



Long-Term Effects of Stimulant Medications

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Long-Term Effects of Stimulant Medications



Jeff Copper

*ADHD and
Attention Coach*

Introduction

I understand the reluctance to take medication in any form. The question is, why would one take a medication? For me, it is a simple answer, that is, if your quality of life is better long term, then it would be something to consider.

I underwent radiation treatment 15 years ago for cancer. Why? To extend my life. The treatment, however, damaged my thyroid gland. That damage has a profound impact on my energy level, among other things. To that end, I need to take thyroid medication for the rest of my life. Why would I do that? Because my quality of life is significantly better long term. All that said, I'm not pro-medication. I am anti-suffering and anti-ignorance.

The conversation around ADHD and stimulant medications goes as far back as 1937 when the stimulants were first used. Even today, it is a very controversial topic. Misinformation and strong opinions are everywhere. Many of those in the news media demonize medications outright, while others see them as a cure-all. There's no shortage of disclaimers and debates about the long-term effects of stimulant medications.

I spent years searching for an expert who could speak on this topic without a conflict of interest, that is, someone who wasn't tied to pharmaceutical companies, advocacy groups, professional bias, or self-proclaimed experts. Finally, I found Dr. Andrew Cutler who ran clinics conducting clinical trials on stimulant medications among other interventions. Unlike many voices in the conversation, Dr. Cutler isn't pushing an agenda; he's focused on facts. I invited him to be interviewed on Attention Talk Radio to shed light on this issue and provide the public with objective insights into the long-term effects of ADHD medications.

This eBook is not medical advice. It's not here to tell you what to do. My goal is simply to share information so you can make an informed decision that feels right for you. I hope you find it helpful.

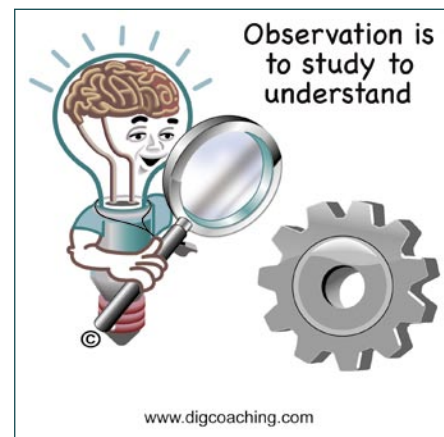
Jeff Copper, MBA, PCC, PCAC, CPCC, ACG

Andrew J. Cutler, MD-Profile

Dr. Andrew J. Cutler earned his MD from the University of Virginia School of Medicine in 1989 after graduating from Haverford College. He completed dual residencies in Psychiatry and Internal Medicine at the University of Virginia, where he also served as Chief Resident. Board-certified in both fields, he has been conducting clinical research since 1993 at institutions including the University of Virginia, the University of Chicago, and, since 1996, in Central Florida.

As Chief Medical Officer of Meridien Research and a Courtesy Assistant Professor of Psychiatry at the University of Florida, Dr. Cutler specializes in clinical trials for ADHD, depression, anxiety, bipolar disorder, schizophrenia, and other neuropsychiatric conditions. He is a sought-after speaker, educator, and author, frequently publishing in medical journals and presenting at international conferences. He also serves on advisory boards and peer reviews scientific articles.

Dr. Cutler has received numerous accolades, including the Distinguished Clinical Professional Award from the Central Florida chapter of the National Mental Health Association in 1999 and recognition as a Top Doctor by Orlando magazine from 2002 to 2007.



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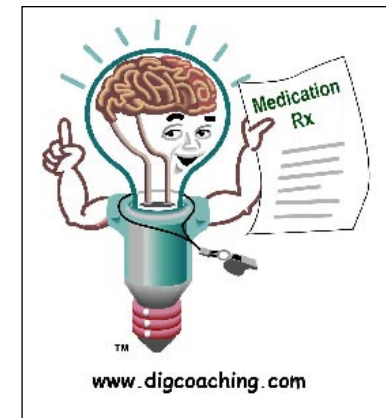
Jeff Copper: Dr. Cutler, It's been a long time since we've done one of these, and I'm so grateful that you've agreed to talk about this particular topic because over all the years that I have been doing Attention Talk Radio episodes, I never really talked directly about the long-term impact of stimulant medications. It's very difficult to find guests to talk about certain topics because of perceived or real conflicts of interest.

