Phalanx Labs

Method paper

Research paper · Version 1.0

How to Stop Taking Adderall and Other Stimulants

Why prescription stimulants are hard to stop for people who perform everywhere else, how to stop safely with your prescriber, and what a staged 90-day method targets, day by day

Phalanx Labs

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Where each section sits in the 90 days

Days 1 to 30	Days 31 to 60	Days 61 to 90
Brain chemistry restabilization	Impulse control	Identity rewiring

1 How do you stop taking Adderall? The short answer — Background

2 Is it safe to stop taking Adderall cold turkey? — Days 1 to 15

3 What does Adderall do to your brain? — Days 1 to 30

4 Does Adderall make you smarter or more productive? — Days 20 to 23

5 Why can't I stop taking Adderall when I'm in control everywhere else? — Days 10 to 15

6 Is Adderall addictive, and how do I know if my use is a problem? — Days 13 to 14

7 What does Adderall do to your sleep and appetite? — Days 3 to 8

8 Is Adderall bad for your heart, and can it cause psychosis? — Background

9 How long does Adderall withdrawal last? — Days 16 to 25

10 How can I focus and have energy without Adderall? — Days 6 to 17

11 What triggers the urge to take Adderall? — Days 31 to 52

12 What should I do if I take it again?

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13 What does the Phalanx program target for someone stopping stimulants, and when?

Days 61 to 90

14 What do our results show, and what can't this paper tell you?

Background

15 When should you see a doctor or get help straight away, and what is this program not?

Background

Sections	Figures	Tables	References	Reading time
15	16	6	61	88 min

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Abstract

To stop taking Adderall, or any stimulant you take beyond or without a prescription, you rebuild what the pill was doing for you before you take it away. That means your sleep, your energy in the morning, regular meals and a plan for the deadlines that made you reach for it. The pill borrows focus and drive from later: from your sleep, your appetite and the next day. When you stop, the first week or two is usually the hardest, with heavy tiredness, more sleep, more hunger and a low mood. It isn't usually dangerous for the body, but a deep low needs help the same day. If you have a prescription, talk to your prescriber before you change or stop a dose. They plan the change with you.

This paper explains each part of that answer and the research behind it. It covers whether it's safe to stop cold turkey, what Adderall and Ritalin do in the brain, whether they really make you smarter or more productive, why they're so hard to give up for people who are in control everywhere else, whether they're addictive, what they do to sleep, appetite and the heart, how long withdrawal lasts, how to focus and have energy without them, what triggers the urge, and what to do if you take one again. Each section starts with a short, direct answer. The detail and the evidence follow.

The last part of the paper describes what the Behavior Control System, the 90-day method Phalanx Labs runs with every client, targets for someone stopping stimulants and on which days. Of the 290+ clients we have worked with across 12 countries over 7 years, 98.4% had already tried and failed to stop before they came to us. We report a 97% success rate, defined as the share of clients who ran the program and stayed off the habit through the program and the six months of aftercare that follow it, and we explain how it's tracked and what it can't show. It comes from client follow-up, not from a controlled trial. The program is not therapy, clinical care or medical treatment. It works alongside a prescriber or doctor and never replaces medical advice.

Keywords

how to stop taking Adderall · Adderall withdrawal · prescription stimulant misuse · amphetamine

methylphenidate | lisdexamfetamine | dopamine transporter | norepinephrine | cognitive enhancement | tolerance | sleep debt | cardiovascular risk | stimulant psychosis | craving | relapse prevention | identity

Section 01

How do you stop taking Adderall? The short answer

In brief

You stop by rebuilding the energy and focus the pill was supplying, then taking it away with a plan for the days that used to need it. Willpower on a tired, heavy morning is the weakest place to fight it. If you have a prescription, every change to the dose is made with your prescriber.

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Medical safety note

If you have a prescription, talk to your prescriber before you change or stop a dose. Don't stop a prescribed stimulant on your own: your prescriber can plan a taper, look at the condition it was treating, and change the prescription with you. Our program works alongside your prescriber and never replaces medical advice. Stopping a stimulant isn't usually dangerous for the body, but the low mood that can follow may be severe. If you have thoughts of hurting yourself, chest pain, a racing or uneven heartbeat, or you see or hear things that aren't there, get help straight away: call your local emergency number, or in the US call or text 988. If you also take alcohol, sleeping pills or anxiety medication to come down, ask a doctor before stopping those, because some of them are dangerous to stop suddenly. Section 2 explains who should talk to whom.

Most people who want to stop taking Adderall have already tried. Of the 290+ clients we have worked with across 12 countries over 7 years, 98.4% had already tried and failed to stop before they came to us. With stimulants the attempts tend to look the same: a week off after a bad crash, a rule about only taking it on big days, half a pill instead of a whole one, a promise to stop after this quarter. Then a deadline arrives, or a pitch, or just a heavy, tired morning, and the bottle is in the drawer.

The usual explanation for those failures is a lack of willpower. That explanation is wrong in a specific way. The pill isn't only a habit. For many people it has become part of how they work. It supplies alertness, drive and the feeling that a dull task matters, and it does so on demand. Stopping takes that supply away from someone whose sleep, appetite and energy have usually been run down by the pill itself. So the decision to stop is made by a rested person on a calm day, and has to be carried out by a tired person facing a deadline. People are poor at predicting how differently they'll think in that second state[1]. Deliberate control by the front of the brain is real, but it's the faculty most easily taken offline by stress, tiredness and short sleep[2-4].

Modern addiction research explains what is happening underneath. Koob and Volkow describe addiction as a cycle of three stages, each run by different brain systems: taking the drug and its reward, in which dopamine teaches the habit and turns it into routine; withdrawal and low mood, in which the reward system responds less and the brain's stress systems take a bigger role; and preoccupation, in which craving rises and the front of the brain can't hold it back[5]. Prescription stimulants have their own version of each stage. They raise dopamine and norepinephrine directly. Each dose is followed by a comedown. And the drug comes with a reason that sounds responsible: it's for the work.

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Figure 1. The performance loop, drawn as a holding pattern: a deadline brings a dose, the dose brings a long night, the short night brings a crash, and the crash makes the next dose the quickest way out. Many people add something to come down so they can sleep at all. Each link is documented separately in the sections that follow; the loop as drawn is our summary.

The loop has five points, and each one can be worked on. The deadline can be planned for. The dose can be taken out of reach. The long night can be protected. The crash can be met with sleep, food and daylight rather than another pill. The last point, the next dose, is where people usually try to use willpower, and it's the weakest place to fight, because it comes when they are most tired.

Table 1. The ways people most often try to stop or control stimulant use, what each one changes, and what each one leaves in place. These are the attempts our clients most often describe before they came to us.

Attempt	What it changes	What it leaves in place
Only on big days	How often, for a while	The belief that big days need it, and the big days themselves
Half a pill	The dose	The habit of reaching for it, and the crash that follows
A week off after a bad crash	The next few days	Short sleep, missed meals and the next deadline
Swapping to coffee or energy drinks	The substance	The need for a chemical lift to start work, and the cost to sleep
Willpower on a tired morning	Nothing in advance	The tiredness that makes the pill feel necessary
Stopping after this quarter	The date	Every reason the next quarter will feel the same

Taken together, the research points to a different approach. Rebuild sleep, morning energy and regular meals first, so the pill has less to make up for. Then stop, on a plan agreed with your prescriber if you have one, and expect the first week or two to be hard. Then map the moments that used to mean a pill, remove what can be removed, and prepare a response for every deadline and every thought that argues for one. Last, work on the belief that your best work needs it. The rest of this paper explains each step.

What this paper covers

This paper is about prescription stimulants taken beyond or without a prescription: Adderall and other amphetamine salts, Vyvanse (lisdexamfetamine), dexamphetamine, and methylphenidate (Ritalin, Concerta). These medicines are an established treatment for ADHD and some other conditions when taken as prescribed, and nothing here argues against prescribed treatment. If you take them as prescribed and want to change that, the decision is yours to make with your prescriber.

Section 02

Is it safe to stop taking Adderall cold turkey?

Days 1 to 15, Brain chemistry restabilization

In brief

For the body, stopping is not usually dangerous the way stopping alcohol can be. But if you have a prescription, don't stop on your own: talk to your prescriber first. If you take high doses most days, or take something else to come down, see a doctor before you stop. A deep low after stopping needs help the same day.

For most people, stopping a stimulant doesn't put the body in danger. Stimulant withdrawal doesn't bring the seizures that alcohol withdrawal can. What it brings is a crash: in studies of people stopping amphetamine-type drugs, the first days were marked by more sleep, more eating and a cluster of symptoms of depression[6]. That low mood is the part to take seriously. And whether you should stop suddenly depends on who prescribed the pill, how much you take and what else you take with it.

2.1 If you have a prescription

If a doctor prescribed your stimulant, talk to them before you change anything. There are three reasons. The first is the condition it was prescribed for. ADHD doesn't go away when the pill does, and a prescriber can help you work out which of your difficulties belong to the condition and which belong to the way the pill has been taken. The second is the plan. A prescriber can taper the dose over weeks rather than stop it in a day, which is what Waqas, a tech founder in New York who came to us for Adderall, chose with his specialist: “And so we actually designed a plan together to help me kind of taper off of it over the course of a few weeks.” The third is honesty. Prescribers can only adjust a prescription to what is really happening, including doses taken early, extra pills, or pills from somewhere else.

Taking more than prescribed is common enough that researchers have names for it. In a national survey of US adults, 6.6% had used a prescription stimulant in the past year, and of those who misused one, 11% had last got the pills from one or more doctors[7]. The same study found that

people who misused more often, or had a use disorder, were more likely to get their pills from doctors or from dealers. A prescription isn't a guarantee that the use is working as medicine.

2.2 If you take high doses, often, or with other drugs

The more you take and the more often, the harder the stop tends to be. Heavy use brings a deeper crash, more disturbed sleep and a lower mood, and the people who take the most are also the most likely to take something to come down. Many people who take stimulants without a prescription also drink and use other drugs: in a national survey of US college students, those who used prescription stimulants non-medically were more likely to report using alcohol, cigarettes, marijuana, ecstasy and cocaine[8]. If you use alcohol, sleeping pills or anxiety medication to sleep after a stimulant, the stop has two parts, and the second part may need a doctor. Some sedatives, including benzodiazepines, are dangerous to stop suddenly after regular use.

Crushing and snorting pills, or injecting them, is a different level of risk. A systematic review of 111 studies of non-medical stimulant use found that most of it is oral and causes no or minor medical effects, but that serious harm, including death, occurs in some people, particularly when the drug is taken by a route other than the mouth[9]. If this is how you take them, see a doctor before you stop, and tell them how you've been using.

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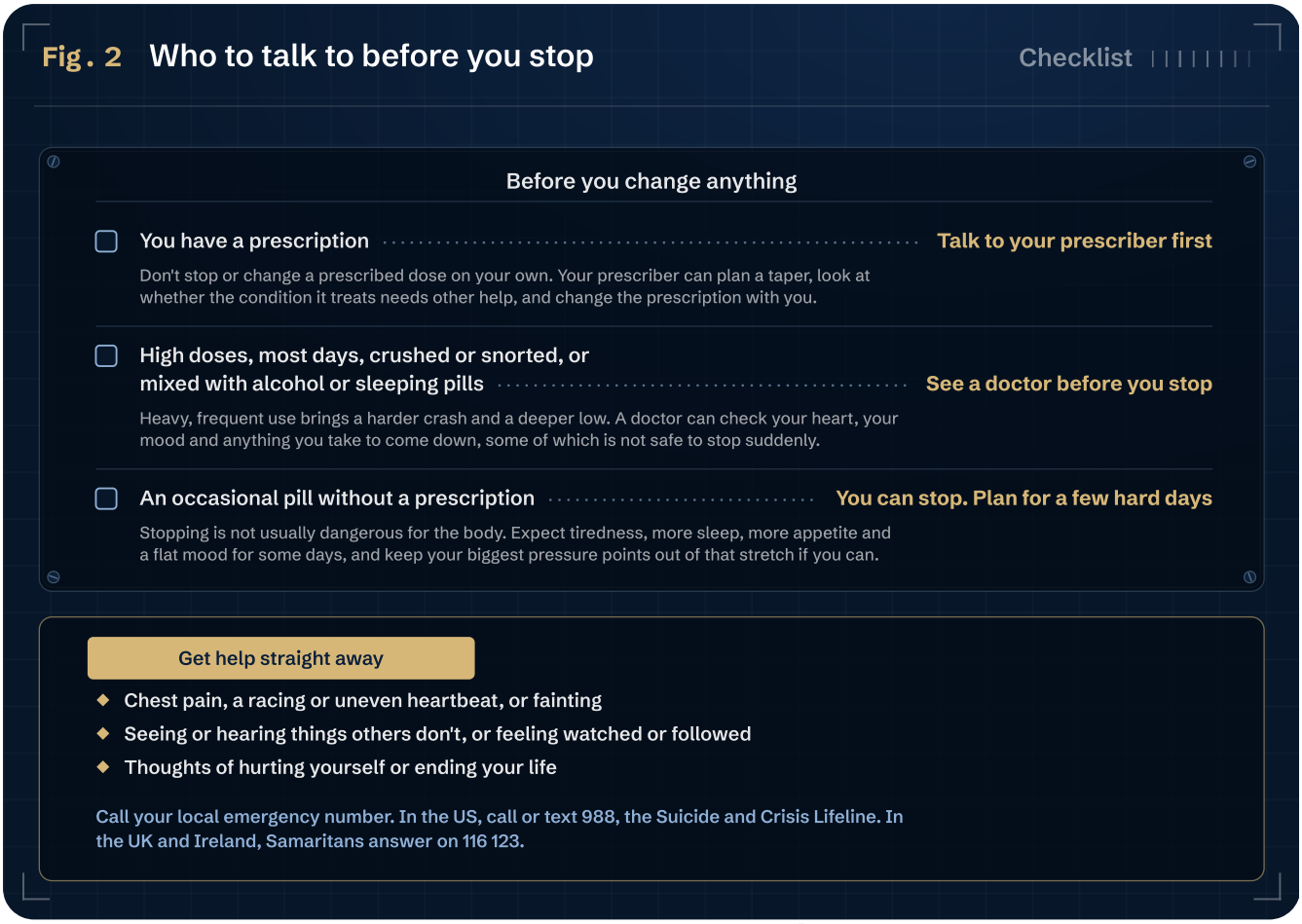


Figure 2. A checklist for the decision this section describes. It is general information, not medical advice for any one person. The lines in the lower panel are reasons to get help straight away, whatever stage you are at.

