



SELF-MEDICATION & EMOTIONAL PAIN

ADHD, Neurodivergence & Substance Use

Understanding vulnerability without
assuming inevitability

The key idea

ADHD and some neurodivergent experiences can affect reward, attention, impulse control, sensory regulation, sleep and emotional regulation. These factors may increase vulnerability to problematic substance use for some people, but neurodivergence does not make addiction inevitable.

Why talk about ADHD and substance use?

Research consistently finds an association between ADHD and increased risk of substance-use problems. That association is not a simple cause-and-effect relationship. ADHD can interact with impulsivity, reward sensitivity, emotional regulation, sleep, co-occurring mental-health difficulties, social experiences and access to appropriate support.

Important to remember ADHD does not mean someone will develop an addiction. Many people with ADHD never do. Risk describes a statistical association across groups; it does not predict an individual person's future.

Reward, motivation and immediate reinforcement

ADHD involves differences in brain systems supporting attention, motivation, inhibition and reward processing. Immediate rewards can sometimes exert a stronger pull than delayed consequences. A substance that rapidly changes alertness, mood, anxiety or internal restlessness can therefore become strongly reinforcing for some people.

Important clinical point The common phrase 'ADHD is caused by low dopamine' is too simplistic. Dopamine and noradrenaline are involved in ADHD, but the condition cannot be reduced to a single neurotransmitter being deficient. Brain networks, development, genetics and environment all contribute.

Understimulation and seeking stimulation

Some people with ADHD describe boredom or understimulation as intensely uncomfortable. Novelty, risk, fast feedback and strong sensory experiences may feel particularly engaging. Substance use can sometimes become one way of changing that internal state, especially when healthier sources of stimulation are unavailable or difficult to sustain.

Impulsivity and the gap between urge and action

Impulsivity can make it harder to pause between an urge and an action, particularly during stress, intoxication or strong emotion. This does not mean a person lacks responsibility or choice; it means inhibitory control may be one relevant part of the wider picture and can be supported rather than moralised.

What this might look like Someone may fully understand the longer-term risks of a substance and still find the immediate effect disproportionately compelling in the moment. Support may need to address the environment, access, routines, emotional state and delay between urge and action — not simply provide more information about risk.

Emotional dysregulation

Although emotional dysregulation is not unique to ADHD, many people with ADHD report emotions that feel rapid, intense or difficult to settle. A substance may be used to dampen anger, anxiety, rejection-related distress, agitation or mental noise. Repeated relief can strengthen the association between distress and using.

Sleep and the 'switching off' problem

ADHD commonly coexists with sleep difficulties. Some people use alcohol, cannabis, sedating medicines or other substances because they believe these help them switch off. A substance may shorten the time it feels like it takes to fall asleep while still disrupting sleep quality, creating tolerance or producing next-day effects that make the underlying problem harder to manage.

Ask about function Instead of assuming someone is trying to get intoxicated, ask what they are trying to change: boredom, racing thoughts, social inhibition, sensory overload, exhaustion, sleeplessness, low mood, physical discomfort or something else.

Neurodivergence is broader than ADHD

Autistic people and people with other neurodevelopmental differences are not a single risk group with one pattern of substance use. Some may use substances to manage sensory overwhelm, social anxiety, masking demands, sleep difficulties, isolation or co-occurring mental-health problems. Others may use little or no alcohol or drugs. Individual assessment is more useful than stereotypes.

Masking, social situations and belonging

Substances can sometimes be used to make social interaction feel easier, reduce self-consciousness or tolerate environments that feel overwhelming. They can also become connected with belonging to a peer group. For someone who has repeatedly felt different or excluded, the social function of use may be as important as the pharmacological effect.

What this might look like

An autistic person may drink before social events because they feel less aware of sensory discomfort and social anxiety. Another person with ADHD may use nicotine repeatedly during work because they experience a brief change in alertness and concentration. The same support plan would not necessarily fit both.

Co-occurring conditions matter

ADHD and autism can coexist with anxiety, depression, trauma-related difficulties, eating disorders, chronic pain and other conditions. Substance use may relate more strongly to one of these experiences than to neurodivergence itself. Assessment should therefore look beyond a diagnostic label.

What about prescribed ADHD medication?

Evidence-based ADHD medication prescribed and monitored appropriately is treatment, not the same as non-medical stimulant use. NICE recommends considering the risk of substance misuse and medication diversion when planning treatment and being cautious with formulations that are easier to misuse where significant risk exists.

Key distinction

A history of substance use should not automatically be interpreted as proof that someone is seeking ADHD medication for misuse. Equally, risk should not be ignored. Good care involves individual assessment, appropriate formulation choice, monitoring and discussion rather than blanket assumptions.

Can treating ADHD affect substance-use risk?

Research has examined whether ADHD treatment changes later substance-use risk. Findings do not support the idea that appropriately prescribed stimulant treatment simply causes later addiction; some studies suggest treatment may be associated with lower substance-related risk in certain groups. The relationship is complex, and medication should be prescribed for ADHD on individual clinical grounds rather than as an addiction-prevention strategy.

Self-medication can hide unmet needs

Repeated substance use can sometimes be a clue that attention difficulties, sleep problems, anxiety, sensory needs, pain or another condition is not being adequately addressed. It is not a diagnostic test: clinicians still need a proper assessment. Asking what the substance provides can reveal areas that deserve further exploration.

For professionals

Consider ADHD and other neurodevelopmental conditions where clinically appropriate, but avoid diagnosing from substance-use behaviour alone. Explore developmental history, current symptoms, co-occurring conditions, the function and pattern of use, prescribed medicines, sleep, sensory experiences and social context.

Supporting change

Support can include treating ADHD or other co-occurring conditions appropriately, improving sleep and routines, finding safer stimulation, developing emotional-regulation strategies, reducing environmental triggers, harm reduction and specialist substance-use treatment. The aim is to understand and meet the underlying need while reducing harm.

Reflection

When does the urge tend to appear — boredom, overwhelm, social situations, emotional intensity, exhaustion or bedtime? What changes immediately after using? Does the effect match a difficulty that has never been properly assessed or supported?

References & Further Resources

The relationship between neurodivergence and substance use is complex. Population-level associations should not be used to assume that an individual person will use substances or develop an addiction.

NICE - ADHD (NG87)

Guidance on ADHD recognition, assessment and management, including assessment of substance misuse and diversion risk and prescribing considerations.

NICE - Coexisting mental illness and substance misuse

Guidance supporting coordinated assessment and care when mental-health difficulties and substance misuse occur together.

NHS - ADHD

General NHS information about ADHD, assessment, treatment and support for children and adults.

NHS - Drug addiction: getting help

Information on accessing local drug treatment, talking therapies, medicines, detoxification and harm-reduction support.

NHS - Addiction: what is it?

Overview of addiction and factors that can contribute to vulnerability, including mental health, environment and genetics.

UK ADHD Partnership consensus guidance

Clinical consensus work addressing identification and treatment of people with ADHD and substance-use disorder, including the importance of individual assessment rather than excluding people from care solely because substance use is present.

How to use these resources

Use these resources alongside individual clinical assessment. Someone concerned about ADHD can speak with a GP or appropriate ADHD service, while local NHS or community drug and alcohol services can provide substance-use assessment, treatment and harm-reduction support. Co-occurring needs are often best addressed together rather than treating one as irrelevant until the other has disappeared.