*You have been involved in this space for a really, really long time. **You don't work for a drug company. You basically have run clinical trials testing things for a really long time. So, you're in a good position to have some knowledge on this, but not in a position where there's real bias.** I just wanted to have a conversation about this, and, again, you're the perfect guest for it.*

Andrew Cutler: Well, thanks a lot, Jeff. I really agree, this is such an important topic, and I know there's a lot of controversy out there. I think it's important for us to talk about this in a very responsible, balanced, nuanced way.

*Jeff Copper: So, just to ease our way into it, **when you take stimulant medications, there are definite known side effects like dry mouth, suppression of appetite, sleep issues.** Those are known. For the most part, some of those can be severe. Like, if it's creating real sleep problems, then stimulant medications might not be for you, but these are known. And many of them can be dealt with if you're proactive about it. Is that accurate?*

Andrew Cutler That is accurate, and I need to also comment. Sometimes it's a side effect of the medication, what I would call a peak effect when the blood level's peaking, but sometimes these things can be from the medicine wearing off and you can get a rebound effect.



Peak Effect

"Sometimes it's a side effect of the medication, what I would call a peak effect when the blood level's peaking, but sometimes these things can be from the medicine wearing off and you can get a rebound effect."

For instance, I've seen some people, if the medicine wears off too soon, the ADHD can almost rebound and come back, and

now their mind is going and they can't go to sleep. So, sometimes, the insomnia is from the ADHD itself coming back, and so you have to actually extend the length of duration of the medication. So, I always ask, what time of day are they having the side effect. And then I can correlate that with whether it's the peak effect or the wearing-off effect.

Jeff Copper: I love that you're saying that. I'm not a mental health professional; I'm just a coach, but I do find it my responsibility to help educate people because all too often when they're working with their physicians, they don't really have a lot of time. And we'll talk about whether they're coming to the rebound effect and what's taking place so they can have that education to go back to the doctor and the doctor can make some adjustments and address it in that particular fashion.

*We also know that the **medications impact everybody differently**. I've coached a few people that say the stimulants actually help them sleep, which seems strange, but it does happen, right?*

Andrew Cutler: That's true. Yeah, it's funny, **even a low dose of stimulant in the evening for some people helps them calm down and fall asleep**. So, it's really different. And nowadays, we have so many different preparations of stimulants with various formulations and durations of action. Of course, there's also a methylphenidate versus amphetamine, so we can usually find a medicine that really works best for people, both the effects and the duration, if you will.

Jeff Copper: So, we are here to talk about long-term effects of it. But before we get into that, we do have two different molecules. And what you're saying is that, if you have a good physician, usually they can get one of these to work. Is that an accurate statement? When I say one of these, like 80 to 85 percent of the time?

Andrew Cutler: Exactly right. **Stimulants are effective in 80 to 85 percent of people. But what's interesting is most people will respond to either amphetamine or methylphenidate, but there's perhaps as many as 30 percent of people who seem to do better with one than the other. Either they respond better or they tolerate one better than the other.** So, it's very important, if one's not working or you're having side effects, consider switching to the other chemical class.



While they both have similarities in how they work, amphetamines block the uptake of norepinephrine dopamine, but amphetamines are more potent. They actually can really crank out the release of dopamine. And so, for some people, that can cause a little more risk of decreased appetite, irritability, or insomnia, but some people need that extra potency.

Jeff Copper: Got it. So, the thing here that I think is important is that they're delicate to work with, and sometimes you've got to have somebody who's really trained, because my

understanding is sometimes you can get these things to work, but other times, there are other things like gluten sensitivity, liver function, metabolism, maybe different levels of vibrant toxicity, stuff like that. Is that accurate?

