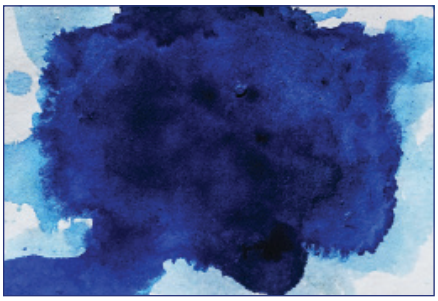

# Psychotherapy for Adult ADHD

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EDITOR'S NOTE

The patient cases presented in Psychotherapy Rounds are composite cases written to illustrate certain diagnostic characteristics and to instruct on treatment techniques. The composite cases are not real patients in treatment. Any resemblance to a real patient is purely coincidental.

ABSTRACT

The adult patient who presents for psychiatric evaluation with symptoms of attention deficit hyperactivity disorder (ADHD) poses specific challenges to the treating psychiatrist. Symptoms include trouble focusing, hyperactivity, and impulsive behavior. Patients may experience behavioral, mood, and cognitive issues. Co-occurrence of anxiety, boredom, sleep deprivation, or mood dysregulation may be reported. In addition, patients may have associated learning disabilities, either identified or undiagnosed. Symptoms can range from mild to severe. Many adults are unaware that they have ADHD, but they are acutely aware that they have everyday challenges. This article reviews the treatment dynamics created by the adult patient with a diagnosis of ADHD, as well as the evidence-based approaches that the psychiatrist can utilize in a psychotherapy setting.

**KEYWORDS:** Psychiatry, psychotherapy, ADHD, attention deficit hyperactivity disorder, adult ADHD, impulsivity, hyperactivity, stimulants, pharmacologic treatment

The adult patient who presents for psychiatric evaluation with symptoms of attention deficit hyperactivity disorder (ADHD) poses specific challenges to the treating psychiatrist. Adult ADHD is a mental health disorder that includes a combination of symptoms, such as difficulty paying attention, hyperactivity, and impulsivity. Adult ADHD can negatively affect relationships and occupational and academic performance, among many other areas of functioning.

Symptoms of ADHD present in early childhood and typically continue into adult years. Cherkasova et al[1] reported high rates of symptomatic persistence of ADHD symptoms into adulthood, ranging from 60 to 86 percent. The studies reviewed by Cherkasova et al were consistent in finding that participants with childhood-diagnosed ADHD had significant impairments in the areas of educational and occupational functioning, mental health, physical health, substance misuse, and unsafe driving.[1]

Depending on a variety of factors, ADHD might not be identified during developmental years, and an evaluation might not be conducted. Symptoms in adults might not be distinct as they typically are in children.[2] Over time, hyperactivity in adults might decrease, but impulsivity, restlessness, and challenges paying attention often persist into adult years. Approximately two-thirds of patients with ADHD have co-occurring psychiatric conditions.[2] There are specific risks in prescribing stimulants to patients who have substance use disorders or those with diversion risks. Treatment for both children and adults can have similarities, consisting of pharmacologic interventions, psychotherapy, and treatment for any co-occurring conditions.

Here, we present fictional cases of adult patients with ADHD to illustrate treatment dynamics that might occur during psychotherapy, as well as review evidence-based approaches the pyschiatric team can use in a psychotherapy setting.

## FICTIONAL CASE VIGNETTE 1

*A 22-year-old man, H, presented for initial psychiatric evaluation. He reported having difficulty at work. He had two motorcycle accidents in the last year, and stated, "I just wonder if something happened to my brain from those accidents." His primary care physician (PCP) suggested a psychiatry appointment, as she thought his symptoms sounded like anxiety.*

**H:** I don't really think I have anxiety. I'm just stressed because of work.
**Psychiatrist:** What's going on at work?
**H:** Well, I've been late quite a few times, and I guess I'm slow at my job. I'm doing my best. It feels like my supervisor is singling me out because he doesn't like me. I don't know how anyone gets any work done when people are always talking. My boss has called me into his office several times. I'm afraid he's going to fire me, but I don't know what he expects me to change.
**Psychiatrist:** That sounds stressful. Has the job always been like this?
**H:** I guess I've always been slower at the job than other people. It got a lot more stressful after I was reprimanded for being late. I'm always angry at work now, too. I'm trying to keep up, but I just can't. Then I missed some work due to some accidents.
**Psychiatrist:** I saw in your chart you had been seen in the emergency department after a motorcycle accident. Is that what you are referring to?
**H:** Yes, I've had two motorcycle accidents this year. One time, I didn't see a car coming when I

