, the behaviors are typically less responsive to such efforts. In other cases, the individual demonstrates self-restraining behaviors (e.g., sitting on hands, wrapping arms in clothing, finding a protective device).

The repertoire of behaviors is variable; each individual presents with his or her own individually patterned, "signature" behavior. Examples of non-self-injurious stereotypic movements include, but are not limited to, body rocking, bilateral flapping or rotating hand movements, flicking or fluttering fingers in front of the face, arm waving or flapping, and head nodding. Stereotyped self-injurious behaviors include, but are not limited to, repetitive head banging, face slapping, eye poking, and biting of hands, lips, or other body parts. Eye poking is particularly concerning; it occurs more frequently among children with visual impairment. Multiple movements may be combined (e.g., cocking the head, rocking the torso, waving a small string repetitively in front of the face).

Stereotypic movements may occur many times during a day, lasting a few seconds to several minutes or longer. Frequency can vary from many occurrences in a single day to several weeks elapsing between episodes. The behaviors vary in context, occurring when the individual is engrossed in other activities, when excited, stressed, fatigued, or bored. Criterion A requires that the movements be "apparently" purposeless. However, some functions may be served by the movements. For example, stereotypic movements might reduce anxiety in response to external stressors.

Criterion B states that the stereotypic movements interfere with social, academic, or other activities and, in some children, may result in self-injury (or would if protective measures were not used). If self-injury is present, it should be coded using the specifier. Onset

of stereotypic movements is in the early developmental period (Criterion C). Criterion D states that the repetitive, stereotyped behavior in stereotypic movement disorder is not attributable to the physiological effects of a substance or neurological condition and is not better explained by another neurodevelopmental or mental disorder. The presence of stereotypic movements may indicate an undetected neurodevelopmental problem, especially in children ages 1–3 years.

Prevalence

Simple stereotypic movements (e.g., rocking) are common in young typically developing children. Complex stereotypic movements are much less common (occurring in approximately 3%–4%). Between 4% and 16% of individuals with intellectual disability (intellectual developmental disorder) engage in stereotypy and self-injury. The risk is greater in individuals with severe intellectual disability. Among individuals with intellectual disability living in residential facilities, 10%–15% may have stereotypic movement disorder with self-injury.

Development and Course

Stereotypic movements typically begin within the first 3 years of life. Simple stereotypic movements are common in infancy and may be involved in acquisition of motor mastery. In children who develop complex motor stereotypies, approximately 80% exhibit symptoms before 24 months of age, 12% between 24 and 35 months, and 8% at 36 months or older. In most typically developing children, these movements resolve over time or can be suppressed. Onset of complex motor stereotypies may be in infancy or later in the developmental period. Among individuals with intellectual disability, the stereotyped, self-injurious behaviors may persist for years, even though the typography or pattern of self-injury may change.

Risk and Prognostic Factors

Environmental. Social isolation is a risk factor for self-stimulation that may progress to stereotypic movements with repetitive self-injury. Environmental stress may also trigger stereotypic behavior. Fear may alter physiological state, resulting in increased frequency of stereotypic behaviors.

Genetic and physiological. Lower cognitive functioning is linked to greater risk for stereotypic behaviors and poorer response to interventions. Stereotypic movements are more frequent among individuals with moderate-to-severe/profound intellectual disability, who by virtue of a particular syndrome (e.g., Rett syndrome) or environmental factor (e.g., an environment with relatively insufficient stimulation) seem to be at higher risk for stereotypies. Repetitive self-injurious behavior may be a behavioral phenotype in neurogenetic syndromes. For example, in Lesch-Nyhan syndrome, there are both stereotypic dystonic movements and self-mutilation of fingers, lip biting, and other forms of self-injury unless the individual is restrained, and in Rett syndrome and Cornelia de Lange syndrome, self-injury may result from the hand-to-mouth stereotypies. Stereotypic behaviors may result from a painful medical condition (e.g., middle ear infection, dental problems, gastroesophageal reflux).

Culture-Related Diagnostic Issues

Stereotypic movement disorder, with or without self-injury, occurs in all races and cultures. Cultural attitudes toward unusual behaviors may result in delayed diagnosis. Overall cultural tolerance and attitudes toward stereotypic movement vary and must be considered.

