



ICD-11 DIAGNOSTIC GUIDELINES

Neurodevelopmental Disorders

Note: This document contains a pre-publication version of the ICD-11 diagnostic guidelines for Neurodevelopmental Disorders. There may be further edits to these guidelines prior to their publication.

Table of Contents

NEURODEVELOPMENTAL DISORDERS	2
6A00 Disorders of Intellectual Development.....	3
6A01 Developmental Speech or Language Disorders	11
6A01.0 Developmental Speech Sound Disorder	12
6A01.1 Developmental Speech Fluency Disorder	15
6A01.2 Developmental Language Disorder	17
6A02 Autism Spectrum Disorder	22
6A03 Developmental Learning Disorder	32
6A04 Developmental Motor Coordination Disorder.....	36
6A05 Attention Deficit Hyperactivity Disorder	39
6A06 Stereotyped Movement Disorder.....	46
6A0Y Other Specified Neurodevelopmental Disorders	48
8A05.0 Primary Tics or Tic Disorders	49
8A05.00 Tourette Syndrome	49
8A05.01 Chronic Motor Tic Disorder	52
8A05.02 Chronic Phonic Tic Disorder	52

NEURODEVELOPMENTAL DISORDERS

Neurodevelopmental Disorders are behavioural and cognitive disorders arising during the developmental period that involve significant difficulties in the acquisition and execution of specific intellectual, motor, language, or social functions. In this context, arising during the developmental period is typically considered to mean that these disorders have their onset prior to the age of 18, regardless of the age at which the individual first comes to clinical attention. Although behavioural and cognitive deficits are present in many mental and behavioural disorders that can arise during the developmental period (e.g., Schizophrenia, Bipolar Disorder), only disorders whose core features are neurodevelopmental are included in this grouping. The presumptive aetiology for Neurodevelopmental Disorders is complex, and in many individual cases is unknown, but they are presumed to be primarily due to genetic or other factors that are present from birth. However, lack of appropriate environmental stimulation or adequate learning opportunities and experiences may also be contributory factors in Neurodevelopmental Disorders and should be routinely considered in their assessment. Certain Neurodevelopmental Disorders may also arise from injury, disease, or other insult to the central nervous system, when this occurs during the developmental period.

Neurodevelopmental Disorders include the following:

- 6A00 Disorders of Intellectual Development
- 6A01 Developmental Speech or Language Disorders
 - 6A01.0 Developmental Speech Sound Disorder
 - 6A01.1 Developmental Speech Fluency Disorder
 - 6A01.2 Developmental Language Disorder
- 6A02 Autism Spectrum Disorder
- 6A03 Developmental Learning Disorder
- 6A04 Developmental Motor Coordination Disorder
- 6A05 Attention Deficit Hyperactivity Disorder
- 6A06 Stereotyped Movement Disorder
- 6A0Y Other Specified Neurodevelopmental Disorders

In addition, three categories from the grouping of Primary Tics and Tic Disorders in the Chapter on Diseases of the Nervous System (Chapter 8) are cross-listed here, with diagnostic guidance provided, because of their high co-occurrence and familial association with Neurodevelopmental Disorders. These include:

- 8A05.00 Tourette Syndrome
- 8A05.01 Chronic Motor Tic Disorder
- 8A05.02 Chronic Phonic Tic Disorder

General Cultural Considerations in Neurodevelopmental Disorders

The evaluation of the essential features of most of the disorders in this section either depend on or are informed by standardized assessments. The cultural appropriateness of tests and norms used to assess intellectual, motor, language, or social abilities should be considered for each individual. Test performance may be affected by cultural biases (e.g., reference in test items to terminology or objects not common to a culture) and limitations of translation.

Language proficiency must also be considered when interpreting test results. Where appropriately normed and standardized tests are not available, assessment of the essential features of these disorders requires greater reliance on clinical judgment based on appropriate evidence and assessment.

6A00 Disorders of Intellectual Development

Essential (Required) Features:

- The presence of significant limitations in intellectual functioning across various domains such as perceptual reasoning, working memory, processing speed, and verbal comprehension. There is often substantial variability in the extent to which any of these domains are affected in an individual. Whenever possible, performance should be measured using appropriately normed, standardized tests of intellectual functioning and found to be approximately 2 or more standard deviations below the mean (i.e., approximately less than the 2.3rd percentile). In situations where appropriately normed and standardized tests are not available, assessment of intellectual functioning requires greater reliance on clinical judgment based on appropriate evidence and assessment, which may include the use of behavioural indicators of intellectual functioning (see Table A).
- The presence of significant limitations in adaptive behaviour, which refers to the set of *conceptual*, *social*, and *practical* skills that have been learned and are performed by people in their everyday lives. *Conceptual skills* are those that involve the application of knowledge (e.g., reading, writing, calculating, solving problems, and making decisions) and communication; *social skills* include managing interpersonal interactions and relationships, social responsibility, following rules and obeying laws, as well as avoiding victimization; and *practical skills* are involved in areas such as self-care, health and safety, occupational skills, recreation, use of money, mobility and transportation, as well as use of home appliances and technological devices. Expectations of adaptive functioning may change in response to environmental demands that change with age. Whenever possible, performance should be measured with appropriately normed, standardized tests of adaptive behaviour and the total score found to be approximately 2 or more standard deviations below the mean (i.e., approximately less than the 2.3rd percentile). In situations where appropriately normed and standardized tests are not available, assessment of adaptive behaviour functioning requires greater reliance on clinical judgment based on appropriate assessment, which may include the use of behavioural indicators of adaptive behaviour skills (see Tables B through D).
- Onset occurs during the developmental period. Among adults with Disorders of Intellectual Development who come to clinical attention without a previous diagnosis, it is possible to establish developmental onset through the person's history, i.e., retrospective diagnosis.

Severity qualifiers:

The severity of a Disorder of Intellectual Development is determined by considering both the individual's level of intellectual ability and level of adaptive behaviour, ideally assessed using appropriately normed, individually administered standardized tests. Where appropriately normed and standardized tests are not available, assessment of intellectual

functioning and adaptive behaviour requires greater reliance on clinical judgment based on appropriate evidence and assessment, which may include the use of behavioural indicators of intellectual and adaptive functioning provided in Tables A through D.

Generally, the level of severity should be assigned on the basis of the level at which the majority of the individual's intellectual ability and adaptive behaviour skills across all three domains (i.e., conceptual, social, and practical skills) fall. For example, if intellectual functioning and two of three adaptive behaviour domains are determined to be 3 to 4 standard deviations below the mean, Moderate Disorder of Intellectual Development would be the most appropriate diagnosis. However, this formulation may vary according to the nature and purpose of the assessment as well as the importance of the behaviour in question in relation to the individual's overall functioning.

6A00.0 Mild Disorder of Intellectual Development

- In Mild Disorder of Intellectual Development, intellectual functioning and adaptive behaviour are found to be approximately 2 to 3 standard deviations below the mean (approximately 0.1 – 2.3 percentile), based on appropriately normed, individually administered standardized tests. Where standardized tests are not available, assessment of intellectual functioning and adaptive behaviour requires greater reliance on clinical judgment, which may include the use of behavioural indicators provided in Tables A through D. Persons with a Mild Disorder of Intellectual Development often exhibit difficulties in the acquisition and comprehension of complex language concepts and academic skills. Most master basic self-care, domestic, and practical activities. Affected persons can generally achieve relatively independent living and employment as adults but may require appropriate support.

6A00.1 Moderate Disorder of Intellectual Development

- In Moderate Disorder of Intellectual Development, intellectual functioning and adaptive behaviour are found to be approximately 3 to 4 standard deviations below the mean (approximately 0.003 – 0.1 percentile), based on appropriately normed, individually administered standardized tests. Where standardized tests are not available, assessment of intellectual functioning and adaptive behaviour requires greater reliance on clinical judgment, which may include the use of behavioural indicators provided in Tables A through D. Language and capacity for acquisition of academic skills of persons affected by a Moderate Disorder of Intellectual Development vary but are generally limited to basic skills. Some may master basic self-care, domestic, and practical activities. Most affected persons require considerable and consistent support in order to achieve independent living and employment as adults.

6A00.2 Severe Disorder of Intellectual Development

- In Severe Disorder of Intellectual Development, intellectual functioning and adaptive behaviour are found to be approximately 4 or more standard deviations below the

mean (less than approximately the 0.003rd percentile), based on appropriately normed, individually administered standardized tests. Where standardized tests are not available, assessment of intellectual functioning and adaptive behaviour requires greater reliance on clinical judgment, which may include the use of behavioural indicators provided in Tables A through D. Persons affected by a Severe Disorder of Intellectual Development exhibit very limited language and capacity for acquisition of academic skills. They may also have motor impairments and typically require daily support in a supervised environment for adequate care, but may acquire basic self-care skills with intensive training. Severe and Profound Disorders of Intellectual Development are differentiated exclusively on the basis of adaptive behaviour differences because existing standardized tests of intelligence cannot reliably or validly distinguish among individuals with intellectual functioning below the 0.003rd percentile.

6A00.3 Profound Disorder of Intellectual Development

- In Profound Disorder of Intellectual Development, intellectual functioning and adaptive behaviour are found to be approximately 4 or more standard deviations below the mean (approximately less than the 0.003rd percentile), based on individually administered appropriately normed, standardized tests. Where standardized tests are not available, assessment of intellectual functioning and adaptive behaviour requires greater reliance on clinical judgment, which may include the use of behavioural indicators provided in Tables A through D. Persons affected by a Profound Disorder of Intellectual Development possess very limited communication abilities and capacity for acquisition of academic skills is restricted to basic concrete skills. They may also have co-occurring motor and sensory impairments and typically require daily support in a supervised environment for adequate care. Severe and Profound Disorders of Intellectual Development are differentiated exclusively on the basis of adaptive behaviour differences because existing standardized tests of intelligence cannot reliably or validly distinguish among individuals with intellectual functioning below the 0.003rd percentile.

6A00.4 Disorder of Intellectual Development, Provisional

- Disorder of Intellectual Development, Provisional is assigned when there is evidence of a Disorder of Intellectual Development but the individual is an infant or child under the age of four, making it difficult to ascertain whether the observed impairments represent a transient delay. Disorder of Intellectual Development, Provisional in this context is sometimes referred to as Global Developmental Delay. The diagnosis can also be assigned in individuals 4 years of age or older when evidence is suggestive of a Disorder of Intellectual Development but it is not possible to conduct a valid assessment of intellectual functioning and adaptive behaviour because of sensory or physical impairments (e.g., blindness, pre-lingual deafness), motor or communication impairments, severe problem behaviours, or symptoms of another Mental, Behavioural, or Neurodevelopmental Disorder that interfere with assessment.

Additional Clinical Features:

- There is no single physical feature or personality type common to all individuals with Disorders of Intellectual Development, although specific aetiological groups may have common physical characteristics.
- Disorders of Intellectual Development are associated with a high rate of co-occurring Mental, Behavioural or Neurodevelopmental Disorders. However, clinical presentations may vary depending on the individual's age, level of severity of the Disorder of Intellectual Development, communication skills, and symptom complexity. Some disorders, such as Autism Spectrum Disorder, Depressive Disorders, Bipolar and Related Disorders, Schizophrenia, Dementia, and Attention Deficit Hyperactivity Disorder, occur more commonly than in the general population. Individuals with a co-occurring Disorder of Intellectual Development and other Mental, Behavioural, or Neurodevelopmental Disorders are at similar risk for suicide as individuals with mental disorders who do not have a co-occurring Disorder of Intellectual Development.
- Problem or challenging behaviours such as aggression, self-injurious behaviour, attention-seeking behaviour, oppositional defiant behaviour, and sexually inappropriate behaviour are more frequent among those with Disorders of Intellectual Development than in the general population.
- Many individuals with Disorders of Intellectual Development are more gullible and naïve, easier to deceive, and more prone to acquiescence and confabulation than people in the general population. This can lead to various consequences including greater likelihood of victimization, becoming involved in criminal activities, and providing inaccurate statements to law enforcement.
- Significant life changes and traumatic experiences can be particularly difficult for a person with Disorders of Intellectual Development. Whereas the timing and type of life transitions vary across societies, it is generally the case that individuals with Disorders of Intellectual Development need additional support adapting to changes in routine, structure, or educational or living arrangements.
- There are many medical conditions that can cause Disorders of Intellectual Development and that are, in turn, associated with specific additional medical problems. A variety of prenatal (e.g., exposure to toxic substances or harmful medications), perinatal (e.g., labour and delivery problems), and postnatal (e.g., infectious encephalopathies) factors may contribute to the development of Disorders of Intellectual Development, and multiple aetiologies may interact. Early diagnosis of the aetiology of a Disorder of Intellectual Development, when possible, can assist in the prevention and management of related medical problems (e.g., frequent thyroid disease screening is recommended for individuals with Down Syndrome). If the aetiology of a Disorder of Intellectual Development in a particular individual has been established, the diagnosis corresponding to that aetiology should also be assigned.
- Individuals with Disorders of Intellectual Development are at greater risk for a variety of health (e.g., epilepsy) and social (e.g., poverty) problems across the lifespan.

Boundaries with Normality (Threshold):

- In Disorders of Intellectual Development, a measure of intelligence quotient (IQ) is not an isolated diagnostic requirement to distinguish disorder from normality, but should be considered a proxy measure of the 'significant limitations in intellectual functioning' that

partially characterize Disorders of Intellectual Development. IQ scores may vary as a result of the technical properties of the specific test being used, the testing conditions, and a variety of other variables and also can vary substantially over the individual's development and life course. The diagnosis of Disorders of Intellectual Development should not be made solely based on IQ scores but must also include a comprehensive evaluation of adaptive behaviour.

- Scores on individually administered standardized tests of intellectual and adaptive functioning may vary considerably over the course of an individual's development, and it is quite possible that during the developmental period, a child may meet the diagnostic requirements of Disorders of Intellectual Development on one occasion but not another. Multiple testing on different occasions during the developmental trajectory is necessary to establish a reliable estimate of functioning.
- Special care should be taken in differentiating Disorders of Intellectual Development from normality when evaluating persons with communication, sensory, or motor impairments as well as those exhibiting behavioural disturbances; immigrants; persons with low literacy levels; persons with mental disorders; persons undergoing health treatments (e.g., pharmacotherapy); and persons who have experienced severe social or sensory deprivation. If not adequately addressed during the evaluation, these factors may reduce the validity of scores obtained on standardized or behavioural measures of intellectual and adaptive functioning. For example, the reliable use of standardized measures of intellectual functioning and adaptive behaviour may pose particular challenges among individuals with motor coordination and communication impairments, and assessments must be selected that are appropriate to the individual's capacities.
- What is sometimes termed 'Borderline Intellectual Functioning', defined as intellectual functioning between approximately 1 and 2 standard deviations below the mean, is not a diagnosable disorder. Nonetheless, such individuals may present many needs for supports and interventions that are similar to those of persons with Disorders of Intellectual Development.

Course Features:

- Disorders of Intellectual Development are lifespan conditions that typically manifest during early childhood and require consideration of developmental phases and life transitions whereby periods of relatively greater need may alternate with those where less support may be necessary.
- Disorders of Intellectual Development may show individual as well as aetiology-specific variation in developmental trajectories (i.e., periods of relative decline or amelioration in functioning). Intellectual functioning and adaptive behaviour can vary substantially across the lifespan. Results from a single assessment, particularly those obtained during early childhood, may be of limited predictive use as later functioning will be influenced by the level and type of interventions and supports provided.
- People with Disorders of Intellectual Development typically need exceptional supports throughout the life span, although the types and intensities of required supports often changes over time depending age, development, environmental factors, and life circumstances. Most people with Disorders of Intellectual Development continue to acquire skills and competencies over time. Providing interventions and supports—including education—assists with this process and, if provided during the developmental period, may result in lower support needs in adulthood.

