Editor's key points

- The diagnosis of attention deficit hyperactivity disorder (ADHD) can be considered in children or adolescents who present with a history of inattention, hyperactivity, distractibility, poor academic performance, or behavioural problems. The diagnosis requires gathering collateral information and should be performed over multiple assessments. Patients must demonstrate at least 6 symptoms of inattention, hyperactivity, or both, and demonstrate that symptoms are causing functional impairment. Symptoms of ADHD must have first been present before the age of 12 years, and must be present in 2 or more settings.
- Mimics—conditions whose symptoms present similarly to ADHD—include oppositional defiant disorder (ODD), tic disorder, substance use disorder, anxiety, depression, sensory deficits (hearing and visual), conditions that cause fatigue, and chronic medical conditions affecting school attendance. The most common ADHD mimics are learning disorders, sleep disorders, and ODD. Common comorbidities—conditions that coexist with ADHD—include anxiety, depression, ODD, autism spectrum disorder, learning disorders, intellectual disability, and prematurity.
- For preschool-aged patients (4 to 5 years old), behavioural management is the recommended first-line therapy. In school-aged patients (6 years of age and older) both behavioural management and medical management are first-line interventions. Amphetamine and methylphenidate stimulants are the first-line medications for patients with ADHD. All patients with ADHD should be screened for risk factors for sudden cardiac death before starting to take stimulant medication.

Approach to diagnosis and management of childhood attention deficit hyperactivity disorder

David Jerome MD MSc CCFP Laurence Jerome MB ChB MSc FRCPsych FRCPC

Abstract

Objective To provide primary care clinicians with an approach to the diagnosis and management of attention deficit hyperactivity disorder (ADHD) by reviewing and summarizing the relevant practice guidelines and recent evidence from the literature.

Sources of information Published guidelines on the management of ADHD were reviewed. A PubMed search was conducted with the MeSH terms *attention deficit disorder* and *family practice*. Results were limited to articles published in English within the past 15 years.

Main message Attention deficit hyperactivity disorder is a common neurodevelopmental disorder. Guidelines agree that diagnosis and management of ADHD is appropriate within primary care. Attention deficit hyperactivity disorder is diagnosed by applying the criteria defined within the *Diagnostic and Statistical Manual of Mental Disorders,* 5th edition, and is supplemented by validated rating scales. Behavioural management is first-line management in all patients, and stimulant medications are first-line management in patients 6 years of age and older. The Canadian ADHD Resource Alliance provides free resources to help clinicians care for patients with ADHD.

Conclusion Most patients with ADHD can be managed by family physicians. It is a chronic condition that requires ongoing follow-up. Attention deficit hyperactivity disorder that is complicated by comorbidities might require referral to a specialist.

Case descriptions

Case 1. A 9-year-old boy in grade 2 presents to your practice because of disruptive behaviour at school and at home. He is hyperactive and academically delayed because he does not pay attention in class. He is aggressive and has few friends. His father had similar issues as a student and did not finish high school. How could you screen this patient for attention deficit hyperactivity disorder (ADHD)?

Case 2. A 7-year-old girl in grade 1 presents to your practice for academic difficulties. Her teacher reports that she is inattentive in class and disruptive to other students. There is no family history of ADHD. The patient has a history of recurrent otitis media and delayed verbal milestones. What ADHD-mimicking conditions should the patient be screened for?

