

## Sarah Cheyette, MD (00:00):

Hi, I'm Dr. Sarah Cheyette. I'm here to help you learn nearly everything you need to know about ADHD in about 10 minutes, so let's roll. We're going to talk about what ADHD is, why we care about it, and how to treat it. First of all, let's talk about what ADHD is. I'm not going to give you a long list of symptoms. Here's the concept. Everybody focuses. Sometimes everybody is not focused. Sometimes that's true for everybody, including all people with ADHD too. To summarize a lot of neurobiology, there's a switch in everyone's brain that moves your brain to focus sometimes and not focus sometimes in ADHD that switches in the not focus state too much of the time. That's essentially what ADHD is. Why do we care about it? Let's think about what focus does for you. Here's what focus is to your brain.

#### Sarah Cheyette, MD (00:57):

Picture your brain as a table. Focus is like having one thing on top of the table and everything else put away underneath. When you're not focused, everything is on top of the table, all at the same level of importance to your brain. Well, when you're focused and your brain sees only one thing, your brain can put all its energy toward that one thing. You can then do that thing to the best of your ability and have a better chance of a good outcome, but it's not really the thing you do that's important. It's the way doing it makes you feel. When you have a good outcome, you feel good about yourself. When that happens over and over again, you build self-esteem and that self-esteem, that feeling good about yourself, that feeling that you are a person who can do things. That's the important part about focus.

#### Sarah Cheyette, MD (01:49):

That feeling leads you to focus more in the future, and then you get more good outcomes and more self-esteem. You're on a positive cycle of success. On the other hand, let's think about your brain in the not focused state. When you have a lot of things on the top of your mental desktop, all at the same level of importance to your brain, your brain doesn't know which is the important thing. Your brain sees a lot of things at once, and it's hard to know where to start. It's kind of overwhelming. If you start something, there are a bunch of other things that are at the same level of importance, so your brain is still very aware of them. You are, in other words, distracted. Your brain jumps from one thing to the other, and with the jumping comes silly mistakes and impulsiveness. Any one task takes longer to do because you keep jumping off of it and doing something else.

Sarah Cheyette, MD (02:44):

You wind up with a poor outcome. How does that feel? Not good. You start thinking that the stuff you're doing is too hard for you, but other people can do it. Other people don't have the problems you do. You wind up with poor self-esteem. That poor self-esteem makes it less likely that you'll want to do stuff in the future. As a result, it's harder to focus in the future and you wind up with more bad outcomes. You're now on a negative feedback cycle, so focus leads to the positive feedback cycle where you focus, have a good outcome and feel good about yourself. Lack of focus leads to the negative feedback cycle, difficulty starting something, difficulty finishing things impulsively switching tasks and poor outcomes with poor self-esteem. So, to review, what is a DHD and why do we care? Well, we said that everybody focuses sometimes and everybody's unfocused sometimes.

## Sarah Cheyette, MD (03:42):

In other words, that switch in our head that we all have switches to focus sometimes and to not focus sometimes ADHD means that the switches in the not focus position way too much of the time, and the reason we care about it is that the people with ADHD are in the negative feedback cycle. Too much of the time, they are not getting the benefits of the positive feedback cycle of focusing. There are a couple of other concepts about what ADHD is that you should know. One is that you basically have to be born with this tendency if you are, let's say 40 years old and suddenly become unfocused too much of the time. There could be other reasons for the lack of focusing. You could be too busy to focus on just one thing. You could be sleep deprived. Anxiety and depression can also be reason for lack of focus, so it's important for a diagnosis of ADHD for you to have had that tendency since you were a kid.

#### Sarah Cheyette, MD (<u>04:42</u>):

Symptoms may not have been super obvious back then. For example, if your parents made you do your homework or organized your life for you, then people may not have noticed the issues. Or some people with ADHD who happen to be super organized or super driven, find a way to get by, but the tendency is supposed to be there in childhood. Also, the issues with focus have to be persistent in multiple areas of your life. Everyone is going to have times when they're bored with their jobs and lose focus, or maybe you're not listening to your partner very well. That's not a DHD. We all lose focus at times, but a DHD is supposed to be significant and pervasive in multiple areas of your life. If you picture focus as a bell curve, then a DHD is down at the very tail end. All people, both with and without a D, h, D, have better focus in certain situations and worse focus in other situations.

# Sarah Cheyette, MD(05:41):

We all focus better when we're interested in something or see the point in it, or it's our idea to do it. We all focus worse if we're sleep deprived. Think the teacher or boss is stupid for making us do the work. Or of course, if we're looking at YouTube at the same time, we can all be very focused in some situations, while much less focused in other situations. In A DHD, you're less focused too much of the time, but sometimes totally focused. There are people with a DHD, for example, who thrive on the structure of work, but less structured. Home life fails in someone with A DHD moving to the focus state when their switch is more naturally off is more difficult. They have to expend more energy to do it. What else is important about A DHD? There is no one test that rules it in or rules it out.

