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ADHD in Adults: Overview and Traditional Treatment Options

Jeffrey Habert, MD, CCFP, FCFP

Introduction

ADHD is a lifelong neurodevelopmental disorder characterized by a persistent pattern of inattention and/or hyperactivity-impulsivity that impairs functioning across multiple settings.[1,2] The Diagnostic and Statistical Manual, Fifth Edition, Text Revision (DSM-5-TR) recognizes three presentations, predominantly inattentive, predominantly hyperactive-impulsive, and combined, and requires that several symptoms be present before age 12.[1] For family physicians, the most important fundamental change over the past two decades has been the recognition that ADHD is not a disorder children outgrow. As the saying goes, "*you don't outgrow ADHD, you outgrow the DSM V*."[2] The DSM-5 lowered the adult symptom threshold from 6 to 5 because partial symptom persistence into adulthood is the rule, not the exception.[1]

Global prevalence of ADHD is approximately 5 to 7 percent in children and 2 to 5 percent in adults.[3,4] Approximately 1.8 million Canadians have ADHD.[2] Between 50 and 80 percent of childhood cases persist into adolescence, and more than half persist into adulthood.[2,5] But as indicated above this isn't likely accurate as you "don't outgrow ADHD, but you outgrow DSM V, which suggest they still have ADHD, but may not fully fulfill DSM-V criteria.

The male to female ratio narrows from roughly 3:1 in children to closer to 2:1 in adults, and women in particular remain markedly under-diagnosed.[2,4] In childhood this disparity is due to the underdiagnosis of females who present more with inattentive type ADHD as children, so are often missed.

The most sobering statistic for primary care is that more than 80 percent of Canadian adults with ADHD have never been diagnosed or treated.[2] In a typical family practice roster, this represents a substantial population of patients whose chronic difficulties, including procrastination, missed deadlines, lost objects, forgotten appointments,

emotional dysregulation, and a sense of inner restlessness, are too often attributed to character, anxiety, or burnout rather than to a treatable neurodevelopmental condition.[1,2]

The Burden of Untreated ADHD is Broad and Consequential

Approximately 85 percent of adults with ADHD carry at least one psychiatric comorbidity: lifetime anxiety affects roughly 50 percent, major depressive disorder 30 percent, >2/3 have insomnia and substance use disorders are markedly elevated.[2,4,6,16] Medical comorbidity is equally important. Adults with ADHD have higher rates of obesity, type 2 diabetes, and cardiovascular disease, and are approximately 1.5 times more likely to sustain physical injury.[7,8]

Functional impairment cascades across academic, occupational, social, and legal domains, with the annual societal cost in Canada estimated at approximately CAD 2.5 billion.[2,9] This highlights the importance of treating ADHD, which reduces injury risk by approximately 43 percent, one of the clearest mortality-relevant signals in psychiatry.[8] The diagnosis is associated with an earlier mortality (primarily due to unnatural death).[8]

For the family physician, recognizing ADHD is not a trivial diagnosis, as it significantly changes life outcomes.

Diagnosis in Primary Care is a Clinical Diagnosis: The Author Suggests a Dedicated ADHD Visit as Opposed to a Hand on the Door Discussion

It relies on a structured interview, collateral history where available, and validated symptom rating scales.[2] DSM-5-TR requires five or more inattention symptoms and/or five or more hyperactivity-impulsivity symptoms in patients aged 17 or older, with several symptoms present before age 12, evidence of impairment in two or more settings, clear interference with functioning, and exclusion of other explanatory disorders.[1] Obtaining history before age 12 is important and may rely on collateral information from relatives. **(Figure 1)**

The Adult ADHD Self-Report Scale (ASRS v1.1), a free six-item World Health Organization screener with a sensitivity of 68.7 percent and specificity of 99.5 percent, is well suited to EMR intake forms.[10] Adjunctive tools include the Conners Adult ADHD Rating Scales, the Brown Attention-Deficit Disorder Scales, and the Weiss Functional Impairment Rating Scale.[2] Screening for comorbidities at the time of diagnosis is essential, as their presence and severity often determine which condition to treat first.[2,6]

Traditional treatment is multimodal and stepped. The Canadian ADHD Resource Alliance (CADDRA) framework comprises four steps:
1. setting treatment objectives,
2. selecting medication,
3. titrating and monitoring
4. ongoing follow-up.