Attention deficit hyperactivity disorder is a neurodevelopmental disorder usually diagnosed in childhood. It is characterized by symptoms of inattention, impulsiveness, hyperactivity, and forgetfulness, leading to functional impairment across multiple environments.[1-3]

Attention deficit hyperactivity disorder is the most inheritable mental health disorder.[1] Children of individuals with ADHD are more than 50% likely to develop ADHD themselves, and 25% of patients diagnosed with ADHD have at least 1 parent with the diagnosis.[4] Prenatal risk factors for the development of ADHD include maternal smoking during pregnancy, prenatal alcohol exposure, and low birth weight.[1,3]

Patients with ADHD have structural and functional changes in areas of the brain that mediate executive function.[3] Patients are at increased risk of academic underperformance, dropping out of school, teenage pregnancy, and substance use disorder.[1,2,5] They also experience more frequent injuries, have more emergency department visits, and are at higher risk of driving accidents.[6-8] These risks decrease when symptoms of ADHD are successfully treated with stimulant medications.[5,6,9,10]

Estimates of the prevalence of ADHD among children and adolescents in Canada vary, with most ranging from 2% to 6%,[11,12] but some are as high as 15%.[13] Prevalence rates of 7% to 11% have been reported in the United States and in other countries with diverse cultural influences.[1,9] Male children are diagnosed with ADHD 2 to 3 times as frequently as female children are,[11,14] while female children are more likely to be diagnosed with the inattentive form of the disease.[9] A subset of patients will have symptoms persist into adulthood.[15]

The Canadian Paediatric Society (CPS), American Academy of Pediatrics (AAP), and Canadian ADHD Resource Alliance (CADDRA) have all stated that the diagnosis and management of ADHD are within the scope of practice of family physicians.[2,3,14] Multiple studies, however, have found that family physicians in North America are not familiar with the diagnostic criteria for ADHD, or do not use the criteria appropriately within their practices.[16-20] Data from 2011-2012 show that only 46% of new diagnoses of ADHD in Canada were made by general practitioners.[11] In surveys of family physicians in British Columbia and Ontario, most respondents referred patients to a specialist for the diagnosis and management of ADHD.[16,17] More than 80% of respondents surveyed in Elgin County, Ont, replied that they would like additional training in the management of patients with ADHD.[17]

This article aims to help primary care providers (PCPs) diagnose and manage children with ADHD and recognize when a referral to a specialist is appropriate.

Sources of information

A literature review was conducted by searching PubMed with the MeSH headings *attention deficit disorder* and *family practice* (the final search was completed on September 15, 2019). Results were limited to papers published in English and those published within the past 15 years (since 2005 inclusive). The abstracts of all retrieved papers were reviewed, and papers related to the diagnosis and management of ADHD in primary care were read in their entirety. Bibliographies of the retrieved papers were reviewed for other relevant papers. The relevant consensus guidelines or practice statements from the CPS,[3,21-24] the AAP,[18] and CADDRA[2] were also reviewed.

Main message

Assessment. The diagnosis of ADHD should be considered in children or adolescents who present with a history of inattention, hyperactivity, distractibility, poor academic performance, or behavioural problems.[9] Emotional dysregulation is an important but often unrecognized presentation of ADHD.[25] It is important to recognize normal behaviour for the patient's developmental age and distinguish this from more extreme behaviour that could meet diagnostic criteria. The diagnosis requires gathering collateral information and should be performed over multiple assessments.[2]

The diagnosis of ADHD is established by demonstrating that a patient meets the diagnostic criteria in the *Diagnostic and Statistical Manual of Mental Disorders,* 5th edition (DSM-5; **Box 1**).[26] To meet the DSM-5 criteria, it is necessary that patients demonstrate at least 6 symptoms of inattention, hyperactivity, or both. Based on which symptom category meets the diagnostic threshold, patients are diagnosed with 1 of 3 forms of ADHD: predominantly inattentive, predominantly hyperactive, or combined. It is also necessary to demonstrate that symptoms are causing functional impairment. Symptoms of ADHD must have first been present before the age of 12 years, and must be present in 2 or more settings. This last criterion can be difficult to meet in preschoolers and might delay formal diagnosis.

Patients might not present to a physician and receive a diagnosis of ADHD until later in life because they avoided substantial functional impairment until they were challenged with more advanced academic material in school or more responsibilities at work.[9] Delayed diagnosis can also occur after patients lose supports they relied on earlier in life, such as parental support or classroom accommodations. When making a diagnosis in these patients, it is sufficient to demonstrate that symptoms were present before the age of 12 years even if the impairment was delayed.