2.3 The low mood after stopping

The mood drop after a stimulant is real, and for some people it's severe. In an inpatient study of 56 people stopping methamphetamine, the drug most studied for amphetamine-type withdrawal, depressive symptoms were present at the start and had largely resolved within a week[10]. Most people's low lifts on that kind of timescale. But a week can be long when you feel flat, and a few people have thoughts of self-harm in that stretch. Those thoughts are a reason to get help that day, not to wait them out. In the US, call or text 988. In the UK and Ireland, Samaritans answer on 116 123. Anywhere, your local emergency number will help.

No medication has been shown to treat amphetamine withdrawal itself. A Cochrane review found four small randomized trials, with 125 participants between them, and concluded that no medication is effective for it[11]. That doesn't mean a doctor can't help. A doctor can look after sleep, mood and anything else you take, and can tell the difference between a withdrawal low and a depression that needs treatment in its own right. Our program doesn't prescribe or recommend medication. It works alongside whatever medical care a person has.

In the program · Phase 1, Brain chemistry restabilization **Days 1 to 15**

Before Day 1	**Medical safety** The Root-Cause Diagnostic asks which stimulant the person takes, at what dose, how often, by what route, whether it is prescribed, and what else they take to come down. Anyone with a prescription is asked to talk to their prescriber before they begin, and their stop follows the prescriber's plan. Anyone using heavily, by a route other than the mouth, or with sedatives is told to see a doctor first.
Day 15	**Medical safety** On the day stimulant use stops, the client is given general information about supplements and told to consult a doctor before taking any. Where a prescriber has set a taper, the taper runs on the prescriber's dates and the program is built around it.

What this means in practice

If you have a prescription, start with your prescriber, not with a stop date. If you take high doses most days, take them other than by mouth, or take something to come down, see a doctor before you stop. If you take an occasional pill without a prescription, you can stop, and the rest of this paper applies to you directly. In every case, a deep low or thoughts of self-harm are a reason to get help that day.

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Section 03

What does Adderall do to your brain?

Days 1 to 30, Brain chemistry restabilization

In brief

Adderall and the other prescription stimulants raise two chemical messengers in the brain: dopamine, which makes things feel worth doing, and norepinephrine, which keeps you alert. Methylphenidate does it by blocking the pump that clears them away. Amphetamine

also pushes them out of the nerve cell. How fast the level rises decides how much of a high there is.

Adderall raises the levels of dopamine and norepinephrine in the gaps between nerve cells. Dopamine is the brain's signal that something is worth doing and worth repeating. Norepinephrine is its alertness signal. Together they make dull work feel interesting, long tasks feel possible and fatigue feel distant. That is the medical effect in ADHD, and it's also the effect people without ADHD are reaching for.

3.1 Two drugs, two ways in

There are two main families of prescription stimulant. Methylphenidate, sold as Ritalin and Concerta, works mainly by blocking the transporter, the pump that clears dopamine and norepinephrine back into the nerve cell after they are released. With the pump blocked, each natural release lasts longer and does more. Amphetamine, sold as Adderall (a mix of amphetamine salts), Vyvanse (lisdexamfetamine, which the body converts into dextroamphetamine) and dexamphetamine, does that and more. Sulzer's review describes amphetamines as an exception among addictive drugs: they get inside the nerve ending and release dopamine through reverse transport, so the pump runs backwards, and release no longer depends on the nerve cell firing[12]. Heal and colleagues' review traces how amphetamine's range of actions explains both its value as a treatment and its potential for misuse[13].

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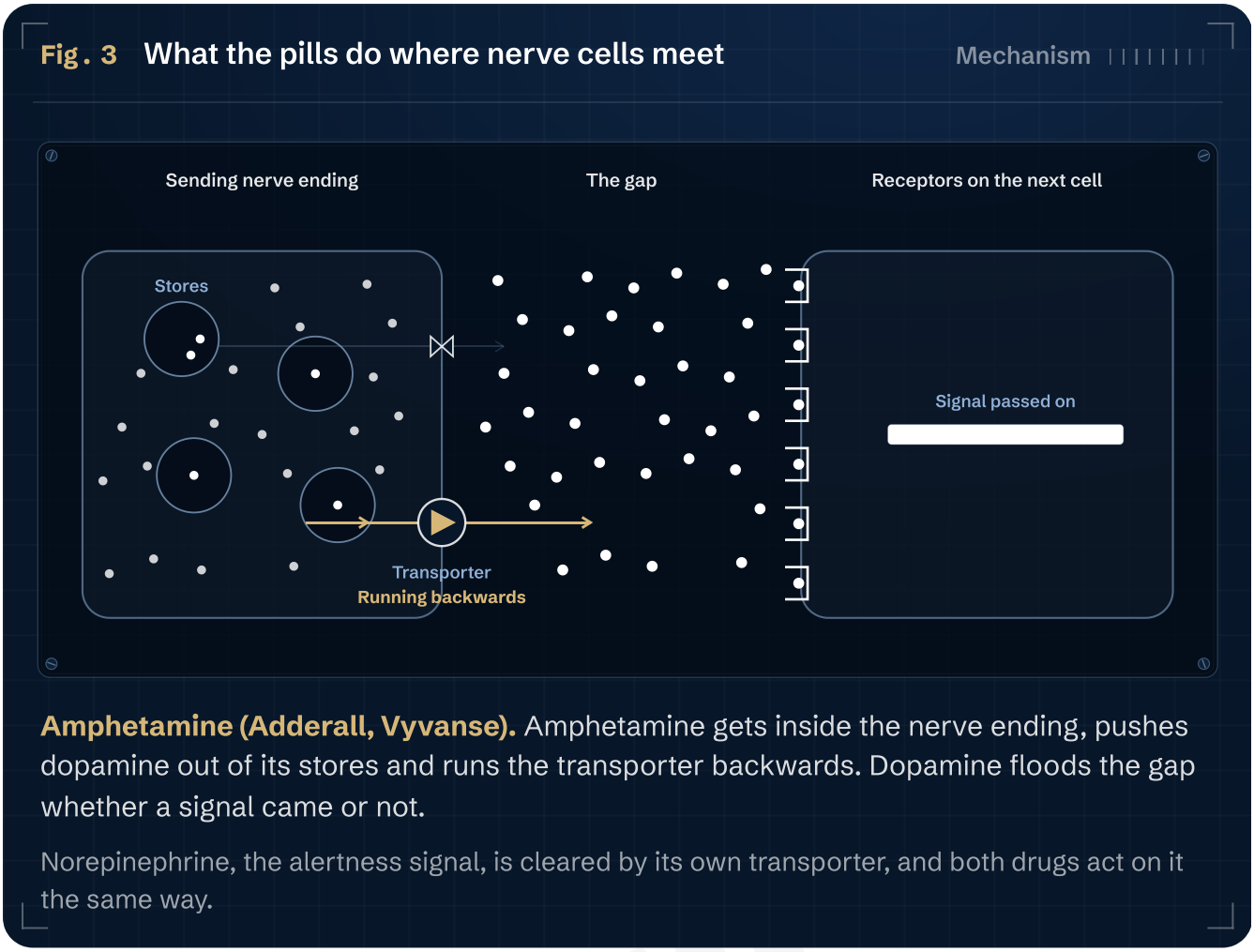


Figure 3. A simplified diagram of a dopamine synapse in three states, based on the reviews by Sulzer (2011) and Heal and colleagues (2013) and the imaging work of Volkow and colleagues cited in this section. Methylphenidate mainly blocks the transporter; amphetamine also empties the stores and runs the transporter backwards. The dot counts show the direction of the change, not measured amounts.

The effect is large even at ordinary doses. Volkow and colleagues used brain scans to measure how much of the dopamine transporter oral methylphenidate blocked in seven healthy adults. Two hours after the dose, 5 mg blocked 12% of the transporters, 10 mg blocked 40%, 20 mg blocked 54%, 40 mg blocked 72% and 60 mg blocked 74%. Half the transporters were blocked at about 0.25 mg per kilogram of body weight, and at the doses used in treatment, the authors concluded, more than half are likely to be blocked[14]. In a second study, oral methylphenidate at doses in the treatment range clearly raised the level of dopamine outside the nerve cells in healthy adults[15].

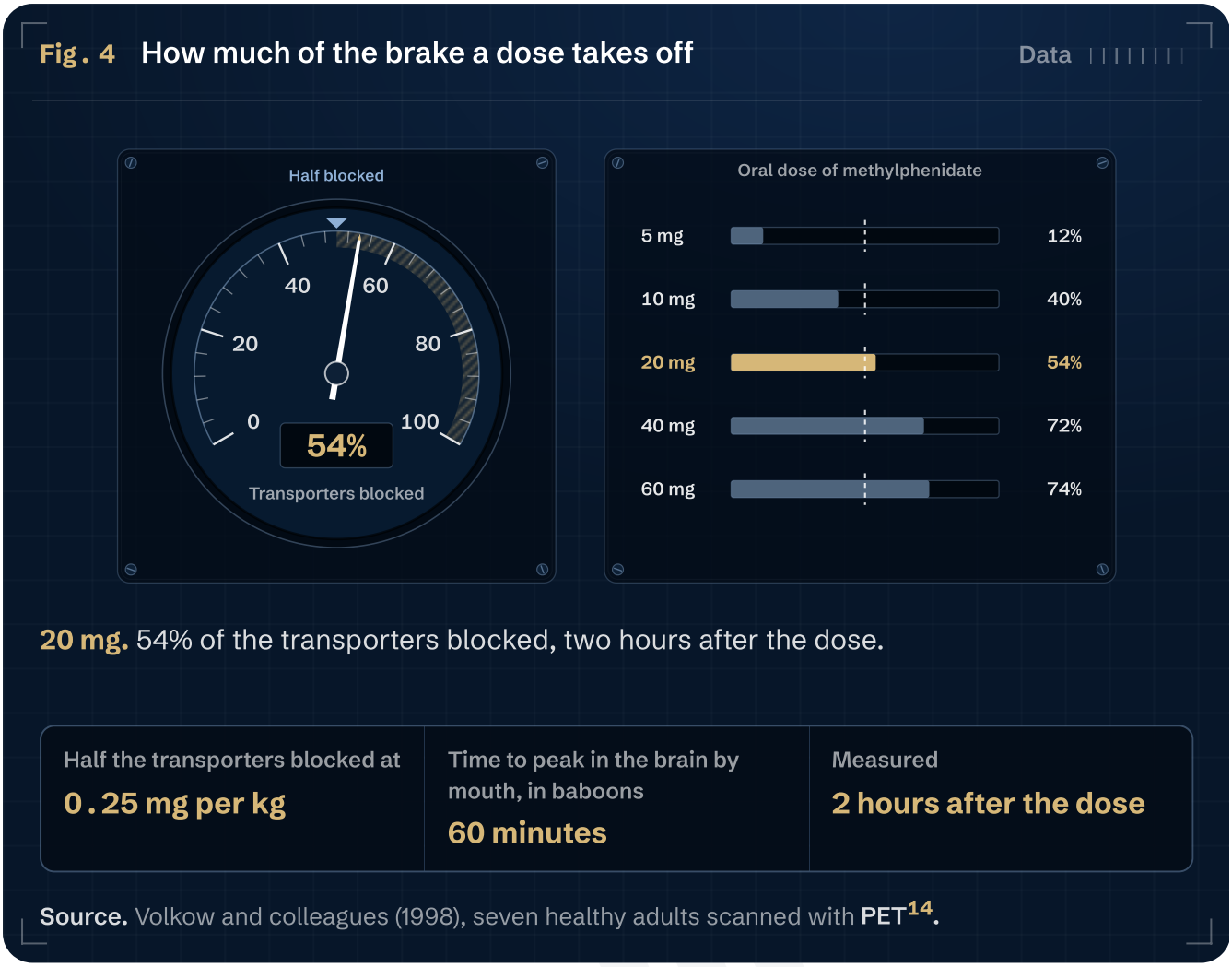


Figure 4. The share of dopamine transporters blocked two hours after five oral doses of methylphenidate, measured with PET in seven healthy adults by Volkow and colleagues (1998). The transporter is the brain's way of ending a dopamine signal; blocking it lets each signal run on. Ordinary doses block more than half.

3.2 Why the speed matters

Whether a stimulant feels like a medicine or a high depends less on how much dopamine rises than on how fast. When methylphenidate was given into a vein, it reached the brain quickly, and the high people felt followed that fast rise; the high faded quickly even though the drug stayed bound in the brain for much longer[16]. In another study of intravenous methylphenidate, the intensity of the high rose with the amount of dopamine released, and people whose dopamine didn't rise felt no high at all[17]. Taken by mouth, the same drug takes about an hour to peak in the brain[14], which is one reason most people taking it as prescribed don't feel euphoric.

This is why the way a pill is taken matters so much. Crushing and snorting a tablet, or taking an immediate-release pill instead of an extended-release one, makes the rise faster and the effect closer to a high. Immediate-release preparations are linked to more misuse and diversion than extended-release ones[18]. Lisdexamfetamine was designed the other way: it is inactive until the blood converts

it to dextroamphetamine, which gives a lower peak, a slower rise and lower drug-liking scores than the same dose of immediate-release dextroamphetamine, with effects lasting at least 14 hours in adults[19].

3.3 What the extra dopamine does

Volkow and colleagues proposed that methylphenidate works by amplifying the brain's own dopamine signals, which respond to what's happening around you, and that this could make the task in front of you feel more important[15]. That is a helpful description of what people describe on the drug. The work hasn't changed. It just feels like it matters, and finishing it feels good. Berridge and Robinson's research separates wanting, the drive dopamine powers, from liking, the pleasure itself, and shows that drugs can grow the wanting far beyond the liking[20]. With stimulants, what grows is often the wanting of a particular state: the focused, confident, unstoppable version of yourself at your desk.

Repeated, that state becomes a habit. Everitt and Robbins describe how drug use shifts over time from deliberate, goal-directed actions to habits set off by the situations in which they happened, and then to compulsion[21]. A pill taken at the same desk, with the same first coffee, before the same kind of task, is a habit in the making. The rest of the paper follows that habit from the brain into the working week.