Developmental Presentations:

- There is wide variability in the developmental presentation and developmental trajectories of individuals with Disorders of Intellectual Development. Tables B through D provide clinicians with some of the key areas of strengths and weaknesses typically observed at different time points across development (i.e., early childhood, childhood, adolescence, and adulthood) in individuals with Disorders of Intellectual Development.
- Conditions related to Disorders of Intellectual Development may be suspected during the first days and months of life due to the presence of certain physical signs such as facial dimorphisms, congenital malformation, micro- or macrocephalia, low weight, hypotonia, physical growth retardation, metabolic problems and failure to thrive, among others.
- In older children, Disorders of Intellectual Development may manifest as problems in acquiring academic knowledge and abilities such as reading, writing, arithmetic, etc. Many children with Mild Disorders of Intellectual Development may not be referred for evaluation until school-aged. Some individuals may remain undiagnosed until much later, during adolescence or adulthood.
- The manifestations of Disorders of Intellectual Development during late adolescence and the first years of adulthood may be strongly influenced by the presence of challenges related to assuming adult roles, such as postsecondary education, employment, independent living, and adult relationships.
- Older adults with Disorders of Intellectual Development may present with a more rapid onset of Dementia or declining skills than older adults in the general population. They also have significantly more difficulty gaining access to necessary supports and appropriate health care for medical problems.

Culture-Related Features:

- The cultural appropriateness of tests and norms used to assess intellectual and adaptive functioning should be considered for each individual. Test performance may be affected by cultural biases (e.g., reference in test items to terminology or objects not common to a culture) and limitations of translation.
- In evaluating adaptive functioning, i.e., the individual's conceptual, social, and practical skills, the expectations of the individual's culture and social environment should be considered.
- Language proficiency must also be considered when interpreting test results, both in terms of whether the individual understood the instructions as well as its impact on verbal performance.

Gender-Related Features:

- The overall prevalence of Disorders of Intellectual Development is slightly higher in males. The prevalence of some aetiologies of Disorders of Intellectual Development differs between males and females (e.g., X-linked genetic conditions such as Fragile X Syndrome are predominantly diagnosed in males whereas Turner Syndrome occurs exclusively in females).
- A number of associated features of Disorders of Intellectual Development differ between males and females, for example in the expression of problem behaviours and co-

occurring Mental, Behavioural, or Neurodevelopmental Disorders. Males are more likely to exhibit hyperactivity and conduct disturbances whereas females are more likely to exhibit mood and anxiety symptoms.

- Reduced social value and expectations placed on females as compared to males in some societies may negatively affect the accurate identification and provision of supports for females with Disorders of Intellectual Development.

Boundaries with Other Disorders and Conditions (Differential Diagnosis):

- ***Boundary with Developmental Speech and Language Disorders:*** In Developmental Speech and Language Disorders, individuals exhibit difficulties in understanding or producing speech and language or in using language in context for the purposes of communication that is markedly below what would be expected given the individual's age and level of intellectual functioning. If speech and language abilities are significantly below what would be expected based on intellectual and adaptive behaviour functioning in an individual with a Disorder of Intellectual Development, an additional diagnosis of Developmental Speech and Language Disorder may be assigned.
- ***Boundary with Autism Spectrum Disorder:*** Autism Spectrum Disorder is characterized by persistent deficits in reciprocal social interaction and social communication, and by a range of restricted, repetitive, inflexible patterns of behaviour and interests. Although many individuals with Autism Spectrum Disorder present with the significant limitations in intellectual functioning and adaptive behaviour observed in Disorders of Intellectual Development, Autism Spectrum Disorder can also present without general limitations in intellectual functioning. In cases of Autism Spectrum Disorder where there are significant limitations in intellectual functioning and adaptive behaviour (i.e., 2 or more standard deviations below the mean or approximately less than the 2.3rd percentile) both the diagnosis of Autism Spectrum Disorder using the 'with Disorder of Intellectual Development' qualifier and the diagnosis of a Disorder of Intellectual Development at the corresponding level of severity should be assigned. The diagnosis of Autism Spectrum Disorder in individuals with Severe and Profound Disorders of Intellectual Development is particularly difficult, and requires in-depth and longitudinal assessments. Because Autism Spectrum Disorder inherently involves social deficits, assessment of adaptive behaviour as a part of the diagnosis of a co-occurring Disorder of Intellectual Development should place greater emphasis on the conceptual and practical domains of adaptive functioning than on social skills.
- ***Boundary with Developmental Learning Disorders:*** Developmental Learning Disorders are characterized by significant and persistent difficulties in learning academic skills including reading, writing and arithmetic, with performance in these areas markedly below what would be expected for chronological age or intellectual level. Individuals with Disorders of Intellectual Development often present with limitations in academic achievement by virtue of significant generalized deficits in intellectual functioning. It is therefore difficult to establish the co-occurring presence of a Developmental Learning Disorder in individuals with a Disorder of Intellectual Development. However, Developmental Learning Disorders can co-occur in some individuals with Disorders of Intellectual Development if, despite adequate opportunities, acquisition of learning is significantly below what is expected based on established intellectual functioning. In such cases, both disorders may be diagnosed.

- ***Boundary with Developmental Motor Coordination Disorder:*** In Developmental Motor Coordination Disorder, individuals exhibit significant delays during the developmental period in the acquisition of gross and fine motor skills and impairment in the execution of coordinated motor skills that manifest in clumsiness, slowness, or inaccuracy of motor performance. Individuals with Disorders of Intellectual Development may also display such motor coordination difficulties that impact adaptive behaviour functioning. In contrast to those with Developmental Motor Coordination Disorder, individuals with Disorders of Intellectual Development have accompanying significant limitations in intellectual functioning. However, if coordinated motor skills are significantly below what would be expected based on level of intellectual functioning and adaptive behaviour and represent a separate focus of clinical attention, both diagnoses may be assigned.
- ***Boundary with Attention Deficit Hyperactivity Disorder:*** In Attention Deficit Hyperactivity Disorder, individuals show a persistent and generalized pattern of inattention and/or hyperactivity-impulsivity that emerges during the developmental period. If all diagnostic requirements for a Disorder of Intellectual Development are met and inattention and/or hyperactivity-impulsivity are found to be outside normal expected limits based on age and level of intellectual functioning with significant interference in academic, occupational, or social functioning, both diagnoses of Attention Deficit Hyperactivity Disorder and a Disorder of Intellectual Development may be assigned.
- ***Boundary with Dementia:*** In Dementia, affected individuals, usually older adults, exhibit a decline from a previous level of functioning in multiple cognitive domains that significantly interferes with performance of activities of daily living. Onset of Dementia occurs after the developmental period and is not attributable to normal aging. Both disorders can co-occur, and some adults with Disorders of Intellectual Development are at greater and earlier risk of developing Dementia. For example, individuals with Down Syndrome who exhibit a marked decline in adaptive behaviour functioning should be evaluated for the emergence of Dementia. In cases in which the diagnostic requirements for both a Disorder of Intellectual Development and Dementia are met, both diagnoses may be assigned.
- ***Boundary with other Mental and Behavioural Disorders:*** Other Mental and Behavioural Disorders such as Schizophrenia or Other Primary Psychotic Disorders may include symptoms that interfere with intellectual functioning and adaptive behaviour. A Disorder of Intellectual Development should not be diagnosed if the limitations are better accounted for by another Mental and Behavioural Disorder. However, other Mental and Behavioural Disorders are at least as prevalent in individuals with Disorders of Intellectual Development as in the general population, and co-occurring diagnoses should be assigned if warranted. In evaluating Mental and Behavioural Disorders in individuals with Disorders of Intellectual Development, signs and symptoms must be assessed using methods that are appropriate to the individual's level of development and intellectual functioning, and may require a greater reliance on observable signs and the reports of others who are familiar with the individual.
- ***Boundary with sensory impairments:*** If not addressed, sensory impairments (e.g., visual, auditory) can interfere with opportunities for learning, resulting in apparent limitations in intellectual functioning or adaptive behaviour. If the observed limitations are solely attributable to a sensory impairment, a Disorder of Intellectual Development should not be assigned. However, prolonged sensory impairment throughout the critical period of development may result in the persistence of limitations in intellectual

functioning or adaptive behaviour, despite later intervention, and an additional diagnosis of a Disorder of Intellectual Development may be warranted in such cases.

- ***Boundary with effects of psychosocial deprivation:*** Extreme psychosocial deprivation in early childhood can produce severe and selective impairments in specific mental functions such as language, social interaction, and emotional expression. Depending on the onset, level of severity and duration of the deprivation, functioning in these areas may improve substantially after the child is moved to a more positive environment. However, some deficits may persist even after a sustained period in an environment that provides adequate stimulation for development, and a diagnosis of a Disorder of Intellectual Development may be appropriate in such cases if all diagnostic requirements are met.
- ***Boundary with neurodegenerative diseases:*** Neurodegenerative diseases can be associated with Disorders of Intellectual Development but only if they have their onset in the developmental period (e.g., mucopolisaccharidosis I, Gaucher's disease type III). If a neurodegenerative disease co-occurs with a Disorder of Intellectual Development, both diagnoses should be assigned.
- ***Boundary with Secondary Neurodevelopmental Syndrome:*** If the diagnostic requirements of a Disorder of Intellectual Development are met and the symptoms are attributed to medical conditions with onset during the prenatal or developmental period, both Disorder of Intellectual Development and the underlying medical conditions should be diagnosed. If the diagnostic requirements of a Disorder of Intellectual Development are not met (e.g., limitations in intellectual functioning without limitations in adaptive functioning) and the symptoms are attributed to medical conditions with onset during the prenatal or developmental period, a diagnosis of Secondary Neurodevelopmental Syndrome should be assigned, together with the diagnosis corresponding to the underlying medical condition.
- ***Boundary with Secondary Speech or Language Syndrome:*** A diagnosis of a Disorders of Intellectual Development should not be assigned to individuals with limitations in intellectual functioning and adaptive behaviour that are acquired after the developmental period (e.g., in adulthood) through disease (e.g., a brain tumour) or injury (e.g., a traumatic brain injury). In such cases, the diagnosis of Secondary Neurocognitive Syndrome should be assigned.

6A01 Developmental Speech or Language Disorders

Developmental Speech or Language Disorders are characterized by difficulties in understanding or producing speech and language or in using language in context for the purposes of communication. Developmental Speech or Language Disorders include:

- 6A01.0 Developmental Speech Sound Disorder
- 6A01.1 Developmental Speech Fluency Disorder
- 6A01.2 Developmental Language Disorder

Regional, social, or cultural/ethnic language variations (e.g., dialects) must be considered when an individual is being assessed for language abilities. For example, phonological memory tasks may offer a less biased assessment compared to lexical tasks. A language history documenting all the languages the child has been exposed to since birth can assist in

determining whether individual language variations are better explained by exposure to multiple languages rather than a speech or language pathology *per se*.

6A01.0 Developmental Speech Sound Disorder

Essential (Required) Features:

- Persistent errors of pronunciation, articulation, or phonology (i.e., how language-based sounds are combined in culture-typical speech) that manifest as developmentally typical speech sound errors that persist substantially beyond the expected age or as atypical speech sound errors for the language spoken (e.g., word initial consonant deletion for English-speaking children).
- The onset of speech sound difficulties occurs during the early developmental period.
- Speech sound difficulties result in significant limitations in the ability to communicate due to reduced intelligibility of speech.
- The speech errors are not better accounted for by a Disease of the Nervous System affecting the brain, peripheral nerves, or neuromusculature (e.g., cerebral palsy, myasthenia gravis), a sensory impairment (e.g., sensory neural deafness), or a structural abnormality (e.g., cleft palate) or another medical condition.

Additional Clinical Features:

- Children with Developmental Speech Sound Disorder may exhibit delays in the acquisition, production and perception of spoken language.
- Phonological speech sound errors may be consistent or inconsistent. They often involve classes of sounds (e.g., incorrectly producing sounds in the same manner), a different place of articulation, or changes in syllable structure (e.g., deletion of final consonants or reducing consonant clusters to single consonants).
- If the speech errors are consistently produced, familiar listeners may be able to accommodate and decode the speech. However, when the rate of speech increases even familiar listeners may not be able to understand the individual.
- Developmental Speech Sound Disorder may be associated with imprecision and inconsistency of oral movements required for speech especially in young children (also called childhood apraxia or dyspraxia of speech) resulting in difficulty producing sequences of speech sounds, specific consonants and vowels, and appropriate prosody (intonation and rhythm of speech). There may be some associated oral-motor dysfunction affecting early feeding, sucking and chewing, blowing, and imitating oral movements and speech sounds but not with the weakness, slowness, or incoordination found in Dysarthria.
- Developmental Speech Sound Disorder commonly co-occurs with other Neurodevelopmental Disorders, such as Attention Deficit Hyperactivity Disorder, Developmental Speech Fluency Disorder, and Developmental Language Disorder.

Boundary with Normality (Threshold):

- Children vary widely in the sequence and age at which they acquire speech sounds. Such normal variation does not reflect the presence of Developmental Speech Sound Disorder.

In contrast, children with Developmental Speech Sound Disorder exhibit persistent problems that cause significant limitations in the ability to communicate due to reduced intelligibility of speech. Up until the age of 4 years, various speech sound errors are common among children with typically developing speech sound acquisition, but communication remains relatively intact despite these errors relative to same-aged peers.

Course Features:

- Many young children with Developmental Speech Sound Disorder experience remission by school-age. Among young children diagnosed in early childhood, up to 50 – 70% will exhibit academic difficulties throughout their schooling, even if the speech sound difficulties themselves have remitted.
- As compared with children and adolescents with a sole diagnosis of Developmental Speech Sound Disorder, those with a co-occurring Developmental Language Disorder are more likely to develop other Mental, Behavioural or Neurodevelopmental Disorders such as Anxiety or Fear-Related Disorders or Attention Deficit Hyperactivity Disorder. They also exhibit greater difficulties academically, socially, and adaptively by late childhood and adolescence.

Developmental Presentations:

- Prevalence rates vary but generally decrease with age such that prevalence can be as high as 16% at age three or four, approximately 4% at age six, and 3.6% by age eight. Therefore, many pre-school children diagnosed with Developmental Speech Sound Disorder exhibit typical speech sound development by the time they begin school.
- Some children with symptoms of Developmental Speech Sound Disorder early in life may only experience interference with functioning when they enter school when the demands of the learning environment exceed their current abilities.
- Co-occurrence of other Neurodevelopment Disorders is more likely among children with persistent Developmental Speech Sound Disorder (whose speech sound errors continue beyond age eight or nine). In particular, these children are more likely to develop language impairments and reading difficulties, and tend to experience worse outcomes.

Gender-Related Features:

- Developmental Speech Sound Disorder is more common in boys, especially at younger ages. Early speech difficulties in girls appear more likely to resolve by school age. Gender differences decline with age; the ratio of boys affected compared to girls appears to be 2:1 or 3:1 in early childhood and to decline to 1.2:1 by age 6.
- Boys are more likely to experience co-occurring language impairments.

Boundaries with Other Disorders and Conditions (Differential Diagnosis):

- **Boundary with Disorders of Intellectual Development:** Individuals with a Disorder of Intellectual Development may exhibit impaired speech production. However, individuals with Developmental Speech Sound Disorder do not typically also have significant limitations in intellectual functioning and adaptive behaviour. If speech production difficulties require separate clinical attention in the context of a Disorder of Intellectual

Development, an additional diagnosis of Developmental Speech Sound Disorder may be assigned.