Pharmacotherapy sits alongside psychoeducation, environmental changes (Implement structure and routines that are organized and predictable environment), and structured psychological therapy if accessible/available.

A 2025 component network meta-analysis of 113 randomized controlled trials in 14,887 adults reinforced this hierarchy: amphetamine- and methylphenidate-based psychostimulants, along with atomoxetine, remain the only interventions with demonstrated short-term efficacy for adult ADHD core symptoms, while non-pharmacological interventions alone offered limited benefit for symptom reduction, though they remain valuable for function and coping.[11]

First-line Options for Adults are Long-acting Psychostimulants[2,12,13]

These produce large effect sizes with 70 to 80 percent response rates, and offer smoother daytime coverage, reduced rebound, and lower diversion risk than immediate-release formulations.[12,13]

Physiologically, they increase synaptic dopamine and norepinephrine through reuptake blockade at DAT and NET transporters, enhancing prefrontal cortical activation, focus, and impulse control.[13]

Duration of action should be matched to the patient's day: Foquest provides up to approximately 16 hours, Concerta and Vyvanse 12 to 14 hours, Dynavel XR ~13 hours, and Adderall XR and Biphentin 10 to 12 hours; Jornay PM is dosed in the evening with onset on waking, useful for patients who cannot function before their morning dose takes effect.[2]

Common, generally dose-dependent adverse effects include appetite suppression, insomnia, headache, and modest elevations in heart rate

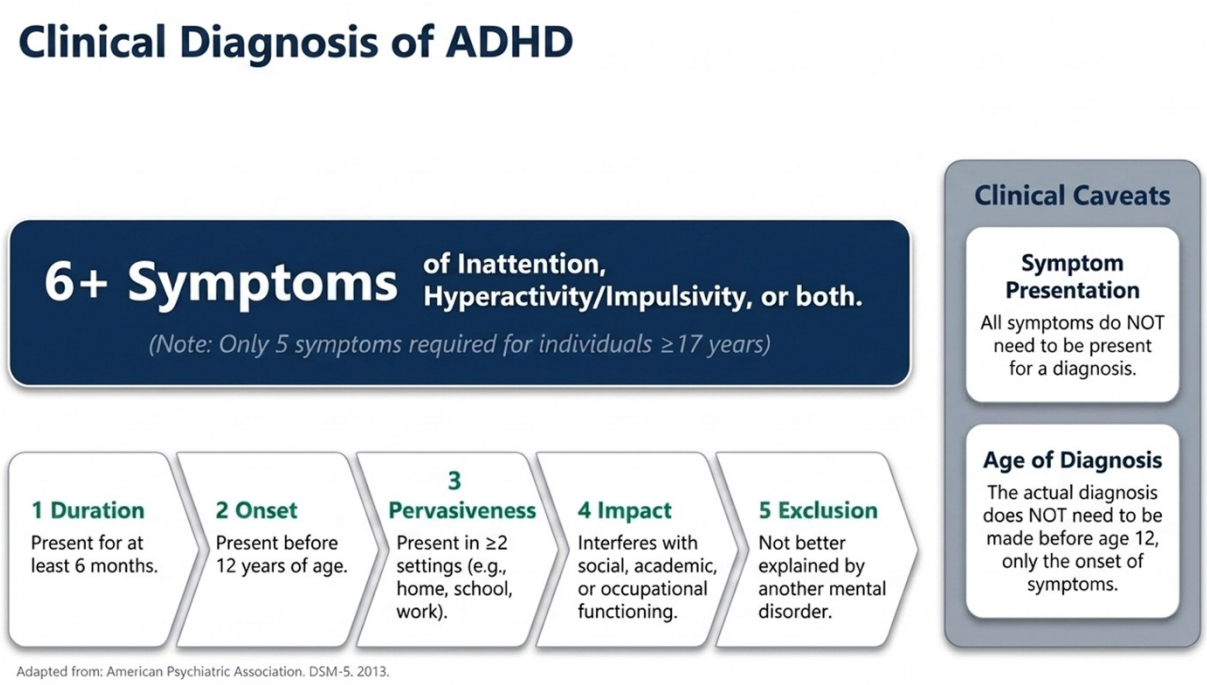

Figure 1. *Adapted from American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR).*