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turned, and I had to swerve out of the way and wrecked. A couple of months later, I was just messing around in my driveway and didn't have a helmet on. I just sped out of the driveway too fast and lost my balance. I hit my head and got a concussion that time. I sold my bike after that.
**Psychiatrist:** Did you notice the difficulty with work before these accidents?
**H:** Yeah, I guess I did. I didn't really mind being too slow until I started thinking my boss might fire me and was probably paying more attention to what I'm doing.
**Psychiatrist:** Tell me about growing up. How was school?
**H:** Oh, I always hated school. Got out as soon as I could. I never made good grades, and I always got in trouble. I never got along with my parents either. That's why I got this job, so I could quit school and move out of the house.
**Psychiatrist:** You've been there a while then?
**H:** Yes, everyone else who started when I did has gotten promoted or are doing other things. I'm still stuck at this entry-level job.

*H was treated first with a nonstimulant, and then with a stimulant for ADHD. Work performance improved greatly, and he began to enjoy work, as he was trusted with additional responsibility. In psychotherapy, H focused on regret and anger about lack of treatment in childhood. He was able to express this and eventually turn his thoughts toward the future.*

## PRACTICE POINT: REVIEW OF NEUROBIOLOGY AND PREVALENCE OF ADHD

ADHD is a prevalent neurodevelopmental disorder that has been associated with structural and functional central nervous system (CNS) abnormalities.[3] Neurobiological mechanisms in ADHD are not well understood; there is a clear genetic component in some families. Neurobiological research focused on catecholamine pathways is the main target of research and pharmacologic treatment. ADHD symptoms persist into adulthood in the majority of patients; however, the primary symptoms of concern and their presentation might change over time.[3]

ADHD is associated with deficits in executive functioning, which involves planning, memory, attention, managing tasks, adaptability, and organization.[4] Executive dysfunction is related to poorer academic and occupational outcomes and lower quality of life.[5,6] ADHD is associated with functional impairment and increased risk of depression, substance use, and other psychiatric disorders.[7] Comorbid disorders and subthreshold symptoms can evolve over time and include sleep disorders, anxiety disorders, and even somatic disorders, such as obesity and diabetes.[7,8] Individuals with ADHD have also been found to have a higher risk of accidental injury.[7]

Three clear subtypes of ADHD have been identified (inattentive, hyperactive/impulsive, and combined subtype), and all have a chronic course.[9] Catecholamines are the main targets of pharmacologic treatments; both stimulants and nonstimulants are considered efficacious and are approved by the United States (US) Food and Drug Administration (FDA) for the treatment of ADHD.[7] Neurobiological research continues to evolve.

ADHD is more prevalent in male individuals, as opposed to female individuals.[10] This includes approximately 2.1 percent of children ages 2 to 5 years old and 8.9 percent of children ages 6 to 11 years.[7,11] Faraone et al[7] conducted a global systematic review and meta-analysis and reported that the prevalence of persistent adult ADHD (diagnosed in childhood) and symptomatic adult ADHD (regardless of childhood onset) both decreased with advancing age. It was concluded that the prevalence of persistent adult ADHD from childhood and that of symptomatic adult ADHD were 2.58 percent and 6.76 percent in 2020, respectively, which represents more than 366 million affected adults globally. Therefore, ADHD clearly meets criteria to be considered a public health concern.