- ***Boundary with Developmental Speech Fluency Disorder and Developmental Language Disorder:*** Like Developmental Speech Sound Disorder, Developmental Speech Fluency Disorder and Developmental Language Disorder can result in reduced intelligibility that significantly affects communication. Developmental Speech Fluency Disorder is characterized by disruption of the normal rhythmic flow and rate of speech. Developmental Language Disorder is characterized by persistent difficulties in the acquisition, understanding, production or use of language. In contrast, Developmental Speech Sound Disorder is characterized by errors of pronunciation that are outside the limits of normal variation for chronological or developmental age.
- ***Boundary with Selective Mutism:*** Selective Mutism is characterized by consistent selectivity in speaking, such that a child demonstrates adequate speech production in specific situations, typically at home, but predictably fails to speak in others, typically at school. Selective Mutism can occur in the presence of Developmental Speech Sound Disorder, and both diagnoses may be assigned if warranted.
- ***Boundary with Dysphonia:*** Dysphonia is characterized by abnormal voice production or absences of vocal quality, pitch, loudness, resonance, or duration. It can be caused by voice strain or overuse, by structural laryngeal anomalies or by Diseases of the Nervous System. It may result in the distortion of speech sounds due to the abnormal voice quality. In contrast, Developmental Speech Sound Disorder involves the omission or substitution of speech sounds and also includes distortion of speech sounds (e.g., due to incorrect tongue placement) rather than abnormal voice quality characteristic of Dysphonia.
- ***Boundary with Dysarthria:*** Dysarthria is a motor speech disorder directly attributable to a Disease of the Nervous System or to either congenital or acquired brain injury. Dysarthria is characterized by difficulties with the range, rate, force, coordination, and sustainability of movements throughout the vocal tract (i.e., trunk, larynx, palate, tongue, lips, jaw, and face) that are required for speech. These motor difficulties often also cause frank difficulties in eating, drinking, swallowing or saliva control. A diagnosis of Developmental Speech Sound Disorder should not be assigned in these cases. Rather, a diagnosis of Secondary Speech or Language Syndrome should be assigned in addition to the associated medical condition if the speech sound difficulties are a specific focus of clinical attention.
- ***Boundary with Secondary Speech or Language Syndrome:*** The diagnosis of Developmental Speech Sound Disorder should not be assigned in the presence of a Disease of the Nervous System affecting the brain, peripheral nerves, or neuromusculature (e.g., cerebral palsy, myasthenia gravis), sensory impairment (e.g., sensory neural deafness), or structural impairment (e.g., cleft palate), although speech sound production difficulties may be a presenting feature of any of these conditions. In these cases, a diagnosis of Secondary Speech or Language Syndrome should be assigned in addition to the associated medical condition if the speech sound difficulties are a specific focus of clinical attention.

6A01.1 Developmental Speech Fluency Disorder

Essential (Required) Features:

- Frequent or pervasive disruption of the normal rhythmic flow and rate of speech characterized by repetitions and prolongations in sounds, syllables, words, and phrases, as well as blocking (inaudible or silent fixations or inability to initiate sounds) and word avoidance or substitutions.
- The speech dysfluency is persistent over time.
- The onset of speech dysfluency occurs during the developmental period and speech fluency is markedly below what would be expected for age.
- Speech dysfluency results in significant impairment in social communication, personal, family, social, educational, occupational or other important areas of functioning.
- The speech dysfluency is not better accounted for by a Disorder of Intellectual Development, a Disease of the Nervous System, a sensory impairment, or a structural abnormality.

Additional Clinical Features:

- Developmental Speech Fluency Disorder includes cluttering, in which speech tends to be rapid, erratic and dysrhythmic, with breakdown in fluency and clarity, often with deletion or collapsing of syllables and omissions of word endings.
- Developmental Speech Fluency Disorder may be accompanied by physical tension in the speech musculature, as well as body tension, struggle behaviour, and secondary mannerisms, such as facial grimacing, eye blinking, head movements, and arm and leg movements such as leg tapping or fist clenching.
- Developmental Speech Fluency Disorder is often accompanied by anxiety in anticipation of speaking and avoidance of speaking.
- The extent of the problem varies across situations and can be more severe when there is pressure to communicate.
- Developmental Speech Fluency Disorder may be associated with a broader range of speech and language abnormalities.
- Occasionally, onset of dysfluency can be related to a significant psychological event such as bereavement and is sometimes referred to as ‘psychogenic stammering’. When this occurs during the developmental period, it may be diagnosed as Developmental Speech Fluency Disorder.
- Approximately 60% of children with Developmental Speech Fluency Disorder exhibit co-occurring Developmental Speech and Language Disorders.
- Among adolescents and adults with chronic speech dysfluencies, social anxiety is common and may exacerbate dysfluency. As many as 40 – 60% of these individuals meet the diagnostic requirements for Social Anxiety Disorder.

Boundary with Normality (Threshold):

- Many typically developing children show minor dysfluencies during the preschool years.

Course Features:

- The course of Developmental Speech Fluency Disorder may be relatively brief in many cases with the majority of children (65 – 85%) remitting, without intervention, prior to puberty. Among these children, recovery is typically within the first two years after onset.
- The impact of Developmental Speech Fluency Disorder may be evident as early as age 3, with impairments in emotional, behavioural, and social domains compared to typically-developing peers.
- A more persistent course is associated with male gender, family history of Developmental Speech Fluency Disorder; age at onset of greater than 3 to 4 years of age; duration of more than 1 year; and co-occurring Developmental Language Disorder. More severe presentations of the disorder in childhood are more likely to persist into adolescence and adulthood.

Developmental Presentations:

- Developmental Speech Fluency Disorder emerges early in the developmental period, typically between ages two-and-a-half and four years. Five to 8% of preschool children exhibit stuttering. Eighty to 90% of cases develop by age six, and onset after age nine is rare. The lifetime incidence of stuttering is estimated at 5% whereas population prevalence is estimated at approximately 1%.
- Dysfluency tends to emerge gradually and may worsen as the individual becomes aware of their fluency difficulty. This may lead to development of mechanisms to avoid dysfluency or the associated emotional discomfort, further impairing speech (e.g., avoiding public speaking or limiting speech to simple and short phrases).

Gender-Related Features:

- Across the developmental period, boys are more commonly affected. Among preschool children, the ratio of boys to girls with Developmental Speech Fluency Disorder is estimated at 1.5:1. However, females are more likely to remit. Throughout school age and into adulthood, males are estimated to outnumber females by ratio of 4:1.

Boundaries with Other Disorders and Conditions (Differential Diagnosis):

- **Boundary with Developmental Speech Sound Disorder and Developmental Language Disorder:** Like Developmental Speech Fluency Disorder, Developmental Speech Sound Disorder and Developmental Language Disorder can result in reduced intelligibility that significantly affects communication. Developmental Speech Sound Disorder is characterized by errors of pronunciation that are outside the limits of normal variation for chronological or developmental age. Developmental Language Disorder is characterized by persistent difficulties in the acquisition, understanding, production or use of language. In contrast, Developmental Speech Fluency Disorder is characterized by disruption of the normal rhythmic flow and rate of speech. If the diagnostic requirements for both Developmental Fluency Disorder and another Developmental Speech and Language Disorder are met, both diagnoses may be assigned.

- ***Boundary with Primary Tics or Tic Disorders, including Tourette Syndrome:*** Dysfluency associated with other movements of the face or body that coincide in time with repetitions, prolongations, or pauses in speech flow needs to be differentiated from complex tics. Tics do not involve the marked speech dysfluency that characterizes a Developmental Speech Fluency Disorder.
- ***Boundary with Diseases of the Nervous System:*** Diseases of the Nervous System affecting the anatomical and functional mechanisms for speech output can sometimes give rise to speech dysfluency but are distinguished on examination by the presence of positive neurological signs.

6A01.2 Developmental Language Disorder

Essential (Required) Features:

- Persistent deficits in the acquisition, understanding, production or use of language (spoken or signed). Any of the following specific components of language skill may be differentially impaired, with relative weaknesses in some and relative strengths in others, or impairment may be more consistent across the different component skills.
 - The ability to decompose words into constituent sounds and mentally manipulate those sounds (i.e., phonological awareness).
 - The ability to use language rules, for example regarding word endings and how words are combined to form sentences (i.e., syntax, morphology, or grammar).
 - The ability to learn, understand, and use language to convey the meaning of words and sentences (i.e., semantics).
 - The ability to tell a story or have a conversation (i.e., narrative or conversational discourse).
 - The ability to understand and use language in social contexts, for example making inferences, understanding verbal humour and resolving ambiguous meaning (i.e., pragmatics).
- Language abilities are markedly below what would be expected for age.
- The onset of language difficulties occurs during the developmental period, typically during early childhood.
- Language deficits result in significant limitations in communication, with functional impact in daily life at home, school, or work.
- The language deficits are not better accounted for by a Disorder of Intellectual Development, Autism Spectrum Disorder, another Neurodevelopmental Disorder, a sensory impairment, or a Disease of the Nervous System, including the effects of brain injury or infection (e.g., due to trauma, stroke, epilepsy, or meningitis).

Qualifiers for areas of language impairment:

The *main areas* of language ability currently affected in Developmental Language Disorders should be characterized using one of the following qualifiers, although these may vary over time:

6A01.20 Developmental Language Disorder with impairment of receptive and expressive language

- This qualifier should be applied when the ability to learn and understand spoken or signed language (i.e., receptive language) is markedly below the expected level for the individual's age and is accompanied by persistent impairment in the ability to produce and use spoken or signed language (i.e., expressive language).

6A01.21 Developmental Language Disorder with impairment of mainly expressive language

- This qualifier should be applied when the ability to produce and use spoken or signed language (i.e., expressive language) is markedly below the expected level for the individual's age, but the ability to understand spoken or signed language (i.e., receptive language) is relatively intact.

6A01.22 Developmental Language Disorder with impairment of mainly pragmatic language

- This qualifier should be applied when the Developmental Language Disorder is characterized by persistent and substantial difficulties with the understanding and use of language in social contexts, for example making inferences, understanding verbal humour, and resolving ambiguous meaning. Receptive and expressive language skills are relatively unimpaired, but pragmatic language abilities are markedly below the expected level for the individual's age and interfere with functional communication to a greater degree than with other components of language (e.g., syntax, semantics). This qualifier should not be used if the pragmatic language impairment occurs in the context of a diagnosis of Autism Spectrum Disorder.

6A01.23 Developmental Language Disorder with other specified language impairment

- This qualifier should be applied if the Developmental Language Disorder meets all of the diagnostic requirements of the disorder but the pattern of deficits in language is not adequately characterized by one of the other available qualifiers.

Additional Clinical Features:

- In typical development, understanding and production of the different components of language are tightly correlated and develop in tandem. In Developmental Language Disorder, this developmental relationship may be out of step, with differential impairment in any of the component language skills.
- Many children with Developmental Language Disorder exhibit a discrepancy between verbal and nonverbal ability, but this is not a requirement for diagnosis.
- Developmental Language Disorder frequently co-occurs with other Neurodevelopmental Disorders, such as Developmental Speech Sound Disorder, Developmental Learning

Disorder, Attention Deficit Hyperactivity Disorder, Autism Spectrum Disorder and Developmental Motor Coordination Disorder.

- Developmental Language Disorder is often associated with difficulties in peer relationships, emotional disturbance and disruptive behaviours, particularly in school-age children.
- Developmental Language Disorder often runs in families.
- Developmental Language Disorder can be a presenting feature in some individuals with specific chromosomal anomalies, including sex chromosome anomalies. Where available, chromosome testing can assist in identifying other health risks associated with specific underlying chromosomal abnormalities. If a specific chromosomal or other developmental anomaly is identified, this should be diagnosed in addition to the Developmental Language Disorder.
- Regression of language skills once acquired is not a feature of Developmental Language Disorder. Reported loss of early first words in the second year of life associated with a decline in social and communication behaviours—and, more rarely, loss of language skills after 3 years of age—may be a presentation of Autism Spectrum Disorder. Language abilities may also be lost due to Diseases of the Nervous System including acquired brain injury from stroke, trauma, or encephalopathy with or without overt epilepsy. Concomitant loss of physical skills with language abilities may be indicative of a neurodegenerative condition. When an underlying neurological cause has been identified, the condition should not be diagnosed as Developmental Language Disorder but rather as Secondary Speech or Language Syndrome, which should be assigned in addition to the appropriate diagnosis for the underlying condition.

Boundary with Normality (Threshold):

- Children vary widely in the age at which they first acquire spoken language and in the pace at which language skills become firmly established. The majority of pre-school children who acquire speech later than expected go on to develop normal language abilities. Very early delays in language acquisition are therefore not indicative of Developmental Language Disorder. However, the absence of single words (or word approximations) by the age of 2 years, the failure to generate simple two-word phrases by 3 years of age, and language impairments that are persistent over time are more likely to indicate Developmental Language Disorder, especially in the context of a known family history of language or literacy learning problems. By age 4 years, individual differences in language ability are more stable.
- Pronunciation and language use may vary widely depending on the social, cultural, and other environmental context (e.g., regional dialects). However, within any typical cultural setting, a Developmental Language Disorders is characterized by significant deficits in language abilities relative to the person's same-aged peers in the community. A bilingual environment is not a cause of persistent language learning impairment.

Course Features:

- The course of Developmental Language Disorder may vary with the type and severity of symptom profile: impairment of receptive and expressive language (as compared to those with impairment of mainly expressive language) is more likely to be persistent and is associated with subsequent difficulties in reading comprehension.

- The particular pattern of language strengths and deficits may change over the course of development.
- Unlike Developmental Speech Sound and Speech Fluency disorders, Developmental Language Disorder is more likely to be maintained throughout development and into adulthood: approximately 75% of individuals diagnosed with Developmental Language Disorder in childhood continue to meet the diagnostic requirements for the disorder in late adolescence. The impact of these impairments continues to be evident into early adulthood as behavioural, social, adaptive, and communication problems, often with life-long social consequences.

Developmental Presentations:

- Developmental Language Disorder emerges early in development, though it can be challenging to distinguish typical variations from impairments in language development prior to age four. Diagnosis from age four onwards tends to yield a more stable symptom presentation and is more likely to be persistent.
- The prevalence of Developmental Language Disorder among children is estimated at 6 – 15%, but is more common among children with other co-occurring Neurodevelopmental Disorders.

Gender-Related Features:

- Developmental Language Disorder appears to affect more boys than girls, though this gender ratio varies across clinical samples (2:1 to 6:1) and population-based samples (1.3:1).
- Boys appear to be more likely than girls to experience co-occurring Developmental Language and Developmental Speech Sound Disorders.

Boundaries with Other Disorders and Conditions (Differential Diagnosis):

- **Boundary with Disorders of Intellectual Development:** Individuals with Disorders of Intellectual Development may exhibit delays in language onset, development, or impairment in language abilities, accompanied by generalized impairment in intellectual and adaptive behaviour functioning. Developmental Language Disorder can occur with varying levels of intellectual ability. If the diagnostic requirements of a Disorder of Intellectual Development are met and language abilities are significantly below what would be expected based on the general level of intellectual functioning and adaptive behaviour, both diagnoses may be assigned.
- **Boundary with Developmental Speech Sound Disorder and Developmental Speech Fluency Disorder:** Like Developmental Language Disorder with impairment in mainly expressive language, Developmental Speech Sound Disorder and Developmental Speech Fluency Disorder can result in reduced intelligibility that significantly affects communication. Developmental Speech Sound Disorder is characterized by errors of pronunciation that are outside the limits of normal variation for chronological developmental age. Developmental Speech Fluency Disorder is characterized by disruption of the normal rhythmic flow and rate of speech. In contrast, Developmental Language Disorder is characterized by persistent difficulties in the acquisition, understanding, production or use of language.