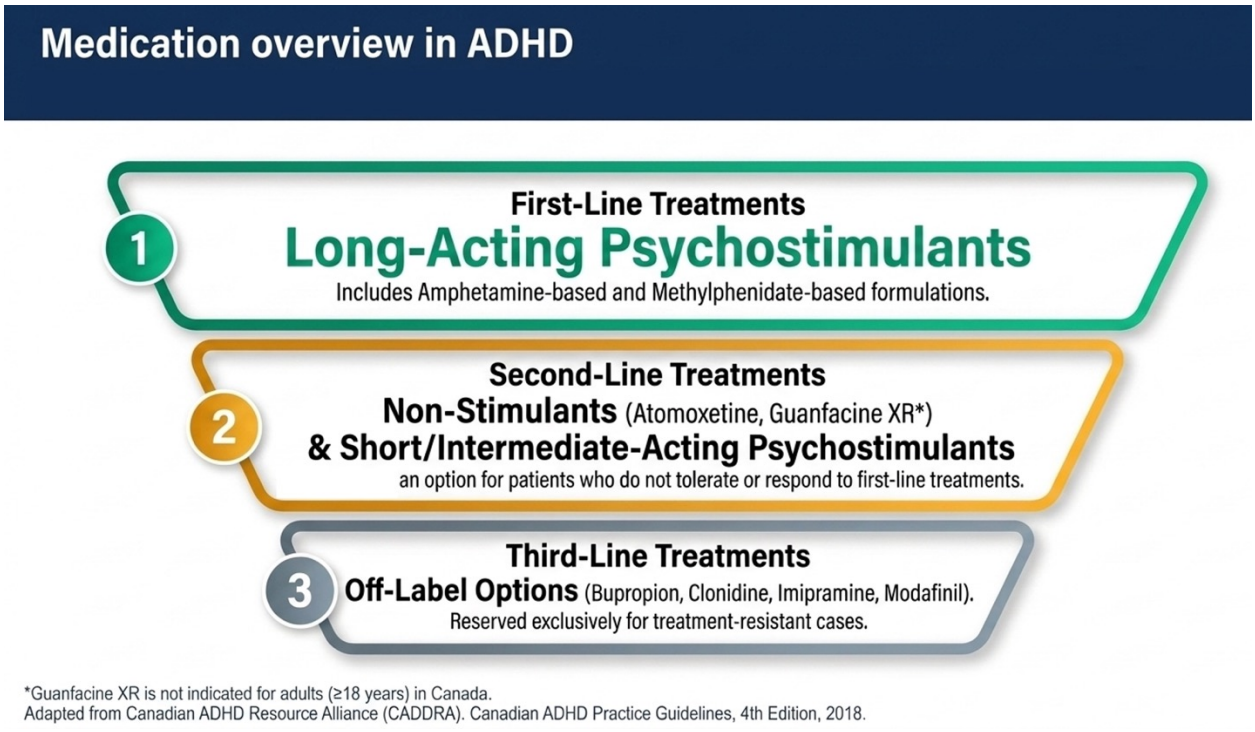

Figure 2. *Adapted from Canadian ADHD Resource Alliance (CADDRA). Canadian ADHD Practice Guidelines, 4th Edition, 2021.*