In the program · Phase 1, Brain chemistry restabilization — **Days 1 to 30**

Days 1 to 2	**Understanding the loop** The first lessons explain how dopamine, habit and the brain's capacity to change interact, so the client understands what the pill has been doing and why the program rebuilds before it removes. The nightly log begins on Day 1.
Days 28 to 30	**How dopamine and triggers work** The end of the first month returns to the science in more depth: how dopamine, behavior and addiction interact, and how the brain's glutamate system ties a habit to its triggers. It prepares the trigger work that begins on Day 31.

Section 04

Does Adderall make you smarter or more productive?

Days 20 to 23, Brain chemistry restabilization

In brief

For people without ADHD, mostly not, or not by much. Controlled studies find small gains on some lab tests and none on others, while people on the drug believe they are doing better than they are. One study found the drugs made people work harder and longer at hard problems but get less from each step.

For people without ADHD, the measured gain is small, and in some studies there is none. What the drugs reliably change is how the work feels: more motivating, more engaging and more worth doing. People on them tend to believe their thinking has improved. Controlled studies mostly don't find that it has, at least not by much.

4.1 What the controlled studies measured

The most direct evidence comes from trials in which healthy adults take a stimulant on one day and a placebo on another, without knowing which is which, and do the same tests both times. Roberts and colleagues pooled 47 such studies in healthy adults who weren't sleep-deprived. Methylphenidate had an overall effect of 0.21 on a standard scale, where 0.2 counts as small and 0.5 as medium, driven by gains in recall (0.43), sustained attention (0.42) and inhibitory control (0.27). Modafinil had an overall effect of 0.12. Across ten studies of d-amphetamine, there were no effects[22]. The authors noted that the user perception that these drugs are effective cognitive enhancers isn't supported by the evidence so far.

An earlier meta-analysis of 48 studies with 1,409 participants, by Ilieva, Hook and Farah, reached a similar view. It found small but significant gains in inhibitory control and short-term memory for recent events, small and less certain gains in working memory, and a medium effect on memory over longer delays that was undermined by signs of publication bias. The authors concluded that the effect of amphetamine and methylphenidate on healthy cognition is probably modest overall, and that healthy users may be taking them for energy and motivation more than for thinking[23].

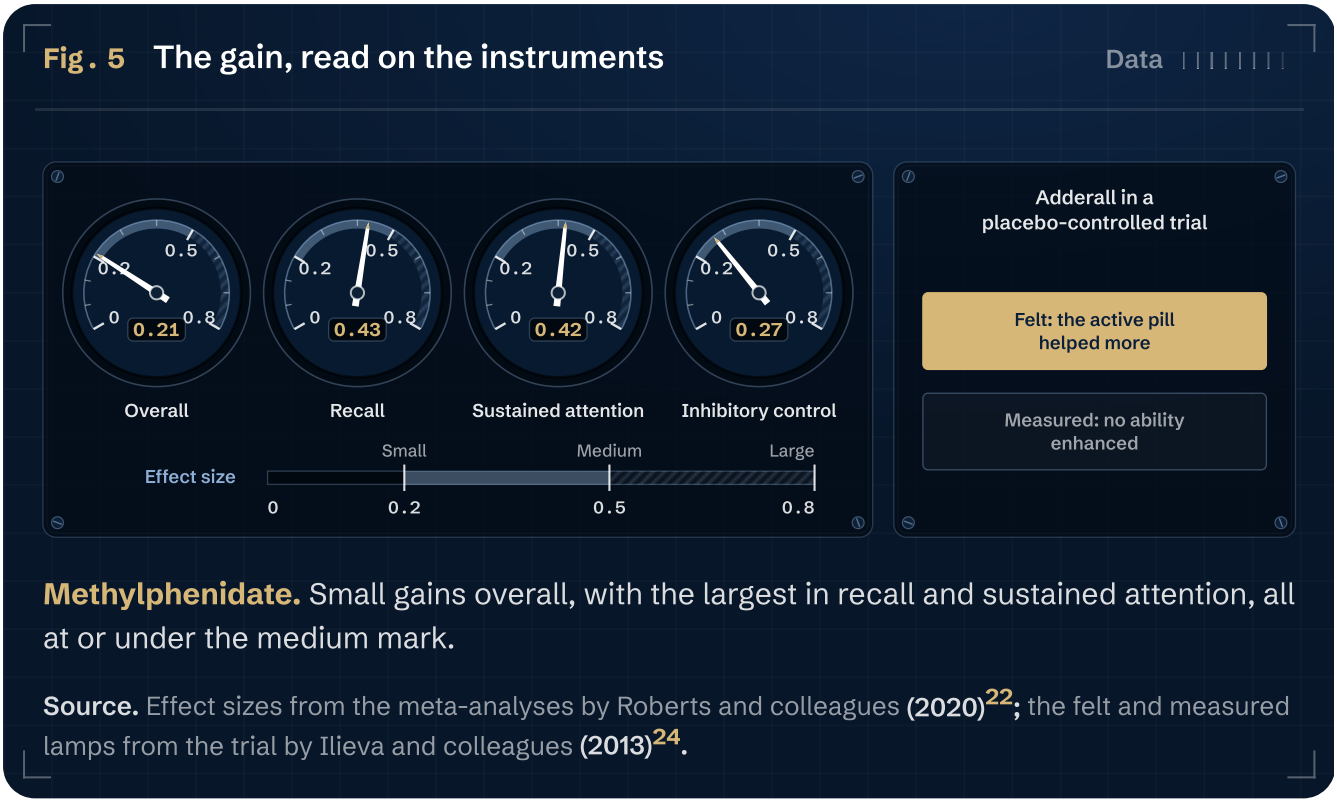


Figure 5. Effect sizes for each stimulant in healthy adults who were not sleep-deprived, from the meta-analyses by Roberts and colleagues (2020). On this scale 0.2 is small, 0.5 medium and 0.8 large. The second panel is the cross-check from a placebo-controlled trial of Adderall by Ilieva and colleagues (2013): people believed the active pill helped more, while the tests found no ability enhanced for participants in general.

The gap between feeling and measurement has been tested directly with Adderall. Ilieva, Boland and Farah gave healthy young adults mixed amphetamine salts and a placebo in a double-blind crossover trial and measured 13 abilities, including memory, inhibitory control, creativity, intelligence and scholastic achievement. The drug didn't enhance any of them for the participants in general, although lower-ability participants may have improved on a few tasks. Yet the participants believed their performance was more enhanced by the active capsule than by the placebo[24]. They felt sharper. On the tests, they weren't.

4.2 More effort is not the same as better work

The newest evidence suggests the drugs may make complex work worse, not better. Bowman and colleagues gave 40 healthy adults methylphenidate (30 mg), dextroamphetamine (15 mg), modafinil (200 mg) and a placebo on four separate days, and set them a version of the knapsack problem, a puzzle used to stand in for the hard, many-sided decisions of everyday work. On the drugs, people spent longer on each problem and made more moves: about six more with methylphenidate and seven more with dextroamphetamine. But the value they got from each move fell under all three drugs, and the value of their final answers dropped. The chance of finding the best solution, about

half, didn't change. Some of the best performers on placebo fell below average on a drug[25]. The authors' summary is that the drugs raise motivation, but lower the quality of the effort that complex problems need.

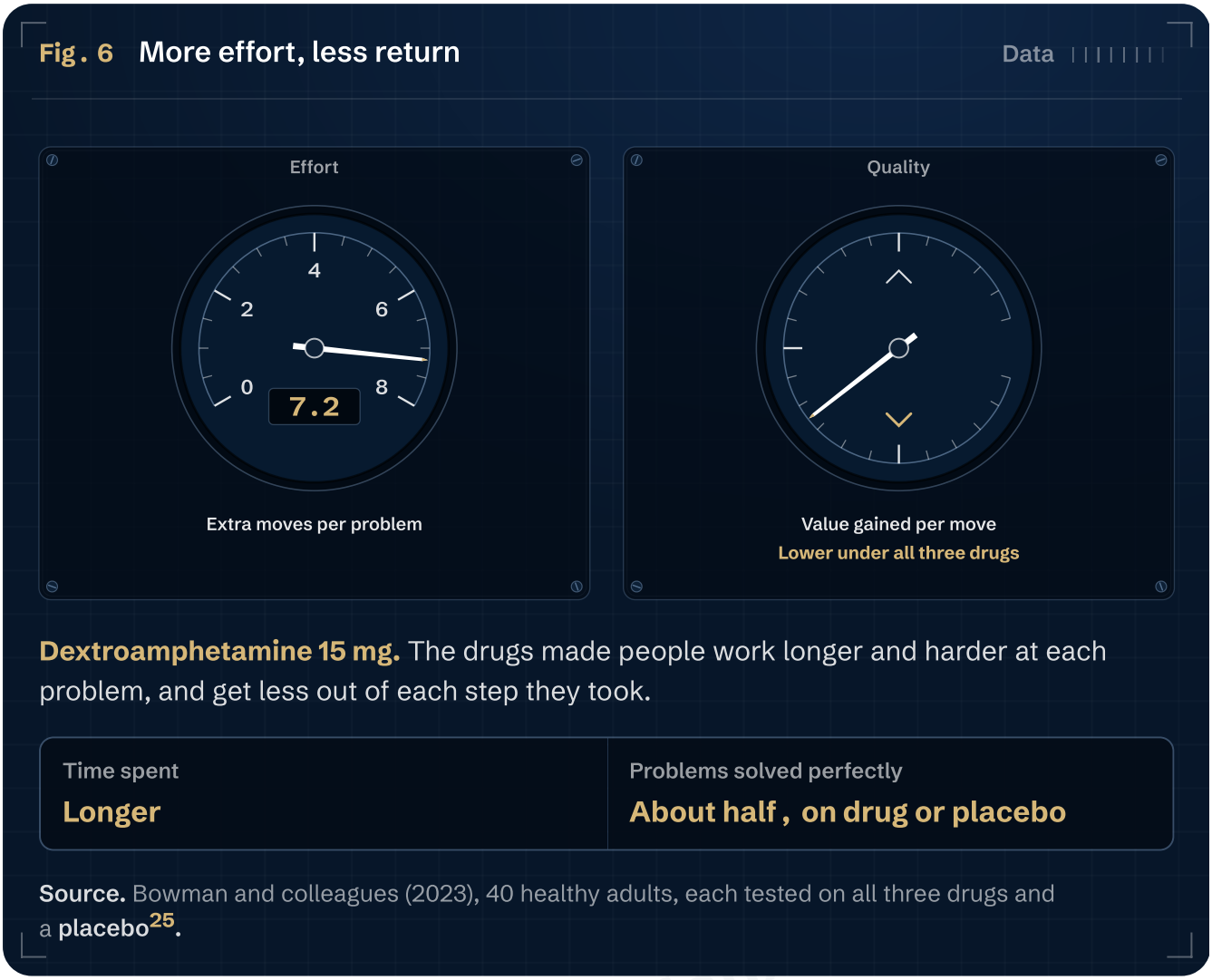


Figure 6. Effort and quality in the knapsack task under three drugs and a placebo, from Bowman and colleagues (2023). The effort gauge shows how many more moves people made per problem than on placebo. The quality instrument shows direction only: value gained per move was lower under all three drugs. The paper does not give that drop as a single number, so none is drawn.

This matches what many high performers say once they stop. The hours on the drug felt productive, and some of them were. But a share of that time went into reworking, reorganizing and polishing, and into the kind of absorbed busyness that feels like progress. Faraone and colleagues' systematic review found that although academic and work performance are the reasons most often given for non-medical use, there is little evidence that it improves academic performance in people without ADHD[9].

4.3 People with ADHD are a different case

None of this means stimulants don't work as a treatment. In adults with ADHD, they reduce symptoms substantially. In a four-week trial of 420 adults with ADHD, all three doses of lisdexamfetamine reduced symptoms far more than placebo, with improvements from the first week[26]. In a trial of extended-release mixed amphetamine salts in 255 adults with ADHD, the drug controlled symptoms for up to 12 hours[27]. For someone with ADHD, the question is not whether to use a stimulant but how, and that is a question for their prescriber. This paper is about use that has moved past that: more than prescribed, without a prescription, or for the lift rather than the condition.

Key finding

In healthy adults, prescription stimulants make work feel more worth doing much more reliably than they make thinking better. People on them believe they're performing better than the tests show, and on complex problems they may work harder for less. The edge many people stop for is smaller than it feels.

In the program · Phase 1, Brain chemistry restabilization

Days 20 to 23

Focus built without a pill

Memory training and strategy-game training are introduced in the third week. For someone stopping stimulants they target the capacities the pill was being used for, attention, planning and holding information in mind, and build them through daily practice instead.

Section 05

Why can't I stop taking Adderall when I'm in control everywhere else?

Days 10 to 15, Brain chemistry restabilization

In brief

Because the pill is tied to the parts of life where you are most in control: your work and your standards. It's taken for responsible

reasons, usually from people you trust, and it pays back fast. The habit forms around deadlines, desks and tired mornings, and the crash makes the next dose feel like the sensible choice.

Because for most people the pill isn't a break from being in control. It's a tool for it. People who misuse prescription stimulants mostly do it to work: to stay alert, to concentrate, to study[7]. The habit grows inside the parts of life where you are most disciplined, and it's reinforced every time it helps you meet a standard you care about. That is what makes it so hard to see as a problem and so hard to stop.

5.1 Who takes them, and why

The best national picture comes from Compton and colleagues' analysis of the 2015 and 2016 US National Surveys on Drug Use and Health, which covered 102,000 adults. In an average year, 6.6% of adults, about 16 million people, used a prescription stimulant. Most took them without misusing them, but 5 million misused them, and 0.4 million had a prescription stimulant use disorder. Among those who misused them, the most common reason the last time was to stay alert or concentrate (56%), followed by studying (22%). Only 16% did it to get high, experiment or offset another drug. The pills most often came free from a friend or relative (57%)[7].