The assessment for ADHD is performed by completing clinical interviews with patients and caregivers, supplemented with validated rating scales.[2] The interview should include screening for ADHD symptoms and an assessment of symptom duration and severity. In addition, clinicians should inquire about prenatal history, developmental milestones, academic performance, medical history, and family history.[2,3,27] In young drivers, it is important to inquire about a history of frequent speeding tickets, licence suspensions, and at-fault accidents.[7,10]

Rating scales are not diagnostic but should be used to obtain collateral information about the presence and severity of symptoms across different settings. They can be repeated over time to track symptoms and response

Box 1. Diagnostic criteria for ADHD

A diagnosis of ADHD requires all of the following (A to E):

A. The patient presents with 6 or more* of the following symptoms of inattention, hyperactivity, or both. Symptoms must have persisted for at least 6 months:
- Inattention symptoms
  - -Fails to give close attention to details or makes careless mistakes
  - -Has difficulty sustaining attention
  - -Does not seem to listen when spoken to directly
  - -Does not follow through on instructions and fails to finish schoolwork, chores, or duties in the workplace
  - -Has difficulty organizing tasks and activities
  - -Avoids, dislikes, or is reluctant to engage in tasks that require sustained mental effort
  - -Loses things necessary for tasks or activities
  - -Is easily distracted
  - -Is forgetful
- Hyperactivity symptoms
  - -Fidgets or squirms in seat
  - -Leaves seat in situations when remaining seated is expected
  - -Runs about or climbs in situations where it is inappropriate
  - -Unable to play or engage in leisure activities quietly
  - -Is often "on the go," acting as if "driven by a motor"
  - -Talks excessively
  - -Blurts out an answer before a question has been completed
  - -Has difficulty waiting his or her turn
  - -Interrupts or intrudes on others

B. Symptoms are present in 2 or more settings (eg, at home, school, and work)

C. Symptoms were present before the age of 12 years

D. Symptoms interfere with functioning

E. Symptoms are not better explained by another mental disorder

ADHD—attention deficit hyperactivity disorder.
*For patients aged 17 years and older, 5 or more symptoms are required.
Data from the American Psychiatric Association.[26]

to treatment. Rating scales should be completed by both caregivers and teachers. They can also be completed by an adult who supervises the patient in another setting, such as a sports coach. There are many rating scales available to clinicians (**Table 1**). The Canadian ADHD Resource Alliance recommends that clinicians use the SNAP-IV-26 (26-item Swanson, Nolan and Pelham Teacher and Parent Rating Scale, version IV) rating scale and provides it as a free download from their website (**www.caddra.ca**).[2]

Mimics and comorbidities. Mimics are conditions whose symptoms present similarly to ADHD. They include other psychiatric disorders such as oppositional defiant disorder (ODD), tic disorder, substance use disorder, anxiety, and depression.[2,3,14] Medical conditions that can mimic ADHD include sensory deficits (hearing and visual), conditions that cause fatigue, and chronic medical conditions affecting school attendance.[2,3,14] Socioeconomic factors that cause disruptions at home might contribute to patient behaviour and academic underperformance, which can present similarly to ADHD.[2] The most common ADHD mimics are learning disorders, sleep disorders, and ODD.[3]

Comorbidities of ADHD are conditions that coexist with ADHD. Up to 70% of patients with ADHD have a comorbid diagnosis.[1] Anxiety, depression, and ODD are often present as comorbidities. Other common comorbidities include autism spectrum disorder, learning disorders, intellectual disability, and prematurity.[23]

Primary care providers should screen for ADHD mimics and comorbidities whenever they assess patients for ADHD. At a minimum, this should include screening for hearing and visual deficits, anxiety, depression, ODD, learning disorders, and autism spectrum disorder, as well as substance use disorder in high school–aged patients.[3,14]

