#353 – Thriving with Adult ADHD with Craig Surman, MD
A psychology podcast by David Van Nuys, Ph.D.

Announcer: Shrink Rap Radio Number 353, Current *Developments in Positive Psychology* with Stewart Donaldson.

Shrink Rap Radio, all the psychology you need to know, and just enough to make you dangerous—it's all in your head. And now, here's your host Dr. Dave.

DVN: My guest today is Harvard psychiatrist Craig Surman, MD, and we'll be discussing his work and writing in connection with adult ADHD. Dr. Craig Surman, co-author of *Fast Minds*: *How to Thrive If You Have ADHD or Think You Might* is an Assistant Professor of Psychiatry at Harvard School Medical School, and the Scientific Coordinator of the Adult ADHD Research Program at Massachusetts General Hospital, which has helped develop several current treatments for ADHD that are widely in use.

Dr. Surman has directed or facilitated more than 40 studies related to ADHD in adults. His work has demonstrated the broad impact of ADHD on daily life, including its affect on sleep, eating patterns and emotions. He has studied several treatments for ADHD with his colleagues at Massachusetts General Hospital, including medication, cognitive behavioral therapy and nutritional supplement interventions. He teaches courses on management of ADHD and presents his research nationally and internationally. Dr. Surman recently organized an international collaboration to educate clinicians on best treatments for adult ADHD, which will result in a book, titled *A Practical Guide to the Management of ADHD in Adults,* which will be published in Spring 2013. Now, here's the interview.

Dr. Craig Surman, welcome to Shrink Rap Radio.

CS: Thank you so much for having me.

DVN: First of all I have to say 'congratulations' on your new book, *Fast Minds.* You're a psychiatrist specializing in ADHD. How did you get involved with that particular specialty?

CS: I trained in neuropsychiatry as well as psychiatry. I was fascinated by brain circuits and brain function and in particular, attention. On the wards the idea that all it took was a urinary tract infection for a brain to be unable to focus—like we'd see a delirium was just fascinating to me—and the sensitivity of that circuit—and I think it became opportune that people were starting to understand that ADHD existed in adults, and I always had a passion for organizational challenges, the issue of how do people organize their lives, and certainly how this could improve my own organizational abilities. So I think it was fortuitous that I started having conversations with people who were pushing the envelope at the time in sort of thinking about these kids grow up with ADHD—what happens to them?

DVN: Fascinating that you started off with an interest in attention. My own doctoral research involved attention, but it was way before we had all these tools for really monitoring what's going on the brain.

CS: Interesting.

DVN: Most of us think of children when we hear the term 'ADHD' as you've just suggested, and you specialize in adult ADHD. I gather it's only fairly recently that attention has turned to adults with this diagnosis. What can you tell us about that?

CS: One of my supervisors is Paul Lender, who did a lot of work in Utah and wrote a book in the seventies on adult ADHD. People have been talking about it in adults for a long time, but the opportunity for systematic research has only been there for the last 15 or so years. People have had to go through a process of proving what people already knew, which is that half of folks still have struggles in adulthood that have something to do with ADHD. One of the problems is that often their struggles are with focus rather than with outward things like restlessness, impulsive action—that everyone can just say, "Hey, that person is different from the outside."

DVN: I think it used to be thought that children with ADHD would eventually grow out of it. To what extent is this or is this not the case?

CS: Impulsivity and hyperactivity tend to improve. I always say it's unusual for me to have an adult who is pacing around the waiting room. It's not that they're climbing on the chairs as an adult and I have to call Security potentially, but if it's a child it could just be normal, so there's a motor control development. There's also a development of an expectation in being able to anticipate that, so we definitely tend to see more inattentive type challenges than impulsive hyperactive, and it's clear that about half of folks persist in having these challenges. And that's been shown in international studies and longitudinal follow-up studies—multiple of them, actually—that go out at least 20 years.

DVN: Do any people sort of grow out of it in fact, or not, as children?