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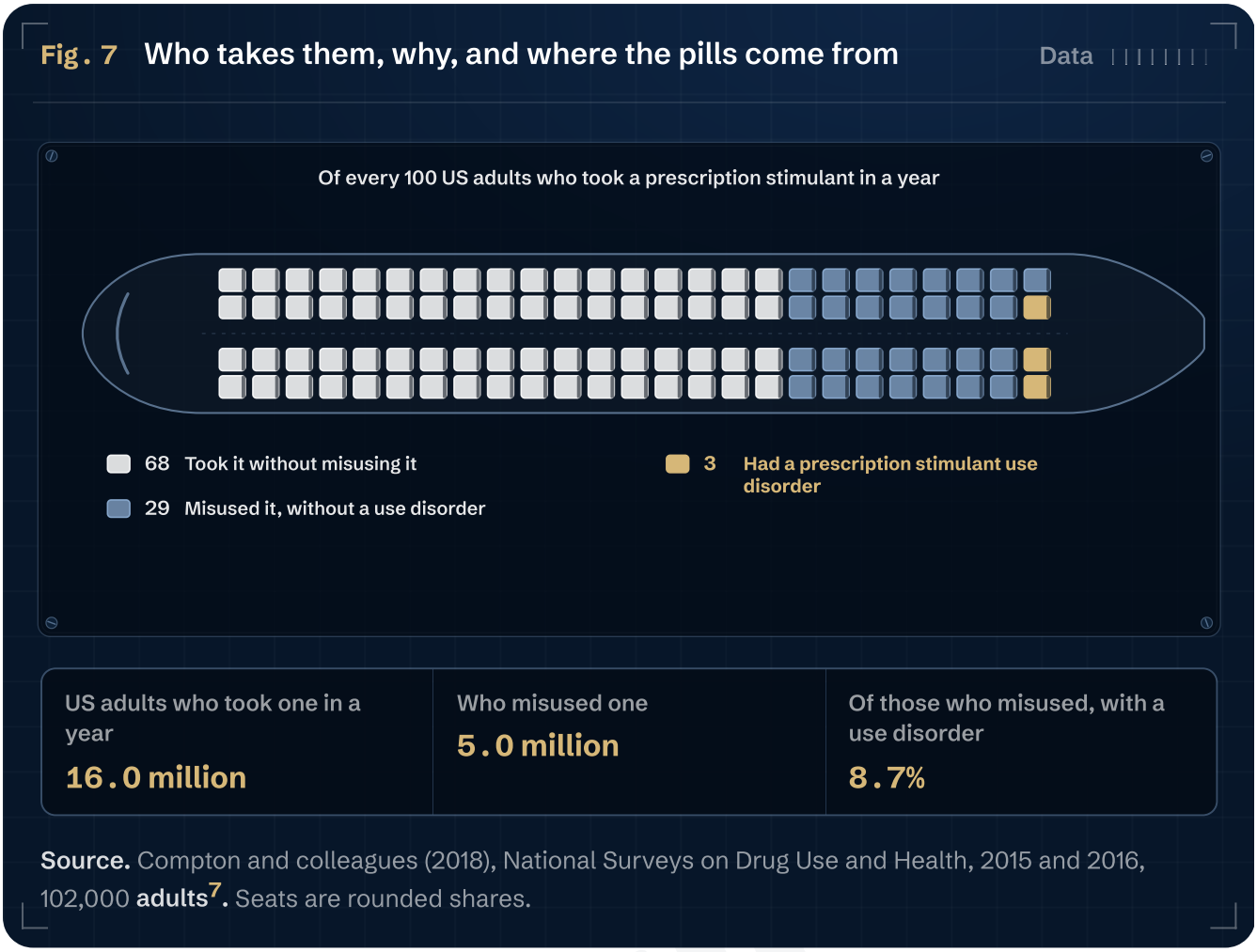


Figure 7. One hundred seats, filled in proportion to the national survey results reported by Compton and colleagues (2018). Shares are rounded to whole seats. The reasons and sources describe the most recent time each person misused a prescription stimulant.

Non-medical use is concentrated among people under pressure to perform. In a national survey of 10,904 US college students, 4.1% had used a prescription stimulant non-medically in the past year, but the rate ranged from zero to 25% between colleges, and it was higher at colleges with more competitive admission standards[8]. A meta-analysis of studies of college students put the rate of stimulant medication misuse at 17%, mostly for academic reasons, with pills most often coming from peers who had prescriptions[28]. Wilens and colleagues' systematic review found that 16% to 29% of students with a stimulant prescription had been asked to give, sell or trade their medication[18]. The habit doesn't stay at university. In the Global Drug Survey, an international web survey of people without ADHD, the use of prescription and illegal stimulants and modafinil to perform better at work or study rose in all 15 countries studied between the 2015 and 2017 surveys, and the people who used stimulants and modafinil this way rated their effect on performance as the most beneficial[29].

5.2 Why the habit takes hold

Four things make a stimulant habit grip capable people. The first is that the reward comes fast and is attached to something you value. The pill turns a task you were avoiding into one you can't stop doing, and finishing it feels good. That is exactly the kind of experience the dopamine system learns from[20]. The second is the crash. As the dose wears off, you're tired, flat, irritable and hungry, and the fastest way out is another dose. Koob and Volkow describe this shift from taking a drug for the lift to taking it to escape the low as a core stage of addiction[5].

The third is the short time horizon that pressure creates. When a deadline is tomorrow, the cost of tonight's dose, a poor night's sleep and a flat day after, is far away, and the benefit is right now. Bickel and colleagues describe this short horizon, together with an excessive value placed on one reward, as the core of what they call reinforcer pathology[30]. The fourth is identity. The pill becomes tied to a version of yourself you like: the one who outworks everyone, never drops the ball and can't be caught out. Stopping can feel like agreeing to be less.

Stress ties these together. Under stress, the brain shifts away from deliberate, goal-directed control and toward habit[3], and stress itself weakens the prefrontal functions that would otherwise hold a habit back[2]. In people leaving treatment for cocaine, another stimulant, the craving set off by a personal stress script predicted a shorter time to relapse[31]. For someone whose habit started with deadlines, every hard week is a test of the habit, and the habit was built to pass it.

Waqas, the tech founder in New York, was taking Adderall two or three times a week before he started with us. Looking back, he said: “And there were definitely times where I was using way more than I should have.” Two or three times a week is almost a schedule, and a schedule usually means triggers tied to particular days, workloads and hours. Section 11 describes how those triggers are mapped.

In the program · Phase 1, Brain chemistry restabilization — **Days 10 to 15**

Days 10 to 14	**The loop and the case for stopping** The second week explains the stages of addiction, the case for stopping completely rather than cutting down, and the full list of cheap, fast sources of reward in the person's life, so that caffeine, nicotine, alcohol or anything else used to start or end a working day is seen alongside the pill.
Day 15	**Stacked habits** Stimulant use stops, on the prescriber's plan where there is one, along with the other cheap sources of reward the person has listed. The program's own examples of habits that travel together include Adderall and porn. Anything that is dangerous to stop suddenly, such as a sedative taken to come down, is left to the doctor's plan.

Section 06

Is Adderall addictive, and how do I know if my use is a problem?

Days 13 to 14, Brain chemistry restabilization

In brief

Yes, it can be. Most people who misuse a prescription stimulant do it now and then, but about 1 in 11 of them meets the criteria for a use disorder. The brain also adapts to regular use. The useful test isn't how often you take it, but whether you keep taking it after you've decided not to.

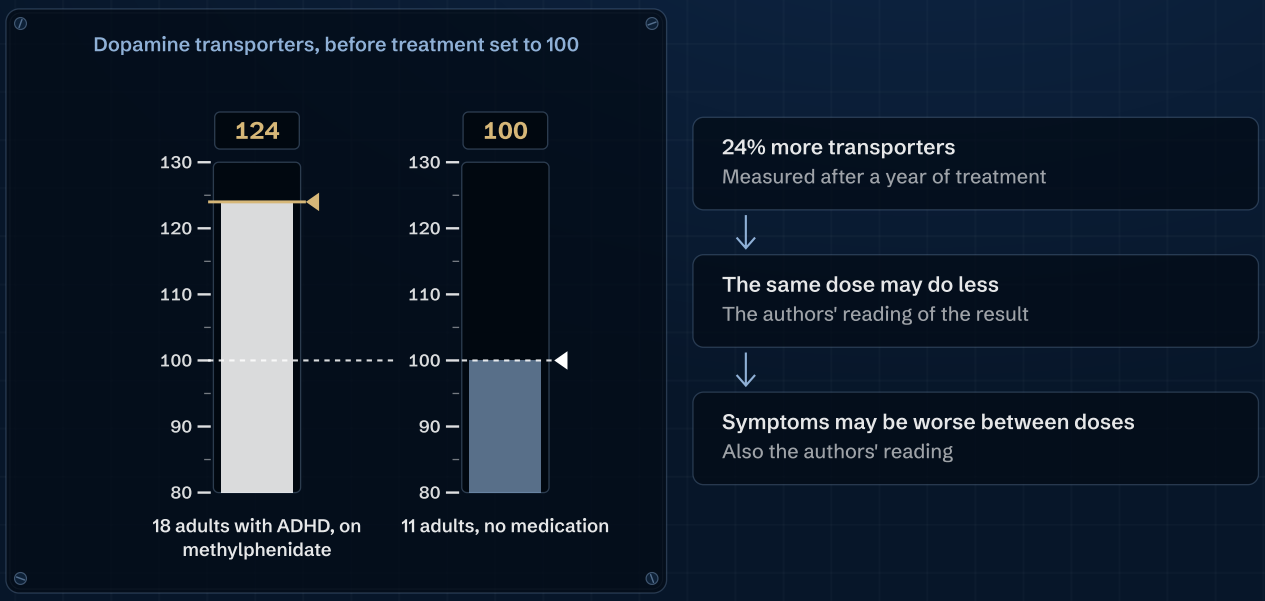
Yes. Prescription stimulants can be addictive, though most people who misuse them don't become addicted. In the US national survey, about 5 million adults misused a prescription stimulant in a year, and about 400,000 had a prescription stimulant use disorder: 8.7% of the people who misused one, or roughly 1 in 11[7]. The more useful question for any one person is not whether the drug is addictive in general, but whether their own use has stopped being a choice they make freely.

6.1 How the brain adapts

The brain responds to a drug that keeps its dopamine signals running by adjusting itself. One measurable form of that adjustment is in the transporter that methylphenidate blocks. Wang and colleagues scanned 18 adults with ADHD before and after a year of prescribed methylphenidate, and 11 adults who weren't treated. After a year of treatment, the adults with ADHD had 24% more dopamine transporters in the striatum, a deep brain region central to reward and habit. The untreated group hadn't changed[32]. More transporters means dopamine is cleared faster when the drug isn't there. The authors suggested this could reduce the effect of the same dose over time, which would look like tolerance, and could make symptoms worse when the drug wears off.

Fig. 8 The baseline that rises

Data



After 12 months. After a year on methylphenidate, they had 24% more transporters, and more than the comparison group. The comparison group had not changed.

Source. Wang and colleagues (2013), PET scans a year apart in the **striatum**[32]**.** The study was of prescribed treatment for ADHD, not misuse.

Figure 8. Dopamine transporter levels in the striatum, measured with PET a year apart, in 18 adults with ADHD treated with methylphenidate and 11 adults who were not treated, from Wang and colleagues (2013). Levels before treatment are set to 100. The study was of prescribed treatment for ADHD, not misuse; the second and third steps are the authors' interpretation.

This finding comes from prescribed treatment at ordinary doses in people with ADHD, so it can't say exactly what happens in people who take larger or irregular doses without a prescription. But it shows that the brain does adapt to a stimulant over months. Other adaptations are well documented in heavier stimulant use. In people who had used methamphetamine, which belongs to the same amphetamine family, transporter levels were low and recovered with long abstinence, measured at under six months and again at 12 to 17 months without the drug[33]. Koob and Volkow describe a wider version of the same adjustment across addictions: with repeated use, the reward system responds less to the drug and to ordinary rewards, and the brain's stress systems take a bigger role[5]. These changes are a large part of why the days and weeks after stopping feel flat. They also tend to recover, which Section 9 describes.

6.2 Signs that use has become a problem

Most misuse is occasional. In the national survey, 68% of the adults who had misused a prescription stimulant in the past year hadn't done so in the past month, and only about 6% had done so on seven or more days in the past month[7]. Frequency on its own isn't the test, though. Someone who takes a pill only before big deadlines, but has started arranging their work around big deadlines, has a problem that a count of days won't show. These questions are more useful than a count:

- Do you take more, or more often, than you planned to?
- Have you tried to cut down or stop, and found you couldn't?
- Do you think about getting or taking it when you aren't taking it?
- Do you need more to get the same effect, or feel worse than before when it wears off?
- Has it cost you sleep, meals, money, relationships or your health, and do you keep taking it anyway?
- Do you get pills from more than one source, take a friend's, or run out of a prescription early?
- Do you take something else, such as alcohol or a sleeping pill, to come down from it?
- Do you believe you can't do your best work without it?

A yes to several of these doesn't make a diagnosis. Only a clinician can do that. But it does mean the use is no longer simply under your control, and that a plan will do more than another promise. The last question matters most for the people we work with. The belief that the work needs the pill is what keeps the habit going after every other reason has gone.

In the program · Phase 1, Brain chemistry restabilization **Days 13 to 14**

Where the habit stands

The client places their own use on a spectrum that runs from habit to addiction, and records it, so that the starting point is clear and later change can be measured against it. The second weekly progress update is completed the same day.

Section 07

What does Adderall do to your sleep and appetite?

Days 3 to 8, Brain chemistry restabilization

In brief

It shortens sleep and cuts appetite, because it is designed to keep you alert and its effect lasts most of the day. A second dose in the afternoon can still be working after midnight. The lost sleep adds up as a debt that you mostly can't feel, and it is often what the next morning's pill is used to cover.

Adderall and the other stimulants shorten sleep and suppress appetite. Both effects follow directly from what the drug is meant to do: keep the brain alert and the body ready to act. In a trial of lisdexamfetamine in 420 adults with ADHD, the side effects reported included dry mouth, decreased appetite and insomnia[26]. For someone taking extra doses, late doses or doses on top of coffee, the effect on sleep is larger, and the lost sleep is then what the next morning's dose is used to cover.