Andrew Cutler: Yes. **In some of these medicines, there's a food effect, or you have to be careful with acidic foods or high fat foods. So, you do want somebody who's knowledgeable.** The point is that, as we ease into the long-term effect, we're starting to see that these are very powerful medicines.



Side Effects

"They can certainly have side effects that often can be managed by adjusting the dose or using the right preparation. Most of the side effects tend to be transient, that tend to get better with time, but there are clearly long-term things that we need to be aware of."

They can certainly have side effects that often can be managed by adjusting the dose or using the right preparation. Most of the side effects tend to be transient, that tend to get better with time, but there are clearly long-term things that we need to be aware of.

Jeff Copper: *Great transition. One of the things that I talk about with people when they're taking meds the first time is to expect the first night of sleep to be the worst, to stay on it for a couple days and it will get better. And that doesn't mean it goes away or whatever, but I like to tell them to be ready for this because it's going to be difficult as their body makes that adjustment.*

The point really is that there are short-term effects. We know that they can be dealt with; they're not life-altering. They're a little bit of an inconvenience, but if you work with your physician, you can work your way through that, so let's make the transition.

Andrew Cutler: Yes, I agree.

Jeff Copper: *Talk to us about some of the myths and/or the known potential long-term impacts of stimulants.*

Andrew Cutler: Well, the **long-term concerns fall into a couple of different categories.** Of course, the really obvious and biggest one is **cardiovascular effects.** We know that these medicines in all the clinical trials have been shown to have some **modest increase in blood pressure and heart rate.** So right away, you know there's a little more strain on the cardiovascular system and there's potential risk. These drugs have warnings, of course, about not giving them to people with serious cardiac disease and making sure to screen and



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monitor cardiac conditions, certainly blood pressure and heart rate.

But what's interesting is that the long-term data is really not that clear that there are any long-term cardiovascular consequences, especially when dosed properly.

And one of the things I do is always make sure all patients who have elevated blood pressure get that treated into the normal zone. I have no problem even giving older adults stimulants as long as their blood pressure is controlled. So, cardiovascular is potentially a risk, especially if somebody has certain structural abnormalities such as cardiomyopathy or serious cardiac arrhythmias. But, in general, the risk is quite low.



Long-Term Benefits

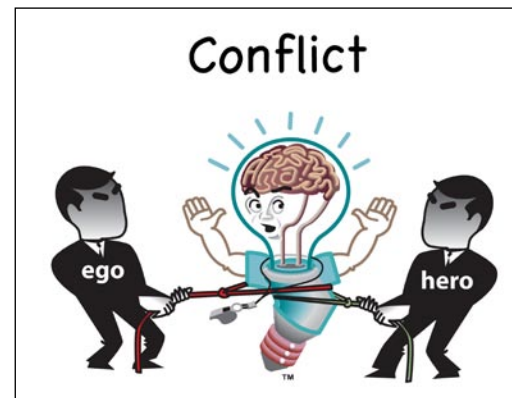
“The long-term benefits are extremely clear. We have ample evidence for improvements in academic function, job performance, achievement, quality of life, relationships. There’s even an increased risk of suicide with untreated ADHD that gets better with treatment.”

And, Jeff, we always have to balance out the potential benefit and the potential risk. So, before I go too far, let me just remind people. The long-term benefits are extremely clear. We have ample evidence for improvements in academic function, job performance, achievement, quality of life, relationships.

There’s even an increased risk of suicide with untreated ADHD that gets better with treatment. You decrease the suicide risk, as well as premature mortality from things like accidents and other things. So, the benefits are clear.

Now, **another risk that people are concerned about very realistically is slowing of growth, especially in kids.** There is evidence, of course, as you mentioned, of decreased appetite that can contribute to slowing of growth. And **there is some real evidence that over the first year or so of treatment, there’s a modest slowing of growth for some kids. But what’s interesting is long-term studies. When you look out, say three years, it seems like that levels off and it’s not an issue anymore.**

There are some people who will give drug holidays in order to allow someone to eat more and catch up, but again, in balancing out the potential benefit to potential risk, that seems to be a relatively small risk that seems to get better over time, but that’s a real one as is blood pressure and heart rate. Those things need to be monitored and dealt with.