- ***Boundary with Autism Spectrum Disorder:*** Individuals with Autism Spectrum Disorder often present with delayed language development. The extent of functional language impairment, which refers to the capacity of the individual to use language for instrumental purposes (e.g., to express personal needs and desires), should be coded using the Autism Spectrum Disorder qualifier for functional language impairment rather than using a separate diagnosis of Developmental Language Disorder. Moreover, pragmatic language impairment is a characteristic feature of Autism Spectrum Disorder even when other aspects of receptive and expressive speech are intact. Autism Spectrum Disorder is differentiated from Developmental Language Disorder by the presence of additional impairments in social reciprocity as well as restricted, repetitive and stereotyped behaviours. Unlike individuals with Autism Spectrum Disorder, individuals with Developmental Language Disorder are usually able to initiate and respond appropriately to social and emotional cues and to share interests with others, and do not typically exhibit restricted, repetitive and stereotyped behaviours. An additional diagnosis of Developmental Language Disorder should not be assigned to individuals with Autism Spectrum Disorder based solely on pragmatic language impairment. However, both diagnoses may be assigned if there are additional specific impairments in semantic, syntactic and phonological development.
- ***Boundary with Developmental Learning Disorder:*** Persistent deficits in the acquisition, understanding, production or use of language in Developmental Language Disorder may lead to academic learning difficulties, especially in literacy, including word reading, comprehension, and written output. If all diagnostic requirements for both Developmental Language Disorder and Developmental Learning Disorder are met, both diagnoses may be assigned.
- ***Boundary with Selective Mutism:*** Selective Mutism is characterized by consistent selectivity in speaking, such that a child demonstrates adequate language competence in specific social situations, typically at home, but predictably fails to speak in others, typically at school. In contrast, language difficulties associated with Developmental Language Disorder are apparent in all settings. However, Selective Mutism and Developmental Language Disorder can co-occur, and both diagnoses may be assigned if warranted.
- ***Boundary with Diseases of the Nervous System and sequelae of brain injury or infection:*** Language impairment may result from brain damage due to stroke, trauma, infection (e.g., meningitis/encephalitis), developmental encephalopathy with or without overt epilepsy, or syndromes of regression (e.g., Landau-Kleffner Syndrome or acquired epileptic aphasia). When language difficulties are a specific focus of clinical attention, a diagnosis of Secondary Speech or Language Syndrome should be assigned in addition to the associated medical condition.
- ***Boundary with oral language delay or impairment due to hearing impairment:*** All children presenting with language impairment should have an assessment for hearing impairment because language delay may be better accounted for by hearing impairment. Very young children with hearing impairment usually compensate for lack of oral language by using nonverbal modes of communication (e.g., gestures, facial expressions, eye gaze). However, presence of hearing loss does not preclude a diagnosis of Developmental Language Disorder if the language problems are disproportionate relative to the severity of hearing loss. Developmental Language Disorder can be assigned to children whose primary communication modality is through signing if exposure to and

opportunity to learn sign language has been adequate and the other features of the disorder are present as they apply to sign language.

- ***Boundary with other medical conditions involving loss of acquired language skills:*** When loss of acquired language skills occurs as a result of another medical condition (e.g., a stroke), and language difficulties are a specific focus of clinical attention, a diagnosis of Secondary Speech or Language Syndrome should be assigned in addition to the associated medical condition rather than a diagnosis of Developmental Language Disorder.

6A02 Autism Spectrum Disorder

Essential (Required) Features:

- Persistent deficits in initiating and sustaining social communication and reciprocal social interactions that are outside the expected range of typical functioning given the individual's age and level of intellectual development. Specific manifestations of these deficits vary according to chronological age, verbal and intellectual ability, and disorder severity. Manifestations may include limitations in the following:
 - Understanding of, interest in, or inappropriate responses to the verbal or non-verbal social communications of others.
 - Integration of spoken language with typical complimentary non-verbal cues, such as eye contact, gestures, facial expressions and body language. These non-verbal behaviours may also be reduced in frequency or intensity.
 - Understanding and use of language in social contexts and ability to initiate and sustain reciprocal social conversations.
 - Social awareness, leading to behaviour that is not appropriately modulated according to the social context.
 - Ability to imagine and respond to the feelings, emotional states, and attitudes of others.
 - Mutual sharing of interests.
 - Ability to make and sustain typical peer relationships.
- Persistent restricted, repetitive, and inflexible patterns of behaviour, interests, or activities that are clearly atypical or excessive for the individual's age and sociocultural context. These may include:
 - Lack of adaptability to new experiences and circumstances, with associated distress, that can be evoked by trivial changes to a familiar environment or in response to unanticipated events.
 - Inflexible adherence to particular routines; for example, these may be geographic such as following familiar routes, or may require precise timing such as mealtimes or transport.
 - Excessive adherence to rules (e.g., when playing games).
 - Excessive and persistent ritualized patterns of behaviour (e.g., preoccupation with lining up or sorting objects in a particular way) that serve no apparent external purpose.
 - Repetitive and stereotyped motor movements, such as whole body movements (e.g., rocking), atypical gait (e.g., walking on tiptoes), unusual hand or finger

- movements and posturing. These behaviours are particularly common during early childhood.
- Persistent preoccupation with one or more special interests, parts of objects, or specific types of stimuli (including media) or an unusually strong attachment to particular objects (excluding typical comforters).
- Lifelong excessive and persistent hypersensitivity or hyposensitivity to sensory stimuli or unusual interest in a sensory stimulus, which may include actual or anticipated sounds, light, textures (especially clothing and food), odors and tastes, heat, cold, or pain.
- The onset of the disorder occurs during the developmental period, typically in early childhood, but characteristic symptoms may not become fully manifest until later, when social demands exceed limited capacities.
- The symptoms result in significant impairment in personal, family, social, educational, occupational or other important areas of functioning. Some individuals with Autism Spectrum Disorder are able to function adequately in many contexts through exceptional effort, such that their deficits may not be apparent to others. A diagnosis of Autism Spectrum Disorder is still appropriate in such cases.

Qualifiers for characterizing features within the Autism Spectrum:

These qualifiers enable the identification of co-occurring limitations in intellectual and functional language abilities, which are important factors in the appropriate individualization of support, selection of interventions, and treatment planning for individuals with Autism Spectrum Disorder. A qualifier is also provided for loss of previously acquired skills, which is a feature of the developmental history of a small proportion of individuals with Autism Spectrum Disorder.

Co-occurring Disorder of Intellectual Development

Individuals with Autism Spectrum Disorder may exhibit limitations in intellectual abilities. If present, a separate diagnosis of Disorder of Intellectual Development should be assigned, using the appropriate category to designate severity (i.e., Mild, Moderate, Severe, Profound, Provisional). Because social deficits are a core feature of Autism Spectrum Disorder, the assessment of adaptive behaviour as a part of the diagnosis of a co-occurring Disorder of Intellectual Development should place greater emphasis on the intellectual, conceptual, and practical domains of adaptive functioning than on social skills.

If no co-occurring diagnosis of Disorder of Intellectual Development is present, the following qualifier for the Autism Spectrum Disorder diagnosis should be applied:

- without Disorder of Intellectual Development

If there is a co-occurring diagnosis of Disorder of Intellectual Development, the following qualifier for the Autism Spectrum Disorder diagnosis should be applied, in addition to the appropriate diagnostic code for the co-occurring Disorder of Intellectual Development:

- with Disorder of Intellectual Development

Degree of Functional Language Impairment

The degree of impairment in functional language (spoken or signed) should be designated with a second qualifier. Functional language refers to the capacity of the individual to use language for instrumental purposes (e.g., to express personal needs and desires). This qualifier is intended to reflect primarily the verbal and non-verbal expressive language deficits present in some individuals with Autism Spectrum Disorder and not the pragmatic language deficits that are a core feature of Autism Spectrum Disorder.

The following qualifier should be applied to indicate the extent of functional language impairment (spoken or signed) relative to the individual's age:

- **with mild or no impairment of functional language**
- **with impaired functional language** (i.e., not able to use more than single words or simple phrases)
- **with complete, or almost complete, absence of functional language**

Table X: Autism Spectrum Disorder Diagnostic Codes

	with mild or no impairment of functional language	with impaired functional language	with complete, or almost complete, absence of functional language
without Disorder of Intellectual Development	6A02.0	6A02.2	_____
with Disorder of Intellectual Development	6A02.1	6A02.3	6A02.5

Table X shows the diagnostic codes corresponding to the categories that result from the application of the qualifiers for Co-occurring Disorder of Intellectual Development and Degree of Functional Language Impairment.

6A02.Y Other Specified Autism Spectrum Disorder can be used if the above parameters do not apply.

6A02.Z Autism Spectrum Disorder, Unspecified can be used if the above parameters are unknown.

Loss of Previously Acquired Skills

A small proportion of individuals with Autism Spectrum Disorder may present with a loss of previously acquired skills. This regression typically occurs during the second year

of life and most often involves language use and social responsiveness. Loss of previously acquired skills is rarely observed after 3 years of age. If it occurs after age 3, it is more likely to involve loss of cognitive and adaptive skills (e.g., loss of bowel and bladder control, impaired sleep), regression of language and social abilities, as well as increasing emotional and behavioural disturbances.

There are two alternative qualifiers, to denote whether or not loss of previously acquired skills is an aspect of the clinical history, where x corresponds to the final digit shown in Table X:

- **6A02.x0 without loss of previously acquired skills**
- **6A02.x1 with loss of previously acquired skills**

Additional Clinical Features:

- Common symptom presentations of Autism Spectrum Disorder in young children are parental or caregiver concerns about intellectual or other developmental delays (e.g., problems in language and motor coordination). When there is no significant impairment of intellectual functioning, clinical services may only be sought later (e.g., due to behaviour or social problems when starting school). In middle childhood, there may be prominent symptoms of anxiety, including Social Anxiety Disorder, school refusal, and Specific Phobia. During adolescence and adulthood, Depressive Disorders are often a presenting feature.
- Co-occurrence of Autism Spectrum Disorder with other Mental, Behavioural or Neurodevelopmental Disorders is common across the lifespan. In a substantial proportion of cases, particularly in adolescence and adulthood, it is a co-occurring disorder that first brings an individual with Autism Spectrum Disorder to clinical attention.
- Pragmatic language difficulties may manifest as an overly literal understanding of others' speech, speech that lacks normal prosody and emotional tone and therefore appears monotonous, lack of awareness of the appropriateness of their choice of language in particular social contexts, or pedantic precision in the use of language.
- Social naiveté, especially during adolescence, can lead to exploitation by others, a risk that may be enhanced by the use of social media without adequate supervision.
- Profiles of specific cognitive skills in Autism Spectrum Disorder as measured by standardized assessments may show striking and unusual patterns of strengths and weaknesses that are highly variable from individual to individual. These deficits can affect learning and adaptive functioning to a greater extent than would be predicted from the overall scores on measures of verbal and non-verbal intelligence.
- Self-injurious behaviours (e.g., hitting one's face, head banging) occur more often in individuals with co-occurring Disorder of Intellectual Development.
- Some young individuals with Autism Spectrum Disorder, especially those with a co-occurring Disorder of Intellectual Development, develop epilepsy or seizures during early childhood with a second increase in prevalence during adolescence. Catatonic states have also been described. A number of medical disorders such as Tuberous Sclerosis, chromosomal abnormalities including Fragile X Syndrome, Cerebral Palsy, early onset epileptic encephalopathies, and Neurofibromatosis are associated with Autism Spectrum Disorder with or without a co-occurring Disorder of Intellectual

Development. Genomic deletions, duplications and other genetic abnormalities are increasingly described in individuals with Autism Spectrum Disorder, some of which may be important for genetic counselling. Prenatal exposure to valproate is also associated with an increased risk of Autism Spectrum Disorder.

- Some individuals with Autism Spectrum Disorder are capable of functioning adequately by making an exceptional effort to compensate for their symptoms during childhood, adolescence or adulthood. Such sustained effort, which may be more typical of affected females, can have a deleterious impact on mental health and well-being.

Boundary with Normality (Threshold):

- ***Social interaction skills:*** Typically developing individuals vary in the pace and extent to which they acquire and master skills of reciprocal social interaction and social communication. A diagnosis of Autism Spectrum Disorder should only be considered if there is marked and persistent deviation from the expected range of abilities and behaviours in these domains given the individual's age, level of intellectual functioning, and sociocultural context. Some individuals may exhibit limited social interaction due to shyness (i.e., feelings of awkwardness or fear in new situations or with unfamiliar people) or behavioural inhibition (i.e., being slow to approach or to 'warm up' to new people and situations). Limited social interactions in shy or behaviourally inhibited children, adolescents, or adults are not indicative of Autism Spectrum Disorder. Shyness is differentiated from Autism Spectrum Disorder by evidence of adequate social communication behaviours in familiar situations.
- ***Social communication skills:*** Children vary widely in the age at which they first acquire spoken language and the pace at which their speech and language become firmly established. Most children with early language delay eventually acquire similar language skills as their same-age peers. Early language delay alone is not strongly indicative of Autism Spectrum Disorder unless there is also evidence of limited motivation for social communication and limited interaction skills. An essential feature of Autism Spectrum Disorder is persistent impairment in the ability to understand and use language appropriately for social communication.
- ***Repetitive and stereotyped behaviours:*** Many children go through phases of repetitive play and highly focused interests as a part of typical development. Unless there is also evidence of impaired reciprocal social interaction and social communication, patterns of behaviour characterized by repetition, routine, or restricted interests are not by themselves indicative of Autism Spectrum Disorder.

Course Features:

- Although ASD can present clinically at all ages, including during adulthood, it is a lifelong disorder the manifestations and impact of which are likely to vary according to age, intellectual and language abilities, co-occurring conditions and environmental context.
- Restricted and repetitive behaviours persist over time. Specifically, repetitive sensorimotor behaviours appear to be common, consistent, and potentially severe. During the school age years and adolescence, these repetitive sensorimotor behaviours begin to lessen in intensity and number. Insistence on sameness, which is less prevalent, appears to develop during preschool and worsen over time.

Developmental Presentations:

- *Infancy:* Characteristic features may emerge during infancy although they may only be recognized as indicative of Autism Spectrum Disorder in retrospect. It is usually possible to make the diagnosis of Autism Spectrum Disorder during the preschool period (up to 4 years), especially in children exhibiting generalized developmental delay. Plateauing of social communication and language skills and failure to progress in their development is not uncommon. The loss of early words and social responsiveness, i.e., a true regression, with an onset between 1 and 2 years, is unusual but significant and rarely occurs after the third year of life. In these cases, the qualifier ‘with loss of previously acquired skills’ should be applied.
- *Preschool:* In preschool children, indicators of an Autism Spectrum Disorder diagnosis often include avoidance of mutual eye contact, resistance to physical affection, a lack of social imaginary play, language that is delayed in onset or is precocious but not used for social conversation; social withdrawal, obsessive or repetitive preoccupations, and a lack of social interaction with peers characterized by parallel play or disinterest. Sensory sensitivities to everyday sounds, or to foods, may overshadow the underlying social communication deficits.
- *Middle Childhood:* In children with Autism Spectrum Disorder without a Disorder of Intellectual Development, social adjustment difficulties outside the home may not be detected until school entry or adolescence when social communication problems lead to social isolation from peers. Resistance to engage in unfamiliar experiences and marked reactions to even minor change in routines are typical. Furthermore, excessive focus on detail as well as rigidity of behaviour and thinking may be significant. Symptoms of anxiety may become evident at this stage of development.
- *Adolescence:* By adolescence, the capacity to cope with increasing social complexity in peer relationships at a time of increasingly demanding academic expectations is often overwhelmed. In some individuals with Autism Spectrum Disorder, the underlying social communication deficits may be overshadowed by the symptoms of co-occurring Mental and Behavioural Disorders. Depressive symptoms are often a presenting feature.
- *Adulthood:* In adulthood, the capacity for those with Autism Spectrum Disorder to cope with social relationships can become increasingly challenged, and clinical presentation may occur when social demands overwhelm the capacity to compensate. Presenting problems in adulthood may represent reactions to social isolation or the social consequences of inappropriate behaviour. Compensation strategies may be sufficient to sustain dyadic relationships, but are usually inadequate in social groups. Special interests, and focused attention, may benefit some individuals in education and employment. Work environments may have to be tailored to the capacities of the individual. A first diagnosis in adulthood may be precipitated by a breakdown in domestic or work relationships. In Autism Spectrum Disorder there is always a history of early childhood social communication and relationship difficulties, although this may only be apparent in retrospect.

Culture-Related Features:

- Cultural variation exists in norms of social communication, reciprocal social interactions, as well as interests and activities. Therefore, signs of impairment in

functioning may differ depending on cultural context. For example, in some societies it may be normative for children may avoid direct eye contact out of deference, which should not be misinterpreted as impairment in social interaction.

Gender-Related Features:

- Males are four times more likely than females to be diagnosed with Autism Spectrum Disorder.
- Females diagnosed with Autism Spectrum Disorder are more frequently diagnosed with co-occurring Disorders of Intellectual Development, suggesting that less severe presentations may go undetected as compared to males. Females tend to demonstrate fewer restricted, repetitive interests and behaviours than males.
- During middle-childhood, gender differences in presentation differentially affect functioning. Boys may act out with reactive aggression or other behavioural symptoms when challenged or frustrated. Girls tend to withdraw socially, and react with emotional changes to their social adjustment difficulties.

