Episode 10 - ADHD (Diagnosis)

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Host: Dr. Christopher Chiu, Director of Education, Division of General Internal Medicine, The Ohio State University
Guest: Dr. Stephen Koesters, Division of General Internal Medicine, The Ohio State University
Sponsor: The Ohio Chapter of The American College of Physicians

Episode Summary:
Dr. Christopher Chiu interviews Dr. Stephen Koesters, an experienced internal medicine and pediatrics physician at Ohio State University, about ADHD diagnosis in both children and adults. They discuss the prevalence of ADHD, diagnostic criteria, assessment tools, and practical approaches to diagnosis in primary care settings.

Key Takeaways:

1. Understanding ADHD:
    - Most common neurodevelopmental disorder in children
    - Has neurochemical basis (dopamine and norepinephrine dysfunction)
    - Affects both children and adults
    - Only about 50% of children "outgrow" it
    - Approximately 10% of children and 5% of adults affected
2. Core Diagnostic Features:
    - Three main symptoms:
        - Inattention
        - Impulsivity
        - Hyperactivity
    - Must occur in multiple settings
    - Should cause functional impairment
    - Additional features include executive dysfunction and emotional dysregulation
3. Diagnostic Approach for Children:
    - Comprehensive history from parents/caregivers
    - Collateral information from teachers
    - Assessment in multiple settings

- Evaluation of functional impairment
- Consider comorbid conditions
- Assessment Tools:
    - Vanderbilt forms (parent and teacher versions)
        - Questions 1-9: Inattentive symptoms
        - Questions 10-18: Hyperactive symptoms
        - Additional sections for oppositional behavior, conduct problems, mood symptoms
        - Measures functional impairment
    - Conners scales
    - ADHD rating scales

4. Adult ADHD Assessment:
    - Often underdiagnosed in adults
    - May require retrospective childhood history
    - Benefit from collateral information
    - Different presentation from childhood ADHD
    - Impact on occupational and relationship functioning
    - Higher risk for accidents and legal issues
    - Assessment Tools:
        - Adult ADHD Self-Report Scale (ASRS)
            - Part A: Six-question screening
            - Part B: Additional assessment questions
        - Wender Utah Rating Scale
        - Additional screening for anxiety/depression (PHQ-9, GAD-7)
5. Clinical Pearls:
    - Diagnosis is ultimately clinical
    - Tools support but don't replace clinical judgment
    - Consider comorbid conditions
    - Screen for anxiety and depression
    - Balance between under and over-diagnosis
    - Consider functional impact on patient's life
6. Considerations for Referral:
    - Not routinely necessary for straightforward cases
    - Consider for complex presentations
    - Helpful with multiple comorbidities
    - Limited availability of testing resources
    - May still result in primary care management
    - Long wait times for formal testing

Transcript:

This transcript has been edited for clarity

[00:00:00] **Christopher:** Welcome to Everyday Medicine. I'm Christopher Chiu. This is a podcast from the Division of General Internal Medicine at The Ohio State University, where I'm the Director of Education for the Division. This podcast is focused on primary care and aims to provide current information to medical professionals from experts in Ohio. We're also graciously sponsored by collaboration with the Ohio Chapter of the American College of Physicians.

Episode 10 - ADHD (Diagnosis)

[00:00:30] I have a special guest today to talk about ADHD. I have Dr. Stephen Koesters. Do you want to introduce yourself?

[00:00:41] **Steve:** Sure. Great to be here today. I have been at Ohio state for a long time, practicing internal medicine and pediatrics in an academic setting, and I've come to get quite experienced at ADHD. So happy to share some of my pearls and wisdom with you today.

[00:00:53] **Christopher:** Excellent. And you actually, the reason why I came to you, cause you did a talk actually a couple of different times. You had a talk for one of our faculty development series. And then you had a much larger talk at, one of our larger med peds and hospitalist symposiums. Is that right?

[00:01:06] **Steve:** Yes, that's right. And it really helped me go back and hone my. skills and update on the latest for ADHD. So it was natural to come here today and talk with you guys and share what I learned during that process as well as my years of experience.

[00:01:18] **Christopher:** Excellent. And I think because there's so much to talk about today. I was going to split it and probably it's going to be in two episodes.