## CLINICAL PEARLS: NEUROBIOLOGY OF ADHD

- ADHD symptoms persist into adulthood in the majority of patients; adult symptom presentation might differ from that of a child.
- Two-thirds of persons with ADHD have co-occurring disorders; the most common conditions include anxiety, depression, learning disorders, Tourette's syndrome, sleep problems, and substance use disorders.
- It is thought that as many as 8.4 percent of school-aged children currently have a diagnosis of ADHD, and symptoms, if not full criteria for diagnosis, persist into adulthood for the majority of those with ADHD

## FICTIONAL CASE VIGNETTE 2

*A female graduate student, S, had been treated in psychotherapy and with medications for several years for anxiety and depression. Despite consistent therapy and trials of several different medications, her symptoms never completely resolved, and she was disappointed with her mediocre grades. Poor concentration and procrastination consistently caused problems academically, occupationally, and interpersonally. With further investigation into current symptoms and experience in childhood, S was diagnosed with ADHD.*

**Psychiatrist:** Given the symptoms you are reporting now and the difficulties you have reported in childhood, I am making a diagnosis of ADHD, inattentive type. How do you feel about that?
**S (crying):** I don't know. I don't want another diagnosis. It just feels like everything bad is happening to me.
**Psychiatrist:** You feel like things are not going to get better, and this diagnosis feels like another failure?
**S:** Yes, exactly. What am I going to do?
**Psychiatrist:** I wonder if your undertreated ADHD symptoms are contributing to the depression and anxiety symptoms you experience. You have said you often feel behind in your tasks, it takes you a long time to do anything, you are worried about forgetting obligations, and you are often frustrated. These can be caused by inattention and poor concentration and can contribute to feelings of worthlessness, helplessness, and worry. If we treat your ADHD well, other symptoms might be reduced.
**S:** Okay, that sounds promising, but medications have never worked well.
**Psychiatrist:** The medications for ADHD are different from the ones you have tried before. The first-line treatments for ADHD are stimulants. These medications help to improve cognition by acting on dopaminergic pathways. They are quite effective for most patients.
**S:** What are the side effects of stimulants?
**Psychiatrist:** Most psychiatric medications can cause an upset stomach or headache when you first start them, but these symptoms are typically mild and often resolve with continued use of the

medication. Stimulants can cause a decrease in appetite or later onset of sleep. One of the most important things to know is that stimulants, particularly the amphetamine class, are related to an increased risk of cardiac events, especially in people with structural heart defects. There is a black box warning regarding cardiac adverse events. There is also a black box warning for addiction. It is important you take the medication only as prescribed. Let me know if your mood or anxiety worsens after you begin the medication as well. Serious side effects are not common, but we will monitor your health. Since you are healthy and experiencing significant effects from ADHD, I would recommend a trial of a stimulant. What do you think?

**S:** Can I think about it? I want to look into this more and take time to process having another diagnosis.

**Psychiatrist:** Absolutely. Please let me know if you have questions or concerns. I am here to help.

*S did end up trying a stimulant, and her symptoms of inattention and disorganization improved significantly. She reported feeling more competent academically, and this helped her to begin to heal from her depression and anxiety. She continued to work on negative thoughts and relationship difficulties in psychotherapy.*

## PRACTICE POINT: PHARMACOLOGIC TREATMENT FOR ADULT ADHD

In the treatment of ADHD, the prescriber might consider both stimulant and nonstimulant medications; in addition, there are some over-the-counter treatments and adjunct medications that might be helpful in mitigating or resolving symptoms.[12] Behavioral, environmental, and psychosocial approaches should be instituted in association with pharmacology, and extra caution and conservatism should be used in all child and adolescent patients.[11,12] When making clinical decisions, it is important to consider the use of both immediate-release and sustained-release stimulant preparations, as well as first-line, second-line, and adjunct agents. It has long been recognized that the prominent CNS neurochemicals intimately involved with ADHD symptoms affect dopamine and/or norepinephrine receptor systems.[12]

For the treatment of ADHD, stimulants affect dopamine and are considered first-line agents that have demonstrated the highest efficacy in mitigation of symptoms in most patients.[10] Agents that affect dopamine and/or norepinephrine appear to impact ADHD. The FDA has approved atomoxetine and long-acting alpha-2 adrenergic agents for the treatment of ADHD. Other medications, such as bupropion and tricyclic antidepressants, may be used as off-label options for ADHD symptoms. Amantadine has indirect effects and can be helpful in stabilizing dopamine regulation. Modafinil is prescribed for some patients who have failed trials of FDA-approved medication options for ADHD.[7,10]