Boundaries with Other Disorders and Conditions (Differential Diagnosis):

- ***Boundary with Disorders of Intellectual Development:*** Autism Spectrum Disorder may be diagnosed in individuals with Disorders of Intellectual Development if deficits in initiating and sustaining social communication and reciprocal social interactions are greater than would be expected based on the individual's level of intellectual functioning and if the other diagnostic requirements for Autism Spectrum Disorder are also met. In these circumstances, both Autism Spectrum Disorder and the Disorder of Intellectual Development should be assigned and the 'with Disorder of Intellectual Development' qualifier should be applied with the Autism Spectrum Disorder diagnosis. Because Autism Spectrum Disorder inherently involves social deficits, assessment of adaptive behaviour as a part of the diagnosis of a co-occurring Disorder of Intellectual Development should place greater emphasis on intellectual functioning and the conceptual and practical domains of adaptive functioning rather than on social skills. The diagnosis of Autism Spectrum Disorder in individuals with Severe and Profound Disorders of Intellectual Development is particularly difficult, and requires in-depth and longitudinal assessments. However, the diagnosis may be assigned if skills in social reciprocity and communication are significantly impaired relative to the individual's general level of intellectual ability.
- ***Boundary with Developmental Language Disorder with impairment of mainly pragmatic language:*** Individuals with Developmental Language Disorder with impairment of mainly pragmatic language exhibit language deficits involving the ability to understand and use language in social context (i.e., with pragmatic language impairment). Unlike individuals with Autism Spectrum Disorder, individuals with Developmental Language Disorder are usually able to initiate and respond appropriately to social and emotional cues and to share interests with others, and do not typically exhibit restricted, repetitive and stereotyped behaviours. An additional diagnosis of Developmental Language Disorder should not be assigned to individuals with Autism Spectrum Disorder based solely on pragmatic language impairment. The other forms of Developmental Language Disorder (i.e., with impairment of receptive and expressive language or with impairment of receptive and expressive language) may be assigned in

conjunction with a diagnosis of Autism Spectrum Disorder if language abilities are markedly below what would be expected on the basis of age and level of intellectual functioning.

- ***Boundary with Developmental Motor Coordination Disorder:*** Individuals with Autism Spectrum Disorder may be reluctant to participate in tasks requiring complex motor coordination skills, such as ball sports, which is better accounted for by a lack of interest rather than any specific deficits in motor coordination. However, Developmental Motor Coordination Disorder and Autism Spectrum Disorder can co-occur and both diagnoses may be assigned if warranted.
- ***Boundary with Attention Deficit Hyperactivity Disorder:*** Specific abnormalities in attention (e.g., being overly focused or easily distracted), impulsivity, and physical hyperactivity are often observed in individuals with Autism Spectrum Disorder. However, individuals with Attention Deficit Hyperactivity Disorder do not exhibit the persistent deficits in initiating and sustaining social communication and reciprocal social interactions or the persistent restricted, repetitive, and inflexible patterns of behaviour, interests, or activities that are the defining features of Autism Spectrum Disorder. However, Autism Spectrum Disorder and Attention Deficit Hyperactivity Disorder can co-occur and both diagnoses may be assigned if diagnostic requirements are met for each. Attention Deficit Hyperactivity Disorder symptoms may sometimes dominate the clinical presentation such that some Autism Spectrum Disorder symptoms are less apparent.
- ***Boundary with Stereotyped Movement Disorder:*** Stereotyped Movement Disorder is characterized by voluntary, repetitive, stereotyped, apparently purposeless (and often rhythmic) movements that arise during the early developmental period. Although such stereotypies are typical in Autism Spectrum Disorder, if they are severe enough to require additional clinical attention, for example because of self-injury, a co-occurring diagnosis of Stereotyped Movement Disorder may be warranted.
- ***Boundary with Schizophrenia:*** The onset of Schizophrenia may be associated with prominent social withdrawal, which is either preceded by or results in social impairments that may resemble social deficits seen in Autism Spectrum Disorder. However, unlike Autism Spectrum Disorder, the onset of Schizophrenia is typically in adolescence or early adulthood and extremely rare prior to puberty. Schizophrenia is differentiated on the basis of the presence of psychotic symptoms (e.g., delusions, hallucinations) as well as a lack of restricted, repetitive and inflexible patterns of behaviour, interests or activities during early childhood typical of Autism Spectrum Disorder.
- ***Boundary with Schizotypal Disorder:*** Interpersonal difficulties seen in Autism Spectrum Disorder may share some features of Schizotypal Disorder, such as poor rapport with others and social withdrawal. However, Autism Spectrum Disorder is also characterized by restricted, repetitive and stereotyped patterns of behaviour, interests, or activities.
- ***Boundary with Social Anxiety Disorder:*** Social Anxiety Disorder is associated with limited engagement in social interaction due to marked and excessive fear or anxiety about negatively evaluated by others. Typically, when interacting with familiar others or in social situations that do not provoke significant anxiety, there is no evidence of impairment. Individuals with Autism Spectrum Disorder may experience social anxiety, but they also exhibit more pervasive deficits in initiating and sustaining social communication and reciprocal social interactions than are typically observed in Social

Anxiety Disorder. Persistent restricted, repetitive, and inflexible patterns of behaviour, interests, or activities are not features of Social Anxiety Disorder.

- **Boundary with Selective Mutism:** Selective Mutism is characterized by normal use of language and patterns of social communication in specific environments, such as the home, but not in others, such as at school. In Autism Spectrum Disorder, a reluctance to communicate may be observed in some social circumstances, but deficits in initiating and sustaining social communication and reciprocal social interactions and persistent restricted, repetitive, and inflexible patterns of behaviour, interests, or activities are evident across all situations and contexts.
- **Boundary with Obsessive-Compulsive Disorder:** Obsessive-Compulsive Disorder is characterized by persistent repetitive thoughts, images, or impulses/urges (i.e., obsessions) and/or repetitive behaviours (i.e., compulsions) that the individual feels driven to perform in response to an obsession, according to rigid rules, to reduce anxiety or to achieve a sense of ‘completeness’. These symptoms may be difficult to distinguish from restricted, repetitive, and inflexible patterns of behaviour, interests, or activities that are characteristic of Autism Spectrum Disorder. Unlike those with Autism Spectrum Disorder, it is more common for individuals with Obsessive-Compulsive Disorder to consciously resist their impulsive/urges to perform compulsive behaviours (e.g., by performing alternate tasks), though adolescents and adults with Autism Spectrum Disorder may also try to suppress specific behaviours that they realize are socially undesirable. Autism Spectrum Disorder can also be distinguished from Obsessive-Compulsive Disorder by its characteristic deficits in initiating and sustaining social communication and reciprocal social interactions, which are not features of Obsessive-Compulsive Disorder.
- **Boundary with Reactive Attachment Disorder:** Reactive Attachment Disorder is characterized by inhibited emotionally withdrawn behaviour exhibited toward adult caregivers, including a failure to approach a discriminated, preferred attachment figure for comfort, support, protection or nurturance. The diagnosis of Reactive Attachment Disorder requires evidence of a history of severe neglect or maltreatment by the primary caregiver or other forms of severe social deprivation (e.g., certain types of institutionalization). Some individuals reared under conditions of severe deprivation in institutional settings exhibit autistic-like features including difficulties in social reciprocity and restricted, repetitive, and inflexible patterns of behaviour, interests, or activities. Also referred to as ‘quasi-autism’, affected individuals are differentiated from those with Autism Spectrum Disorder based on significant improvement of autism-like features when the child is moved to a more nurturing environment. Differentiation between Reactive Attachment Disorder and Autism Spectrum Disorder is difficult when no reliable evidence is available of intact social and communicative development prior to the onset of abuse or neglect.
- **Boundary with Disinhibited Social Engagement Disorder:** Disinhibited Social Engagement Disorder is characterized by persistent indiscriminate social approaches to unfamiliar adults and peers, a pattern of behaviour that may also be seen in some children with Autism Spectrum Disorder. The diagnosis of Disinhibited Social Engagement Disorder requires evidence of a history of severe neglect or maltreatment by the primary caregiver or other forms of severe social deprivation (e.g., certain types of institutionalization). As in Reactive Attachment Disorder, Disinhibited Social Engagement Disorder may be associated with generalized deficits in social understanding and social communication. Although they may occur, restricted,

repetitive, and inflexible patterns of behaviour, interests, or activities are not typical features of Disinhibited Social Engagement Disorder. Evidence of a significant reduction in symptoms when the child is provided a more nurturing environment suggests that Disinhibited Social Engagement Disorder is the appropriate diagnosis.

- ***Boundary with Avoidant-Restrictive Food Intake Disorder:*** Individuals with Avoidant-Restrictive Food Intake Disorder sometimes restrict their food intake based on food's sensory characteristics such as smell, taste, temperature, texture or appearance. Individuals with Autism Spectrum Disorder may also restrict intake of certain foods because of their sensory characteristics or because of inflexible adherence to particular routines. However, Autism Spectrum Disorder is also characterized by persistent deficits in initiating and sustaining social communication and reciprocal social interactions and persistent restricted, repetitive, and inflexible patterns of behaviour, interests, or activities that are unrelated to food. If a pattern of restricted eating in an individual with Autism Spectrum Disorder has caused significant weight loss or other health consequences or is specifically associated with significant functional impairment, an additional diagnosis of Avoidant-Restrictive Food Intake Disorder may be assigned.
- ***Boundary with Oppositional Defiant Disorder:*** Oppositional Defiant Disorder is characterized by a pattern of markedly noncompliant, defiant, and disobedient disruptive behaviour that is not typical for individuals of comparable age and developmental level. Individuals with Oppositional Defiant Disorder do not exhibit the social communication deficits or restricted, repetitive, and inflexible patterns of behaviour, interests, or activities that are characteristic of Autism Spectrum Disorder. However, oppositional or 'demand avoidant' behaviour may be prominent in some children with Autism Spectrum Disorder, whether or not they have accompanying intellectual or functional language impairments and may sometimes be the presenting feature in school-aged children with Autism Spectrum Disorder. Disruptive behaviour with aggressive outbursts (explosive rages) may also be a prominent feature of Autism Spectrum Disorder. Among individuals with Autism Spectrum Disorder, such outbursts are often associated with a specific trigger (e.g., a change in routine, aversive sensory stimulation, anxiety, or rigidity when the individual's thoughts or behaviour sequences are interrupted), rather than reflecting an intention to be defiant, provocative, or spiteful, as is more typical of Oppositional Defiant Disorder.
- ***Boundary with Personality Disorder:*** Personality Disorder is a pervasive disturbance in how an individual experiences and thinks about the self, others, and the world, manifested in maladaptive patterns of cognition, emotional experience, emotional expression, and behaviour. The maladaptive patterns are relatively inflexible, manifest across a range of personal and social situations, relatively stable over time, and of long duration. They are associated with significant problems in psychosocial functioning that are particularly evident in interpersonal relationships. The difficulties some individuals with Autism Spectrum Disorder exhibit in initiating and maintaining relationships because of their limited skills in social communication and reciprocal social interactions may resemble those seen in some individuals with Personality Disorder. However, unlike Autism Spectrum Disorder, persistent restricted, repetitive, and inflexible patterns of behaviour, interests, or activities with onset in early childhood are not characteristic features of Personality Disorder.
- ***Boundary with Primary Tics or Tic Disorders including Tourette Syndrome:*** Sudden, rapid, non-rhythmic, and recurrent movements or vocalizations occur in Primary Tics and Tic Disorders, which may resemble repetitive and stereotyped motor movements in

Autism Spectrum Disorder. Unlike Autism Spectrum Disorder, tics in Primary Tics and Tic Disorders tend to be less stereotyped, are often accompanied by premonitory sensory urges, last for a shorter period, tend to emerge later in life, and are not experienced by the individual as soothing.

- ***Boundary with Diseases of the Nervous System and other medical conditions classified elsewhere:*** Loss of previously acquired skills in language and social communication in the second year of life is reported in some children with Autism Spectrum Disorder, but this rarely occurs after the age of 3 years. Diseases of the Nervous System and other medical conditions associated with regression (e.g., acquired epileptic aphasia or Landau Kleffner syndrome, autoimmune encephalitis, Rett Syndrome) are differentiated from Autism Spectrum Disorder with loss of previously acquired skills on the basis of an early history of relatively normal social and language development and by the characteristic neurological features of these disorders that are not typical of Autism Spectrum Disorder.
- ***Boundary with Secondary Neurodevelopmental Syndrome:*** Autistic features may become manifest in the context of acquired medical conditions, such as encephalitis. Identifying accurately whether the symptoms are secondary to another medical condition or represent the exacerbation of pre-existing Autism Spectrum Disorder may have implications for both immediate management and prognosis. When autistic symptoms are attributable to another medical condition, a diagnosis of Secondary Neurodevelopmental Syndrome rather than Autism Spectrum Disorder may be assigned.

6A03 Developmental Learning Disorder

Essential (Required) Features:

- The presence of significant limitations in learning academic skills of reading, writing, or arithmetic, resulting in a skill level markedly below what would be expected for age. Limitations in learning are manifest despite appropriate academic instruction in the relevant areas. The limitations may be restricted to a single component of a skill (e.g., an inability to master basic numeracy, or to decode single words accurately and fluently) or affect all of reading, writing and arithmetic. Ideally, limitations are measured using appropriately normed and standardized tests.
- Onset of the limitations typically occurs during the early school years, but in some individuals may not be identified until later in life, including into adulthood, when performance demands related to learning exceed limited capacities.
- The limitations are not attributable to external factors, such as economic or environmental disadvantage, or lack of access to educational opportunities.
- The learning difficulties are not better accounted for by a Disorder of Intellectual Development or another Neurodevelopmental Disorder or another condition such as a motor disorder or a sensory disorder of vision or hearing.
- The learning difficulties result in significant impairment in the individual's academic, occupational, or other important areas of functioning. If functioning is maintained, it is only through significant additional effort.

Qualifiers for area of learning impairment:

Qualifiers should be applied to indicate which academic skills are significantly impaired at time of assessment. Multiple qualifiers may be used to reflect limitations in multiple skills.

6A03.0 Impairment in reading

- Learning difficulties are manifested in impairments in reading skills such as word reading accuracy, reading fluency, reading comprehension.

6A03.1 Impairment in mathematics

- Learning difficulties are manifested in impairments in mathematical skills such as number sense, memorization of number facts, accurate calculation, fluent calculation, accurate mathematic reasoning.

6A03.2 Impairment in written expression

- Learning difficulties are manifested in impairments in writing skills such as spelling accuracy, grammar and punctuation accuracy, organization and cohesion of ideas in writing.

6A03.3 Other specified impairment of learning

- Learning difficulties are manifested in impairments in learning and performance of specific academic skills that are not adequately characterized by one of the other available qualifiers.

Additional Clinical Features:

- Individuals with Developmental Learning Disorder typically show impairments in various underlying psychological processes that may include phonological processing, orthographic processing, memory (including working memory), executive functions (including inhibitory control, set-shifting, planning), learning and automatizing symbols (e.g., visual, alphanumeric), perceptual-motor integration, and speed of processing information. Deficits in these psychological processes are presumed to underlie a child's ability to learn academic skills. However, the precise relationship between psychological processes and outcomes related to learning capacity is not yet sufficiently understood to allow an accurate and clinically useful classification based on these underlying processes.
- Developmental Learning Disorder commonly co-occurs with other Neurodevelopmental Disorders, such as Attention Deficit Hyperactivity Disorder, Developmental Motor Coordination Disorder, Developmental Language Disorder, and Autism Spectrum Disorder.

- Many individuals with Developmental Learning Disorder have marked difficulties self-regulating attention that are not sufficiently severe to warrant a separate diagnosis. Persistent difficulties with self-regulated attention can have deleterious effects on academic outcomes and may impede response to intervention or supports.
- Some individuals with Developmental Learning Disorder may be able to sustain seemingly adequate levels of key academic skills by using compensatory strategies or through devoting extraordinarily high levels of effort or time, or through the provision of unusually high levels of support. However, as demands for efficiency in key academic skills increase and exceed capabilities (e.g., in timed tests, reading or writing lengthy detailed reports for a tight deadline, heavier academic coursework as in high school, post-secondary education or professional training), the underlying learning difficulties tend to become more fully apparent.
- Ideally, determination of the presence of Developmental Learning Disorder includes assessment of academic achievement using standardized, appropriately normed instruments. However, a child's score on a single test measuring a particular academic skill is not sufficient to distinguish disorder from normality. Achievement scores may vary as a result of the technical properties of the specific test being used, the testing conditions, and a variety of other variables and also can vary substantially over the individual's development and life course. Therefore, the diagnosis of Developmental Learning Disorder should also consider various sources of evidence regarding the child's capacity for learning outside the formal testing situation.