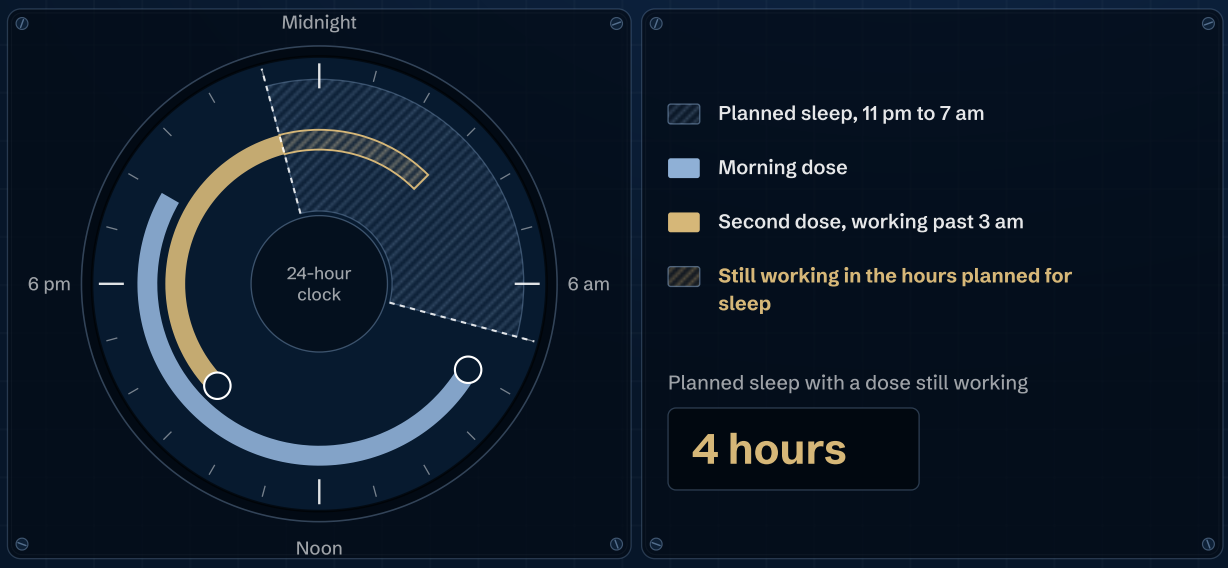
7.1 How long a dose keeps working

Modern stimulants are built to last. In a trial of extended-release mixed amphetamine salts in 255 adults with ADHD, the drug improved symptoms for up to 12 hours after a morning dose[27]. Lisdexamfetamine's effects last at least 14 hours in adults[19]. That is the point of these preparations for someone with ADHD: one morning dose covers the working day. It also means that a second dose, taken at 3 pm for a deadline, can still be working at 3 am. Caffeine adds to it. In a controlled study, 400 mg of caffeine, about the amount in four cups of coffee, disrupted sleep even when it was taken 6 hours before bed[34].

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Fig. 9 A working day on the clock

Timing



A second dose for the afternoon deadline is still working long after midnight. The night you planned to sleep is now part of the dose.

Source. Durations of effect from trials of extended-release amphetamine salts (about 12 **hours)**[27] and lisdexamfetamine (about 14 hours in **adults)**[19]**;** caffeine from Drake and colleagues **(2013)**[34]**.** The day is an example; the arcs show how long each dose acts, not its strength.

Figure 9. How long a dose acts, laid on a 24-hour clock with sleep planned from 11 pm to 7 am. The durations come from trials of extended-release amphetamine salts (about 12 hours) and lisdexamfetamine (about 14 hours in adults), and the caffeine finding from Drake and colleagues (2013). The day itself is an example; each arc shows how long a dose acts, not how strongly.

7.2 The debt you can't feel

Short sleep doesn't stay in the night it happened. Van Dongen and colleagues kept 48 healthy adults in a sleep laboratory and restricted them to 8, 6 or 4 hours in bed a night for 14 days. Those on 6 or 4 hours built up steady, dose-dependent losses on every test of thinking. After two weeks, 6 hours or less a night had produced deficits equal to up to two nights without any sleep. Across all their conditions, lapses in attention rose in step with the hours each person had been awake beyond about 15.84 a day[35]. The finding that matters most here is what people felt. Their ratings of sleepiness rose in the first days and then barely changed, even as their performance kept falling. The authors concluded that people were largely unaware of their growing deficits.

Fig. 10 Borrowed against sleep

Data



6 hours. 2.2 hours added to the debt each day; 30.2 hours after 14 days.

Source. Van Dongen and colleagues (2003), 48 healthy adults in the **laboratory**[35]. Lapses in attention rose in step with the hours awake beyond 15.84 a day; the totals here are that model applied to each group. Sleepiness ratings are drawn from the study's description, not plotted.

Figure 10. A load sheet for 14 days of short sleep. Each day adds the hours awake beyond 15.84, the threshold in Van Dongen and colleagues' model (2003), to a running total. The lapses in attention they measured rose in step with that total; the sleepiness people reported did not. The totals are the study's model applied to each group; the sleepiness line is drawn from the study's description, not plotted from its data.

That is the mechanism behind the borrowed energy people describe. A pill on Monday makes Monday productive and Monday night short. Tuesday starts in debt, but it doesn't feel like much of a debt, because the brain is poor at noticing it. What Tuesday does feel is heavy, slow and flat, and the fastest fix for that is another pill. By Thursday the person is working on pills to cover a sleep debt the pills created, and the only sign is the sense that they can't get going without one. Short sleep touches the reward system too: one night without sleep reduced the availability of dopamine D2 and D3 receptors in the ventral striatum, a core part of the reward system[36]. And the stress that comes with a deadline weakens the front of the brain's ability to hold back an urge[2]. The debt makes the next dose both more appealing and harder to refuse.

Table 2. The ledger of borrowed energy: what a dose supplies, what it draws on, and when the cost usually falls due. The left two columns follow the research cited in this section and in Sections 4 and 9; the timing is our summary of how clients describe it.

What the dose supplies	What it draws on	When it falls due
Alertness late into the evening	The night's sleep	The next morning, and cumulatively across the week
A day without hunger	Meals, and the steady energy they give	The evening, as a crash, or as a large late meal
Drive and interest in a dull task	The brain's own response to ordinary rewards	When the dose wears off, and in the first weeks after stopping
A sense of being sharper	An accurate sense of how well you're doing	When the work is reviewed
A finished deadline	The next deadline's confidence without the pill	The next time the pressure comes

7.3 Appetite and meals

Loss of appetite is one of the most common side effects of stimulants, even at prescribed doses[26]. Some people take the drug partly for it: in the national survey, about 4% of adults who misused a stimulant did so the last time to lose weight[7]. Skipped breakfasts and lunches leave a working day running on the drug alone, and when the dose wears off in the evening, hunger and tiredness arrive together. Regular meals are one of the first things the program puts back, before the stop, because a body that has been fed through the day has less of a crash to cover.

In the program · Phase 1, Brain chemistry restabilization **Days 3 to 8**

Days 3 to 5	**Sleep and the body clock** Fixed sleep and wake times, daylight in the morning, a daily walk and dimmer light in the evening, with the phone out of the bedroom. For someone taking stimulants, this is the first repayment of the sleep debt, and the client's dose times are reviewed against their planned sleep, with any change to a prescribed dose left to the prescriber.
Day 8	**Regular meals** Eating goals are set as a daily practice: regular meals through the working day rather than one large meal when a dose wears off, at a general level and without a diet.

Section 08

Is Adderall bad for your heart, and can it cause psychosis?

In brief

Stimulants raise heart rate and blood pressure. At prescribed doses, large studies found no rise in heart attacks or strokes in the short term, but a gradual rise in heart disease, mostly high blood pressure, over years of use. Psychosis is rare but real, more common with amphetamine than methylphenidate, and much more likely at high doses.

Stimulants put extra load on the heart: they raise heart rate and blood pressure. At prescribed doses, that load hasn't been linked to heart attacks or strokes in the short term, but over years of use it has been linked to a gradual rise in heart disease, especially high blood pressure. Psychosis, seeing or hearing things that aren't there or believing things that aren't true, is rare. But it happens, it is more common with amphetamine than with methylphenidate, and the risk rises steeply with the dose. Almost all of this evidence comes from prescribed use, so it probably understates the risk of high or irregular doses.

8.1 The heart

The short-term picture is reassuring. A study of 443,198 US adults aged 25 to 64, half of them taking ADHD medication, found that current use was not linked to more heart attacks, sudden cardiac deaths or strokes than use in the past[37]. A meta-analysis of trials found that methylphenidate raised heart rate and systolic blood pressure compared with placebo, in adults as well as children, although the risk of cardiac events in the trials was not significant[38].

The long-term picture is less reassuring. Zhang and colleagues used Swedish national registers to follow 278,027 people with ADHD aged 6 to 64, and compared 10,388 who developed cardiovascular disease with 51,672 matched people who didn't. The longer people had taken ADHD medication, the higher their odds of cardiovascular disease, rising to 1.27 times the odds of people who hadn't taken it after three to five years. Each extra year of use was linked to 4% higher odds, with a larger rise of about 8% a year over the first three years. The strongest links were with high blood pressure and arterial disease[39].

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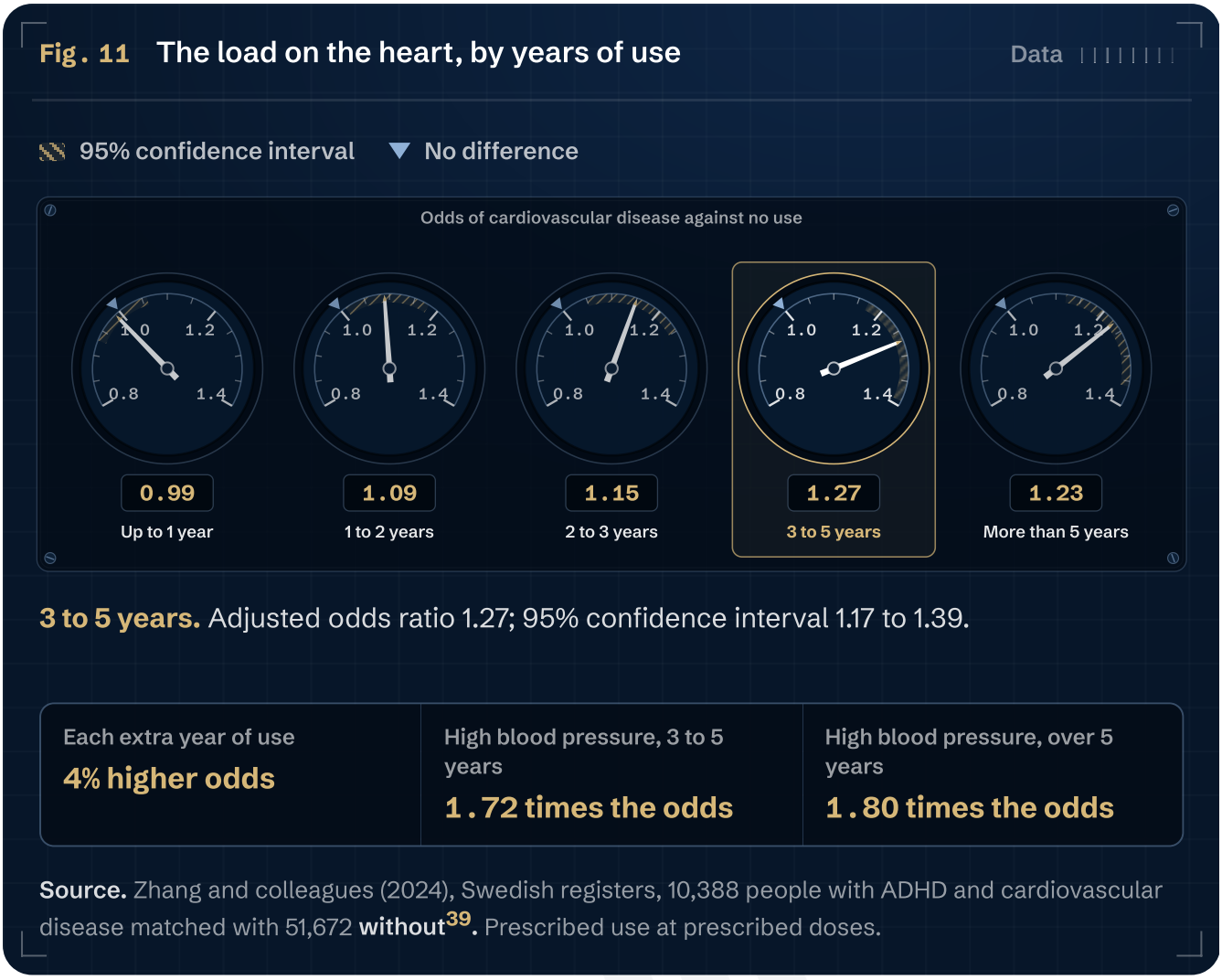


Figure 11. Adjusted odds of cardiovascular disease by how long people had taken ADHD medication, compared with people who hadn't, from Zhang and colleagues (2024). Each instrument's lit arc is the 95% confidence interval; the bug at 1.0 is no difference. The study was of prescribed use at prescribed doses, in Sweden; it shows an association, not proof that the drug caused the disease.

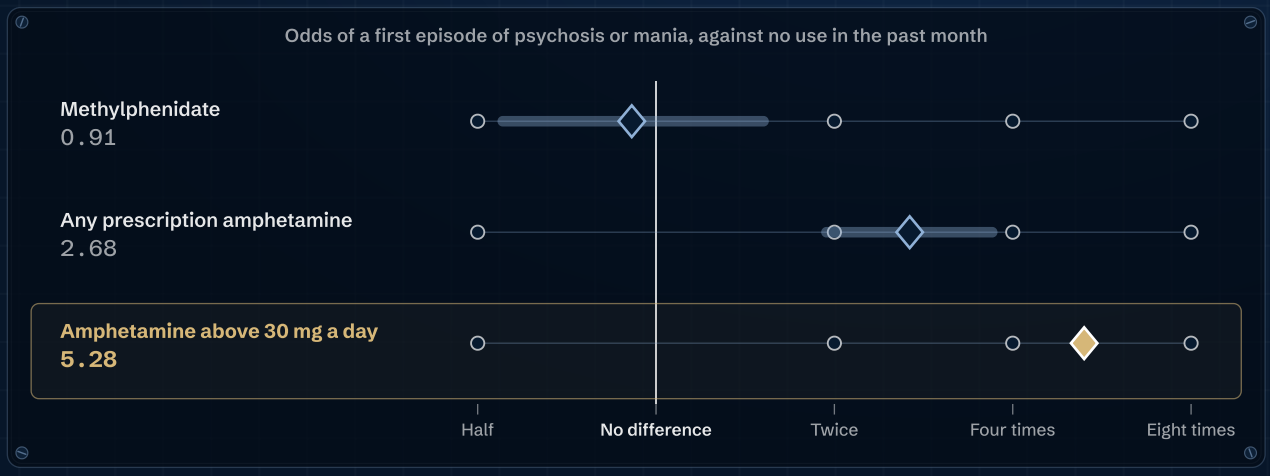
Two cautions apply in opposite directions. The people in these studies were taking the drug as prescribed, at doses their doctors chose, usually with their blood pressure checked. Someone taking extra pills, late pills or pills on top of energy drinks is putting a larger load on the same system, and these studies don't measure that. On the other hand, the rise in risk is modest for any one person, and the studies show associations, not proof that the drug caused the disease. Anyone with chest pain, a racing or uneven heartbeat, or fainting while taking a stimulant should get medical help straight away.