Differential Diagnosis

Normal development. Simple stereotypic movements are common in infancy and early childhood. Rocking may occur in the transition from sleep to awake, a behavior that usu-

ally resolves with age. Complex stereotypies are less common in typically developing children and can usually be suppressed by distraction or sensory stimulation. The individual's daily routine is rarely affected, and the movements generally do not cause the child distress. The diagnosis would not be appropriate in these circumstances.

Autism spectrum disorder. Stereotypic movements may be a presenting symptom of autism spectrum disorder and should be considered when repetitive movements and behaviors are being evaluated. Deficits of social communication and reciprocity manifesting in autism spectrum disorder are generally absent in stereotypic movement disorder, and thus social interaction, social communication, and rigid repetitive behaviors and interests are distinguishing features. When autism spectrum disorder is present, stereotypic movement disorder is diagnosed only when there is self-injury or when the stereotypic behaviors are sufficiently severe to become a focus of treatment.

Tic disorders. Typically, stereotypies have an earlier age at onset (before 3 years) than do tics, which have a mean age at onset of 5–7 years. They are consistent and fixed in their pattern or topography compared with tics, which are variable in their presentation. Stereotypies may involve arms, hands, or the entire body, while tics commonly involve eyes, face, head, and shoulders. Stereotypies are more fixed, rhythmic, and prolonged in duration than tics, which, generally, are brief, rapid, random, and fluctuating. Tics and stereotypic movements are both reduced by distraction.

Obsessive-compulsive and related disorders. Stereotypic movement disorder is distinguished from obsessive-compulsive disorder (OCD) by the absence of obsessions, as well as by the nature of the repetitive behaviors. In OCD the individual feels driven to perform repetitive behaviors in response to an obsession or according to rules that must be applied rigidly, whereas in stereotypic movement disorder the behaviors are seemingly driven but apparently purposeless. Trichotillomania (hair-pulling disorder) and excoriation (skin-picking) disorder are characterized by body-focused repetitive behaviors (i.e., hair pulling and skin picking) that may be seemingly driven but that are not apparently purposeless, and that may not be patterned or rhythmical. Furthermore, onset in trichotillomania and excoriation disorder is not typically in the early developmental period, but rather around puberty or later.

Other neurological and medical conditions. The diagnosis of stereotypic movements requires the exclusion of habits, mannerisms, paroxysmal dyskinesias, and benign hereditary chorea. A neurological history and examination are required to assess features suggestive of other disorders, such as myoclonus, dystonia, tics, and chorea. Involuntary movements associated with a neurological condition may be distinguished by their signs and symptoms. For example, repetitive, stereotypic movements in tardive dyskinesia can be distinguished by a history of chronic neuroleptic use and characteristic oral or facial dyskinesia or irregular trunk or limb movements. These types of movements do not result in self-injury. A diagnosis of stereotypic movement disorder is not appropriate for repetitive skin picking or scratching associated with amphetamine intoxication or abuse (e.g., patients are diagnosed with substance/medication-induced obsessive-compulsive and related disorder) and repetitive choreoathetoid movements associated with other neurological disorders.

Comorbidity

Stereotypic movement disorder may occur as a primary diagnosis or secondary to another disorder. For example, stereotypies are a common manifestation of a variety of neurogenetic disorders, such as Lesch-Nyhan syndrome, Rett syndrome, fragile X syndrome, Cornelia de Lange syndrome, and Smith-Magenis syndrome. When stereotypic movement disorder co-occurs with another medical condition, both should be coded.

Tic Disorders

Diagnostic Criteria

Note: A tic is a sudden, rapid, recurrent, nonrhythmic motor movement or vocalization.

Tourette's Disorder

307.23 (F95.2)

- A. Both multiple motor and one or more vocal tics have been present at some time during the illness, although not necessarily concurrently.
- B. The tics may wax and wane in frequency but have persisted for more than 1 year since first tic onset.
- C. Onset is before age 18 years.
- D. The disturbance is not attributable to the physiological effects of a substance (e.g., cocaine) or another medical condition (e.g., Huntington's disease, postviral encephalitis).

Persistent (Chronic) Motor or Vocal Tic Disorder

307.22 (F95.1)

- A. Single or multiple motor or vocal tics have been present during the illness, but not both motor and vocal.
- B. The tics may wax and wane in frequency but have persisted for more than 1 year since first tic onset.
- C. Onset is before age 18 years.
- D. The disturbance is not attributable to the physiological effects of a substance (e.g., cocaine) or another medical condition (e.g., Huntington's disease, postviral encephalitis).
- E. Criteria have never been met for Tourette's disorder.

