

**Understanding and supporting
adult patients with
Attention Deficit Hyperactivity
Disorder (ADHD)**

*a useful handbook for GPs and other
clinicians*

What is ADHD, medically speaking?

Attention Deficit Hyperactivity Disorder, or ADHD, is a condition that affects those parts of the brain that control attention, impulses and concentration. A patient with ADHD is impaired in their ability to regulate their behaviour or emotions, or plan ahead, and so has problems in education, at home, with relationships and at work.

How does ADHD affect my patient's brain?

An easy way for clinicians to quickly understand a disability which is as 'invisible' as ADHD is, is to use your knowledge of other fluctuating or episodic conditions (which you can easily observe in other patients) to build yourself a picture of ADHD (which can be much harder to observe due to its chronicity). A simplified model of how to understand ADHD is as follows:

People who abuse drugs get a buzz from that drug increasing the amount of dopamine in the brain. When they do not have the drug, dopamine levels drop and they then crave the drug, to increase their dopamine levels. One way to look at ADHD is that the person with ADHD **always** has low amounts of dopamine in the brain. It is almost like the person is in a permanent state of drug withdrawal, but that is the way the brain happened, not because the person has taken drugs. Reward, thrills, excitement, gambling, risk-taking, acquiring things, surfing the internet, playing video games, using amphetamines, cannabis or feeding an addiction all increase dopamine. As does methylphenidate, the first line drug used to treat ADHD in the UK.

The net result is that the area of the brain that controls concentration, reward and attention is underactive and understimulated **all the time** for people with ADHD. This area uses dopamine and noradrenaline as its chemical messengers, and it seems that for people with ADHD, dopamine and noradrenaline are not released nearly enough. Some of the medications for ADHD boost the release of dopamine or noradrenaline and so help boost concentration, attention and motivation.

What does it mean if an adult has ADHD?

Typically, there are 3 types of adults with ADHD:

- People who had ADHD (diagnosed or undiagnosed) as children who are still struggling. This is the norm: most children with ADHD will go on to have adult ADHD, as ADHD is a lifelong condition. For some people, ADHD only becomes **debilitating** once they leave home or try to live as independent adults, so many will not have had a childhood diagnosis even though their symptoms will have been present as a child.
- People who had diagnosed ADHD as children, but who disengaged with the diagnosis or stopped taking medication while they were a teenager¹, but then realised after a few years that they can't control themselves and want to go back on medication so they can stay in control.
- People with a “new” diagnosis. Nearly all adults with a new diagnosis will have had ADHD as children, but just never had a diagnosis. Developing ADHD only as an adult is probably very rare indeed, and usually indicates a different diagnosis or cause (such as brain injury).

It may be that relatively severe adult ADHD is more likely to have been inherited, and so adults with ADHD will often have a parent with ADHD. There are over 100 different genes that have been linked with ADHD of which, if you are interested, Chromosome 16 seems to be the main place that these genes are found. The genes that are linked with ADHD seem to be the ones that control the way brain cells stick together in some areas of the brain which control reward and motivation.

ADHD is easily helped in adults, using the same medications as in younger people, but at higher doses. The usual difficulty lies in getting the disorder diagnosed and treated in the first place.

¹ it is natural for adolescents to question and explore their own identities, and due to widespread misrepresentation and stigmatisation around the validity of ADHD and the impact of ADHD medications, teenagers often become concerned that medication or a diagnostic label could impede their efforts to be themselves.

Key things for you to know:

Adults with ADHD are less able to look after themselves, and are likely to become unwell without realising until the illness is quite bad. Please provide regular check-ups and prescribe exercise and nutrition interventions so that they can maintain a healthy lifestyle if no interventions are in place to enable this already. Please also provide additional or longer-term smoking or alcohol cessation support where this is a problem, as adults with ADHD are particularly vulnerable to addiction.

Adults with ADHD may report sometimes taking amphetamines (“speed”) illegally before they got their diagnosis. They will say that they take them to feel normal or to help concentrate, rather than to feel high. Likewise, many adults with ADHD will report being unable to fall asleep, study, or generally feel calm without the use of caffeine. Alternatively, they may smoke cannabis or drink alcohol to relax.

Adults with ADHD are often not diagnosed and many thus go untreated, ending up with relationship problems, in trouble with the law, uneducated and/or unemployed.