8.2 Psychosis and mania

New psychosis after starting a stimulant is uncommon. Moran and colleagues followed 221,846 adolescents and young adults aged 13 to 25 who started methylphenidate or amphetamine for ADHD. There were 343 episodes of new psychosis, about 1 in 660 patients, and the risk with amphetamine was 1.65 times the risk with methylphenidate[40]. In a later study of 1,374 people aged 16 to 35 admitted to hospital with a first episode of psychosis or mania, taking a prescription amphetamine in the past month was linked to 2.68 times the odds, and doses above 30 mg a day of dextroamphetamine or its equivalent to 5.28 times the odds. Methylphenidate in the past month was not linked to raised odds[41].

Fig. 12 Psychosis and mania, by drug and dose

Data



Amphetamine above 30 mg a day. Over five times the odds at more than 30 mg a day of dextroamphetamine or its equivalent.

New psychosis after starting a stimulant, ages 13 to 25	Amphetamine against methylphenidate
About 1 in 660	1.65 times the risk

Source. Odds from Moran and colleagues (2024), 1,374 people aged 16 to 35 admitted with a first psychosis or mania and 2,748 other **admissions**[41]; the readouts from Moran and colleagues (2019), 221,846 young people starting a **stimulant**[40].

Figure 12. Odds of a first episode of psychosis or mania with a prescription stimulant in the past month, compared with no use, on a doubling scale, from Moran and colleagues (2024); bars show 95% confidence intervals where the study reported them. The readouts below come from Moran and colleagues (2019). Both studies were of prescribed stimulants.

The dose finding matters most for people who take more than prescribed. A dose above 30 mg a day is within the range some adults are prescribed, and well within the range people reach when they take extra pills to get through a deadline. Sleep loss, which heavy use brings, makes it worse. Early signs to take seriously include hearing or seeing things others don't, feeling watched or followed, suddenly believing something unusual with complete certainty, or days of very little sleep with racing energy and ideas. Any of these is a reason to stop taking the drug and get medical help the same day.

Get help straight away if

You have chest pain, a racing or uneven heartbeat, or you faint. You see or hear things that aren't there, or feel sure you're being watched or followed. You have gone days with very little sleep and your thoughts are racing. You have thoughts of hurting yourself. Call your local emergency number, or in the US call or text 988. In the UK and Ireland, Samaritans answer on 116 123.

Section 09

How long does Adderall withdrawal last?

Days 16 to 25, Brain chemistry restabilization

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In brief

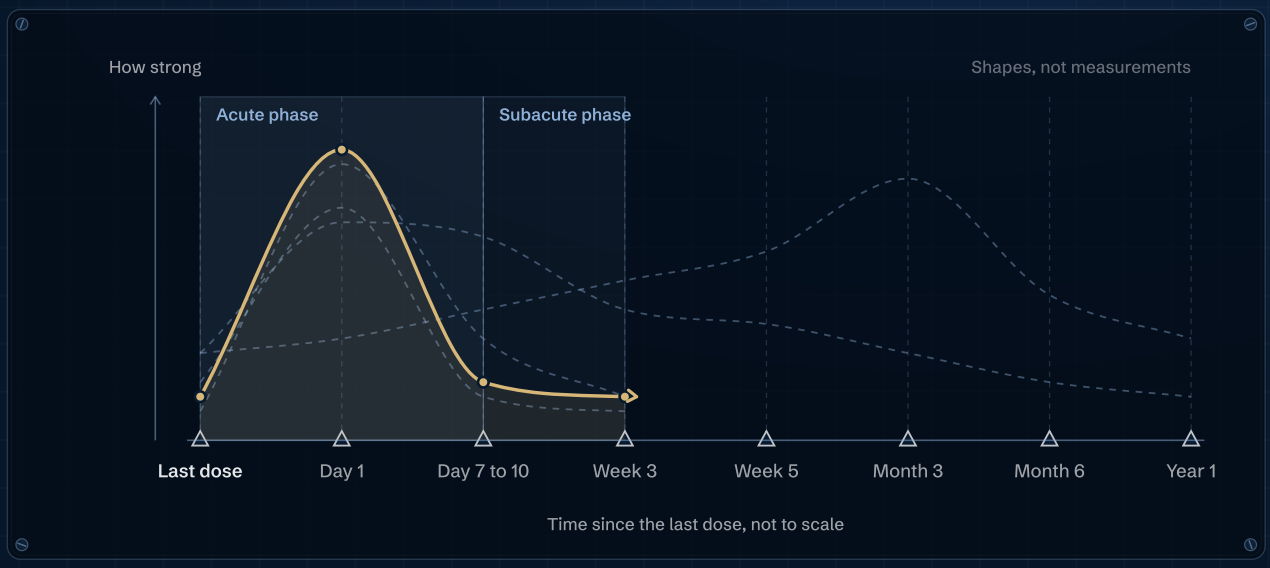
The worst of it usually lasts a week to ten days: heavy tiredness, more sleep, more hunger and a low mood that peaks in the first day or two. Milder symptoms can go on for a few more weeks. Craving lasts longer, and craving set off by triggers can grow for a few months before it fades. That is why the plan has to outlast the first week.

The worst of stimulant withdrawal usually lasts a week to ten days. In a study of people stopping methamphetamine, which has been studied far more than prescription stimulants, symptoms peaked within 24 hours of the last dose and fell to near normal by the end of the first week. That acute phase was marked by more sleeping, more eating and a cluster of symptoms of depression. A milder subacute phase lasted at least two more weeks[6]. Craving lasts longer than the rest, which is why a plan that only covers the first week isn't enough.

9.1 The first days

The first days after stopping are the crash, stretched out. Most people sleep a lot, feel heavy and slow, eat more and feel flat or low. In Zorick and colleagues' study of 56 people stopping methamphetamine on an inpatient ward, depressive symptoms and symptoms of psychosis present at the start had largely resolved within a week[10]. People coming off prescription stimulants at ordinary doses usually have a milder version of this, but the shape is similar. A week of low energy is expected, and it is easier to get through when it was expected.

Fig. 13 The approach after the last dose — Schematic



Overall withdrawal. Severity peaks within the first day, falls steadily through the first week to near normal, then stays low for at least two more weeks.

Source. Shapes drawn from the time courses described by McGregor and colleagues (2005)[6], Zorick and colleagues (2010)[10] and Wang and colleagues (2013)[42], all in people stopping methamphetamine. The heights are not measurements.

Figure 13. The shape of stimulant withdrawal over time, drawn as an approach chart. The acute and subacute phases follow McGregor and colleagues (2005); the low mood and the craving people report follow Zorick and colleagues (2010); the craving set off by triggers follows Wang and colleagues (2013). All three studies were of people stopping methamphetamine. The heights and the time axis are schematic, not measured values.

9.2 The weeks and months after

Craving behaves differently from the other symptoms. In Zorick's study, the craving people reported didn't fall significantly until the second week, and it was still present, at a lower level, at five weeks[10]. Craving set off by triggers can go the other way for a while. Wang and colleagues compared people who had stopped methamphetamine for six days, two weeks, a month, three months, six months and a year. The craving they reported in general fell with time. But the craving set off by reminders of the drug rose until three months, and then fell at six months and a year. Their decision-making and mood improved the longer they had been off the drug[42]. Researchers call this rise the incubation of craving.

For someone stopping prescription stimulants, the practical meaning is simple. The first week is about energy and mood, and the second and third months are about triggers. A deadline in month two can bring a stronger urge than anything in the first week, at a time when the person feels well and least expects it. The program's trigger work runs from Day 31 to Day 60 for that reason.

Table 3. What to expect after stopping, and what helps at each stage. The timings follow the methamphetamine studies cited in this section; prescription stimulants at ordinary doses usually bring a milder version of the same shape.

When	What usually happens	What helps
Days 1 to 3	Heavy tiredness, long sleep, hunger, low mood	Sleep, food, daylight, light movement, a lighter workload where possible
Days 4 to 10	Energy slowly returns; mood lifts; focus is still slow	Fixed sleep and wake times, regular meals, short focused work blocks
Weeks 2 to 5	Milder symptoms; craving eases but stays	A prepared response for each urge, and no pills within reach
Months 2 to 3	Feeling well, but triggers can bring a stronger urge	A full trigger map, and a plan for every high-pressure day
Months 3 to 12	Craving set off by triggers fades; decision-making keeps improving	Keeping the plan going after it feels unnecessary

9.3 Is there a medicine for it?

No medication has been shown to work for amphetamine withdrawal[11], and the review of treatments for stimulant use disorder by Ronsley and colleagues found insufficient evidence to support any medication for it either[43]. What helps most is predictable: sleep, food, daylight, movement and time. A doctor can still help with sleep, mood and anything else a person is taking, and should be seen if the low mood is deep or doesn't lift.

Focus and energy take longer to return than mood, and they return gradually. Waqas described it a month after stopping: “Definitely don't have the exact same level of focus or energy as I did before, but I think that's going to come back. And I think this is way healthier for me and way more sustainable in the long term.” That gap is real, and expecting it is part of not treating it as a reason to start again. Section 10 covers what fills it.

In the program · Phase 1, Brain chemistry restabilization

Days 16 to 25

Days 16 to 19	**Stress tolerance and breathing** In the days after the stop, the program adds heat and cold exposure a few times a week, a demanding new pursuit and a morning breathing practice. Each gives the person a challenge they can meet without the drug, and the breathing practice gives them something to do with a low or restless moment.
Days 24 to 25	**Evidence that recovery happens** The client looks at the research showing that the brain recovers with abstinence, so the flat weeks are understood as part of recovery rather than as the person's new normal.

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Section 10

How can I focus and have energy without Adderall?

Days 6 to 17, Brain chemistry restabilization

In brief

By rebuilding the things the pill was covering for: enough sleep, daylight in the morning, movement, regular meals, and a working day

planned around short, protected blocks of focus. None of them works as fast as a pill. Together they give steadier energy, and they don't come with a crash.

You get focus and energy back by rebuilding what the pill was covering for. For most people that means enough sleep at regular times, daylight in the morning, movement, regular meals, and a working day designed so that focus is easier: fewer interruptions, the hard work in protected blocks and a plan for the dull tasks. None of these works as fast as a pill. Together they give steadier energy without the crash, and they don't stop working when the bottle is empty.

10.1 Sleep first

Sleep is the biggest single source of the energy and focus people try to buy with a pill, because short sleep removes both and hides the fact that it has done so[35]. The executive functions people want from a stimulant, planning, self-control and holding information in mind, are the first to suffer from lack of sleep, stress and poor physical health, and they improve when those improve[4]. The program puts sleep, daylight and the body clock in place in the first week, two weeks before the stop.

10.2 Movement, food and daylight

Exercise gives a small, real lift. A meta-analysis of 79 studies found that a single session of exercise improved performance on tests of thinking, during and after the session, with a small overall effect[44]. That's similar in size to the effect of methylphenidate on healthy adults reported in Section 4, and it comes with better sleep and mood rather than worse. Regular meals keep energy level through the day, and morning daylight helps set the body clock that controls when you feel alert and when you feel sleepy.

10.3 Design the work, not just the worker

Much of what a stimulant does at work is make a badly designed day bearable: one with no protected time, constant interruptions and dull tasks left until the pressure forces them. Changing the situation works better than trying harder within it. Duckworth and colleagues' review of self-control strategies found that strategies applied early, such as choosing or changing the situation, are generally more effective than resisting a temptation once it arrives[45]. The same is true of focus. A phone in another room, a closed inbox and a fixed block for the hardest task each remove a demand on attention that the pill used to cover. Deciding in advance exactly when and where a task will start, an if-then plan, raises the odds that it happens[46].

Table 4. What replaces each job the pill was doing. The pill often did several jobs at once, and each needs its own replacement; the evidence for each is described in this section and in Section 7.

The job the pill did	What replaces it	Evidence
Covering a short night	Fixed sleep and wake times, and no late doses of caffeine	Short sleep impairs thinking without being felt[35]; caffeine 6 hours before bed cuts sleep[34]
Getting started in the morning	Daylight, movement and breakfast, in that order, before the first hard task	A single session of exercise gives a small lift in thinking[44]
Making dull work bearable	Short timed blocks, with the start time and place decided in advance	If-then plans raise follow-through[46]
Shutting out distraction	Phone in another room, notifications off, one task at a time	Changing the situation beats resisting in it[45]
Getting through a deadline	Planning back from the deadline, and a protected night before it	Stress weakens the brain's control of habits[2]
Feeling confident and sharp	Evidence of good work done without it, recorded and reviewed	Direct experience of success builds self-belief[47]

10.4 Training the capacities directly

Some of the capacities people take stimulants for can be trained. Diamond's review describes executive functions as trainable, with gains that tend to be specific to what is practiced, and that come from demanding activities practiced regularly and with increasing difficulty[4]. The program includes memory training and strategy-game training in its first month, and asks each client to take up a demanding new pursuit. These are not substitutes for sleep, and they don't work in days. Their job is to give the person repeated, direct evidence that they can concentrate hard without a pill.

In the program · Phase 1, Brain chemistry restabilization **Days 6 to 17**

Day 6	**Training and cardio** Progressive resistance training and cardio become daily practices, for the lift in mood, sleep and alertness they give and for the visible progress they produce.
Day 9	**A structured day** The client builds a daily routine around fixed anchors, so that the working day has a shape that doesn't depend on a pill to hold it together.
Day 17	**A demanding new pursuit** The client chooses a new pursuit that is hard, absorbing and their own, and practices it regularly. It gives the front of the brain sustained work and gives the person a source of drive that isn't chemical.

Section 11

What triggers the urge to take Adderall?