Specify if:

With motor tics only

With vocal tics only

Provisional Tic Disorder

307.21 (F95.0)

- A. Single or multiple motor and/or vocal tics.
- B. The tics have been present for less than 1 year since first tic onset.
- C. Onset is before age 18 years.
- D. The disturbance is not attributable to the physiological effects of a substance (e.g., cocaine) or another medical condition (e.g., Huntington's disease, postviral encephalitis).
- E. Criteria have never been met for Tourette's disorder or persistent (chronic) motor or vocal tic disorder.

Specifiers

The "motor tics only" or "vocal tics only" specifier is only required for persistent (chronic) motor or vocal tic disorder.

Diagnostic Features

Tic disorders comprise four diagnostic categories: Tourette's disorder, persistent (chronic) motor or vocal tic disorder, provisional tic disorder, and the other specified and unspecified tic disorders. Diagnosis for any tic disorder is based on the presence of motor and /or vocal tics (Criterion A), duration of tic symptoms (Criterion B), age at onset (Criterion C), and absence of any known cause such as another medical condition or substance use (Criterion D). The tic disorders are hierarchical in order (i.e., Tourette's disorder, followed by persistent [chronic] motor or vocal tic disorder, followed by provisional tic disorder, followed by the

other specified and unspecified tic disorders), such that once a tic disorder at one level of the hierarchy is diagnosed, a lower hierarchy diagnosis cannot be made (Criterion E).

Tics are sudden, rapid, recurrent, nonrhythmic motor movements or vocalizations. An individual may have various tic symptoms over time, but at any point in time, the tic repertoire recurs in a characteristic fashion. Although tics can include almost any muscle group or vocalization, certain tic symptoms, such as eye blinking or throat clearing, are common across patient populations. Tics are generally experienced as involuntary but can be voluntarily suppressed for varying lengths of time.

Tics can be either simple or complex. *Simple motor tics* are of short duration (i.e., milliseconds) and can include eye blinking, shoulder shrugging, and extension of the extremities. Simple vocal tics include throat clearing, sniffing, and grunting often caused by contraction of the diaphragm or muscles of the oropharynx. *Complex motor tics* are of longer duration (i.e., seconds) and often include a combination of simple tics such as simultaneous head turning and shoulder shrugging. Complex tics can appear purposeful, such as a tic-like sexual or obscene gesture (*coprophagia*) or a tic-like imitation of someone else's movements (*echopraxia*). Similarly, complex vocal tics include repeating one's own sounds or words (*palilalia*), repeating the last-heard word or phrase (*echolalia*), or uttering socially unacceptable words, including obscenities, or ethnic, racial, or religious slurs (*coprolalia*). Importantly, coprolalia is an abrupt, sharp bark or grunt utterance and lacks the prosody of similar inappropriate speech observed in human interactions.

The presence of motor and/or vocal tics varies across the four tic disorders (Criterion A). For Tourette's disorder, both motor and vocal tics must be present, whereas for persistent (chronic) motor or vocal tic disorder, only motor or only vocal tics are present. For provisional tic disorder, motor and/or vocal tics may be present. For other specified or unspecified tic disorders, the movement disorder symptoms are best characterized as tics but are atypical in presentation or age at onset, or have a known etiology.

The 1-year minimum duration criterion (Criterion B) assures that individuals diagnosed with either Tourette's disorder or persistent (chronic) motor or vocal tic disorder have had persistent symptoms. Tics wax and wane in severity, and some individuals may have tic-free periods of weeks to months; however, an individual who has had tic symptoms of greater than 1 year's duration since first tic onset would be considered to have persistent symptoms regardless of duration of tic-free periods. For an individual with motor and/or vocal tics of less than 1 year since first tic onset, a provisional tic disorder diagnosis can be considered. There is no duration specification for other specified and unspecified tic disorders. The onset of tics must occur prior to age 18 years (Criterion C). Tic disorders typically begin in the prepubertal period, with an average age at onset between 4 and 6 years, and with the incidence of new-onset tic disorders decreasing in the teen years. New onset of tic symptoms in adulthood is exceedingly rare and is often associated with exposures to drugs (e.g., excessive cocaine use) or is a result of a central nervous system insult (e.g., postviral encephalitis). Although tic onset is uncommon in teenagers and adults, it is not uncommon for adolescents and adults to present for an initial diagnostic assessment and, when carefully evaluated, provide a history of milder symptoms dating back to childhood. New-onset abnormal movements suggestive of tics outside of the usual age range should result in evaluation for other movement disorders or for specific etiologies.