There are some support organisations for adults with ADHD. Our favourite is [AADD-UK](http://www.aadd-uk.org/), “the site for and by adults with ADHD”, which has loads of news, help, advice and support. In Barnet, there is a great charity called ADDISS, which you can read more about here: <http://www.addiss.co.uk/index.html>. For general information, statistics and research about adult ADHD, we would recommend the Pay Attention UK campaign, found at www.attentionuk.org. For GP training courses in adult ADHD, we would recommend those run by UKAAN (<https://www.ukaan.org/>).

The risks and impacts of untreated ADHD:

There are risks from anything and everything, but somewhat surprisingly for a condition that is so invisible, ADHD has many extra risks. Some of the risks of having untreated ADHD are:

Accidents – People with ADHD are twice as likely to have regular road traffic accidents compared to people of the same age (Ludolph 2009), which is important as road accidents are the number one cause of death in young adults. This is probably due to increased risk-taking and being easily distracted (Merkel, 2013). Also having accidents that cause serious injuries (especially in younger people and males) (Merrill 2009) e.g. burns (Badger 2008).

Risky sex – Young adults with untreated ADHD show 2.6 times the number of sexual partners and 9 times the number of pregnancies compared to their non-ADHD peers (Barkley, 1998). Likewise, they show 4 times the number of STD and are 2.5 times more likely to have been tested for HIV/AIDS (Barkley et al., 2006). ADHD in adolescents and young adults is now viewed as an independent risk factor for subsequent STIs (Chen et al, 2018).

Criminal convictions – People with ADHD are twice as likely to be arrested, 5-6 times more likely to be convicted, 15 times more likely to end up in prison than other people of same age, especially for aggression (Mardre 2011), and 12 times more likely to be convicted for violent crimes (Dalsgaard et al, 2013). People with ADHD who have treatment are much less likely to commit crimes (Lichtenstein 2012) and 30% less likely to get a criminal conviction.

Time spent in prison – A Swedish study showed that up to 40% of long-term prisoners have ADHD, but that only 1 in 15 had ever been diagnosed (Ginsberg 2010), and all had abused substances lifelong. An Australian sample showed 1 in 3 (35%) prisoners had ADHD and 1 in 6 (17%) had the full set of symptoms (Moore, 2013) and a Canadian study showed that 1 in 6 (17%) of new inmates had full ADHD symptoms, 1 in 4 (25%) had sub-threshold symptoms and that those with high levels of ADHD symptoms did much worse when released (Usher et al, 2013)

Poor relationships, domestic violence and victimisation – People with ADHD are at far higher risk for physical victimization by an intimate partner

than people without ADHD (30.7% vs. 6.3%) and in young women, childhood ADHD is a specific and important predictor of physically violent victimization in their intimate relationships (Guendelman, M. D. et al., 2016)

More likely to change jobs a lot – This is partly from wanting to be busy, and partly from social rejection as it can be more difficult to make friends with someone with ADHD (Jastrowski 2007). 1 in 2 (51%) adults with untreated ADHD are estimated to have been unable to work in the last year, as found by (Fredriksen and Peleikis, 2016).

Lower quality of life – People with ADHD are also usually **financially** less well-off, with lower **job performance**, **social isolation** and **peer rejection**. They also tend to become “advocates” for others, especially in older adults, and tend to find ways cope with their attention problems by keeping busy all the time (Brod 2011). They also tend to have **low self-esteem**.

Addiction – People with ADHD are about 8 times more likely to be hooked on tobacco or have more severe nicotine dependence - this is because it seems that people with ADHD get more reward from nicotine (Groenman, 2013). This is also true for stimulants such as amphetamines. Excess cannabis use is common in untreated ADHD. Likewise, up to 1 in 2 (45%) people who regularly use or abuse stimulants are likely to have ADHD (Kaye, 2013).

Alcohol dependence or dangerous alcohol use – Up to 1 in 3 people with ADHD have a major problem (Knop 2009).