Proper Dosing

“There are many drugs that are abused. If somebody’s abusing these drugs, we’re not talking about that. That creates a whole other problem. If they’re downing bottles of Adderall, then we’re not talking about that crowd. We’re talking about the proper dosage under the supervision of a physician.”

Jeff Copper: *There’s a story out there that’s sensationalized and when we were talking about the cardiovascular part, you were talking about being properly dosed. We are talking about a medication that’s under the supervision of a physician that’s properly dosed and not being abused.*

There are many drugs that are abused. If somebody’s abusing these drugs, we’re not talking about that. That creates a whole other problem. If they’re downing bottles of Adderall, then we’re not talking about that crowd. We’re talking about the proper dosage under the supervision of a physician. Right?

Andrew Cutler: I completely agree.

Jeff Copper: *We’ve been talking about the short-term impact or side effects, but now we’re transitioning into the long-term impacts, and we’ve been talking about the cardiovascular side and growth issues. I want to reiterate.*

We’re talking about a medication that’s used under the guidance of a physician, but like anything else, if you abuse any drug, it’s going to have some type of an impact, and it’s probably not going to be one that you want.



Impact of Abuse

“We’re talking about a medication that’s used under the guidance of a physician, but like anything else, if you abuse any drug, it’s going to have some type of an impact, and it’s probably not going to be one that you want.”

My question on slower growth is that you’re saying we know that sometimes there’s some growth differences. I think you were speculating, but about three years that begins to level out. So, are we really sure that there’s a long-term impact or is it inconclusive at this point? Or do we even know?

Andrew Cutler: It is inconclusive is the best answer. There is some evidence that long-term may not actually be an issue, but it’s more of a shorter-term phenomenon and that maybe people catch up later. It’s really not clear. The best thing is to monitor and if it looks like there’s an issue, as I said, sometimes we do a break from the medicine for a period of time, continue to monitor, continue to



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assess the benefit and the risk if you will.

Jeff Copper: The one thing I will say is when it comes to science, we know what we know. We don't know what we don't know. And so, as you hear this, we're talking about what we do know. That's not to even say maybe there's something else that we haven't been able to identify, but we're talking about stuff we do know.

And while we're on this topic, Dr. Cutler, my understanding is that we have been using stimulants to treat people with ADHD since 1937. So, this is not like a new thing. It's been going on for a long time; correct?

Andrew Cutler: That is correct. Bensedrine, an amphetamine, was the first medicine approved back then.

What's interesting here, too, is you have to understand it's a little difficult to get the really long-term data because, as we well know, most people don't stay on their medicines long-term or they're coming on and off their medications. They're taking them when they think they need them. So, it's been hard really to get accurate information on this.

Jeff Copper: That's interesting. You say that sometimes people are not med-compliant or they don't stay on it long-term. From a clinical researcher side, tell us more about that. Why do you speculate people don't stay on them?

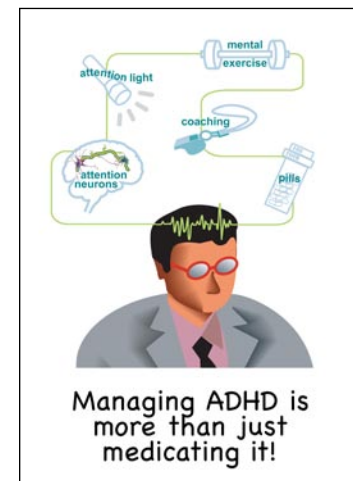
Andrew Cutler: Well, the adherence rates, we call them, to all medicines is bad. If you look at medicines for diabetes, for blood pressure, for all kinds of things, people stop their medicines or they don't stay on them for a really long time. So, part of this is human nature, but, of course, part of it may be unique to ADHD because people with ADHD, as we know, sometimes their judgment or their insight or their self-awareness, self-observation is not great. And they may think, "Well, I don't need it."