Brand Name	Dosages (mg)	Comments	Starting Dose (qAM) and **Maximum Dose**	Weekly Titration	Formulation Type (Immediate/ Delayed; %)	Duration of Efficacy
Amphetamine-based						
Adderall XR	Capsules: 5, 10, 15, 20, 25, 30	Granules can be sprinkled	10 mg/ **50 mg (20-30 per PM)**	5-10 mg ↑	50/50	~12 hrs
Vyvanse	Capsules: 10, 20, 30, 40, 50, 60, 70 Chewable tablets: 10, 20, 30, 40, 50, 60	Capsule cannot be diluted in liquid or sprinkled; chewable tablets should be chewed thoroughly	20-30 mg/ **70 mg (60 per PM)**	10-20 mg ↑	Not applicable (prodrug)	~13 hrs
Dynavel XR	Oral suspension: 2.5 mg/mL Oral tablets: 5, 10, 15, 20	Tablets can be chewed or swallowed whole; 5 mg tablet is scored	2.5 mg (peds); 5 mg (adults)/ **20 mg**	2.5-5 mg (every 4-7 days) ↑	IR + ER (LiquiXR)	~13 hrs
Methylphenidate-based						
Biphentin	Capsules: 10, 15, 20, 30, 40, 50, 60, 80	Granules can be sprinkled	10-20 mg/ **80 mg**	5- 10 mg ↑	40/60	~10-12 hrs
Concerta	Extended-Release Tablets: 18, 27, 36, 54	Osmotic-Controlled Release Oral Delivery System (OROS)	18 mg/ **108 mg (72 per PM)**	9-18 mg ↑	22/78	~12 hrs
Foquest	Capsules: 25, 35, 45, 55, 70, 85, 100	Granules can be sprinkled	25 mg/ **100 mg**	10-15 mg ↑	20/80	~13-16 hrs
Qullivant ER	Oral suspension: 5 mg/mL Chewable tablets: 20, 30	Oral suspension or chewable tablets (q AM)	20 mg/ **60 mg**	10-20 mg	20/80	~12 hrs
Journay PM	Capsules: 20, 40, 60, 80, 100	Take in evening (6:30 pm to 9:30 pm); onset at waking	20 mg qPM/ **100 mg**	20 mg	Delayed + Extended Release	~12-16 hrs

Figure 3. First-line stimulants for the treatment of ADHD in Canada; *Adapted from Canadian ADHD Resource Alliance (CADDRA). Canadian ADHD Practice Guidelines, 4th Edition, 2021.*

and blood pressure. Contraindications include uncontrolled hypertension, structural cardiac disease, concurrent MAOI use, and a history of psychosis. Monitoring at each visit should include blood pressure, heart rate, weight, sleep, and appetite.[2]

Second-line Options

Includes non-stimulants and short or intermediate acting stimulants.[2] Atomoxetine, a selective norepinephrine reuptake inhibitor, is taken once daily, provides 24 hour coverage, requires 4 to 8 weeks for full effect, and carries no abuse potential, making it useful when stimulants are contraindicated, poorly tolerated, or when comorbid anxiety or substance use risk is present.[2,14]

Guanfacine XR, an alpha-2A adrenergic agonist, is Health Canada indicated only for ages 6 to 17 and is not approved for adults in Canada, an important caveat when reviewing the literature, as off-label adult use occurs.[2,15]

Third-line and off-label options (bupropion, clonidine, modafinil) are typically reserved for treatment-resistant cases and are generally specialist-driven.[2]

Non-pharmacological Interventions Remain Essential Adjuncts

Psychoeducation for the patient and family, cognitive behavioural therapy adapted for adult ADHD, ADHD coaching, and environmental supports, including consistent routines, visual reminders, timers, reduced screen-based distraction, and electronic management of bills and appointments, together address functional impairment that medication alone does not fully resolve.[2] Yet even with optimal first-line therapy, comorbidities, particularly sleep disturbances, often determine whether patients achieve durable functional recovery, a theme the next section will explore.

Referral to psychiatry is appropriate for diagnostic uncertainty, complex comorbidity, treatment-resistant cases, or concerns about diversion or substance misuse.[2]

ADHD in adults is common, under-recognized, and has significant consequences, yet it is also one of the most treatable conditions in primary care. A dedicated diagnostic visit, validated screening tools, and first-line long-acting stimulants, supported by psychoeducation and environmental supports, can meaningfully change a patient's trajectory across health, function, and even mortality. Long term recovery also depends on ongoing follow-up, adherence and recognizing the frequently occurring comorbidities such as mood disorders, anxiety, insomnia and substance abuse.

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