Comorbid Eating Disorders – People with ADHD (especially adult females) are more likely to develop bulimia nervosa (Nazar 2008). People with ADHD present three times higher rates of binge eating than individuals without ADHD (Bleck & DeBate, 2013) and are much more likely to have Binge Eating Disorder (Nazar, 2013)

Obesity – People with ADHD are more than four times as likely to be overweight (Cortese, 2015) or obese (Pagoto 2009) than their peers. This may be due to eating snacks, emotionally eating and night eating (Docet, 2012)

Diabetes – People with ADHD have double the chance of having Type 2 diabetes i.e. 1 in 100 (0.9%) compared to 1 in 200 (0.4%). This is not true for Type 1 diabetes (Chen, 2013)

Poor sleep – People with ADHD typically have more problems sleeping than people without the disorder. This can lead to depression, drinking too much alcohol, anxiety etc (Accardo 2012)

Brain immaturity – ADHD slows down the way the brain becomes able to plan for the long-term (i.e. days, weeks, months, years), control emotions, and to be able to delay reward (e.g. if you offered someone without ADHD £5 now or £10 in a few days, they'd have the £10 in a few days. Someone with ADHD would choose the £5 now).

Poor memory – People with ADHD have worse working memory (Alderson, 2013), adults with ADHD also have poor memory generally (Skodzik, 2013)

Sexual dysfunction – Premature ejaculation occurs in over 1 in 3 (42%) men with ADHD, compared to 1 in 25 (4%) of the general population (4%) (Soydan, 2013). Likewise, sexual dysfunctions and other sexual disorders are highly prevalent in adults with ADHD (Bijlenga, D. et al., 2017)

Physical health problems – People with ADHD are more likely to develop physical health problems like lung disease, heart disease and other long-term problems (Semeijn, 2013)

Depression – People with ADHD are 7 times more likely to develop depression but this risk is much reduced by taking methylphenidate, although taking atomoxetine doesn't seem to reduce the risk (Lee, 2016).

Attempting suicide – Lifetime suicide attempts are 4 times more common (Huang, 2018) if someone has ADHD. Again, taking methylphenidate long-term reduces this risk.

Early death – People with ADHD (and especially girls and women with ADHD) are twice as likely to die early, with accidents being the major cause (Dalsgaard, 2015)

Spotting and Treating Adult ADHD

About 1 in 30 adults present the more obvious symptoms of ADHD e.g. being overactive, disorganised, often late, choosing busy jobs, having poor sleep, often having road accidents or getting caught for traffic offences (if they can drive), having poor attention or concentration (the main symptom in 9 of 10 adults), and frequently changing jobs even when things are going well.

The main ways to spot ADHD in an adult are presence of five or more of the following symptoms:

- Carelessness and lack of attention to detail
- Continually starting new tasks before finishing old ones
- Procrastination
- Changing jobs often, even when they're going well
- Choosing busy jobs
- Continually losing, or misplacing, things
- Forgetfulness
- Irritability and a quick temper, or extreme mood swings
- Blurting responses (e.g. answering your question before you've finished saying it, or finishing it for you), or poor social timing when talking to others
- Taking risks in activities, often with little, or no, regard for personal safety, or the safety of others. This may be in the form of risky sex, impulsive spending, or other general 'rule-breaking'.
- Having had similar symptoms in childhood

The important things to keep in mind about ADHD symptoms are:

- There should be "chronicity" – i.e. the symptoms are nothing completely new and are mostly unchanged since childhood e.g. they haven't gone away for any length of time.
- There does **not** need to be hyperactivity. Primarily Inattentive ADHD patients will not display hyperactivity. Even for those with Primarily Hyperactive or Combined-types of ADHD may not display hyperactivity as an adult. This is because hyperactivity seems to reduce a bit over the years, but poor attention seems to stay or get worse (Ramos-Quiroga 2006)
- Symptoms are usually there all the time e.g. not just at work or at home.

There are, of course, many other possible causes for these symptoms, and so a proper diagnosis is needed before any treatment. Please refer any patients who request a diagnostic assessment to our adult service based at Barnet Hospital.

If you're not sure about a patient, please do make a referral either way, as if it looks likely to be something other than ADHD when we screen the patient's notes, we'll get back to you with our advice.

Unfortunately adult ADHD is extremely underdiagnosed in the UK - with most adults with ADHD receiving several misdiagnoses of other mental health disorders before their ADHD is finally recognised, so it's always worth double checking!

Please feel free to contact us if you would like more information about adult ADHD. Our address and contact details are as follows:

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