Management. For preschool-aged patients (4 to 5 years old) diagnosed with ADHD, behavioural management is the recommended first-line therapy. Behavioural management strategies can include parent education, peer interventions, and classroom management in older patients.[27] Parent education teaches parents age-appropriate developmental expectations, use of a positive approach, use of calming techniques to de-escalate conflicts, and management skills for specific problem behaviour.[2,14] Classroom accommodation recommendations are available on the Centre for ADHD Awareness Canada website under Resources—For Physicians (**www.caddac.ca/adhd**). The AAP endorses the consideration of methylphenidate in patients aged 4 to 5 years who do not respond to behavioural therapy and who have moderate to severe functional impairment.[14]

In school-aged patients (6 years of age and older) both behavioural management and medical management are first-line interventions.[2,14,21-23] Amphetamine and methylphenidate stimulants are the first-line medications for patients with ADHD. There is no evidence to support the use of one stimulant medication over another.[22] Approximately 75% of patients will respond to an initial stimulant and 90% to 95% of patients will respond to a second stimulant.[1,9] The clinical effects of stimulant medication are generally stable at a given dose after 2 to 4 weeks.[2,24] A free medication guide is available on the CADDRA website to help clinicians with medication selection, dosing, and titration (**www.caddra.ca**).

A joint position statement by the CPS, the Canadian Cardiovascular Society, and the Canadian Academy of Child and Adolescent Psychiatry recommends that all patients with ADHD should be screened for risk factors for sudden cardiac death before starting to take stimulant medication (**Box 2**).[21] If no risk factors are present, then the risk of sudden cardiac death in patients taking stimulant medications is the same as that of the general pediatric population.[21] Routine electrocardiography assessment

Table 1. Rating scales for ADHD symptom screening

NAME	DESCRIPTION	INTERPRETATION	SOURCE
SNAP-IV-26	Screens for the diagnostic criteria of ADHD and ODD. The form contains 26 questions: • 9 on ADHD inattention symptoms • 9 on ADHD hyperactivity symptoms • 8 on ODD symptoms	Symptoms of inattention • Questions 1-9 • Positive result if score > 13 of 27 Symptoms of hyperactivity: • Questions 10-18 • Positive result if score > 13 of 27 Symptoms of ODD • Questions 19-26 • Positive result if score > 8 of 24	Available for free online (**www.caddra.ca**)
ADHD-RS-V	Screens for the diagnostic criteria of ADHD. The form contains 18 questions: • 9 on ADHD inattention symptoms • 9 on ADHD hyperactivity symptoms	Symptoms of inattention • Odd-numbered questions Symptoms of hyperactivity • Even-numbered questions Raw scores are converted to percentile scores by using the appropriate scoring profile	Available for purchase from Guilford Press
NICHQ Vanderbilt Assessment Scale	Screens for the diagnostic criteria of ADHD, ODD, conduct disorder, anxiety, and depression • Parent form: 55 questions • Teacher form: 43 questions	The scoring process indicates the number of DSM-5 criteria that the patient has positive results for, listed for each of the conditions	The first edition is available for free online (**https://www.nichq.org**). The most recent third edition is sold by the American Academy of Pediatrics (**shop.aap.org**)
Conners Comprehensive Behavior Rating Scales	Proprietary rating scales that evaluate for symptoms of a number of behavioural, emotional, social, and academic conditions • Patient questionnaire: 179 items • Caregiver questionnaire: 203 items • Teacher questionnaire: 204 items	A proprietary interpretation process provides information on the relative likelihood of specific conditions in the form of *T* scores	Available for purchase from Multi-Health Systems Assessments (**www.mhs.com**)

ADHD—attention deficit hyperactivity disorder; ADHD-RS-V—ADHD Rating Scale V; DSM-5—*Diagnostic and Statistical Manual of Mental Disorders*, 5th edition; NICHQ—National Institute for Children's Health Equality; ODD—oppositional defiant disorder; SNAP-IV-26—26-item Swanson, Nolan and Pelham Teacher and Parent Rating Scale, version IV.