And they may not see the benefit as well as people around them do. And this is why I always try to get information from persons around them, collateral information. And I try to really encourage the communication between the patient and people around them to check in. "What are you noticing?" "How are you doing?" That kind of thing.

Jeff Copper: So, there's a great Rick Green quote that he said years ago that many ADDers report self-observation, which is surprising because those with ADHD are poor at self-observation, or as I say, self-awareness. I'm a big fan of Dr. Russell Barkley's executive function model, and self-awareness is one that he defines.

Andrew Cutler: Russell Barkley, sure. That's right.

*Jeff Copper: And to me, **self-awareness and success in life are highly correlated.** And in this space, we're just talking about sometimes people with ADHD, they're sometimes in their head and not aware*



of themselves.

Andrew Cutler: Yeah. That's certainly true.

Jeff Copper: So, what other types of long-term implications could there be?

Andrew Cutler: **There are a couple of other categories. We've talked about cardiovascular; we've talked about growth slowing. The next one is neurodegeneration or perhaps neurobiologic changes in the brain.**

A lot of this comes, as you'd mentioned, from people abusing these drugs, clearly knowing they can cause so-called brain damage or changes in the brain, also in animal studies when high doses are administered.

But there are some recent findings that, in kids particularly with ADHD who take the medicines longer term, not only is there no evidence of neurodegeneration or shrinkage of the brain, there's actually evidence of improvement in brain function and structure, and there is some evidence of a potential neuroprotective effect or helping maybe to resume a normal trajectory of brain development.

The data there is fascinating and may actually be the opposite of what you would think. Again, this is using drugs appropriately in appropriate doses and so on.



Improved Brain Function

"But there are some recent findings that, in kids particularly with ADHD who take the medicines longer term, not only is there no evidence of neurodegeneration or shrinkage of the brain, there's actually evidence of improvement in brain function and structure, and there is some evidence of a potential neuroprotective effect or helping maybe to resume a normal trajectory of brain development."

This may also be a time to mention that **long-acting stimulants extended release versus immediate short-acting such as Adderall IR. Those are more dangerous probably in general** because the blood level's going up, peaking, and coming down and it's really better to have a smoother concentration and to try to avoid those peaks and valleys.

So, that's my two cents on the state-of-the-art now, which is to try to use extended release rather than the immediate release as much as possible.

*Jeff Copper: So, to the extent there's a long-term issue, **it would be better to take the smoother release so that you're not hitting those peaks and valleys in the rollercoaster day in and day out, right?***

Andrew Cutler: I think so. The immediate releases are more subject to abuse, which, if I could transition to the next topic, which is the risk for substance abuse. There's a concern that these drugs are going to prime you to abuse drugs or cause you to crave. And the exact opposite is actually true.



Better Sobriety

“Dr. Tim Wilens up at Harvard, has done a lot of work in this area. What he’s found is that people who are motivated not to use drugs actually have better sobriety when treated with stimulants than patients with ADHD who are not being treated with stimulants. He also found that when children and adolescents are treated with stimulants, they’re actually less likely to abuse drugs later in life.”

A good friend of mine, Dr. Tim Wilens up at Harvard, has done a lot of work in this area. What he’s found is that people who are motivated not to use drugs actually have better sobriety when treated with stimulants than patients with ADHD who are not being treated with stimulants. He also found that when children and adolescents are treated with stimulants, they’re actually less likely to abuse drugs later on in life.

So, I understand the concern, and I know unfortunately there’s a lot of clinicians who refuse to give stimulants to people with ADHD with a history of substance abuse. I think that the data doesn’t support that. The data says the opposite actually.

Jeff Copper: I’ve had Tim on our podcast a couple of times in the past. He’s a brilliant guy.

So, let me share my opinion here. This is not scientific fact, but when I get a client that comes in, the first thing I do on an intake is start to ask questions, like their passions and their interests and what’s their most important accomplishment, who they look up to. And what I’m doing is always listening for what their answers have in common because I’m really trying to understand what I call their underlying dopamine blueprint, the thing that drives their passion.