CS: Yes, but it's unusual to eliminate all that traits, and I think a lot of people grow out of the condition in the sense that they're not impaired by it anymore. I always take great pains to explain the difference between having ADHD and being impaired by ADHD traits and just having the traits. These traits are very common in the human population, and people can find circumstances that are very favorable for them and for their traits. You don't get much choice about that when you're sitting in a row of chairs or if you're sitting in a cubicle at a job that is asking of you things that are not natural. So if you have opportunities to outsource things that are challenging for you to someone else—to find an environment which has the right kind of wiggle room and the right kind of structure I think people end up not needing as much support.

DVN: I don't know if you have any statistics at the top of mind, but what can you tell us about how pervasive ADHD is in adults?

CS: It's 4.4 percent of the adult population based upon a national survey and there's been for example, a study that looked at multiple countries—about nine countries--and found that rate that ranged anywhere from a high of 2 percent to somewhere in the fives. So three to four percent is probably very reasonable, but I always take pains to say that there's a difference between surveys which they ask people if they have a condition, and people who would actually choose to for example, change their brains on a medicine for that condition, and I think that what it really comes down to is different individuals have this more than rather how you fall on some sort of statistical assessment of how many of these traits you have. The issue of impairment is so individual, like I said, some people are able to adapt, but the international studies really suggest that the rates are somewhere around three or four percent in adulthood.

DVN: So, from what you've said, I take it that symptoms present differently in adults than in children and in children they're more behavioral and you can kind of see it outwardly, but that in adults it's more of an inward difficulty with controlling attention. Is that right?

CS: Yes it is, but there are many folks we work with who have a restlessness, and if you ask someone what they were like as a kid many of them were hyperactive and the quality of internal drive, needing to do something all the time to being bored easily, having trouble when you're at loose ends kind of if this is unstructured time and people get maybe even emotional or uncomfortable. There's the sense that there's an internal pace and I'll use the idea of being too charged and too revved. So it's an internal restlessness that some will be having sitting at a conference table trying to participate during a slow part of the meeting, whereas when they were a child they might have just been out of their seat walking around.

DVN: Okay, it's hard for me not to have Medical Student Syndrome here and see myself in what you're saying, and maybe it does fit and we'll get into those traits in a bit.

CS: The problem is these are very human traits, and the question is "Do you have enough of them that it's a burden?"

DVN: Yes. Well what about gender differences in how the symptoms present and also in the rates among adults?

CS: The gender difference is an interesting issue and it's really prompted recently by recognition that the rate of identification in girls is up to like one in nine, compared to boys, so nine times more boys being identified as girls. Usually the studies come out a little lower than that, four times as many, but in adulthood you see about fifty-fifty—as many women showing up as men. The question is, "What gives?" I don't think we got a great answer as to probably why this is—and many people agree with this---on gender identification of girls. But one reason being is we've been talking about these outward manifestations—restlessness--and boys tend to be more physical than girls, to be more outwardly active, so they stick out. Also, we see a tendency toward rule-breaking more in

boys that in girls with ADHD, so there is this question of fitting in and pleasing the teacher for example, if you think about a classroom example. It might just be a gender difference. There are many women that I work with who say that they were quietly inattentive—passing notes in the back of the classroom, but pulling it off and not really engaging, and now that's just not cutting it when they're an adult.

DVN: Referring to adult women, are there any special challenges in relation to women with ADHD as opposed to working with men?

CS: I think it's very tempting to stereotype, but actually I think everybody has their own version of this. We're talking about a challenge with self-regulation and so what is hard to regulate? What is hard to control depends upon who you are, what your challenges are and what your strengths are. I think there are—to stereotype—on the other hand, some concerns that women have that men tend not to have as much because of their role and how they're cast in society. And this of course is changing, but for an example with that caveat I will say that you do see women coming in worried about their household duties, and really feeling that they're not on top of the household and they may never have come in if it wasn't for a sense that they're impacting their children, and they're worried that they're not on top of things for their kids.