Boundary with Normality (Threshold):

- The age of acquisition of academic skills varies and later acquisition of a particular academic skill compared to same-age peers does not necessarily indicate the presence of a disorder. Developmental Learning Disorder is distinguished by persistent difficulty in learning the particular academic skill(s) over time in spite of adequate educational opportunities, and by the severity of the impairment caused by the learning difficulty.

Course Features:

- Deficits in reading, mathematics and written expression identified in childhood typically persist through adolescence and into adulthood. These deficits may negatively impact a child's academic achievement, increase the likelihood of school dropout, and contribute to unemployment (or under-employment), particularly if left untreated, in adulthood. Along with school dropout, significant co-occurring depressive symptoms increase the risk of poor mental health outcomes, including suicide.
- The specific impairments associated with Developmental Learning Disorder vary with developmental stage and learning abilities, severity of deficits, complexity of tasks, presence of co-occurring Mental, Behavioural or Neurodevelopmental Disorders, and the availability of supports.
- Developmental Learning Disorder is also associated with heightened risk of suicidal ideation and suicide attempts across the lifespan.

Developmental Presentations:

- Developmental Learning Disorder is most often diagnosed during elementary school years because difficulties in reading, mathematics and/or writing typically only become evident when these topics are taught formally. Some individuals, however, may not be diagnosed until later in development, including in adulthood. Pre-morbid impairments, such as in language, counting or rhyming, or fine motor control tend to be evident in early childhood prior to the diagnosis of Developmental Learning Disorder.
- The prevalence of Developmental Learning Disorder across all areas of impairment (i.e., reading, written expression, and mathematics) is estimated at affecting between 5 – 15% of school-aged children. Prevalence among adults is unknown, but estimated at approximately 4%. The prevalence of Developmental Learning Disorder for specific academic areas among school-aged children is variable (reading is estimated at 5 – 17%; mathematics: 6 – 7%; written expression: 7 – 15%).
- Children with Developmental Learning Disorder frequently exhibit co-occurring symptoms of Depressive Disorders, Anxiety or Fear-Related Disorders, and externalizing behaviour disorders, which may make it more difficult to assess their learning impairments.
- Children with Developmental Learning Disorder with impairment in one academic area are more likely to have co-occurring impairments in other areas

Culture-Related Features:

- Developmental Learning Disorder with impairment in reading can be manifested differently by language. For example, in English, the presentation involves inaccurate and slow reading of single words. In other languages with more direct mapping between sounds and letters (e.g., Spanish, German) and non-alphabetic languages (e.g., Chinese, Japanese), the typical presentation is slow but accurate reading.

Gender-Related Features:

- Developmental Learning Disorder is more common among boys. Boys may be more likely to be clinically referred because of greater prevalence of co-occurring Attention Deficit Hyperactivity Disorder or problematic externalizing behaviours.
- Among community samples, the gender ratio of males to females ranges from 1.5:1 to 3:1. This ratio appears greater in clinical samples (estimated at 6:1).

Boundaries with Other Disorders and Conditions (Differential Diagnosis):

- **Boundary with Disorders of Intellectual Development:** Individuals with Disorders of Intellectual Development often present with limitations in academic achievement by virtue of significant generalized deficits in intellectual functioning. It is therefore difficult to establish the co-occurring presence of a Developmental Learning Disorder in individuals with a Disorder of Intellectual Development. Developmental Learning Disorder should only be diagnosed in the presence of a Disorder of Intellectual Development when the limitations in learning are significantly in excess of those usually expected for the individual's level of intellectual functioning.

- ***Boundary with Developmental Language Disorder:*** Persistent deficits in the acquisition, understanding, production or use of language in Developmental Language Disorder may lead to academic learning difficulties, especially in literacy, including word reading and written output. If all diagnostic requirements for both Developmental Language Disorder and Developmental Learning Disorder are met, both diagnoses may be assigned.
- ***Boundary with Attention Deficit Hyperactivity Disorder:*** Many individuals with Developmental Learning Disorder have marked difficulties in self-regulating attention. However, unlike in Attention Deficit Hyperactivity Disorder, the limitations in acquisition of academic skills in Developmental Learning Disorder are not solely a function of a child's ability to sustain attention on academic tasks or appropriately modulate their activity level. The co-occurrence of Developmental Learning Disorder and Attention Deficit Hyperactivity Disorder is common and both disorders may be diagnosed if diagnostic requirements are met.
- ***Boundary with sensory impairments:*** Developmental Learning Disorder must be differentiated from learning difficulties that arise because of sensory impairments in vision or hearing. However, individuals with vision and hearing problems for which appropriate accommodations have been made may also have co-occurring Developmental Learning Disorder.
- ***Boundary with neurodegenerative diseases:*** Developmental Learning Disorder is distinguished from learning difficulties that occur after the developmental period due to neurodegenerative diseases or to injury (e.g., traumatic brain injury) by the fact that in the latter conditions there is a loss of previously acquired academic skills and previous capacity for learning new skills.

6A04 Developmental Motor Coordination Disorder

Essential (Required) Features:

- Significant delay in the acquisition of gross or fine motor skills and impairment in the execution of coordinated motor skills manifesting as clumsiness, slowness, or inaccuracy of motor performance.
- Coordinated motor skills are markedly below that expected on the basis of age.
- Onset of coordinated motor skill difficulties occurs during the developmental period and is typically apparent from early childhood.
- Coordinated motor skills difficulties cause significant and persistent limitations in activities of daily living, school work, vocation and leisure activities, or other important areas of functioning.
- Difficulties with coordinated motor skills are not better accounted for by a Disease of the Nervous System, Disease of the Musculoskeletal System or Connective Tissue, sensory impairment, or a Disorder of Intellectual Development.

Additional Clinical Features:

- Young children with Developmental Motor Coordination Disorder may be delayed in achieving motor milestones (e.g., sitting, crawling, walking), although many achieve typical early motor milestones. Acquisition of skills such as negotiating stairs, pedalling,

buttoning shirts, completing puzzles, tying shoes, and using zippers may be delayed or pose difficulties. Even when a given skill is achieved, movement execution may appear awkward, slow, or less precise than that of peers. Children may drop things, stumble, bump into obstacles, or fall more frequently than peers.

- Developmental Motor Coordination Disorder may affect primarily gross motor functioning, primarily fine motor functioning, or both aspects of motor functioning.
- Manifestations of Developmental Motor Coordination Disorder typically persist into adult life. Older children and adults with Developmental Motor Coordination Disorder may be slow or inaccurate in a variety of activities requiring fine or gross motor skills, such as team sports (especially ball sports), bicycling, handwriting, assembling models or other objects, or drawing maps.
- Other Neurodevelopmental Disorders commonly co-occur with Developmental Motor Coordination Disorder. In addition to Disorders of Intellectual Development, Attention Deficit Hyperactivity Disorder, and Autism Spectrum Disorder (see above), this also includes Developmental Speech Sound Disorder (particularly difficulties with articulation), Developmental Language Disorder and Developmental Learning Disorder. Although the presence of other Neurodevelopmental Disorders does not preclude the diagnosis of Developmental Motor Coordination Disorder, these disorders may also interfere with the execution of activities of daily living, school work, and vocational and leisure activities that require coordinated motor skills. Co-occurrence therefore complicates assessment and requires clinical judgment in attributing limitations in activities that require coordinated motor skills to a specific diagnosis.

Boundary with Normality (Threshold):

- There is considerable variation in the age of acquisition of many motor skills and a lack of stability of measurement in early childhood. Onset of Developmental Motor Coordination Disorder typically occurs during the early developmental period, but differentiation from typical development before the age of 4 years is difficult due to the variability in motor development and skill acquisition throughout early childhood. Therefore, the diagnosis of Developmental Motor Coordination Disorder is usually not made before 5 years of age.
- Performance of motor skills should ideally be assessed using appropriately normed, individually administered, culturally appropriate standardized tests of gross and fine motor coordination, and should include evaluation of the impact of symptoms at home and at school (or, in adults, in the work place). Key features for assessment are persistence of motor skill impairment over time, severity of impairment, and pervasiveness of impact on functioning.
- Developmental Motor Coordination Disorder often co-occurs with other Neurodevelopmental Disorders. Attention Deficit Hyperactivity Disorder is most common (an estimated 50% of cases), as well as Developmental Speech and Language Disorder, Developmental Learning Disorder (most often with impairments in reading and written expression), and Autism Spectrum Disorder.

Course Features:

- Though there may be improvement in symptoms over time with some children experiencing a complete remission of symptoms, the course of Developmental Motor

Coordination Disorder is typically chronic, persisting into adolescence and adulthood in up to 50 – 70% of cases. The persistence of Developmental Motor Coordination Disorder into adulthood often impacts social and psychological functioning as well as physical health.

- The presence of other co-occurring Neurodevelopmental Disorders, such as Attention Deficit Hyperactivity Disorder, may further complicate the course of Developmental Motor Coordination Disorder. Individuals with co-occurring disorders typically experience more impairment than individuals with a single diagnosis.

Developmental Presentations:

- The prevalence of Developmental Motor Coordination Disorder is approximately 5 – 6% of school-aged children (5–11 years), though up to 10% of children may have less severe difficulties with motor skills that still impact academic and social functioning.
- The manifestation of Developmental Motor Coordination Disorder symptoms varies with developmental stage:
 - *Preschool:* In preschool children, delays in meeting one or more motor milestones (e.g., sitting, crawling, walking) or in developing specific skills (e.g., climbing stairs, buttoning clothing, tying shoes) may be evident.
 - *Middle Childhood:* In middle childhood, symptoms may be evident in activities such as handwriting, playing with a ball, or building puzzles or models.
 - *Adolescence and adulthood:* By adolescence, difficulties in motor coordination may manifest in attempts to master new skills, such as driving, using tools, or note taking.
 - Across all developmental stages, even once a skill is acquired, the execution of movements tends to be more awkward and less precise than in typically developing peers.
- Children with Developmental Motor Coordination Disorder may also be at increased risk of co-occurring disruptive behaviour problems, anxiety, and depression. In addition, children with Developmental Motor Coordination Disorder tend to report lower levels of self-efficacy and competence in physical and social abilities, and are at heightened risk of becoming overweight or obese as compared to their typically developing peers.

Gender-Related Features:

- Developmental Motor Coordination Disorder more frequently affects boys, with a ratio of between 2:1 to 7:1.

Boundaries with Other Disorders and Conditions (Differential Diagnosis):

- ***Boundary with Disorders of Intellectual Development:*** Individuals with Disorders of Intellectual Development may exhibit delays in acquisition and impairment in the execution of coordinated motor skills, along with decrements in general intellectual functioning and adaptive behaviour. If the diagnostic requirements of a Disorder of Intellectual Development are met and coordinated motor skills are significantly below what would be expected based on level of intellectual functioning and adaptive behaviour, both diagnoses may be assigned.

- ***Boundary with Autism Spectrum Disorder:*** In Autism Spectrum Disorder, there may be reluctance to participate in tasks requiring complex motor coordination skills, such as ball sports, which is better accounted for by a lack of interest rather than any specific deficits in motor coordination.
- ***Boundary with Attention Deficit Hyperactivity Disorder:*** Co-occurrence of Developmental Motor Coordination Disorder and Attention Deficit Hyperactivity Disorder is common. Both diagnoses may be assigned if the diagnostic requirements of both are met. However, some individuals with Attention Deficit Hyperactivity Disorder may appear to be clumsy (e.g., bumping into obstacles, knocking things over) due to distractibility and impulsiveness. Developmental Motor Coordination Disorder should not be diagnosed in such cases.
- ***Boundary with Diseases of the Nervous System, Diseases of the Musculoskeletal System or Connective Tissue, and sensory impairment:*** Motor skills may be affected by Diseases of the Nervous System (e.g., cerebral palsy, muscular dystrophy), Diseases of the Musculoskeletal System or Connective Tissue, sensory impairment (especially severe visual impairment), or joint hypermobility, which are established by appropriate physical and laboratory examination. A diagnosis of Developmental Motor Coordination Disorder should not be assigned when the difficulties with motor coordination are solely attributable to one of these conditions. Some children with Developmental Motor Coordination Disorder show atypical motor activity (usually suppressed), such as choreiform movements of unsupported limbs or mirror movements. These ‘overflow’ movements are not considered Diseases of the Nervous System *per se* and do not exclude the diagnosis of Developmental Motor Coordination Disorder.
- ***Boundary with effects of psychosocial deprivation:*** Extreme psychosocial deprivation in early childhood can produce impairments in motor functions. Depending on the onset, level of severity and duration of the deprivation, motor functioning may improve substantially after the child is moved to a more positive environment. However, some deficits may persist even after a sustained period in an environment that provides adequate stimulation for development, and a diagnosis of Developmental Motor Coordination Disorder may be appropriate in such cases if all diagnostic requirements are met.

6A05 Attention Deficit Hyperactivity Disorder

Essential (Required) Features:

- A persistent pattern (e.g., at least 6 months) of inattention symptoms and/or a combination of hyperactivity and impulsivity symptoms that is outside the limits of normal variation expected for age and level of intellectual development. Symptoms vary according to chronological age and disorder severity.

Inattention

Several symptoms of inattention that are persistent, and sufficiently severe that they have a direct negative impact on academic, occupational, or social functioning. Symptoms are typically from the following clusters:

- Difficulty sustaining attention to tasks that do not provide a high level of stimulation or reward or require sustained mental effort; lacking attention to

detail; making careless mistakes in school or work assignments; not completing tasks.

- Easily distracted by extraneous stimuli or thoughts not related to the task at hand; often does not seem to listen when spoken to directly; frequently appears to be daydreaming or to have mind elsewhere.
- Loses things; is forgetful in daily activities; has difficulty remembering to complete upcoming daily tasks or activities; difficulty planning, managing and organizing schoolwork, tasks and other activities.

Note: Inattention may not be evident when the individual is engaged in activities that provide intense stimulation and frequent rewards.

Hyperactivity-impulsivity

Several symptoms of hyperactivity/impulsivity that are persistent, and sufficiently severe that they have a direct negative impact on academic, occupational, or social functioning.

These tend to be most evident in structured situations that require behavioural self-control. Symptoms are typically from the following clusters:

- Excessive motor activity; leaves seat when expected to sit still; often runs about; has difficulty sitting still without fidgeting (younger children); feelings of physical restlessness, a sense of discomfort with being quiet or sitting still (adolescents and adults).
- Difficulty engaging in activities quietly; talks too much.
- Blurts out answers in school, comments at work; difficulty waiting turn in conversation, games, or activities; interrupts or intrudes on others conversations or games.
- A tendency to act in response to immediate stimuli without deliberation or consideration of risks and consequences (e.g., engaging in behaviours with potential for physical injury; impulsive decisions; reckless driving).
- Evidence of significant inattention and/or hyperactivity-impulsivity symptoms prior to age 12, though some individuals may first come to clinical attention later in adolescence or as adults, often when demands exceed the individual's capacity to compensate for limitations.
- Manifestations of inattention and/or hyperactivity-impulsivity must be evident across multiple situations or settings (e.g., home, school, work, with friends or relatives), but are likely to vary according to the structure and demands of the setting.
- Symptoms are not better accounted for by another mental disorder (e.g., an Anxiety or Fear-Related Disorder, a Neurocognitive Disorder such as Delirium).
- Symptoms are not due to the effects of a substance (e.g., cocaine) or medication (e.g., bronchodilators, thyroid replacement medication) on the central nervous system, including and withdrawal effects, and are not due to a Disease of the Nervous System.