[00:01:24] The first episode, we're going to talk about understanding and diagnosing ADHD. And that second episode is going to be sort of on treatment. And we're going to talk about both adults and kids in this episode. Let's start off with just sort of. Understanding ADHD. Can you tell me exactly what is ADHD and why it matters to us in primary care?

[00:01:40] **Steve:** ADHD is actually surprisingly common and I'm sure we've all encountered it, but it's actually the most common neurodevelopmental disorder in children and adolescents. And then it's quite common in adults too, but it's often been underrepresented or underappreciated in adults. There's actually a neurochemical basis for it.

[00:01:55] There is a deficit in the dopamine reward pathway and there's also norepinephrine dysfunction. So patients who have this actually have measurable deficits that are starting to be proven scientifically. And so it's not just a, lack of attention or whatever, there's a chemical reason for it.

[00:02:12] **Christopher:** And ADHD can be prevalent in both children and adults?

[00:02:15] **Steve:** Yes, definitely. We've always thought of it, or at least traditionally when I was getting trained through medical school and beyond, we thought of it mostly as a kid problem. And it's definitely more prominent there and probably easier to diagnose there.

[00:02:26] But it doesn't go away. We always thought that people outgrew it, but. Really only about 50 percent of people outgrow it. And so a lot of people still show signs of ADHD into adulthood, although it's definitely underdiagnosed to probably a small fraction of adults who have ADHD actually are diagnosed and then an even smaller percentage are treated.

[00:02:44] **Christopher:** Okay. So let's talk about prevalence in children first. I definitely hear a lot of discussions between, parents and then like other people saying, Hey, everyone seems to be diagnosed with ADHD you know, every day. My kids, your kids, everyone has ADHD. Are we overdiagnosing ADHD or what do you think is going on with the prevalence here for children?

[00:03:02] **Steve:** I think that's a great question. Probably about 10 percent of children are actually diagnosed with ADHD or meet the criteria for ADHD. Now that being said, I think we all have our tendencies towards, poor focus now and then, and in modern society with all, TV screens and phones and distractions, I think there's a tendency to blame everything on ADHD when it really is our modern day life.

[00:03:23] But it's about 10 percent of kids that actually have ADHD that's diagnosable. I think it is being more widely recognized. I don't know that it's actually increasing in prevalence over time. It is being recognized increasingly in adults, though, and I think that's where, in addition to what we see in kids, we're recognizing a lot more often in adults.

[00:03:40] Some of those are related to the kids that have ADHD. So I do think we hear about it more and there's a lot more treatment options now available.

[00:03:46] **Christopher:** So let's talk about adults a little more. So I think one of the the biggest things about adults is, I find a lot of my adult colleagues who only see adults are very hesitant to diagnose ADHD.

[00:03:56] They seem to have not had a lot of experience. Whereas, my med- peds and my family medicine colleagues seem to think. Oh, yeah. This is just ADHD and I'll treat that. Can you talk about prevalence of ADHD in adults? And why do you think it's been so difficult for us to get some of our more adult centric providers to diagnose and treat this?

[00:04:14] **Steve:** I agree with you. For a lot of people who didn't have training with kids, it's just a comfort level thing. And I know as I am dual board and in pediatrics and internal medicine as well. I don't recall talking about ADHD much at all in my internal medicine training. And obviously a lot of our primary care docs are internal medicine or family practice trained.

[00:04:32] And I just don't think we get a lot of training in that traditionally in the past. But if we think about 10 percent of kids having ADHD and about 50 percent of those going on to adulthood have symptoms, that's about 5 percent of the population that could meet criteria for ADHD. And that is definitely well beyond what psychiatry colleagues and behavioral health professionals can handle in terms of diagnosing and treating ADHD. I think it really does need to fall in primary care docs. So I think it's really important that we get more comfortable with that. And it really is, I think it's one of those things you can learn. I definitely had a leg up on the competition by starting with the pediatric background, but just in my adult practice, I've become more and more comfortable with it because I've seen so much of it.

[00:05:13] **Christopher:** In terms of recognizing ADHD, especially being more cognizant of trying to look for it in patients, what are some of the impacts that we have if we don't diagnose it? How are they affected by not getting this diagnosis?