Tic symptoms cannot be attributable to the physiological effects of a substance or another medical condition (Criterion D). When there is strong evidence from the history, physical examination, and/or laboratory results to suggest a plausible, proximal, and probable cause for a tic disorder, a diagnosis of other specified tic disorder should be used.

Having previously met diagnostic criteria for Tourette's disorder negates a possible diagnosis of persistent (chronic) motor or vocal tic disorder (Criterion E). Similarly, a previous diagnosis of persistent (chronic) motor or vocal tic disorder negates a diagnosis of provisional tic disorder or other specified or unspecified tic disorder (Criterion E).

Prevalence

Tics are common in childhood but transient in most cases. The estimated prevalence of Tourette's disorder ranges from 3 to 8 per 1,000 in school-age children. Males are more commonly affected than females, with the ratio varying from 2:1 to 4:1. A national survey in the United States estimated 3 per 1,000 for the prevalence of clinically identified cases. The frequency of identified cases was lower among African Americans and Hispanic Americans, which may be related to differences in access to care.

Development and Course

Onset of tics is typically between ages 4 and 6 years. Peak severity occurs between ages 10 and 12 years, with a decline in severity during adolescence. Many adults with tic disorders experience diminished symptoms. A small percentage of individuals will have persistently severe or worsening symptoms in adulthood.

Tic symptoms manifest similarly in all age groups and across the lifespan. Tics wax and wane in severity and change in affected muscle groups and vocalizations over time. As children get older, they begin to report their tics being associated with a premonitory urge—a somatic sensation that precedes the tic—and a feeling of tension reduction following the expression of the tic. Tics associated with a premonitory urge may be experienced as not completely “involuntary” in that the urge and the tic can be resisted. An individual may also feel the need to perform a tic in a specific way or repeat it until he or she achieves the feeling that the tic has been done “just right.”

The vulnerability toward developing co-occurring conditions changes as individuals pass through the age of risk for various co-occurring conditions. For example, prepubertal children with tic disorders are more likely to experience attention-deficit/hyperactivity disorder (ADHD), obsessive-compulsive disorder (OCD), and separation anxiety disorder than are teenagers and adults, who are more likely to experience the new onset of major depressive disorder, substance use disorder, or bipolar disorder.

Risk and Prognostic Factors

Temperamental. Tics are worsened by anxiety, excitement, and exhaustion and are better during calm, focused activities. Individuals may have fewer tics when engaged in schoolwork or tasks at work than when relaxing at home after school or in the evening. Stressful/exciting events (e.g., taking a test, participating in exciting activities) often make tics worse.

Environmental. Observing a gesture or sound in another person may result in an individual with a tic disorder making a similar gesture or sound, which may be incorrectly perceived by others as purposeful. This can be a particular problem when the individual is interacting with authority figures (e.g., teachers, supervisors, police).

Genetic and physiological. Genetic and environmental factors influence tic symptom expression and severity. Important risk alleles for Tourette's disorder and rare genetic variants in families with tic disorders have been identified. Obstetrical complications, older paternal age, lower birth weight, and maternal smoking during pregnancy are associated with worse tic severity.

Culture-Related Diagnostic Issues

Tic disorders do not appear to vary in clinical characteristics, course, or etiology by race, ethnicity, and culture. However, race, ethnicity, and culture may impact how tic disorders are perceived and managed in the family and community, as well as influencing patterns of help seeking, and choices of treatment.

Gender-Related Diagnostic Issues

Males are more commonly affected than females, but there are no gender differences in the kinds of tics, age at onset, or course. Women with persistent tic disorders may be more likely to experience anxiety and depression.