DVN: That makes sense. I'm under the impression that DSM5 has been revised to recognize adult ADHD. What are the changes in this regard and the DSM5?

CS: The specific wording for the symptoms of ADHD in adults. There's also relaxation of the number of symptoms you have to have currently have manifest—it's six of the inattentive or six of the hyperactive traits—so that's dropped down to five now. There's this challenge with identifying age of onset with adults. You didn't see them as a kid usually, unless you're a long-term family practitioner, in their life. So when did it start? It's a neuro-developmental disorder, and that's a distinction being made that it's neuro-developmental as opposed to "disruptive," but the onset by twelve, studies suggest, is pretty much about the same impact as onset by seven in terms of how people's lives are now, so I think we'll see in May when DSM5 comes out onset by twelve, current symptoms five not six, specific examples of how symptoms show up in adults and the fact that it's going to be listed as a neuro-developmental disorder.

DVN: By the way, I just read something online to the effect that the National Institute of Mental Health in the United States, NIMH, will no longer be using the DSM in the research that they fund. Do you know anything about that?

CS: Sure. I think this has been an issue for a couple of years where the NIMH thought that part of their agenda should be to improve treatments in ways that are thought to be brain-targeted, and the question has been to what degree are diagnostic categories truly reflective of unique brain properties. There's a real problem when we've got kids and adults who meet for up to six conditions or more conditions at once. This is certainly not the norm of people who come into the psychiatric clinic, but you certainly see people who would meet for major depression and anxiety as well as ADHD, and maybe OCD

and social phobia, and they can have all these things all together, so there's been a move to try to have some way of identifying new targets for treatments other than these diagnostic categories which may not really be pointing to the brain difference, but a manifestation of multiple brain differences, for example.

So the NIMH statement—some people have seen as undermining the DSM. I actually can't see it that way. I see it as a difference between a clinical agenda and a research agenda. The research agenda is in part, to improve our diagnostic process and improve out treatments. And we've had years of working with the DSM constructs in one form or another and we know where we are with that. We still have any of the same kinds of challenges about how to treat people.

DVN: That's a fascinating distinction between the research agenda and a clinical agenda.

CS: To follow up on that, what they are emphasizing—what Tom Stencel was emphasizing in his statement about this is the idea that you can look at dimensions of function, for example, control of focus or attention control would be one dimension. Control over how you express your emotion might be another; ability to self-soothe for example, and get out of a mood state might be a different function of mood, so the idea is that there's some kind of dimensional way of looking at the challenges people have that cuts across conditions. So problems getting out of a mood state or getting out of one state of mind into another, this would be very important in many different conditions.

DVN: And this makes me think of things like meditation, when you talk about the ability to control one's attention or to self-soothe, so this suggests possibly complimentary medicine approaches.

CS: Yes. The NIMH has a whole complementary medicine division and there's been great interest in these active mind effort – the trainings and tasks that people try in that regard in doing imaging and to say, "Okay, what are people actually doing with their brains?"

DVN: Now the title of your book is *Fast Minds*, and it turns out to be a bit of a play on words because not only are the words 'fast minds' reflective of ADHD, but the letters in Fast Minds are an acronym. So maybe you can take us through that, if you will.

CS: Sure. 'F' is forgetful, 'A' is achieving your potential, 'S' is stuck in a rut, 'T' is time challenged, 'M' is motivationally challenged, 'I' is impulsive, 'N' is novelty-seeking, 'D' is distractible and 'S' is scattered. We could have chosen different words, but the Fast Minds acronym comes from my colleague Dr. Bilke in Canada and his work to make physicians more aware about how ADHD manifests itself in people's lives, and what I really appreciated about the acronym—and we tweaked it a bit to fit—is it evokes what it's like to live with ADHD—the classic symptoms of ADHD tend to read "misplaces things, often forgetful, trouble completing tasks, trouble getting around to tasks--so it offers a more elemental explanation on what it's like to function moment-by-moment. But the bigger picture for folks with ADHD is usually some version of these other kinds

of challenges like forgetfulness and feeling scattered, and distraction or novelty-seeking. We find that people hear themselves in the acronym. It doesn't take much of these traits or life patterns to have a significant burden, however. We really don't want people to think they have to have all of these. Any one or two of them is probably worth looking into the resources that have been developed to help people who have these challenges.