Qualifiers to describe predominant characteristics of clinical presentation:

The characteristics of the current clinical presentation should be described using one of the following qualifiers, which are meant to assist in recording the main reason for the current referral or services. Predominance of symptoms refers to the presence of several symptoms of either an inattentive or hyperactive/impulsive nature with few or no symptoms of the other type.

6A05.0 Attention Deficit Hyperactivity Disorder, predominantly inattentive presentation

- All diagnostic requirements for Attention Deficit Hyperactivity Disorder are met and inattentive symptoms predominate.

6A05.1 Attention Deficit Hyperactivity Disorder, predominantly hyperactive-impulsive presentation

- All diagnostic requirements for Attention Deficit Hyperactivity Disorder are met and symptoms of hyperactivity-impulsivity predominate.

6A05.2 Attention Deficit Hyperactivity Disorder, combined presentation

- All diagnostic requirements for Attention Deficit Hyperactivity Disorder are met and both hyperactive-impulsive and inattentive symptoms are clinically significant aspects of the current clinical presentation, with neither clearly predominating.

Additional Clinical Features:

- Attention Deficit Hyperactivity Disorder usually manifests in early or middle childhood. In many cases, hyperactivity symptoms predominate in preschool and decrease with age such that they are no longer prominent beyond adolescence or may instead be reported as feelings of physical restlessness. Attentional problems may be more commonly observed beginning in later childhood, especially in school and in adults in occupational settings.
- The manifestations and severity of Attention Deficit Hyperactivity Disorder often vary according to the characteristics and demands of the environment. Symptoms and behaviours should be evaluated across multiple types of environments as a part of clinical assessment.
- Where available, teacher and parent reports should be obtained to establish the diagnosis in children and adolescents. In adults, the report of a significant other, family member, or co-worker can provide important additional information.
- Some individuals with Attention Deficit Hyperactivity Disorder may first present for services in adulthood. When making the diagnosis of Attention Deficit Hyperactivity Disorder in adults, a history of inattention, hyperactivity, or impulsivity before age 12 is an important corroborating feature that can be best established from school or local records, or from informants who knew the individual during childhood. In the absence of such corroborating information, a diagnosis of Attention Deficit Hyperactivity Disorder in older adolescents and adults should be made with caution.
- In a subset of individuals with Attention Deficit Hyperactivity Disorder, especially in children, an exclusively inattentive presentation may occur. There is no hyperactivity and the presentation is characterized by daydreaming, mind-wandering, and a lack of focus. These children are sometimes referred to as exhibiting a restrictive inattentive pattern of symptoms or sluggish cognitive tempo.
- In a subset of individuals with Attention Deficit Hyperactivity Disorder, combined presentation, severe inattentiveness and hyperactivity-impulsivity are both consistently

present in most of the situations that an individual encounters, and are also evidenced by the clinician's own observations. This pattern is often referred to as hyperkinetic disorder and is considered a more severe form of the disorder.

- Attention Deficit Hyperactivity Disorder symptoms often significantly limit academic achievement. Adults with Attention Deficit Hyperactivity Disorder often find it difficult to hold down a demanding job and may be disproportionately underemployed or unemployed. Attention Deficit Hyperactivity Disorder can also strain interpersonal relationships across the life span including those with family members, peers, and romantic partners. Individuals with Attention Deficit Hyperactivity Disorder often have greater difficulty regulating their behaviour in the context of groups than in one-on-one situations.
- Attention Deficit Hyperactivity Disorder often co-occurs with other Neurodevelopmental Disorders, including Developmental Speech or Language Disorders, and Primary Tics or Tic Disorders, which are classified in the Chapter on Diseases of the Nervous System but cross-listed under Neurodevelopment Disorders. Attention Deficit Hyperactivity Disorder is associated with an increased risk of Obsessive-Compulsive Disorder and with elevated rates of epilepsy. Emotional dysregulation, low frustration tolerance, and subtle clumsiness and other minor ('soft') neurological abnormalities in sensory and motor performance in the absence of any identifiable brain pathology are also common in Attention Deficit Hyperactivity Disorder.
- Attention Deficit Hyperactivity Disorder is associated with an increased risk for physical health problems including accidents.
- Acute onset of hyperactive behaviour in a school-age child or adolescent should raise the possibility that symptoms are better accounted for by another mental disorder or by a medical condition. For example, abrupt onset of hyperactivity in adolescence or adulthood may indicate an emergent Primary Psychotic or Bipolar Disorder.
- Although Attention Deficit Hyperactivity Disorder tends to run in families with evidence of high heritability, the predominant symptom pattern in Attention Deficit Hyperactivity Disorder in a given individual often changes over time and cannot be predicted based on the predominant symptoms of other family members.

Boundary with Normality (Threshold):

- Inattention, hyperactivity and impulsivity symptoms are present in many children, adolescents and adults, especially during certain developmental periods (e.g., early childhood). The diagnosis of Attention Deficit Hyperactivity Disorder requires that these symptoms be persistent across time, pervasive across situations, significantly out of keeping with developmental level, and have a direct negative impact on academic, occupational, or social functioning.

Course Features:

- Nearly half of all children diagnosed with Attention Deficit Hyperactivity Disorder will continue to exhibit symptoms into adolescence. Predictors of persistence into adolescence and adulthood include: co-occurring childhood onset Mental, Behavioural or Neurodevelopmental Disorders, lower intellectual functioning, poorer social functioning, and behavioural problems.

- Attention Deficit Hyperactivity Disorder symptoms tend to remain stable throughout adolescence with approximately one third of individuals diagnosed in childhood continuing to experience impairment in adulthood.
- Although symptoms of hyperactivity become less overt during adolescence and adulthood, individuals may still experience difficulties with inattention, impulsivity, and restlessness.

Developmental Presentations:

- Adolescents and adults may only seek clinical services after age 12 once symptoms become more limiting with increasing social, emotional, and academic demands or in the context of an evolving co-occurring Mental, Behavioural, or Neurodevelopmental Disorders that results in an exacerbation of Attention Deficit Hyperactivity Disorder symptoms.

Culture-Related Features:

- The symptoms of Attention Deficit Hyperactivity Disorder consistently fall into two separate dimensions across cultures: inattention and hyperactivity/impulsivity. However, culture can influence acceptability of symptoms as well as how caregivers respond to them.
- The assessment of hyperactivity should take into account cultural norms of age and gender-appropriate behaviour. For example, in some countries hyperactive behaviour may be seen as a sign of strength in a boy (e.g., ‘boiling blood’) while being perceived very negatively in a girl.
- Symptoms of inattention or hyperactivity/impulsivity may occur in response to exposure to traumatic events and grief reactions during childhood particularly in highly vulnerable and disadvantaged populations, including in post-conflict areas. In these settings, clinicians should consider whether the diagnosis of Attention Deficit Hyperactivity Disorder is warranted.

Gender-Related Features:

- Attention Deficit Hyperactivity Disorder is more common in males.
- Females are more likely to exhibit inattentive symptoms whereas males are more likely to exhibit symptoms of hyperactivity and impulsivity particularly at younger ages.

Boundaries with Other Disorders and Conditions (Differential Diagnosis):

- **Boundary with Disorders of Intellectual Development:** Co-occurrence of Attention Deficit Hyperactivity Disorder and Disorders of Intellectual Development is common, and both diagnoses may be assigned if warranted. However, symptoms of inattention and hyperactivity (e.g., restlessness) are common in children without Attention Deficit Hyperactivity Disorder who are placed in academic settings that are out of keeping with their intellectual abilities. A diagnosis of Attention Deficit Hyperactivity Disorder in individuals with Disorders of Intellectual Development requires that Attention Deficit Hyperactivity Disorder symptoms are disproportionate to the individual’s level of intellectual functioning.

- ***Boundary with Autism Spectrum Disorder:*** Specific abnormalities in attention (e.g., being overly focused or easily distracted), impulsivity, and physical hyperactivity are often observed in individuals with Autism Spectrum Disorder and may sometimes dominate the clinical presentation. Unlike individuals with Autism Spectrum Disorder, those with Attention Deficit Hyperactivity Disorder do not exhibit the persistent deficits in initiating and sustaining social communication and reciprocal social interactions or the persistent restricted, repetitive, and inflexible patterns of behaviour, interests, or activities that are the defining features of Autism Spectrum Disorder. However, Co-occurrence of these disorders is common.
- ***Boundary with Developmental Learning Disorder:*** Individuals with Developmental Learning Disorder without Attention Deficit Hyperactivity Disorder may exhibit symptoms of inattention and hyperactivity when asked to focus on specific academic activities that correspond to their areas of difficulty (i.e., reading, mathematics, or writing). If difficulty in sustaining attention on academic tasks or appropriately modulating activity level occurs only in response to these tasks and there is evidence of limitations in acquisition of academic skills in the specific corresponding area, a diagnosis of Developmental Learning Disorder and not Attention Deficit Hyperactivity Disorder should be assigned.
- ***Boundary with Developmental Motor Coordination Disorder:*** Co-occurrence of Attention Deficit Hyperactivity Disorder and Developmental Motor Coordination Disorder is common, and both diagnoses may be assigned if warranted. However, apparent clumsiness in some individuals with Attention Deficit Hyperactivity Disorder (e.g., bumping into obstacles, knocking things over) that is due to distractibility and impulsiveness should not be diagnosed as Developmental Motor Coordination Disorder.
- ***Boundary with Mood Disorders and Anxiety or Fear-Related Disorders:*** Attention Deficit Hyperactivity Disorder can co-occur with Mood Disorders and Anxiety or Fear-Related Disorders, but inattention, hyperactivity, and impulsivity can also be features of these disorders in individuals without Attention Deficit Hyperactivity Disorder. For example, symptoms such as restlessness, pacing, and impaired concentration can be features of a Depressive Episode, and should not be considered as part of the diagnosis of Attention Deficit Hyperactivity Disorder unless they have been present since childhood and persist after the resolution of the Depressive Episode. Inattention, impulsivity, and hyperactivity are typical features of Manic and Hypomanic Episodes. At the same time, mood lability and irritability may be associated features of Attention Deficit Hyperactivity Disorder. Late adolescent or adult onset, episodicity, and intensity of mood elevation characteristic of Bipolar Disorders are features that assist in differentiation from Attention Deficit Hyperactivity Disorder. Fidgeting, restlessness, and tension in the context of Anxiety or Fear-Related Disorders may resemble hyperactivity. Furthermore, anxious preoccupations or reaction to anxiety-provoking stimuli in individuals with Anxiety or Fear-Related Disorders can be associated with difficulties concentrating. To qualify for an Attention Deficit Hyperactivity Disorder diagnosis in the presence of a Mood Disorder or Anxiety or Fear-Related Disorder, inattention and/or hyperactivity should not be exclusively associated with Mood Episodes, be solely attributable to anxious preoccupations, or occur specifically in response to anxiety-provoking situations.
- ***Boundary with Intermittent Explosive Disorder:*** Attention Deficit Hyperactivity Disorder and Intermittent Explosive Disorder are both characterized by impulsive behaviour. However, Intermittent Explosive Disorder is specifically characterized by

intermittent severe impulsive outbursts or aggression rather than ongoing generalized behavioural impulsivity that may be seen in Attention Deficit Hyperactivity Disorder.

- ***Boundary with Oppositional Defiant Disorder:*** Individuals with Attention Deficit Hyperactivity Disorder often have difficulty following instructions, complying with rules, and getting along with others, but these difficulties are primarily accounted for by symptoms of inattention and/or hyperactivity-impulsivity (e.g., failure to follow long and complicated instructions, difficulty remaining seated or staying on task). In contrast, noncompliance in individuals with Oppositional Defiant Disorder is characterized by deliberate defiance or disobedience and not by problems with inattention or with controlling behavioural impulses or inhibiting inappropriate behaviours. However, Co-occurrence of these disorders is common.
- ***Boundary with Conduct Dissocial Disorder:*** In adolescents and adults with Attention Deficit Hyperactivity Disorder, some behaviours that are manifestations of impulsivity such as grabbing objects, reckless driving, or impulsive decision making such as suddenly walking out of jobs or relationships may bring the individual in conflict with other people and the law. In contrast, individuals with Conduct Dissocial Disorder typically lack the symptoms of inattention and hyperactivity and exhibit a repetitive and persistent pattern of behaviour in which the basic rights of others or major age-appropriate societal norms, rules, or laws are violated. However, Co-occurrence of these disorders is common.
- ***Boundary with Personality Disorder:*** Individuals with Attention Deficit Hyperactivity Disorder often experience problems with psychosocial functioning and interpersonal relationships, including regulation of emotions and negative emotionality. If Attention Deficit Hyperactivity Disorder persists into adolescence and adulthood, it may be difficult to distinguish from Personality Disorder with prominent personality features of Disinhibition, which includes irresponsibility, impulsivity, distractibility, and recklessness, and Negative Emotionality, which refers to a habitual tendency to manifest a broad range of distressing emotions including anxiety, anger, self-loathing, irritability, and increased sensitivity to negative stimuli. The utility of assigning an additional diagnosis of Personality Disorder in situations where there is an established diagnosis of Attention Deficit Hyperactivity Disorder depends on the specific clinical situation.
- ***Boundary with Disorders Due to Substance Use and the effects of certain prescribed medications:*** Abuse of alcohol, nicotine, cannabis and stimulants is common among individuals with Attention Deficit Hyperactivity Disorder, particularly adolescents and adults. However, the effects of these substances can also mimic the symptoms of Attention Deficit Hyperactivity Disorder in individuals without the diagnosis. Symptoms of inattention, hyperactivity, or impulsivity are also associated with the effects of certain prescribed medications (e.g., anticonvulsants such as carbamazepine and valproate, antipsychotics such as risperidone, and somatic treatments such as bronchodilators and thyroid replacement medication). The temporal order of onset and the persistence of inattention, hyperactivity and impulsivity in the absence of intoxication or continued medication use are important in differentiating between Attention Deficit Hyperactivity Disorder and Disorders Due to Substance Use or the effects of prescribed medications. A review of current medications and informants who knew the individual before they started using the substances or medications in question are critical in making this distinction.
- ***Boundary with attentional symptoms due to other medical conditions:*** A variety of other medical conditions may influence attentional processes (e.g., hypoglycemia,

hyperthyroidism or hypothyroidism, exposure to toxins, Sleep-Wake Disorders), resulting in temporary or persistent symptoms that resemble or interact with those of Attention Deficit Hyperactivity Disorder. As a basis for appropriate management, it is important to evaluate in such cases whether the symptoms are secondary to the medical condition or are more indicative of comorbid Attention Deficit Hyperactivity Disorder.

6A06 Stereotyped Movement Disorder

Essential (Required) Features:

- Persistent (e.g., lasting several months) presence of voluntary, repetitive, stereotyped, apparently purposeless, and often rhythmic, movements (e.g., body rocking, hand flapping, head banging, eye poking, and hand biting) that are not caused by the direct physiological effects of a substance or medication (including withdrawal).
- Stereotyped movements result in significant interference with the ability to engage in normal daily activities or result in self-inflicted bodily injury severe enough to be an independent focus of clinical attention or that would result in self-injury if protective measures were not taken.
- Onset occurs during the developmental period, typically at an early age.

Qualifiers related to self-injury:

A qualifier should be applied with the diagnosis of Stereotyped Movement Disorder to indicate whether involves movements that result in physical harm to the individual:

6A06.0 Stereotyped Movement Disorder without self-injury

- Stereotyped movements that do not result in physical harm to the affected individual even without the presence of protective measures. These behaviours typically include body rocking, head rocking, finger-flicking mannerisms, and hand flapping.

6A06.1 Stereotyped Movement Disorder with self-injury

- Stereotyped movements that result in harm to the affected individual that is severe enough to be an independent focus of clinical attention or that would result in self-injury if protective measures (e.g., helmet to prevent head injury) were not taken. These behaviours typically include head banging, face slapping, eye poking, and biting of the hands, lips, or other body parts.

Additional Clinical Features:

- Co-occurrence of Stereotyped Movement Disorder and Disorders of Intellectual Development is common.