Methylphenidate and amphetamine are common CNS stimulants, also known as sympathomimetic amines. These two are the medications of choice for the treatment of ADHD.[7,11] There are short- and long-acting options, and issues, such as adherence, potential for abuse, diversion, and various side effects, should be carefully considered when prescribing. The literature in this area consistently shows that stimulants have superior efficacy, compared to placebo, in improving attention span, decreasing impulsivity, and reducing hyperactivity. There is scientific evidence for the benefit of both short- and long-acting formulations.[12] Stimulants undergo metabolism in both the liver and the gastrointestinal tract and are subsequently excreted by the kidneys. In addition, there is limited data on use of vitamin D, omega-3 fatty acids, and other nutritional supplements in ADHD, with varying and inconsistent results.[13–15]

## CLINICAL PEARLS: PHARMACOLOGIC INTERVENTIONS

- A systematic, informed-consent discussion reviewing the risks, benefits, and potential side effects of pharmacologic treatments is necessary prior to and throughout the prescribing process.
- For patients with ADHD, the appropriate prescription of stimulants might prevent them from seeking illegal substances to self-medicate ADHD symptoms.
- Serious cardiac conditions are a contraindication for the use of stimulants. Extended-release amphetamine/dextroamphetamine is documented as associated with "serious cardiovascular adverse events and may cause sudden death in patients with pre-existing cardiac structural abnormalities."[7]
- Extra caution should be taken with patients who have history of tics, seizures, autism spectrum disorder, or psychosis.
- Care should be taken to identify a personal or family history of bipolar disorder; stimulants have the ability to induce hypomania and manic episodes in those who are vulnerable.

## FICTIONAL CASE VIGNETTE 3

*A 42-year-old man, C, presented to the psychiatric clinic for ADHD treatment. C brought with him a record of psychological testing with a diagnosis of ADHD. He also had hypertension and a recent stress test showing concern for coronary artery disease. In review of his symptoms, history, and presenting complaints, diagnosis of ADHD was confirmed. ADHD symptoms had been contributing to inefficiency and dysfunction at work, along with stress in his relationships with his spouse and children. Though very intelligent, C had failed to meet expectations at work, and he was not satisfied in his career. At home, he described his wife as "nagging" and children as "needy."*

**Psychiatrist:** Tell me more about your difficulties at home.

**C:** My wife is constantly complaining and telling me what to do. She wants things done a certain way and comes after me when I procrastinate. I get really frustrated with her nagging, so I just go to my office to get away from her. Even when I try to get things done, she keeps interrupting me, so it takes much longer than it should. Most of the time, I just give up on projects because it's so frustrating.

**Psychiatrist:** Hmmm, what about the kids?

**C:** Oh, they are always whining. I'm not good with schedules, so I forgot my son's soccer game last weekend. I mean I feel bad—he was really upset that I wasn't there—but I thought he would be over it by now. And my daughter is currently embarrassed because I got her to a sleepover late. I couldn't help it. I got caught up doing something at the house, and then I couldn't find my keys or my wallet. I guess the plan was to go to a movie, and they had to make other plans because she was late. I don't see the big deal.

**Psychiatrist:** It sounds like some of the difficulties in those interactions might be related to the symptoms we were talking about, forgetfulness, difficulty staying on task, being

easily distracted, and trouble organizing. Do you think that could be the case?
**C:** I've never really thought of it like that.

*The psychiatrist and C agreed that therapy and behavioral techniques would be the best first treatment option for his symptoms of ADHD, due to current concerns for cardiovascular disease and significant psychosocial problems.*

## PRACTICE POINT: PSYCHOTHERAPY COMBINED WITH SKILLS TRAINING ARE EFFICACIOUS FOR ADULT ADHD

**Cognitive behavioral therapy (CBT).** CBT is a common type of talk therapy. It is structured and time-limited; it helps the patient become aware of inaccurate or negative thinking so they can view challenging situations more clearly and respond to them in a more effective way. CBT is very effective in helping patients learn how to better manage stressful life situations and mental illness by increasing coping skills, improving communication, and dealing with loss and grief.