I also have a list where I start asking them if they smoke, have they ever done illegal drugs, do they masturbate regularly, do they watch porn, are they drawn to acts of daring like driving 100 miles an hour. I’m going through this with social media. I’m looking for what they’re self-medicating with. And what I tell them when they’re uncomfortable, when they’re hungry, angry, lonely, tired, bored, or stressed, self-regulation is so much more difficult and that’s when they find themselves going to this.

So, my stupid little analogy here is, if people are not in these states and they’re getting other things done and they’re productive and their mind is occupied, then they’re not in these uncomfortable states where they have a predisposition to move to these things to get that dopamine relief.

Again, this is just what I’m observing, and I’m not so sure it’s fact, but it seems to me to help explain why, if they’re taking the stimulants, there’s less of an urge to go to these types of things. Plausible?

Andrew Cutler: Yeah, very much so. And what I like to say is your brain doesn’t know the difference between legal and illegal. And I often say, “I’m not your father and I’m not a police officer. I’m not here trying to put you in jail. I want to understand what you’re using.”



An Analogy

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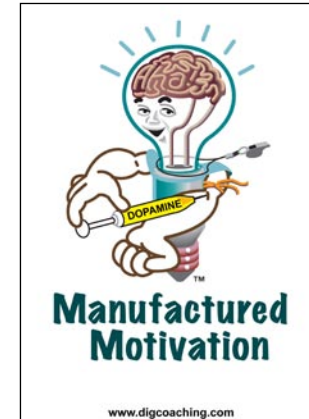
ADHD, we know, is dopamine dysregulation. Dopamine is the pleasure chemical; it’s motivation and reward. And so, you’re exactly right, that people try to self-medicate and there’s a lot of ways to raise dopamine. Anything that’s fun or exciting raises your dopamine.

And so, all these things you talked about raise dopamine. Unfortunately, people with ADHD don’t have a good off switch. So, they tend to overdo things, if you will. A little bit is good; a lot is better. And I think you’re wise to check and it’s very true.

And what I say then to them is, “Look, what you’ve been doing has just been an inefficient way of self-medicating. It’s either illegal or it’s inefficient, and I’m going to give you something that’s going to do that. It’s legal and it’s much more efficient.”

Again, getting back to that extended release, and this smooth release of a stimulant is now going to moderate your dopamine system rather than the ups and downs of what you’ve been doing.

Jeff Copper: As an aside, I wanted to share that I met you about 15 years ago. You were running clinical research. Basically, when pharmaceuticals have a medication or anything else that they want to test, they’re going to do a clinical trial and you were overseeing it to make sure that it’s all fair. And it struck me because when I first met you, you were talking to me about this thing that now is amazing to me. And this is brilliant.



Dehydration

“The ADHD brain is less efficient, and you don’t want to stress it. Obviously, you need to be hydrated to carry oxygen and glucose. We’ve talked about it before, the major fuel to the brain. So, I strongly preach that hydration is critical, as well as managing your glucose. Don’t get too hypoglycemic.”

When you have ADHD, you have a problem with dehydration. Coffee and alcohol will dehydrate you and stimulants will dehydrate you. And as an athlete, I was like, “Oh.” And when we think about it, if you are having a stimulant, it suppresses your appetite. Here’s the thing. Not only does it dehydrate you, but it suppresses your urge to drink. So, by the time you’re dehydrated, you’re way over the top.

And, Dr. Cutler, I'm sharing your brilliance because I've done presentations on ADHD and exercise literally in a room with a bunch of other Ivy League psychologists and I'll say this drinking thing and they all look at me and go, "Wow, I didn't know that." So, I'm tooting your horn, Dr. Cutler.

Andrew Cutler: Well, thank you so much. It's true. The ADHD brain is less efficient, and you don't want to stress it. Obviously, you need to be hydrated to carry oxygen and glucose. We've talked about it before, the major fuel to the brain.

So, I strongly preach that hydration is critical, as well as managing your glucose. Don't get too hypoglycemic. We can talk about that another time.