Days 31 to 52, Impulse control

In brief

For most people, the triggers are about work: a deadline, a big meeting, a task put off for days, a tired morning, the desk and the first coffee. Feelings matter too, especially the fear of falling behind. Each trigger can be removed, avoided, changed or planned for, and a plan works better than resisting an urge once it starts.

The urge to take a stimulant is usually set off by work: a deadline, a pitch or board meeting, a task that has been put off for days, a tired start to the day, or simply sitting down at the desk where the pill is usually taken. Feelings set it off too, most often tiredness, pressure and the fear of falling behind. People, places and things play a part: a colleague who shares, a hotel room before a presentation, the bottle in the desk drawer. Each of these can be mapped, and each one mapped can be planned for.

11.1 How triggers form

A trigger is something the brain has learned to link with the drug. Every pill taken at the same desk, at the same time of day, before the same kind of task, strengthens that link, until the situation sets off the urge on its own. Everitt and Robbins describe how drug use moves from deliberate action to habit through exactly this process, as control shifts from goal-directed brain systems to habit systems set off by the situation[21]. The habit doesn't need the person to want the pill. It only needs the situation.

Stress makes triggers stronger. Under stress, people shift from deliberate, goal-directed choices toward habits[3]. In people being treated for cocaine dependence, craving set off by a personal stress story predicted a shorter time to relapse[31]. Kwako and colleagues proposed that addiction should be assessed across three areas: how strongly the person responds to the drug and its triggers, negative emotion, and executive function[48]. A deadline hits all three at once: it is the situation the pill is linked to, it brings stress, and it comes with the tiredness that weakens control.

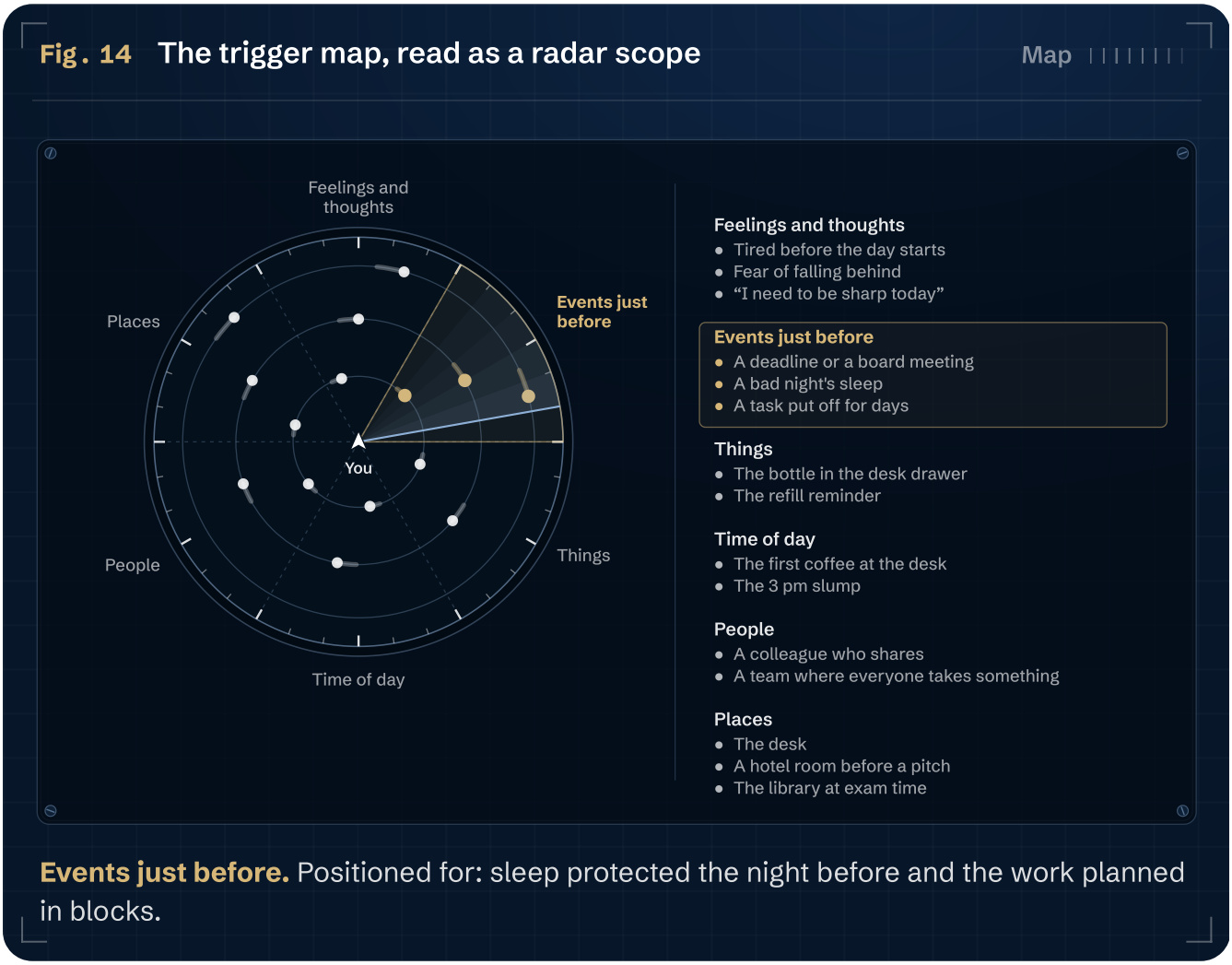


Figure 14. The six sources of triggers the program maps, drawn as a radar scope. The returns are illustrative examples, not data from a study or from clients. Selecting a source shows the kind of response a plan gives it.

11.2 What to do with each trigger

Triggers fall into four groups, and each group gets a different response. Some can be removed: the pills themselves, the refill reminders, the contact who sells them. Some can be avoided or changed: where the hardest work happens, or whether the first coffee is at the same desk. Some can be positioned for: the deadline that is coming whatever happens can be met with a protected night and work planned back from the due date. And some, the thoughts and feelings, can't be removed and have to be planned for, with a response decided in advance. Duckworth and colleagues found that removing and changing triggers, which work early, generally work better than resisting an urge already under way[45]. Quinn and colleagues found that for strong habits, watching for the trigger and stopping the action, which they call vigilant monitoring, was the strategy that worked[49].

The thoughts deserve their own plan. “Just this once.” “This deadline is different.” “I'll stop after this quarter.” “Everyone in my team takes something.” Trying not to have such thoughts tends to bring them back more often[50]. What works better is to recognize them, test them against the evidence, and have a prepared answer. An if-then plan, written in advance and specific to the trigger, gives that answer a place to land: if it's the night before a pitch and I think about a pill, then I close the laptop at 11 and go to bed[46].

Urges themselves pass. Bowen and Marlatt taught people who smoked to notice an urge and watch it rise and fall without acting on it, an approach often called urge surfing. It didn't reduce the urges themselves, but it weakened the link between urges and smoking[51]. That study was of smokers, not stimulant users, and we use it for the mechanism it describes. For someone stopping stimulants, the urge usually arrives as a thought about the work, and the same skill applies: notice it, name it, let it pass, and go back to the plan.

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In the program · Phase 2, Impulse control **Days 31 to 52**

Days 31 to 32	**The full trigger map, and access removed** Every trigger is mapped across feelings and thoughts, events, things, time of day, people and places. The pills are returned or disposed of, refill reminders and sources are removed, and the workspace is reset.
Day 38	**Positioning for high-pressure days** The client learns to position themselves ahead of a predictable trigger, such as a deadline, a pitch or a travel week, so that the day arrives with sleep protected and the work already planned.
Days 40 to 43	**The thoughts that argue for a pill** The thoughts that justify a dose are identified, tested against the evidence and answered in advance with a guiding truth the client writes for themselves.
Days 44 to 48	**Stress and the urge to take one** Emotion, the stress system and its role in craving, and two daily practices for lowering stress quickly: slow breathing and progressive muscle relaxation.
Days 49 to 52	**A response for every trigger** Watching an urge rise and pass, quick relief for strong cravings, and a custom response written for every trigger on the map. Days 53 to 60 practice the responses and track the result.

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Section 12

What should I do if I take it again?

Days 15 to 60

In brief

Treat it as one event, not a verdict. Write down what led to it, find the trigger the plan missed, change the plan, and go back to it the next day. The belief that one pill means you've failed is what turns a lapse

into a relapse. If one pill became several days of heavy use, talk to a doctor.

Treat it as one event, and go back to your plan the next day. Write down what happened in the hours before: the deadline, the night's sleep, what you told yourself. Find the trigger your plan missed and add a response for it. What you tell yourself about the pill matters more than the pill itself. If you decide it proves you've failed, the rest of the week tends to follow it.

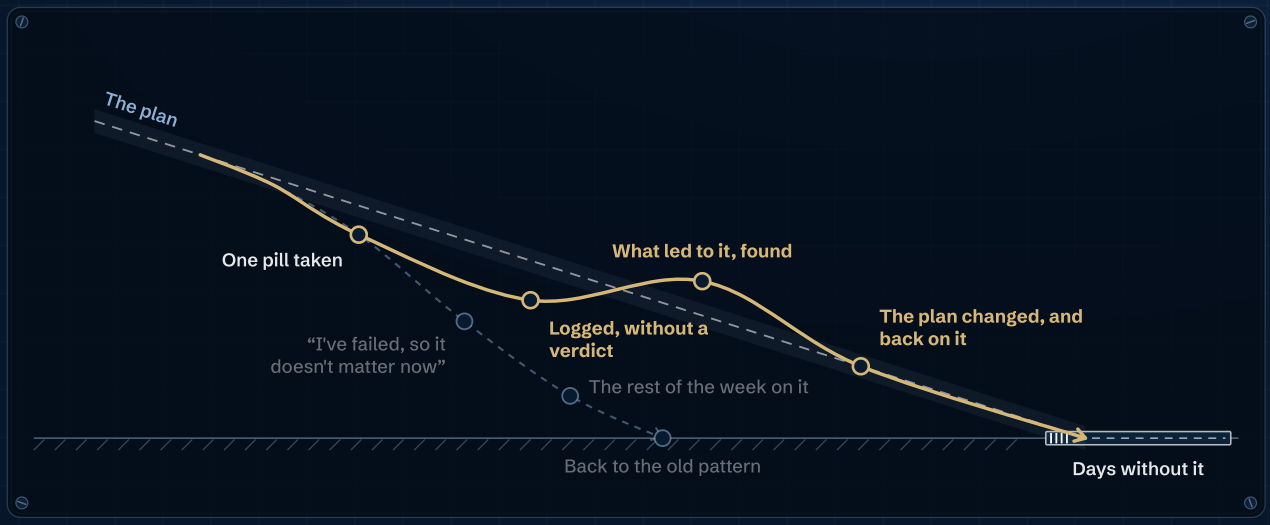
12.1 One pill is not a relapse

Researchers distinguish a lapse, a single use after stopping, from a relapse, a return to the old pattern. What connects them is often how the lapse is explained. Curry, Marlatt and Gordon studied people who had stopped smoking and then smoked again. Those who blamed the lapse on something fixed and personal, such as a lack of willpower, and who felt guilty and helpless about it, were more likely to go on to a full relapse. The authors called this reaction the abstinence violation effect[52]. Witkiewitz and Marlatt describe relapse as a process that unfolds over time, in which a lapse is a point where the outcome can still go either way[53]. Across studies of people stopping alcohol and tobacco, the relapse curve has the same shape: losses are steepest soon after stopping and slow down as time without the drug builds up[54]. Every week held makes the next one more likely.

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Fig. 15 Going around, not going down

Comparison



Go around. Pilots are trained to go around when an approach isn't right. It's a planned move, not a failure. One pill is one event; the next day is what matters.

Source. The abstinence violation effect from Curry and colleagues **(1987)**[52]; relapse as a process from Witkiewitz and Marlatt **(2004)**[53].

Figure 15. Two responses to taking one pill after stopping, drawn as an approach to a runway. The first follows the abstinence violation effect described by Curry and colleagues (1987), in people who had stopped smoking; the second follows the view of relapse as a process in Witkiewitz and Marlatt (2004). The steps are illustrations, not data.

Pilots are trained to go around when an approach isn't right, and nobody thinks of it as a crash. It's a planned move with a procedure. A lapse can be handled the same way. The habit research supports this: in Lally and colleagues' study of how new habits form, missing a single occasion didn't materially affect how automatic the new behavior became[55]. One pill after a month off doesn't erase the month. Confidence matters for what happens next. Bandura found that direct experience of succeeding at something is the most dependable source of belief that you can do it[47], and a lapse that is analyzed and answered with a better plan leaves that experience intact.

In the program Days 15 to 60

Day 15	**Planning for a lapse before it happens** On the day stimulant use stops, the program defines the difference between a lapse and a relapse, so that a single pill is treated as an event to record and analyze rather than an ending.
Days 53 to 60	**Learning from every urge** The client practices the response for each trigger and tracks the result, so that any lapse shows which trigger the plan missed and which response needs changing.

If you take one again

Go back to your plan the next day. Write down what happened in the hours before: the work, the night's sleep, who you were with, how you felt and what you told yourself. Find the trigger your plan missed and add a response for it. If you are working with us, tell your specialist the same day. If one pill became several days of heavy use, or you feel very low afterwards, talk to a doctor, and if you have a prescription, tell your prescriber.

Section 13

What does the Phalanx program target for someone stopping stimulants, and when?

Days 61 to 90, Identity rewiring

In brief

Ninety days in three phases. The first month rebuilds sleep, energy, food and the shape of the working day, and stimulant use stops on Day 15, on the prescriber's plan where there is one. The second month maps every trigger and prepares a response for each. The third works

on identity and the work culture that still pushes toward a pill. Six months of aftercare follow.

The Behavior Control System is the same 90-day program for every habit, applied to the loop beneath each person's stimulant use. Days 1 to 30, brain chemistry restabilization, rebuild what the pill has been covering for: sleep, the body clock, daylight, exercise, meals, stress and a structured working day. The client stops taking stimulants on Day 15, after two weeks of that work, or on the dates their prescriber sets. Days 31 to 60, impulse control, work on the moment a pill actually happens: every trigger is mapped, the pills and the sources are removed, and each trigger left gets a prepared, rehearsed response, including the deadlines and the thoughts that argue for one. Days 61 to 90, identity rewiring, work on identity: the belief that good work needs a pill, and the work culture and pressures that still push toward one. Six months of aftercare follow. It asks for about thirty minutes of focused work a day: a short lesson each morning, a brief log each night, and a set of daily practices, which the program calls north stars, built into the routine the person already has.