in patients without risk factors is not recommended. Clinicians should be aware that stimulants can increase patient pulse and blood pressure, but the elevation is mild and clinically insignificant (reported increases average 1 to 2 beats/min and 1 to 4 mm Hg, respectively).[14]

Other side effects of stimulant medications include appetite loss, abdominal pain, headaches, anxiety, and insomnia.[2,14] Symptoms tend to be mild and dose dependent. A recent longitudinal study demonstrated that patients who take stimulant medications regularly over multiple years have reduced height velocity and are on average 2.5 cm shorter in adulthood.[28] In patients who do not tolerate swallowing pills, clinicians can consider prescribing either capsule preparations that can be sprinkled over food or a chewable formulation (the first chewable amphetamine treatment for ADHD was approved by Health Canada in July 2019).[2]

Second-line medications for the management of ADHD include atomoxetine, guanfacine, and clonidine.[9,22] The use of clonidine for the management of ADHD symptoms is not currently approved by Health Canada in pediatric patients.[22] Second-line medications might be considered when first-line medications are ineffective or not tolerated, or if the clinician wants to treat ADHD and a comorbid disease simultaneously with the same medication. The side effect profiles of second-line medications are similar to the side effects of the stimulants described above.

When a patient has started taking a new medication for ADHD, follow-up visits should occur monthly until the medication dosing and timing are stabilized. Following stabilization, patients should be followed every 3 months for the first year, then 2 to 3 times a year thereafter.[27] Height, weight, body mass index, heart rate, and blood pressure should be measured at every follow-up visit, and the clinician should inquire about ADHD symptoms and functional impairment as well as medication side effects, adherence, and tolerance.[9,22]

Indications for referral to a specialist depend on the comfort of the PCP in diagnosing and treating ADHD.[3] Common indications for referral include ADHD symptoms in the context of illicit substance use, uncertainty regarding the diagnosis of ADHD, ADHD that is complicated by a comorbid diagnosis, symptoms that are resistant to first- or second-line treatments, or for consideration of medications for off-label indications.[2,3,14,23]

Case resolutions

Case 1. An assessment of the patient is completed with a diagnostic interview supplemented by rating scales. He meets the diagnostic criteria for ADHD,

Box 2. Prescreening for potential risk factors for sudden cardiac death

Presence of any of the following screening items should prompt further investigations before starting a stimulant medication and might require referral to a specialist in pediatric cardiology:

General history
- Shortness of breath with exercise in the absence of another explanation (asthma, sedentary lifestyle)
- Poor exercise tolerance in the absence of an alternative explanation (asthma, sedentary lifestyle)
- Fainting or seizures with exercise, startle, or fright
- Palpitations brought on by exercise
- Family history of sudden or unexplained death

Personal or family history of nonischemic heart disease
- Long QT syndrome or other familiar arrhythmias
- Wolff-Parkinson-White syndrome
- Cardiomyopathy
- Heart transplant
- Pulmonary hypertension
- Unexplained motor vehicle collision or drowning
- Implantable defibrillator

Physical examination
- Hypertension
- Organic murmur
- Sternotomy incision
- Other abnormal cardiac findings

Data from Bélanger et al.[21]

and behavioural management is instituted. After 2 months, stimulant medication is started and the dose is titrated based on teacher and parent observations. His disruptive behaviour improves with treatment.

Case 2. The patient is screened for learning disabilities, intellectual disability, and a hearing deficit. She is diagnosed with chronic otitis effusions with associated conductive hearing loss. Following insertion of tympanostomy tubes, her hearing improves and the academic difficulties resolve.