There's one other category of long-term side effects.

Jeff Copper: *One of the reasons I'm doing this topic is because, when you're taking a look at the long-term effects, you have to understand the long-term effects of taking this and not taking it. This is a hypothesis, but I have surmised that ADHD rates of diagnosis have increased as smoking rates have decreased.*

It's my understanding, Dr. Cutler, that people have experimented with nicotine as an alternative to stimulants because it helps with focus. The problem is you can't titrate it. And my point really is, back in the '60s and '70s, people were smoking and they were getting the nicotine, but they were rewarded with higher level of performance at work and school.

But there's side effects of smoking over a really long period of time. Do you want to speak to that?

Andrew Cutler: Yes. Oh, that's an excellent point. Caffeine and nicotine are stimulants, and people use those to self-medicate, as well. Both of them, however, are very short-acting substances. So, it's very difficult to titrate. You have to keep using them, if you will. It's hard to keep your blood levels stable.

Nicotine usually comes in the form of cigarettes and even chewing tobacco, dip, and all of that. They all have significant risks of cancer, as we know, and smoking's associated with heart disease, lung disease, and cancer.

So, that's a really inefficient way of self-medicating. And you're right that **smoking rates are much higher amongst people with ADHD than the general population even to this day. So, I think you're onto something.**



Caffeine and Nicotine

"Caffeine and nicotine are stimulants, and people use those to self-medicate, as well. Both of them, however, are very short-acting substances. So, it's very difficult to titrate.... They all have significant risks of cancer, as we know, and smoking's associated with heart disease, lung disease, and cancer. So, that's a really inefficient way of self-medicating."

Jeff Copper: *Excellent. Okay. You said there was another long-term potential impact?*

Andrew Cutler: Yes. **The other category that we think about is psychiatric complications or comorbidity.** For instance, do these drugs cause more depression or anxiety or dementias or things like that? It turns out they don't. As a matter of fact, again, it might be to the opposite.

Dr. Tim Wilens and his Harvard group have done some work on this. What they found is that, if you treat children and adolescents with stimulants, they tend to have lower rates of anxiety and depression essentially their whole lives.

Whether this is a biologic thing or you're helping them to function better, achieve better, have better self-esteem, we don't really know. But **the point is that there does not appear to be that kind of comorbidity or psychiatric risk, just like there's not really substance abuse risk.**



Psychiatric Effects & Seizures

“Dr. Tim Wilens and his Harvard group have done some work on this. What they found is that, if you treat children and adolescents with stimulants, they tend to have lower rates of anxiety and depression essentially their whole lives.”

Another myth is the myth of seizures. It was reported that these drugs lower seizure threshold and shouldn't be given to people with seizures. It turns out that this myth comes again from overdosing and from using too high a dose. At therapeutic levels, there is no evidence that you increase the risk of seizures with these medicines.



Seizures

“Another myth is the myth of seizures. It was reported that these drugs lower seizure threshold and shouldn't be given to people with seizures. And it turns out that this myth comes again from overdosing and from using too high a dose. At therapeutic levels, there is no evidence that you increase the risk of seizures with these medicines.”

Jeff Copper: *Wow, interesting. That's fascinating.*

Andrew Cutler: So, as we take this evidence all together, there is some real risk as we talked about, particularly in blood pressure and heart rate and maybe the slowing of growth short-term. But as far as long-term effects, there's very little evidence that there's any serious damage either to the brain or the body long-term. I think that has to be factored in, as we've talked about, against some of the very clear, strong long-term benefits of using these medicines appropriately.

And in combination, Jeff, too, with what you do, I don't want to make it sound like medicine is magic and fixes everything. As you well know, **pills don't teach skills**. I don't throw pills at people and fix their problems. So, I think you really do need to take a comprehensive and holistic approach to managing ADHD obviously.

Jeff Copper: There's one last concept I want to throw in here, Dr. Cutler. In 1980, I went to DC. It was Dr. Nolan, who was the Redskins' doctor at the time. I lived an hour away, but I went there because I had asthma and they did an EKG and a stress test, and I drove back to school an hour and 15 minutes away. When I got there, there was a nurse on the steps wanting to take me to the hospital, which I didn't understand.