[00:05:24] **Steve:** I think it's a little more obvious in kids, and a lot of times it's because a parent is watching them and watching them get into the school system and develop, and they're noting difficulty doing well in school, or maybe they note more difficulty making friends or getting along with other people or even problems with self esteem.

[00:05:40] So for kids, I think it's been a little bit more ingrained for a long time that we look for those problems, or at least parents bring them to our attention. When you think about teens and adults, it does often present differently. It may show up in terms of occupational difficulties where they're having more trouble keeping a job or being productive on the job... risk taking, getting in car accidents more frequently, getting into workplace accidents, having more trouble with marital relationships, or other interpersonal

relationships. And then a chunk of, inmates are actually, have ADHD too. They estimate 25 to 40%. So there's a lot of things that it can come out. And I think as a primary care physician, if we get to know our patients, that should be some of the history we're asking about is.... How well do you function? How well is your life going? And when we're hearing that they're having difficulty, it should be on the list of one of the things we think about as a possible cause.

[00:06:28] **Christopher:** Let's move on to actual diagnosis then let's start off with, exactly what are the core symptoms of ADHD and this is a DSM IV criteria type of diagnosis, correct?

[00:06:37] **Steve:** Yes, this is a diagnosis that is ultimately clinical, but it is defined in the DSM four and then now the newer DSM five criteria the core symptoms are inattention, impulsivity and hyperactivity. And then there's some additional kind of minor symptoms, executive dysfunction and emotional dysregulation that can be folded in as well. But the core ones are inattention, impulsivity and hyperactivity.

[00:07:00] **Christopher:** And when you think of these three sort of big buckets, how does one go and assess someone for this? And let's start with say kids. Cause I think this is something that, many of us are more aware with and even those who are just adult providers remember, going through the pediatric rotations and how this is diagnosed, but he will step us through how we typically diagnose a child with ADHD.

[00:07:18] **Steve:** Much like any other diagnosis, you're going to start with a history. Now that history may be brought to you in the case of a kid, a parent may come in and say, Hey, they're having trouble in school or a teacher has noted that they're really struggling to follow rules or sit still. But a good history will let you know if some of those symptoms are there. Are parents noting symptoms of impulsivity? Are they having trouble focusing at school?

[00:07:41] And we want to keep in mind as we get to the formal diagnostic criteria, that it can't just be something that happens at home or at school. It has to be two or more settings. We've all seen kids struggle in one setting that maybe they just don't get along with the teacher or having trouble with one particular, situation.

[00:07:57] But that's part of the point of ADHD is it has to happen in multiple settings and that's for adults too. So the parents would bring you some symptoms, but we always try to get collateral evidence. We always try to get input from more than one person... a parent, a caregiver, a teacher, or someone else who spends a lot of time with that child.

[00:08:14] When you think about it in the adult setting. It's actually similar. A lot of times you're going to be interviewing the patient themselves, though. And so patients are sometimes very insightful and sometimes they're not very insightful about their own symptoms. And so I think that's what makes it a little bit more difficult.

[00:08:29] Ideally, collateral evidence on a adult patient would be ideal as well. Maybe it's a spouse. Maybe it's even their parents or coworkers or someone else that they trust to give some feedback on how they function. Because as we all know, sometimes we're not the most perceptive about our own behaviors and how we interact with people and having that collateral evidence can really help support that clinical diagnosis.

[00:08:48] **Christopher:** Okay. So making sure we're getting good history either from the patient directly, if they're able to and then collateral from parents, of course, for the kids that they're there. I've definitely heard from, other psychiatrists on how they manage adult ADHD is, they'll even ask permission from the patient to, Can I call your mom? Can I call your spouse? Can I talk to them or we can have them come

with them to the appointment and we can assess some of these things. And I think in retrospect, even, talking to, parents and recognize, oh yeah, he had undiagnosed ADHD as a child. And some of these symptoms were prevalent then.

[00:09:18] **Steve:** Yeah. And I think part of the point there is a lot of adults who have ADHD probably did have symptoms as a child that were just either not recognized or overlooked. At the time it was not as well known. It was not as okay to diagnose. And so I think parents in the past and even to some extent now are embarrassed to have their child diagnosed with ADHD.