Conclusion

Attention deficit hyperactivity disorder is a common neurodevelopmental disorder frequently encountered by PCPs in their general practice. The diagnosis and management of ADHD is within the scope of family physicians' practice. Attention deficit hyperactivity disorder is diagnosed using the criteria in the DSM-5, supplemented with validated rating scales. Behavioural management is first-line treatment in all patients, and stimulant medications are first-line treatment in patients 6 years of age and older. Comorbidities are common and might prompt referral to a specialist.

Dr D. Jerome is Assistant Professor at the Northern Ontario School of Medicine and Assistant Adjunct Professor at the University of Alberta. **Dr L. Jerome** is Adjunct Professor at Western University in London, Ont.

Contributors
Both authors contributed to the literature review and interpretation, and to preparing the manuscript for submission.

Competing interests
Dr. D Jerome has no competing interests. **Dr L. Jerome** is a former board member of the Canadian ADHD Resource Alliance (CADDRA) and is a contributor to the CADDRA guideline referenced in this article.

Correspondence
Dr David Jerome; e-mail **djerome@nosm.ca**

References

1. Katragadda S, Schubiner H. ADHD in children, adolescents, and adults. *Prim Care* 2007;34(2):317-41.
2. Canadian ADHD Resource Alliance. *Canadian ADHD practice guidelines.* 4th edn. Toronto, ON: Canadian ADHD Resource Alliance; 2018.
3. Bélanger SA, Andrews D, Gray C, Korczak D. ADHD in children and youth: part 1—etiology, diagnosis, and comorbidity. *Paediatr Child Health* 2018;23(7):447-53. Epub 2018 Oct 24.
4. Faraone SV, Doyle AE. The nature and heritability of attention–deficit/hyperactivity disorder. *Child Adolesc Psychiatr Clin N Am* 2001;10(2):299-316, viii-ix.
5. Wilens TE, Adamson J, Monuteaux MC, Faraone SV, Schillinger M, Westerberg D, et al. Effect of prior stimulant treatment for attention–deficit/hyperactivity disorder on subsequent risk for cigarette smoking and alcohol and drug use disorders in adolescents. *Arch Pediatr Adolesc Med* 2008;162(10):916-21.
6. Dalsgaard S, Leckman JF, Mortensen PB, Nielsen HS, Simonsen M. Effect of drugs on the risk of injuries in children with attention deficit hyperactivity disorder: a prospective cohort study. *Lancet Psychiatry* 2015;2(8):702-9. Epub 2015 Jul 22.
7. Barkley RA, Murphy KR, Kwasnik D. Motor vehicle driving competencies and risks in teens and young adults with attention deficit hyperactivity disorder. *Pediatrics* 1996;98(6 Pt 1):1089-95.
8. Dalsgaard S, Østergaard SD, Leckman JF, Mortensen PB, Pedersen MG. Mortality in children, adolescents, and adults with attention deficit hyperactivity disorder: a nationwide cohort study. *Lancet* 2015;385(9983):2190-6. Epub 2015 Feb 26.
9. Felt BT, Biermann B, Christner JG, Kochhar P, Van Harrison R. Diagnosis and management of ADHD in children. *Am Fam Physician* 2014;90(7):456-64.
10. Jerome L, Segal A, Habinski L. What we know about ADHD and driving risk: a literature review, meta-analysis and critique. *J Can Acad Child Adolesc Psychiatry* 2006;15(3):105-25.
11. Vasiliadis HM, Diallo FB, Rochette L, Smith M, Langille D, Lin E, et al. Temporal trends in the prevalence and incidence of diagnosed ADHD in children and young adults between 1999 and 2012 in Canada: a data linkage study. *Can J Psychiatry* 2017;62(12):818-26. Epub 2017 Jun 15.
12. Brault MC, Lacourse É. Prevalence of prescribed attention-deficit hyperactivity disorder medications and diagnosis among Canadian preschoolers and school-age children: 1994-2007. *Can J Psychiatry* 2012;57(2):93-101.