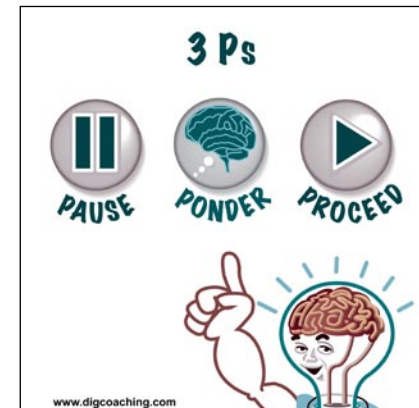
This repeated itself a couple times. And then in 1998, I went to my doctor as I was having some issues, and he wanted me to have an EKG. I said, "No, we don't want to do that because you're going to want to send me to the hospital." And sure enough, he does this and he walks in and says, "I'm taking you to the hospital."

He allowed me to drive to the hospital, and when I got there, the ER is full, but they've got a room waiting for me. It turned out I had some heart problems that run in my family and I had some stress tests. There happened to be a cardiologist there who was part of the group. And after three hours, I said, "Why do they keep sending me to the hospital?"

They said, "Well, your normal EKG looks like you're having a heart attack right now." In other words, your normal is everybody else's abnormal. I'm sharing this because sometimes people's bodies just act differently. And I've had multiple clients that did this.

I had one other psychiatrist that confirmed it. But I've had clients who, when they're on particularly Vyvanse, have the urge and smoke like a chimney. Yet, when they stop, they stop. Now, I don't know if you've heard that before, but my point really is that there's anomalies out there that don't always fit the mold. Make sense?

Andrew Cutler: Well, that's certainly true. I had a professor who used to say, **"You treat a patient, not a lab value and not an EKG."** In other words, here you are, a young, healthy guy, EKG says you're having a heart attack. Didn't make sense. So, there are normal variations in all of these things. Absolutely. And you have to put it all together. Use your judgment on that.



I thought what you were going to talk about, Jeff, was **well-trained athletes often have very low resting heart rates**, and sometimes people freak out when they see that the normal heart rate is, what, 60 to a 100, let's say. Well, world-class athletes can have resting hearts in the 30s and 40s. Their heart is just very efficient at pumping.

Jeff Copper: I used to take that willfully. Honestly, I would be sitting there, and my resting heart rate was right around 40. I would sit there and be relaxing, trying to get it under 40 and I could do it. Every once in a while, I'd get 39. And they would invariably run out and the doctor comes in, "Are you an athlete?" And I go, "Yeah." It was funny because I rattled their chains.



Improved Quality of Life

"My personal feeling is there's no reason to take a medication unless it has an improved quality of life over the long term. And I'm not pro medication, but I'm anti-suffering."

My personal feeling is there's no reason to take a medication unless it has an improved quality of life over the long term. And I'm not pro medication, but I'm anti-suffering.

I wanted to talk about this so we could have an open discussion about what's out there. Because all too often, I think people are demonized by all this.

You can take medications and it might not be for you with the side effects. But that doesn't mean you need to take it, but it also doesn't mean that you need to be scared of it if you're doing it under the observation of a trained doctor.

With that said, anything last to address before we wrap this up, Dr. Cutler?

Andrew Cutler: Well, I'd just like to say, as you mentioned, **I've been doing research and clinical work with ADHD for over 20 years now. I've studied literally every ADHD medication on the market and there have been some definite advances in mostly the formulation and how the medicines are delivered.**



And again, if used properly under supervision of a healthcare professional, these medicines appear to be very safe and very effective. It would be great if we could move to the next generation and find really effective non-stimulants. We have a couple, but unfortunately, they're just not as effective. Stimulants are just pretty darn effective.

Jeff Copper: This was so helpful. Dr. Cutler. Thank you so much for coming on the show.

Andrew Cutler: Thanks, Jeff. I always enjoy talking with you.