13.1 Before Day 1

Every program starts with a Root-Cause Diagnostic: an application describing the habits involved and what has already been tried, followed by a thirty-minute, one-on-one conversation with our team. For stimulants it has two jobs. The first is safety: it asks which stimulant, at what dose, how often, by what route, whether it is prescribed and what else the person takes to come down, and anyone with a prescription is asked to involve their prescriber (Section 2). The second is to identify the loop beneath the use: what the pill does for the person, the earliest recurring trigger, the conditions that make it likely, why earlier attempts broke down and what is missing for change to hold. Two people who both take Adderall before deadlines rarely have the same loop. One takes it to start the day after a short night; another only before presentations; a third takes it to keep up with a team where everyone does. The structure of the diagnostic parallels the three areas the Addictions Neuroclinical Assessment proposes: the urge set off by triggers, negative emotion and executive function[48]. It is not a clinical assessment and takes no medical measurements.

A preparatory phase follows before Day 1 and doesn't count toward the 90 days. It separates the decision to stop from the start. The client sets out in concrete terms the life they are building and what the pills have cost it, makes a commitment to someone who matters to them, chooses a start date that marks a real boundary in their life, and proves to themselves that they can hold one full day of control. The choice of start date rests on the fresh start effect: temporal landmarks such as the start of a week, a month or a meaningful date were followed by increases in aspirational behavior[56]. The day of control rests on Bandura's finding that direct experience of succeeding is the most dependable source of belief that one can do it[47]. A commitment that is recorded and made to another person holds better than a private one[57].

Fig. 16 The 90 days as a flight plan Timeline



Day 15. Stimulant use stops, on the prescriber's plan where there is one.

Brain chemistry restabilization. Sleep, light, training, food and a structured day rebuild the energy the pill was supplying. The stop on Day 15 follows the prescriber's plan where there is one.

Figure 16. The three phases of the program, with the days on which the targets that matter most for stimulants are introduced. Stimulant use stops on Day 15, after two weeks of groundwork, or on the dates a prescriber sets. Six months of aftercare follow Day 90. The exercises themselves are not published.

Table 5. The day map for someone stopping stimulants: what each stretch of the program targets, and the evidence behind the choice. Days refer to the program calendar. The table states the target only; the exercises themselves are not published.

Days	Target	Why it matters for stopping stimulants
Before Day 1	Root-Cause Diagnostic: the loop beneath the use, the prescriber involved where there is one	The loop is read across trigger-set urges, negative emotion and executive function[48]
Before Day 1	Commitment, a meaningful start date, one day of control	Fresh starts and direct experience of success raise follow-through[47, 56]
1 to 2	How the loop works; the nightly log	Recorded monitoring of progress improves goal attainment[57]
3 to 5	Sleep and wake times, daylight, evening light, phone out of the bedroom	Short sleep impairs thinking without being felt[35]
6 to 8	Training and cardio, daily meditation, regular meals	Exercise gives a small lift in thinking[44]; appetite loss is a core side effect[26]
9	A day built on fixed anchors	Stable routines fill the hours in which habits run[58]
10 to 14	The stages of addiction, the case for stopping completely, every cheap lift listed, self-assessment	The cycle moves from reward to relief from the crash[5]
15	Stimulant use stops, on the prescriber's plan where there is one; habits that travel together	Short horizons and an overvalued reward drive continued use[30]
16 to 23	Heat and cold exposure, a demanding new pursuit, awareness training, breathing, memory and strategy-game training	Executive functions improve with demanding, regular practice[4]
24 to 30	Perspective, evidence of recovery, how dopamine and triggers work	Craving set off by triggers can grow for months[42]
31 to 32	Full trigger map; pills and access removed	Changing the situation beats resisting an urge already under

Days	Target	Why it matters for stopping stimulants
		way[45]
33 to 39	Impulsivity, the trigger and craving sequence, positioning for high-pressure days	Vigilant monitoring controls strong habits[49]
40 to 43	The thoughts that argue for a pill	Pushing a thought away makes it return[50]
44 to 48	Emotion, stress, breathing and relaxation	Stress shifts control toward habit[3]; stress craving predicts relapse[31]
49 to 60	Watching an urge pass; a response for every trigger; practice and tracking	Urge surfing weakened the link between urge and use[51]
61 to 70	Identity, the skills to build next, work culture and outside pressures, limiting beliefs	Identities that feel congruent guide behavior[59]
71 to 80	Rehearsal of high-pressure days	Mental practice improves performance[60]
81 to 90	Replacing each job the pill did; review of the 90 days	A new routine takes weeks to months to become automatic[55]
After 90	Self-forgiveness, identity reinforcement, six months of aftercare	How a lapse is explained predicts whether it becomes a relapse[52]

13.2 Why the order matters for stimulants

The order follows from the research in Sections 2 to 12. Sleep, daylight, movement and meals come first, because a stimulant is mostly used to cover their absence, and stopping it before they are in place leaves the person facing the crash with nothing underneath. The stop comes on Day 15, after two weeks of that work, so that the first days without the pill land on a body that is already sleeping and eating better. The trigger work comes in the second month, when the acute withdrawal is over[6] but craving set off by triggers may still be growing[42]. Identity comes last, because the belief that good work needs a pill is the slowest part to change, and a new belief about yourself needs weeks of evidence behind it to be believed.

Identity matters more for stimulants than for most habits, because the drug is so often tied to a professional self-image. Oyserman and colleagues found that people act on an identity when it feels congruent with who they are and the situation they're in, and that this shapes what they see as possible[59]. For someone who has come to see themselves as the person who outworks everyone, stopping has to include a new account of how that person does good work. The third phase builds it, and rehearses it against the high-pressure days most likely to test it. Mental rehearsal of a task improves later performance[60].

In the program · Phase 3, Identity rewiring — **Days 61 to 90**

Days 61 to 70	**Identity and outside pressures** The client works on how they see themselves in relation to the habit, the skills they want to build next, the limiting beliefs about what they can do without a pill, and the outside pressures, such as a work culture where everyone takes something, that still push toward one.
Days 71 to 80	**Rehearsing high-pressure days** The client rehearses the situations most likely to bring back the urge, such as a deadline week, a pitch or an exam, until the planned response is familiar before the day arrives.
Days 81 to 90	**Replacing what the pill did** The client confirms a replacement for each job the pill used to do: starting the day, getting through dull work, shutting out distraction and meeting a deadline. They review the full 90 days against their log and record what they have gained.

Replacement is the last step because a habit that did a job leaves a gap when it stops, and a gap left empty tends to be filled by whatever is most available. A replacement placed at the same time and in the same setting as the old habit can take over its context[58]. Lally and colleagues found that a new daily behavior took a median of 66 days to reach 95% of its peak automaticity, with wide variation between people[55]. By Day 90 the replacement has been in place long enough to start running on its own.

13.3 In our client's words

One of our clients who came to us for Adderall has described his experience on the record. Waqas, a tech founder in New York, was taking it two or three times a week, and sometimes more: “And there were definitely times where I was using way more than I should have.” He and his specialist planned a gradual stop rather than a sudden one: “And so we actually designed a plan together to help me kind of taper off of it over the course of a few weeks.” When he recorded his interview, he said: “And

it's been I think 31, 32 days since the last time I took it and I'm feeling great." His words are shared with consent. They are one person's experience, at one point in time, and not evidence of what will happen for anyone else.

What this paper does not publish

This paper states what each part of the program targets for someone stopping stimulants, on which days and why, with the evidence for each choice. It does not publish the exercises, their steps, scripts, worksheets or wording. A reader can evaluate the reasoning from this paper, but can't reproduce the program from it.

Section 14

What do our results show, and what can't this paper tell you?

In brief

We report a 97% success rate, meaning clients who ran the program and stayed off the habit through the program and six months of aftercare, across all habits. It comes from our own client follow-up, not from a controlled trial, and the research in this paper supports each part of the method without testing the whole.

Phalanx Labs has worked with 290+ clients across 12 countries over 7 years. Of those clients, 98.4% had already tried and failed to stop before they came to us. Our success rate is 97%, defined as the share of clients who ran the program and stayed off the habit through the program and the six months of aftercare that follow it. That rate covers all of our clients and all of the habits they came with. We don't publish a separate rate for stimulants. Because the definition matters as much as the number, we set out below what each figure counts, how it is known and what it doesn't establish.

Table 6. The figures we report, what each one counts and how it is known. All figures are drawn from our own client records and cover every habit we work with, not stimulants alone.

Figure	What it counts	How it is known
290+ clients	People who have worked with Phalanx Labs over 7 years	Client records
12 countries	Countries in which those clients lived while working with us	Client records
98.4%	Share of clients who had already tried and failed to stop before they came to us	What clients reported about their history in their application and the diagnostic
97% success rate	Clients who ran the program and stayed off the habit through the program plus 6 months of aftercare	Client follow-up across the program and the six months of aftercare

14.1 How outcomes are tracked

Throughout the program, the client keeps a nightly log and completes a weekly progress update. These are written records of what happened, what was difficult and what was handled; they are not scored instruments. At the end of each of the first two phases the client has a progress call with our team, the first around Day 28 and the second after Day 60. During aftercare we follow up with clients on whether they have stayed off the habit. A client counts as a success when they have run the program and stayed off the habit through the program and the full six months of aftercare.

14.2 What our figures don't show

- Self-report. Whether a client has stayed off stimulants is known from what the client tells us, not from urine or blood testing.
- Selection. Clients choose to apply, are accepted after a diagnostic in which we decline people we can't help, and are counted only if they ran the program. People who decide to work with us may differ in motivation or circumstance from people who don't.
- No comparison group. We can't say how many of the same people would have stopped through another route, such as working with their prescriber, treatment or simply time, over the same period.

- Time window. The success rate covers the program and six months of aftercare. It doesn't describe what happens after that, and the research in Section 9 shows that craving set off by triggers can last for months.
- All habits together. The rate is across every habit our clients bring. We don't report a rate for stimulants alone, and a single rate doesn't predict the outcome for any one person.
- Prescriptions. Where a client's stop follows a prescriber's plan, the outcome reflects both, and we can't separate the two.

14.3 What the research in this paper doesn't show

The studies cited here have their own limits. Much of the evidence on withdrawal and craving comes from people stopping methamphetamine, often in inpatient settings[6, 10, 42]. Prescription stimulants are close relatives, but people misusing them at ordinary doses are likely to have a milder version of the same course, and the timings may differ. Most of the evidence on the heart, psychosis and tolerance comes from people taking stimulants as prescribed for ADHD[32, 39, 41], so it may understate the risks of misuse at higher doses. The studies of cognitive enhancement are mostly short, laboratory studies in young, healthy adults[22, 25], and real working life is longer and more varied. Some of the mechanism we rely on comes from people who smoked rather than took stimulants, such as the research on urge surfing and on how a lapse is explained[51, 52], and we say so where we cite it. The national survey figures are from the US in 2015 and 2016[7].

Other approaches have stronger trial evidence than ours. For people with cocaine or amphetamine addiction, a network meta-analysis of 50 randomized trials with 6,942 participants found that contingency management, in which people earn rewards for drug-free urine tests, combined with the community reinforcement approach was the only psychosocial treatment that increased the number of people abstinent at the end of treatment compared with usual care[61]. A review of systematic reviews found sufficient evidence to support contingency management for stimulant use disorder[43]. Our method hasn't been tested in a randomized or controlled trial, its outcomes haven't been assessed independently, and it hasn't been published in a peer-reviewed journal. The research supports the reasoning behind each element. It doesn't show that the combination works, or how much each element contributes. The figures in Table 6 are our evidence for the combination, with the limits stated above. A controlled evaluation would need independent outcome assessment, a comparison condition and follow-up beyond six months. We would welcome one.



The definition, stated once more

97% success rate: clients who ran the program and stayed off the habit through the program plus 6 months of aftercare. Tracked through client follow-up, across all habits. Not a clinical trial, with no randomization and no control group.

Section 15

When should you see a doctor or get help straight away, and what is this program not?

In brief

Talk to your prescriber before changing a prescribed dose, and see a doctor before stopping if you use heavily, by a route other than the mouth, or with sedatives. Get help straight away for chest pain, a racing heartbeat, fainting, seeing or hearing things, or thoughts of self-harm. The program is not therapy, clinical care or medical treatment.

See a doctor or your prescriber before you stop if you have a prescription, if you take high doses most days, if you take stimulants other than by mouth, or if you take alcohol, sleeping pills or anxiety medication to come down. Get help straight away for chest pain, a racing or uneven heartbeat, fainting, seeing or hearing things that aren't there, days without sleep with racing thoughts, or thoughts of hurting yourself.

15.1 When to see a doctor

- You have a prescription and want to change or stop it. Your prescriber plans the change with you, and can look again at the condition it was treating.
- You take high doses, take them most days, or crush, snort or inject them.
- You take alcohol, sleeping pills, benzodiazepines or other sedatives to come down. Some sedatives are dangerous to stop suddenly.
- You have a heart condition, high blood pressure, or a history of psychosis, mania or bipolar disorder.
- Your low mood after stopping is deep, or hasn't lifted after a couple of weeks.
- You think you may have ADHD and have never been assessed. Stopping a misused stimulant doesn't rule out treatment that's right for you.

15.2 When to get help straight away

Call your local emergency number, or go to an emergency department, for chest pain, a racing or uneven heartbeat, or fainting; for seeing or hearing things that aren't there, or feeling sure you're being watched or followed; or for days of very little sleep with racing energy and ideas. If you have thoughts of hurting yourself, in the US call or text 988; in the UK and Ireland, call Samaritans on 116 123; anywhere else, call your local emergency number.

15.3 What this program is not

The Behavior Control System is a structured behavior program. It is not therapy, clinical care or medical treatment, and it doesn't diagnose or treat ADHD or any other condition. It doesn't prescribe, change or stop medication, and it doesn't recommend that anyone stop a prescribed medicine without their prescriber. Where a client has a prescription, the program works alongside their prescriber and the stop follows the prescriber's plan. It isn't suitable as the only support for someone with severe dependence, psychosis, or a risk of harming themselves, who needs medical care first. Our team will say so in the diagnostic if it isn't the right fit.

This paper is general information, written to help someone understand how stimulant habits work and what stopping involves. It isn't medical advice for any one person. If you take a stimulant, the people best placed to advise you on your own health are your prescriber and your doctor.

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