13. Comeau J, Georgiades K, Duncan L, Wang L, Boyle MH; 2014 Ontario Child Health Study Team. Changes in the prevalence of child and youth mental disorders and perceived need for professional help between 1983 and 2014: evidence from the Ontario Child Health Study. *Can J Psychiatry* 2019;64(4):256-64.
14. Wolraich ML, Hagan JF Jr, Allan C, Chan E, Davison D, Earls M, et al. Clinical practice guideline for the diagnosis, evaluation and treatment of attention-deficit/hyperactivity disorder in children and adolescents. *Pediatrics* 2019;144(4):e20192528. Erratum in: *Pediatrics* 2020;145(3):e20193997.
15. Kates N. Attention deficit disorder in adults. Management in primary care. *Can Fam Physician* 2005;51:53-9.
16. Miller AR, Johnston C, Klassen AF, Fine S, Papsdorf M. Family physicians' involvement and self-reported comfort and skill in care of children with behavioral and emotional problems: a population-based survey. *BMC Fam Pract* 2005;6(1):12.
17. Kotowycz N, Crampton S, Steele M. Assessing the standard of care for child and adolescent attention-deficit hyperactivity disorder in Elgin County, Ontario: a pilot study. *Can J Rural Med* 2005;10(3):149-54.
18. Skelley JW, Carpenter PC, Morehead MS, Murphy PL. Clinical management of ADHD in a family medicine residency program: comparison with AAP guidelines. *South Med J* 2016;109(6):331-7.
19. Daly ME, Rasmussen NH, Agerter DC, Cha SS. Assessment and diagnosis of attention-deficit/hyperactivity disorder by family physicians. *Minn Med* 2006;89(3):40-3.
20. Chan E, Hopkins MR, Perrin JM, Herrerias C, Homer CJ. Diagnostic practices for attention deficit hyperactivity disorder: a national survey of primary care physicians. *Ambul Pediatr* 2005;5(4):201-8.
21. Bélanger SA, Warren AE, Hamilton RM, Gray C, Gow RM, Sanatani S, et al. Cardiac risk assessment before the use of stimulant medications in children and youth. *Paediatr Child Health* 2009;14(9):579-92.
22. Feldman ME, Charach A, Bélanger SA. ADHD in children and youth: part 2—treatment. *Paediatr Child Health* 2018;23(7):462-72. Epub 2018 Oct 24.
23. Clark B, Bélanger SA. ADHD in children and youth: part 3—assessment and treatment with comorbid ASD, ID, or prematurity. *Paediatr Child Health* 2018;23(7):485-90. Epub 2018 Oct 24.
24. Feldman M, Bélanger S. Extended-release medications for children and adolescents with attention-deficit hyperactivity disorder. *Paediatr Child Health* 2009;14(9):593-602.
25. Shaw P, Stringaris A, Nigg J, Leibenluft E. Emotional dysregulation and attention-deficit/hyperactivity disorder. *Am J Psychiatry* 2014;171(3):276-93.
26. American Psychiatric Association. *Diagnostic and statistical manual of mental disorders*. 5th edn. Washington, DC: American Psychiatric Association; 2013.
27. Felt BT. Mental disorders and learning disabilities in children and adolescents: attention-deficit/hyperactivity disorder. *FP Essent* 2018;475:11-7.
28. Swanson JM, Arnold LE, Molina BSG, Sibley MH, Hechtman LT, Hinshaw SP, et al. Young adult outcomes in the follow-up of the multimodal treatment study of attention-deficit/hyperactivity disorder: symptom persistence, source discrepancy, and height suppression. *J Child Psychol Psychiatry* 2017;58(6):663-78. Epub 2017 Mar 10.

This article is eligible for Mainpro+ certified Self-Learning credits. To earn credits, go to **www.cfp.ca** and click on the Mainpro+ link.

This article has been peer reviewed. *Can Fam Physician* 2020;66:732-6

La traduction en français de cet article se trouve à **www.cfp.ca** dans la table des matières du numéro **d'octobre 2020** à la **page e255**.