CBT can also facilitate recovery from trauma or abuse, coping with medical illness, and management of chronic symptoms. CBT was found to help adult patients improve their organizational skills and therefore decrease symptoms of ADHD.[7] A meta-analysis of patients with adult ADHD found that those who completed CBT experienced moderate improvements in symptoms, compared to waiting list controls.[16] CBT has been shown to improve time management, daily functioning, and overall wellbeing in adults with ADHD.[17] CBT affects some of the same brain regions that medication does, namely, the frontoparietal network and the cerebellum.[18]

CBT interventions include the following:

- Identify challenging situations or circumstances in your life
- Become aware of your thoughts, emotions, and beliefs about these problems
- Identify negative and inaccurate thinking
- Challenge negative, inaccurate, and unhelpful thinking, and learn to reshape thoughts
- More positive and accurate thoughts contribute to more positive emotions and self-regulation.

**Relationship therapy and others.** There is significant evidence that quality of life in adulthood is dependent on healthy and enduring relationships; it is also well known that untreated ADHD symptoms can negatively affect relationships.[19] Relationships are also an important part of a person's external support system when they have been diagnosed with a psychiatric disorder.

Marital counseling and marital therapy can be very useful for individuals with ADHD. Relationship therapy is a unique type of marriage therapy that focuses on helping couples relate and connect more deeply with each other, despite the presence of ADHD symptoms.[19] Relationship therapy can help couples explore the challenges of ADHD, learn helpful techniques, and identify possible benefits of having a partner with ADHD. Common benefits of having a partner with ADHD include the positivity, sociability, openness, empathy, and resilience commonly observed in patients with ADHD.[19] Group treatment for couples might be helpful in reducing ADHD symptoms and relational impairment.[20]

There is evidence that mindfulness meditation can improve executive functioning and relational difficulties, among other core symptoms of ADHD. Additionally, exercise can enhance mood and self-efficacy in people with ADHD.[21,22]

Lifestyle and home remedies for the management of ADHD include the following:

- Make lists of tasks.
- Break complex tasks into smaller, more manageable steps.
- Use reminders, such as notes, smartphones, and applications.
- Keep an appointment calendar on an electronic device.
- Set up systems to file and organize data.
- Follow a routine.
- Schedule more time than you think you need.
- Make exercise a normal part of the daily routine. Working out is perhaps the most positive and efficient way to reduce hyperactivity and inattention from ADHD. Exercise can relieve stress, boost mood, and calm the mind, helping work off the excess energy and aggression that can get in the way of relationships.
- Set time limits where needed. Many adults with ADHD spend so much time on one task—known as hyperfocusing—that nothing else gets done
- Make healthy eating choices; patients with more severe symptoms were more likely to eat foods high in added sugar and fats and neglect fruits and vegetables.

## CLINICAL PEARLS: CBT TARGETS FOR ADULT ADHD

- Improve time management and organizational skills
- Learn how to reduce impulsive behavior; develop improved problem-solving skills
- Improve self-esteem; learn ways to improve relationships with others
- Develop strategies for controlling anger and temper.

## CONCLUSION

According to the *Diagnostic and Statistical Manual of Mental Disorders, 5th edition* (DSM-5), ADHD often lasts into adulthood.[9] To diagnose ADHD in adults and adolescents aged 17 years or older, only five symptoms are needed, instead of the six needed for younger children. Symptoms might look different at older ages. For example, in adults, hyperactivity might appear as extreme restlessness or wearing others out with their activity.

ADHD was previously thought to be a disorder of childhood that gradually diminished with age, supposedly lessening during adolescence and adulthood. Despite this assumption, several longitudinal studies have revealed that symptoms and dysfunction often persist into adulthood. In reality, ADHD is typically heterogenous in presentation. There is a critical need for the development of a universal diagnostic strategy to detect adult ADHD symptoms and address clinical and public health concerns. Both psychopharmacological and behavioral interventions can help alleviate symptoms, modify areas of dysfunction, and improve quality of life.

## REFERENCES

1. Cherkasova MV, Roy A, Molina BS, et al. Review: adult outcome as seen through controlled prospective follow-up studies of children with attention-deficit/hyperactivity disorder followed into adulthood. *J Am Acad Child Adolesc Psychiatry*. 2021;S0890-8567(21)00366-X.