[00:09:37] They don't want to put a spotlight on him and show that something is wrong with their child. And I think it was much more common 20 or 30 years ago. And a lot of those people are adults now with ADHD.

[00:09:46] **Christopher:** Now, I'd like to move into, as primary care, we use a lot of different validated tools to help diagnosis or at least monitor and assess symptom control. Can we talk about some of the tools we have available for us as primary care practitioners?

[00:09:57] **Steve:** There are multiple tools out there for kids and adults. There are more for children. And I think that's what most of us are familiar with, who have worked with ADHD a lot. In children, some of the most common ones were Vanderbilt forms, Connor scales, there's an ADHD rating scale. There's actually several others.

[00:10:14] And I guess the key point I would say there is there's not one that is necessarily the best. Ultimately, even though rating scales are there to support a diagnosis and can certainly be helpful to have a methodical way to think through it. It is a clinical diagnosis, so you don't have to meet every criteria to diagnose ADHD.

[00:10:31] There are the formal DSM criteria, which is what the rating scales are based off of, and they help you check all the boxes to make sure that you hit either enough of the items to meet a diagnosis, but the truth is I've diagnosed people before without having, maybe they only have five of the six criteria or four of the six, but it really fits. And that's where your kind of clinical judgment comes in over time.

[00:10:50] For adults, I think it's a little bit trickier. There are. Some scales out there. One of the simpler scales for adults is the adult ADHD self report scale or ASRS. It's a really incredibly simple checklist. It's almost too simple. And I think it's one of those. So when we look at it, we're like geez, everybody, meets criteria for ADHD on it. But I do think it's a good starting point.

[00:11:11] I think it's a good screening tool to get your foot wet with, do they really have the right kinds of symptoms or not? There are more formal tools like the Wender Utah Rating Scale. And there are some other follow up scales, which honestly I don't use a lot. But I think that's where I would say explore one or two of them, develop a comfort with them, have some of your patients use them, see if they're informative to you.

[00:11:32] I would never, totally make or not make a diagnosis purely based on what they checked off a form. I think it's where your clinical judgment comes in. And at the same time, that certainly can be supporting evidence if you're, leaning towards an ADHD diagnosis, but then other features show up at a rating scale that may point in a different direction.

[00:11:48] I think it's very helpful. And on the other hand, if really nothing else lights up as a possible comorbidity or something else. And it supports a diagnosis of ADHD. I think it makes it easier to make that diagnosis.

[00:12:00] **Christopher:** I'd like to talk a little more about the some exact forms that most of us may be more familiar with. So I think most of us at OSU, we use Vanderbilt forms. Do you mind talking a little more about the different portions of the Vanderbilt. Who fills the different portions of it and how that can be useful in our management of the patient.

[00:12:18] **Steve:** Sure. I really liked the Vanderbilt forms. I've been using it for years and I've developed a lot of comfort with them. Like I said, there are other forms. Some of them are not public domain. And that's one of the other reasons I like the Vanderbilt forms. They are really for kids. So they're not really directed towards adults, but I think for our kids and adolescents, they're quite helpful.

[00:12:36] What I like about them is that they're. Two different versions. There's one designed for parents and one designed for teachers. They're very similar in their questions, but they are tailored to the situation a little bit. Within the Vanderbilt forms, it's broken down into sections.

[00:12:50] For example, questions one through nine really focus on inattentive type symptoms while questions 10 through 18 focus on hyperactive type symptoms. As I mentioned, To be ADHD, it should be occurring in more than one setting so obtaining a parent form and a teacher form.

[00:13:06] Ideally, we're going to see similar responses to both. Now, it's not rare to see one a lot more dramatic. Sometimes parents rate something way higher and then you can have more than one teacher and it's not rare that one or two teachers really notice something and another teacher doesn't really see that. Depends a lot on, whether it's your, gym class where kids are running around and it's okay to be hyperactive versus whether it's in their, language arts or math class where they really need to focus a little more intently.