DVN: Definitely all those are traits that many people can identify with, including myself. How can a person really figure out if they're ADHD or not?

CS: I think that should be ideally, a clinical encounter where someone has done some homework on the traits and has explored them and thought about how far back does this fit in my life? Does this explain me? And I think more importantly, does it matter? I think there are folks who have a certain style of being very aware of things around them for example, is different from being so distracted that you can't do things that are important to you, and our book and many other books like this are looking at CHADD.org, which is an organization that has lots of resources for exploring these traits and then having a conversation with somebody who knows a lot about it like a clinician, a psychiatrist, a neurologist who is interested in ADHD—or a psychologist—it could be anybody, really who gets this. And then it's to what extent does this explain me. One of the things I think is challenging is that there's lots of things that can make people feel scattered so the question is, "Is it me?" and, "Is it an ADD part of me or is it another part of me?" Is it that I've got a fair amount of anxiety, is it actually hard for me to be effective socially, and well my job is like that and I feel overwhelmed, for example. There's lots of different ways people can end up in this ballpark.

DVN: I would guess too, that part of what would be behind your writing this book is to help people engage in some degree of self-assessment.

CS: Exactly, and we also wanted to empower people with good evidence-based information wherever possible—and clinical-expertise based information for the rest of the content about what do people who have these kinds of challenges do to thrive in life? Some of that is medical, but that's only one chapter of the book about medicine. The rest is about really dialing down and understanding one's patterns and coming up with ideally, a minimum set of strategies or habits that's going to make things easier.

DVN: Is there a relationship between ADHD and other mental health conditions like anxiety and depression?

CS: Absolutely, and it's one of the reasons I'm so interested in ADHD. It's the first condition typically that's diagnosed in the lifespan, but you see higher rates of pretty much every psychiatric condition except for psychotic and obsessive-compulsive, major depression, anxiety, there are different versions of anxiety, substance abuse risk and we don't know whether that's because of shared, common neurobiology or neurologic factors, but it is clear that there is a real burden of being different in a way that saps your self-esteem and makes you potentially think negative things about yourself ---"Why can't I pull this off, why can't I follow through, everybody else is able to do this, what's wrong

me?" So there's this main factor that's in there as well, but many people think that there are common genetic or neurobiological reasons that these conditions come together.

DVN: Yes, and I think that you also point out that ADHD can have an impact on sleep and eating patterns and emotions. What can you tell us about that?

CS: ADHD is the only place in our diagnostic category—it's one of the diagnoses that has to do with life organization and how you organize your day. There are many people with attention deficit that are much more about restlessness or much more about focus challenges, but a good portion—and it's least 30 percent with people with ADHD that we see in our institution that end up talking about organizational challenges—problems with planning, prioritizing, and a sense of time. There's something very different between being able to focus on something versus focusing on the right thing at the right time.

I'm always fascinated in my line of work that you see different patterns and different people but you have people who are super-organized at their job but not at home. I have patients who are accountants and other people rely on them to organize. I have patients who even teach organizational seminars to other people. This is not about a lack of skill and it is also sometimes not about not at all being able to be on top of life patterns. Instead, it seems to be that there are certain circumstances and situations where a person just can't do it on their own. So that can show up in a number of ways, but in the book we really highlight the self-care impact this can have. We see people who are night owls and go to bed too late and that has repercussions the next day, people who don't eat all day and then binge at night, people whose emotional expression seems to be poorly controlled and we wonder why that reaction is so strong and it's sort of out of left field. But it's not a mood disorder and it's not Oppositional Defiance Disorder either, so there are different patterns of these self-regulatory issues that are very interesting to study in this population.