Functional Consequences of Tic Disorders

Many individuals with mild to moderate tic severity experience no distress or impairment in functioning and may even be unaware of their tics. Individuals with more severe symptoms generally have more impairment in daily living, but even individuals with moderate or even severe tic disorders may function well. The presence of a co-occurring condition, such as ADHD or OCD, can have greater impact on functioning. Less commonly, tics disrupt functioning in daily activities and result in social isolation, interpersonal conflict, peer victimization, inability to work or to go to school, and lower quality of life. The individual also may experience substantial psychological distress. Rare complications of Tourette's disorder include physical injury, such as eye injury (from hitting oneself in the face), and orthopedic and neurological injury (e.g., disc disease related to forceful head and neck movements).

Differential Diagnosis

Abnormal movements that may accompany other medical conditions and stereotypic movement disorder. *Motor stereotypies* are defined as involuntary rhythmic, repetitive, predictable movements that appear purposeful but serve no obvious adaptive function or purpose and stop with distraction. Examples include repetitive hand waving/rotating, arm flapping, and finger wiggling. Motor stereotypies can be differentiated from tics based on the former's earlier age at onset (younger than 3 years), prolonged duration (seconds to minutes), constant repetitive fixed form and location, exacerbation when engrossed in activities, lack of a premonitory urge, and cessation with distraction (e.g., name called or touched). *Chorea* represents rapid, random, continual, abrupt, irregular, unpredictable, nonstereotyped actions that are usually bilateral and affect all parts of the body (i.e., face, trunk, and limbs). The timing, direction, and distribution of movements vary from moment to moment, and movements usually worsen during attempted voluntary action. *Dystonia* is the simultaneous sustained contracture of both agonist and antagonist muscles, resulting in a distorted posture or movement of parts of the body. Dystonic postures are often triggered by attempts at voluntary movements and are not seen during sleep.

Substance-induced and paroxysmal dyskinesias. Paroxysmal dyskinesias usually occur as dystonic or choreoathetoid movements that are precipitated by voluntary movement or exertion and less commonly arise from normal background activity.

Myoclonus. Myoclonus is characterized by a sudden unidirectional movement that is often nonrhythmic. It may be worsened by movement and occur during sleep. Myoclonus is differentiated from tics by its rapidity, lack of suppressibility, and absence of a premonitory urge.

Obsessive-compulsive and related disorders. Differentiating obsessive-compulsive behaviors from tics may be difficult. Clues favoring an obsessive-compulsive behavior include a cognitive-based drive (e.g., fear of contamination) and the need to perform the action in a particular fashion a certain number of times, equally on both sides of the body, or until a "just right" feeling is achieved. Impulse-control problems and other repetitive behaviors, including persistent hair pulling, skin picking, and nail biting, appear more goal directed and complex than tics.

Comorbidity

Many medical and psychiatric conditions have been described as co-occurring with tic disorders, with ADHD and obsessive-compulsive and related disorders being particularly common. The obsessive-compulsive symptoms observed in tic disorder tend to be characterized by more aggressive symmetry and order symptoms and poorer response to pharmacotherapy with selective serotonin reuptake inhibitors. Children with ADHD may demonstrate disruptive behavior, social immaturity, and learning difficulties that may interfere with academic progress and interpersonal relationships and lead to greater impairment than that caused by a tic disorder. Individuals with tic disorders can also have other movement disorders and other mental disorders, such as depressive, bipolar, or substance use disorders.

Other Specified Tic Disorder

307.20 (F95.8)

This category applies to presentations in which symptoms characteristic of a tic disorder that cause clinically significant distress or impairment in social, occupational, or other important areas of functioning predominate but do not meet the full criteria for a tic disorder or any of the disorders in the neurodevelopmental disorders diagnostic class. The other specified tic disorder category is used in situations in which the clinician chooses to communicate the specific reason that the presentation does not meet the criteria for a tic disorder or any specific neurodevelopmental disorder. This is done by recording “other specified tic disorder” followed by the specific reason (e.g., “with onset after age 18 years”).

Unspecified Tic Disorder

307.20 (F95.9)

This category applies to presentations in which symptoms characteristic of a tic disorder that cause clinically significant distress or impairment in social, occupational, or other important areas of functioning predominate but do not meet the full criteria for a tic disorder or for any of the disorders in the neurodevelopmental disorders diagnostic class. The unspecified tic disorder category is used in situations in which the clinician chooses *not* to specify the reason that the criteria are not met for a tic disorder or for a specific neurodevelopmental disorder, and includes presentations in which there is insufficient information to make a more specific diagnosis.