2. Children and adults with attention deficit hyperactivity disorder (CHADD). Overview. https://chadd.org/for-adults/overview/. Accessed 2 Mar 2022.
3. Song I, Lee MS, Lee EK, et al. Patient and provider characteristics related with prescribing of ADHD medication: nationwide health insurance claims database study in Korea. *Asia Pac Psychiatry*. 2018;10(1).
4. Willcutt EG, Doyle AE, Nigg JT, et al. Validity of the executive function theory of attention-deficit/hyperactivity disorder: a meta-analytic review. *Biol Psychiatry*. 2005;57(11):1336–1346.
5. Holst Y, Thorell LB. Functional impairments among adults with ADHD: a comparison with adults with other psychiatric disorders and links to executive deficits. *Appl Neuropsychol Adult*. 2020;27(3):243–255.
6. Thorell LB, Holst Y, Sjöwall D. Quality of life in older adults with ADHD: links to ADHD symptom levels and executive functioning deficits. *Nord J Psychiatry*. 2019;73(7):409–416.
7. Faraone SV, Banaschewski T, Coghill D, et al. Review: the World Federation of ADHD International Consensus Statement: 208 evidence-based conclusions about the disorder. *Neurosci Biobehav Rev*. 2021;128:789–818.
8. Franke B, Michelini G, Asherson P, et al. Live fast, die young? A review on the developmental trajectories of ADHD across the lifespan. *Eur Neuropsychopharmacol*. 2018;28(10):1059–1088.
9. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders, 5th Edition*. American Psychiatric Association; 2013.
10. Centers for Disease Control and Prevention. Data and Statistics About ADHD. www.cdc.gov/ncbddd/adhd/data.html. Accessed 7 Nov 2022.
11. Schiweck C, Arteaga-Henriquez G, Aichholzer M, et al. Comorbidity of ADHD and adult bipolar disorder: a systematic review and meta-analysis. *Neurosci Biobehav Rev*. 2021;124:100–123.
12. Duarte M, Dieben K, Nicastro R, et al. Adult ADHD—recommendations for clinical management in general practice. *Rev Med Suisse*. 2021;17(751):1606–1610.
13. Bozzatello P, Brignolo E, De Grandi E, et al. Supplementation with omega-3 fatty acid in psychiatric disorders: a review of literature data. *J Clin Med*. 2016;5(8):67.
14. Khoshbakht Y, Bidaki R, Salehi-Abargouei A. Vitamin D status and attention deficit hyperactivity disorder: a systematic review and meta-analysis of observational studies. *Adv Nutr*. 2018;9(1):9–20.
15. Bloch MH, Mulqueen J. Nutritional supplements for the treatment of ADHD. *Child Adolesc Psychiatr Clin N Am*. 2014;23(4):883–897.
16. Young Z, Moghaddam N, Tickle A. The efficacy of cognitive behavioural therapy for adults with ADHD: a systemic review and meta-analysis of randomized controlled trials. *J Atten Disord*. 2020;24(6):875–888.
17. Eddy LD, Anastopoulos AD, Dvorsky MR, et al. An RCT of a CBT intervention for emerging adults with ADHD attending college: functional outcomes. Grantee submission; 2021. https://search-ebscohost-com.ezproxy.libraries.wright.edu/login.aspx?direct=true&db=eric&AN=ED611007&site=eds-live. Accessed 10 Apr 2022.
18. Wang X, Cao Q, Wang J, et al. The effects of cognitive-behavioral therapy on intrinsic functional brain networks in adults with attention-deficit/hyperactivity disorder. *Behav Res Ther*. 2016;76:32–39.
19. Wymbs BT, Canu WH, Sacchetti GM, et al. Adult ADHD and romantic relationships: what we know and what we can do to help. *J Marital Fam Ther*. 2021;47(3):664–681.
20. Wymbs BT, Molina BSG. Integrative couples group treatment for emerging adults with ADHD symptoms. *Cogn Behav Pract*. 2015;22(2):161–171.
21. Bigelo H, Gottleib M, Ogrodnik M, et al. The differential impact of acute exercise and mindfulness meditation on executive functioning and psycho-emotional well-being in children and youth with ADHD. *Front Psychol*. 2021;12:660845.
22. Chimiklis AL, Dahl V, Spears AP, et al. Yoga, mindfulness, and meditation interventions for youth with ADHD: systematic review and meta-analysis. *J Child Fam Stud*. 2018;27(10):3155–3168. ICNS