Boundary with Normality (Threshold):

- Many young children show stereotyped behaviours (e.g., thumb sucking). In older children and adults, repetitive behaviours such as leg shaking, finger drumming/tapping, or self-stimulatory behaviours (e.g., masturbation) may be seen in response to boredom. These behaviours are differentiated from Stereotyped Movement Disorder because they do not result in significant interference with normal daily activities nor do they result in self-inflicted bodily injury that is severe enough to be an independent focus of clinical attention.

Course Features:

- Among typically developing children, stereotypic movements remit over time (or become suppressed). Among individuals with a Disorder of Intellectual Development and Autism Spectrum Disorder with Disorder of Intellectual Development, however, stereotyped (and self-injurious) behaviours may persist, though the presentation of these behaviours may change over time.

Developmental Presentations:

- Onset of Stereotyped Movement Disorder occurs early in the developmental period, with stereotypic movements often emerging before age three; up to 80% of children who exhibit complex motor stereotypies display them before age two.
- Stereotypic movements are common in typically developing children and often resolve with time, particularly simple stereotypic movements (such as rocking). The development of complex stereotypic movements is estimated to occur in 3 – 4% of children.
- Stereotyped Movement Disorder commonly co-occurs with Disorders of Intellectual Development and Autism Spectrum Disorder with Disorder of Intellectual Development.

Gender-Related Features:

- To date, research has not systematically described differences across male and female presentations of Stereotyped Movement Disorder.
- Preschool-aged boys with Autism Spectrum Disorder with Disorder of Intellectual Development tend to have higher rates of co-occurring Stereotyped Movement Disorder.

Boundaries with Other Disorders and Conditions (Differential Diagnosis):

- **Boundary with Autism Spectrum Disorder:** Repetitive and stereotyped motor movements such as whole body movements (e.g., rocking), gait atypicalities (e.g., walking on tiptoes), and unusual hand or finger movements can be a characteristic feature of Autism Spectrum Disorder but are differentiated from Stereotyped Movement Disorder by the presence of additional significant limitations in the capacity for reciprocal social interactions and social communication. Assignment of both diagnoses may be warranted if the stereotyped motor movements constitute a separate focus of clinical attention (e.g., due to self-injury).

- **Boundary with Obsessive-Compulsive Disorder:** In contrast to Stereotyped Movement Disorder, repetitive behaviours (i.e., compulsions) observed in Obsessive-Compulsive Disorder are typically more complex and are aimed at neutralizing unwanted intrusive thoughts (i.e., obsessions) and reducing associated negative emotions (e.g., anxiety).
- **Boundary with Body-Focused Repetitive Behaviour Disorders:** Body-Focused Repetitive Behaviour Disorders (i.e., Trichotillomania and Excoriation Disorder) are characterized by recurrent and habitual behaviours directed at the integument (e.g., hair and skin). In contrast, stereotyped movements in Stereotyped Movement Disorder rarely include hair-pulling or skin-picking behaviour but if they do, the behaviour tends to be composed of coordinated movements that are patterned and predictable utilizing the same muscle groups in a particular sequence to produce the behaviour. In addition, stereotyped movements are more likely to present very early in life (i.e., <2 years of age), whereas Body-focused repetitive behaviour disorders typically have an onset in later childhood or early adolescence.
- **Boundary with Tourette Syndrome and other Tic Disorders:** In contrast to Tic Disorders including Tourette Syndrome, stereotyped movements in Stereotyped Movement Disorder tend to be composed of coordinated movements that are patterned and predictable and can be interrupted with distraction. Stereotyped Movement Disorder is further differentiated from tics and Tourette Syndrome because the symptoms tend to emerge at a younger age, last longer than typical tics, lack a premonitory sensory urge, and may be experienced as enjoyable.
- **Boundary with extrapyramidal symptoms, including tardive dyskinesia:** Extrapyramidal symptoms are drug-induced movement disorders characterized by involuntary acute or tardive symptoms that are most frequently caused by antipsychotic medications. Tardive symptoms include tardive dyskinesia, which is characterized by involuntary oral or facial movements or, less commonly, irregular trunk or limb movements. A diagnosis of Stereotyped Movement Disorder is not appropriate in such cases.
- **Boundary with Diseases of the Nervous System:** Involuntary movements associated with Diseases of the Nervous System usually follow a typical pattern with the presence of pathognomonic signs and symptoms. If stereotyped movements are associated with Lesch-Nyhan Syndrome or another specific Disease of the Nervous System or neurodevelopmental disease, Stereotyped Movement Disorder should not be diagnosed unless the movements become a separate focus of clinical attention. In such cases, both diagnoses may be assigned.

6A0Y Other Specified Neurodevelopmental Disorders

Essential (Required) Features:

- The presentation is characterized by significant difficulties in the acquisition and execution of specific intellectual, motor, language, or social functions that arise during the developmental period and share primary clinical features with other Neurodevelopmental Disorders.
- The symptoms do not fulfil the diagnostic requirements for any other disorder in the Neurodevelopmental Disorders grouping.

- The symptoms are not better accounted for by another Mental, Behavioural or Neurodevelopmental Disorder (e.g., a Psychotic Disorder, a Mood Disorder, a Disorder Specifically Associated with Stress).
- The symptoms or behaviours are not developmentally typical and are not entirely attributable to external factors, such as economic or environmental disadvantage, or lack of access to educational opportunities.
- The symptoms or behaviours are not a manifestation of another medical condition that is not classified under Mental and Behavioural Disorders and are not due to the effects of a substance (e.g., alcohol) or medication (e.g., bronchodilators) on the central nervous system, including withdrawal effects.
- The difficulties result in significant impairment in personal, family, social, educational, occupational or other important areas of functioning.

8A05.0 Primary Tics or Tic Disorders

The following categories—Tourette Syndrome, Chronic Motor Tic Disorder, and Chronic Phonic Tic Disorder—are classified in the grouping of Primary Tics and Tic Disorders in the chapter on Diseases of the Nervous System (Chapter 8), but are cross-listed here because of their high co-occurrence and familial association with Neurodevelopmental Disorders.

8A05.00 Tourette Syndrome

Essential (Required) Features:

- The presence of both motor tic(s) and phonic tic(s) that may or may not manifest concurrently or continuously during the symptomatic course.
- Motor and phonic tics are defined as sudden, rapid, non-rhythmic, and recurrent movements or vocalizations, respectively.
- Motor and phonic tics have been present for at least 1 year with onset during the developmental period.
- The symptoms are not a manifestation of another medical condition (e.g., Huntington Disease) and are not due to the effects of a substance or medication on the central nervous system (e.g., amphetamine), including withdrawal effects (e.g., from benzodiazepines).

Additional Clinical Features

- Tourette Syndrome frequently co-occurs with Attention Deficit Hyperactivity Disorder, and impulsivity, disinhibition, anxiety, and immature behaviour may be associated features of both diagnoses.
- Motor and phonic tics in Tourette Syndrome may be voluntarily suppressed for short periods of time, may be exacerbated by stress, and may diminish during sleep or during periods of focused enjoyable activity.
- Tics are often highly suggestible, for example such that when an individual with Tourette Syndrome is asked about specific symptoms, old tics that have been absent for some time may transiently reappear.

Boundary with Normality (Threshold):

- Transient motor or phonic tics (e.g., eye blinking, throat clearing) are common during childhood and are differentiated from Tourette Syndrome by their transient nature.

Course Features:

- The onset of Tourette Syndrome commonly occurs during childhood (between the ages of 4 and 6), with peak symptom severity occurring between the ages of 8 and 12 years. Across adolescence, there is decreasing likelihood of onset. Onset during adulthood is rare and most often associated with severe psychosocial stressors, use of specific drugs (e.g., cocaine), or an insult to the central nervous system (e.g., post-viral encephalitis).
- The onset of Tourette Syndrome is typically characterized by transient bouts of simple motor tics such as eye blinking or head jerks. Phonic tics usually begin 1 - 2 years after the onset of motor symptoms and initially tend to be simple in character (e.g., throat clearing, grunting, or squeaking) but then may gradually develop into more complex vocal symptoms that include repetition of one's own or another person's speech or obscene utterances (i.e., coprolalia). Sometimes the latter is associated with gestural echopraxia, which also may be of an obscene nature (i.e., copropraxia).
- Vocal and/or motor tics may wax and wane in severity, with some individuals experiencing remission of symptoms for weeks or months at a time. Eventually the symptoms become more persistent and can be accompanied by detrimental effects to personal, family, social, educational, occupational, or other important areas of functioning.
- The majority of individuals with Tourette Syndrome will experience significantly diminished symptoms by early adulthood, with more than one third experiencing a full remission of symptoms.
- Evidence suggests a good long-term clinical course for individuals with a solitary diagnosis of Tourette Syndrome. Those with co-occurring conditions (e.g., Obsessive-Compulsive Disorder, Attention Deficit Hyperactivity Disorder, Anxiety or Fear-Related Disorders, Depressive Disorders) tend to exhibit a poorer prognosis.

Developmental Presentations:

- The prevalence rate of Tourette Syndrome among school-aged children has been estimated at approximately 0.5%.
- Motor and phonic tics in Tourette Syndrome tend to be most severe between ages of 8 and 12, gradually diminishing throughout adolescence. By late childhood (approximately age 10), most children become aware of premonitory urges (bodily sensations) and increased discomfort preceding—and relief of tension following—motor and vocal tics.
- The vocal symptom of coprolalia (inappropriate swearing, experienced involuntarily) is uncommon, affecting only 10 to 15% of individuals with Tourette Syndrome, and tends to emerge in mid-adolescence.
- Many adults with childhood-onset Tourette Syndrome report attenuated symptoms, though a small number of adults will continue to experience severe tic symptoms.
- The pattern of co-occurring disorders appears to vary with developmental stage. Children with Tourette Syndrome are more likely to experience Attention Deficit

Hyperactivity Disorder, Obsessive-Compulsive Disorder, Autism Spectrum Disorder, and Separation Anxiety Disorder compared to adolescents and adults. Adolescents and adults are more likely than children to develop a Depressive Disorder, a Disorder due to Substance Use, or a Bipolar Disorder.

Culture-Related Features:

- Symptoms of Tourette Syndrome are consistent across cultural groups.
- If vocalizations or movements have a specific function or meaning in the context of an individual's culture and are used in ways that are consistent with that cultural function or meaning, they should not be considered evidence of Tourette Syndrome.

Gender-Related Features:

- Tourette Syndrome is more common among males than females (gender ratio ranging from 2:1 to 4:1).
- Course and symptom presentation do not vary by gender.
- Women with persistent tic disorders may be more likely to experience co-occurring Anxiety or Fear-Related Disorders and Depressive Disorders.

Boundaries with Other Disorders and Conditions (Differential Diagnosis) for Tourette Syndrome:

- ***Boundary with Autism Spectrum Disorder and Stereotyped Movement Disorder:*** Repetitive and stereotyped motor movements such as whole body movements (e.g., rocking) and unusual hand or finger movements can be a characteristic feature of Autism Spectrum Disorder and of Stereotyped Movement Disorder. These behaviours can appear similar to tics but are differentiated because they tend to be more stereotyped, last longer than the duration of a typical tic, tend to emerge at a younger age, are not characterized by premonitory sensory urges, are often experienced by the individual as soothing or rewarding, and can generally be interrupted with distraction.
- ***Boundary with Obsessive-Compulsive Disorder:*** Repetitive, recurrent movements or vocalizations can also be symptomatic of Obsessive-Compulsive Disorder. Tics can be differentiated from Obsessive-Compulsive Disorder because they appear unintentional in nature and clearly utilize a discreet muscle group. However, it can be difficult to distinguish between complex tics and compulsions associated with Obsessive-Compulsive Disorder. Although tics (both complex and simple) are preceded by premonitory sensory urges, which may diminish over time, tics are not aimed at neutralizing antecedent cognitions (e.g., obsessions) or reducing physiological arousal (e.g., anxiety). Many individuals exhibit symptoms of both Obsessive-Compulsive Disorder and Tourette Syndrome, and both diagnoses may be assigned if the diagnostic requirements for each are met.
- ***Boundary with self-injurious and self-mutilating behaviours:*** With enough force and repetition, motor tics may lead to self-injury. However, unlike self-injurious and self-mutilating behaviour, Tourette Syndrome is not associated with an intention to cause self-injury.

8A05.01 Chronic Motor Tic Disorder

Essential (Required) Features:

- The persistent presence of motor tic(s).
- Motor tics are defined as sudden, rapid, non-rhythmic, and recurrent movements.
- Motor tics have been present for at least 1 year with onset during the developmental period.

Note: Other guidelines elements for Chronic Motor Tic Disorder are provided below, following the Essential Features for Chronic Phonic Tic Disorder.

8A05.02 Chronic Phonic Tic Disorder

Essential (Required) Features:

- The persistent presence of phonic tic(s).
- Phonic tics are defined as sudden, rapid, non-rhythmic, and recurrent vocalizations.
- Phonic tics have been present for at least 1 year with onset during the developmental period.

Additional Clinical Features for Chronic Motor Tic Disorder and Chronic Phonic Tic Disorder:

- Motor and phonic tics may be voluntarily suppressed for short periods of time, may be exacerbated by stress, and may diminish during sleep or during periods of focused enjoyable activity.
- Tics are often highly suggestible, for example such that when an individual with Chronic Motor Tic Disorder or Chronic Phonic Tic Disorder is asked about specific symptoms, old tics that have been absent for some time may transiently reappear.

Boundary with Normality (Threshold) for Chronic Motor Tic Disorder and Chronic Phonic Tic Disorder:

- Transient motor or phonic tics (e.g., eye blinking, throat clearing) are common during childhood and are differentiated from Chronic Motor Tic Disorder and Chronic Phonic Tic Disorder by their transient nature.

Developmental Presentations for Chronic Motor Tic Disorder and Chronic Phonic Tic Disorder:

- The prevalence of Chronic Motor Tic Disorder is estimated between 0.3 – 0.8% of school-aged children.
- Less is known about the prevalence of Chronic Phonic Tic Disorder.

Culture-Related Features for Chronic Motor Tic Disorder and Chronic Phonic Tic Disorder:

- If vocalizations or movements have a specific function or meaning in the context of an individual's culture and are used in ways that are consistent with that cultural function or meaning, they should not be considered evidence of a Chronic Motor Tic Disorder and Chronic Phonic Tic Disorder.

Gender-Related Features for Chronic Motor Tic Disorder and Chronic Phonic Tic Disorder:

- Women with persistent tic disorders may be more likely to experience co-occurring Anxiety or Fear-Related Disorders and Depressive Disorders.

Boundaries with Other Disorders and Conditions (Differential Diagnosis) for Chronic Motor Tic Disorder and Chronic Phonic Tic Disorder:

- ***Boundary with Autism Spectrum Disorder and Stereotyped Movement Disorder:*** Repetitive and stereotyped motor movements such as whole body movements (e.g., rocking) and unusual hand or finger movements can be a characteristic feature of Autism Spectrum Disorder and of Stereotyped Movement Disorder. These behaviours can appear similar to tics but are differentiated because they tend to be more stereotyped, last longer than the duration of a typical tic, tend to emerge at a younger age, are not characterized by premonitory sensory urges, are often experienced by the individual as soothing or rewarding, and can generally be interrupted with distraction.
- ***Boundary with Obsessive-Compulsive Disorder:*** Repetitive, recurrent movements or vocalizations can also be symptomatic of Obsessive-Compulsive Disorder. Tics can be differentiated from Obsessive-Compulsive Disorder because they appear unintentional in nature and clearly utilize a discreet muscle group. However, it can be difficult to distinguish between complex tics and compulsions associated with Obsessive-Compulsive Disorder. Although tics (both complex and simple) are preceded by premonitory sensory urges, which may diminish over time, tics are not aimed at neutralizing antecedent cognitions (e.g., obsessions) or reducing physiological arousal (e.g., anxiety). Many individuals exhibit symptoms of both Obsessive-Compulsive Disorder and Chronic Motor Tic Disorder or Chronic Phonic Tic Disorder, and both diagnoses may be assigned if the diagnostic requirements for each are met.
- ***Boundary with self-injurious and self-mutilating behaviours:*** With enough force and repetition, motor tics may lead to self-injury. However, unlike self-injurious and self-mutilating behaviour, Chronic Motor Tic Disorder is not associated with an intention to cause self-injury.