[00:13:31] The long and short of it is there's two different forms, one for a parent or caregiver use and one for a teacher. And it's really the first 18 questions that are looking at the diagnosis of ADHD. I mentioned section one has nine questions. Ideally, if there's six or more of those that are marked as a positive, which is a score of two or three on a zero through three rating scale, that would meet criteria according to Vanderbilt forms for inattentive, if it's questions one through nine or six or more of the questions, 10 through 18 would meet criteria for hyperactive.

[00:14:02] And then if it's both, that's what they call the combined type. That's the, phase one of the Vanderbilt forms. What I like is that there's other sections and the exact, question breakdown is less important, but there's a section related to oppositional disorder type symptoms, conduct disorder type symptoms, mood disorder symptoms, and then a rating of how significant the impairment is.

[00:14:23] So Vanderbilts are built to be an all in one thing where they help you get a sense of whether there are, comorbidities like a mood disorder or conduct disorder that might mimic ADHD symptoms, but are not the main thing to think about, or at least may need addressed as well. And then, the impairment part's really important too, because, obviously we are going to be much more concerned if the level of impairment from these symptoms is significant. If they're maybe daydreaming in class, but getting great grades, a lot of times those kids may not need treatment or may just need some different support than if they're really struggling or not getting along or failing all of their classes. So the level of impairment does impact, how aggressively you may go after treatment as well.

[00:15:02] **Christopher:** I'd like to move on to talking about adults. When we assess adults, you said we don't, we can't really use our Vanderbilt forms and really taking history and getting collateral is really important here.

[00:15:12] You did mention the I think that the revision of ASRS, I think they're on version 1. 1 now that it's honestly very simple. There's like a handful of questions at the beginning, there's a Part A, and that will help us with our diagnosis. But then there's like a part B as well. Can you tell me a little bit about the breakdown that, you know, about the ASRS?

[00:15:29] **Steve:** Yeah, happy to do that. Part A has six questions and that's really your kind of screening part. And there's a question like how often do you have problems remembering appointments or obligations? And it's a kind of a rating scale of never all the way up to very often. And there's a kind of a scoring grid if you look at the sheet and if four or more of those fall in the significant range that meets criteria or is highly consistent with ADHD and warrants further investigation.

[00:15:56] **Christopher:** But then when you get to, that's the part a, right? And the part B, do we do anything with that? Is that help us with our diagnosis or with our management?

[00:16:03] **Steve:** So Part B is an additional 12 questions and technically it's not formally scored, but it's considered useful to help assess that degree of impairment. As I mentioned with kids, we want to know how significant is the impact from this. And so really those follow up questions don't necessarily have to have a formal score of, five or six or seven or more, but I do think it can be helpful to fill in some of the blanks and give you a sense of where this is impacting them or how significantly it's impacting someone.

[00:16:30] **Christopher:** Now you're saying that the Vanderbilt has multiple section and also looks at, comorbid conditions. And we do know that for adults anxiety and depression can cause a lot of issues with people keeping attention. Would you say that if we were assessing an adult, we caught our history or collateral, we did an ASRS and then would you also screen with a PHQ9 and GAD7 as well?

[00:16:49] **Steve:** I would definitely think about those things as well. When we think about ADHD again, core symptoms of inattention, I think one of the reasons we find it simpler in a child is because there's just less to distract a child, or at least we perceive there's less to distract a child. But when you think about adult life people have all kinds of things going on in their worlds, whether it's job stress or home stress, or maybe it's their kids who have ADHD that are stressing them out. But we've all seen patients who have anxiety and depression and those can come out differently in different patients.

[00:17:16] When somebody is coming to you because they're struggling and you're have ADHD on the list of things, you're, considering in your differential diagnosis, I think you definitely have to have things like depression, anxiety, maybe personality disorders, maybe substance use disorders on your list.

[00:17:30] And those are the kinds of comorbidities you actually want to think about. At least ask history questions about now, like depression, I would definitely do a PHQ 9 or GAD 7 for anxiety. I think those are very helpful. And if. They light up really strongly in one of those, it doesn't mean they couldn't have ADHD, but you certainly may want to focus on that first. You may want to turn your direction towards anxiety first and then come back to the ADHD later.

[00:17:52] **Christopher:** I really appreciate you talking about diagnosis and how we can, in the primary care setting, do this. Now, my last question for this segment, as we talk about diagnosis for ADHD is the use of referrals.