DVN: You mentioned earlier that there's only one chapter in the book devoted to medication, and we've certainly all heard about Ritalin for kids. What is the role of medication in ADHD, particularly with adults? How effective is it? Does it cure it, those kinds of issues?

CS: The medications for ADHD increase nor epinephrine and dopamine in the prefrontal cortex probably by blocking reuptake of neurotransmitters. This is thought to awaken parts of the brain that allow you to compensate for ADHD challenges. Actually, cognitively it's probably different in different people. You see different brain regions in different folks. It's not thought that the medicine is somehow correcting the brain differences—instead it probably wakes up parts of the brain that allow people to concentrate. So attention deficit medicines that work for children we now know work for adults, especially stimulant agents.

For a long time it was thought that perhaps, attention deficit in adults wasn't as treatable, and one of the main things people had to do is do studies where they dosed appropriate to adults, because the stimulants to some degree distribute to the whole body, so it was probably a matter of people just not giving high enough doses. Now we have multiple

stimulants that are approved for use in adults, and some non-stimulants which may have a little more antidepressant kind of properties that people will also use, but many which are off-label.

DVN: Are there important non-medication treatments that can help people with ADHD?

CS: The core difference in ADHD, if it's one of focus, being able to follow through, complete things is going to be what it is for boring or challenging circumstances in particular. However, organizational challenges—there's a lot you can do. You can absolutely help people stack the deck in their favor so that they're more likely to be able to follow through on things in life the way they want to. One way I think about this with people is there are certainly places in life where people have thrived better than others, and sometimes it has to do with the structure. "I did well when I did a group project and had to sit and work with a team and I had a deadline but gosh, now I'm trying to do graphic design and I've got this email and it's not clear there's a deadline. The more I do the more money I make, but it's all on me. It's just me sitting in a cubicle and no one's meeting with me about this." So these are very different structures, and one of the things we think of a lot about people is what can they do in terms of what's related to their internal structure.

Another major principle, and this is how the book is organized—we hear people's stories and we hear what principles helped them. If there's something on the mind that's an internal distraction, to try to get it off the mind. It's a very common phenomenon that when people are trying to work or talk or read if they have ADD is that things just pop up like popcorn in their mind like. "Oh, I've got to get the dry cleaning," or "I forgot to order another set of stationery," or whatever. It can be random, and that's very ADD, so getting it out of the mind and writing it down was one of the behavioral therapy techniques from one of our Cognitive Behavioral Therapy studies that people liked the most. People say, "Gosh, if I could just get it out of my head then I know it's out of my head." It reduces the anxiety about it, and then have some time when people are actually going to manage this stuff that's in their head, so having a planning time . . .You already hear that I'm talking about habits. Habits of actually trying to manage the environment, actively manage the thoughts that are randomly popping up in the head, trying to be proactive. A lot of the folks we work with have a hard time with the new habits. They tend to live a life of what they have to do—of what people make them do versus being proactive. So how do you do that? I think that's a lot of the work sometimes is helping people understand what holds them accountable. To use the metaphor of going to the gym--if you've got a friend who comes to pick you up in their car and you've got to be ready and you're expected to go together it's very different that if you could just go at any time and maybe you're not going to go.

So there are different sort of scenarios that people can try to cultivate that make it more likely for them to adopt new habits. There's a real role for mental health professionals in helping people identify the habits that are going to help them the most with their executive challenges, and then also playing the role of accountability and helping build in accountability.

DVN: One of the things that strikes me as I listen to you about this is a lot of the issues sound similar to issues of aging—the difficulties people have with memory and distractibility.