## Sarah Cheyette, MD (06:34):

If you picture that bell curve of focus with ADHD at the bottom tail end, no one knows where to draw the line exactly, and that line does not represent a biologic distinction. Focus is really more of a spectrum. Finally, let's talk about treatment of ADHD. There are two ways to treat ADHD. There are non-

medication strategies and there are medication strategies both ways, habits there end goal moving from not focus too much of the time to not focus less of the time, or in other words, increasing the amount of time in the focus state by moving that focus lever in your brain from not focused to focused regarding the behavioral strategies. There are many of them, but you want to think about a few concepts. Essentially, you want to do the things that make you focus more and avoid the things that make it harder to focus.

## Sarah Cheyette, MD (07:27):

So, for example, exercise in good sleep help you focus more, make sure you get some, your attitude towards what you're doing also makes a difference if you or your kid have a non-preferred task. Finding something to like about it that you can buy into would be helpful for focusing. Work on strategies for procrastination, which means practice starting things and do not rely on your memory. Remembering to do something is the hard way to do it. Writing it down is the easy way as our automatic alarms, checklists, and if needed timers, and finally, but for some, most importantly, block your electronic distractions. You need to be the boss of your phone and computer, and if you can't boss them around and turn them off, we may have some bigger issues to deal with. Then finally, here's what you need to know about medications. There are two categories of medication for ADHD. There are the stimulants and the non-stimulants. These are not equal categories. However, the stimulants are used about 95% of the time because overall, they're most likely to work. For most people, non-stimulants can work, but overall a stimulant is more likely to work. There's a big practical difference between the stimulants and non-stimulants as well. The non-stimulants are taken every day. They build up in your body and they're effective 24 7. The stimulants,

#### Sarah Cheyette, MD (08:54):

You take them in the morning, they work for X hours per day, and then at some point during the day, they stop working. Then the next day you choose whether to take them or not. If you want the benefits, you have to take them that day, but if you don't, then just don't take them. There are several non-stimulants, namely Strattera and Qelbree, which are similar to each other and guanine and clonidine, which are related to each other. But for our remaining time, I'm going to focus more on the stimulants. All the stimulants can be further divided into two categories. There are amphetamine related stimulants that we can call the Adderall category, and there are methylphenidate related stimulants we can call the Ritalin category. Both Adderall and Ritalin have long and short acting forms, and these all have different names, but here are several important points. The Adderall related stimulants are essentially divided into Adderall and Vyvanse.

## Sarah Cheyette, MD (09:48):

Here's how they're related. Adderall has left and right hand rotated molecules. Amphetamine picture your two hands, same structure, but one is left-handed and one is right-handed. Vyvanse is just the right-handed ones. In the Ritalin related category, you have Ritalin and Focalin, which are related in the same way. Ritalin has right and left-hand rotated molecules, and Focalin is just the right hand rotated. Additionally, you can have the same active ingredients such as Adderall released in different ways. For example, Adderall XR is released in two bursts over the day, but di, which has the same active ingredient, is released more gradually. For some people, a more gradual release means fewer side effects, but for others it doesn't matter. Both Adderall and Ritalin related medications have short-acting and long-acting forms. With Ritalin related medications, for example, Concerta is one of many long-acting types of Ritalin. Bottom line is there are a lot of options.

#### Sarah Cheyette, MD (10:52):

You can nearly always find one that's just right. The just right medication for ADHD will have lots of benefits and few side effects. If you're on a medication with lots of side effects and few benefits, you're probably on the wrong medication. If you have no benefits and no side effects, you probably are on too low a dose. In terms of side effects, you can have side effects such as worse sleep, worse appetite, and worse mood, as well as blood pressure and pulse changes. For kids, we want to make sure that they're still growing well and they usually are on these medications. Some people, nearly always kids, develop repetitive movements or sounds called ticks. Most don't. People always ask about addiction regarding the stimulant medications, they're listed as addictive, but in truth, at the doses prescribed coffee is probably more addictive. I know a lot of people who take their stimulant medication some days, for example, just weekdays.

## Sarah Cheyette, MD (11:52):

I don't know that many people who do that with coffee. You can abuse these medications however, but in terms of benefits, think about the benefit to your life from focusing no matter how, whether it's non-medication or medication strategies, or both. Improving focus is important for your life. It's not about the accomplishments, it's not about what you do, it's how doing things makes you feel. Thank you for listening. Now you know nearly everything you need to know about ADHD. For more, check out the other talks in this series and find me at https://sarahcheyette.com/