[00:18:04] I definitely know that there may be children who may have multiple comorbid psychiatric conditions where a pediatrician or a provider that sees children may be uncomfortable treating their ADHD, but I assume that's the same with adults as well. And I feel like many of my adult colleagues may be so uncomfortable with diagnosing ADHD that they actually send people for formal neuropsych testing and things like this.

[00:18:26] Can you tell me in your personal practice where your thresholds for like referral are and would you routinely send your adults for neuropsych testing to get a diagnosis of ADHD?

[00:18:35] **Steve:** I think that's a great question. I don't think it's always a black and white answer. I will say that as I've gotten more comfortable over the years, I send fewer and fewer people. At the same time, a lot of it's going to come down to that kind of gut feeling or, what is your instinct say on a particular person? I think similar to how we treat any other medical problem, when someone comes in and their blood pressure is a little high, if it looks pretty straightforward, if they're middle age, maybe family history, hypertension, little bit overweight, maybe not the best diet and those kinds of things.

[00:19:04] It fits pretty well. And at the same time, if they were a 18 year old and they have high blood pressure and it, and something seems off, you're going to dig into it a little bit more. And I would say the same thing with ADHD, particularly in adults, but we can talk about kids as well. If you're talking to somebody and the history is just not quite adding up.

[00:19:22] It just doesn't seem straightforward or there's a very clearly anxiety and depression, but probably also some ADHD and maybe some substance use mixed in there. I think that's where I much more readily will refer out for formal neuropsychiatric testing. I guess the point I would make... unless you practice somewhere different than I do, there is just not enough psychologist and neuropsychologist who can do that kind of testing to refer every single patient.

[00:19:45] Yeah. Absolutely. And that is, if you've ever seen formal neuropsychiatric testing, it can be pretty intensive. It can take, several sessions and, a day or two of pure testing. I think it can be very valuable for certain patients, but I think for people where, at least your clinical suspicion is pretty high, you don't see a lot of comorbidities.

[00:20:03] You don't see a lot of, things that are raising red flags to you that something else is going on. I don't think you need to send for more formal neuropsychiatric testing for the far majority of people. But I do like that it's always that backup in your pocket. If you just can't figure it out.

[00:20:16] **Christopher:** I do find it interesting that a lot of times when I get these reports back, pretty much they're doing the same screenings like they're doing an ASRS or a Connors and a PHQ9/GAD7 and they're making their interpretation based on those, which are things that I probably could have done.

[00:20:28] And I feel that sometimes it's just the fact that, providers may be uncomfortable with treating ADHD, maybe don't want to deal with writing for a stimulant medication for a controlled medicine for a patient and just trying to put up some hurdles for them.

[00:20:41] **Steve:** Yeah, I do think that still happens. It doesn't mean I'm advocating that everybody should be on a stimulant or controlled substance. I think there's obviously some ramification to that. We'll talk about later with treatment strategies. I think there's probably an unnecessary fear of prescribing a lot of those medications just because we lump them together with a lot of other medications that, opiates and things like that, that we've been taught to fear of time.

[00:21:02] And rightly to a large extent, we want to be cautious with prescribing all those things. But think about it. If you refer to neuropsychiatric testing. A lot of times it comes back to you to prescribe when they confirm that diagnosis anyway. It's not like they take over prescribing for you, usually.

[00:21:14] **Christopher:** You know, the big thing is like you're waiting like six months to get it done and then waiting another month for them to read it. Cause it is extensive testing for them to write a report. It takes a while. Thank you so much for talking this week on the diagnosis of ADHD in adults and children. And we're going to have you back next week to talk about treatment in these age groups, correct?

[00:21:29] **Steve:** That sounds great. Happy to be here. And I look forward to the next talk as well.

[00:21:32] **Christopher:** And for the rest of your listeners, Thank you again for listening to another episode of Everyday Medicine, OSU's Division of General Internal Medicine. Please consider subscribing to our feed on your favorite podcasting platform so you don't miss out.

[00:21:51] You can also get our show notes and transcripts soon from our Division web page at http://medicine.osu.edu/GIM. Have a good day. Bye.