CS: It's interesting, with memory over time you tend to have some loss of some long-term memory and more so than in trouble with short-term memory. In Attention Deficit Disorder you see different patterns of neuropsychological function. Some people have absolutely fine short-term memory—sort of like the RAM on computer—like the things that have to be held in mind at the moment, like the sentence you're composing right now is being held in memory, or as you're hearing what I'm saying that's being held in memory, that it's being understood. So the short-term or working kind of memory isn't always impaired, but with that caveat it definitely produces an ADD type pattern when people have a hard time holding very much in their working memory because they can only grasp onto part of everything, and there is a way in which people who are starting to have memory problems as they older and will come in and say, "Gosh, could this be ADD?" that you sort of can tell whether it is or isn't. It's important that you really understand the life course. Ever since you were little did you have problems with it-and most of the time you'll hear that it's mostly about memory. The most concerning thing is that people have forgotten key elements of things that they should know from the long-term.

DVN: I want to step back a couple of notches here to where you were talking about what's going on in the brain. I know I've heard this explained in the past but I've forgotten the relationship. It seems paradoxical that stimulants are used like Ritalin and so on. They call it "speed"—for somebody who is already "speedy," so explain that paradox to us, if you will.

CS: Stimulants are not named very well. These are sympathomimetic, so their effects mimic the effects of the sympathetic nervous system and in fact, they augment the effect of the sympathetic nervous system in the brain. They will also sometimes impact the central nervous system, so it is not targeted just to the brain. You also get physical symptoms of sympathetic increase. The sympathetic nervous system is this system that's really useful if you see a tiger enter your field of vision and it might be about to attack you. So blood is diverted to the periphery, you're ready for flight-or-fight, heart rate's up and you're really focused on the tiger, and the focus is what we want here. We don't want the rest of it, but we tend to get it sometimes and it's quirky. You have some people who have very strong heart rate and blood pressure increases on stimulants and other people that don't.

Stimulants also impact the dopamine system in the brain and not just the epinephrine sympathetic system, and that dopamine system definitely has a lot to do with mood, so if you give someone a stimulant quickly—a lot of it quickly to the brain, you end up with quite a surge of dopamine. Cocaine has the same kind of effect. However, stimulants linger longer. Cocaine hits the dopamine transporter that recycles dopamine is right off it, whereas a stimulant is on it for awhile and lingers, so there's a way in which how much

these agents linger at these transporters impacts how much of a dopamine surge people get and also how they're left craving it and wanting it again. So there's this complex neurophysiology and neurobiology, but the bottom line is the stimulants give people more alert/awake tone, and that's just what you want in someone with Attention Deficit is waking up the control centers of the brain. Someone who doesn't have Attention Deficit might still get the same benefit, but if you take too much of the stimulant or it's not the right drug for your brain for whatever reason, people can get euphoria, can get giddy, can get revved and any number of effects like that.

DVN: This is a bit of a diversion, but what about Adderall? We keep reading in the press that students and even professors are taking Adderall for the boost and concentration that they seem to get. What can you tell us about this as a social issue?

CS: Adderall and Ritalin are both stimulants, and there are non-stimulants which have cognitive effects as well. There's a huge issue of misuse of agents for non-medical purposes. There is also a percentage of people who are probably self-medicating who would perhaps do better to go to a doctor as opposed to taking matters into their own hands. There's a very big concern that I have that people can enhance their ability to focus, but they're not necessarily doing anything for their ability learn per se, how to adapt in life. So this idea that people are taking stimulants just to make the grade I think is a tragedy. And I want to be very clear about that, and at the same time there's a gross generalization that these drugs are bad or a problem, and I see them just as any tool that humans tend to create. A knife can cut you really badly if you don't know how to use it or if it's in the wrong hands, and it's the same sort of thing with these meds.

One of the things I work on is neutraceutical or medical food interventions for ADHD and also some of the non-stimulant interventions for ADHD that our group has helped work on and develop. One of the main reasons is we want agents that are less divertible for recreational or abuse purposes. If you have a drug that tweaks dopamine you can end up in a situation where you like taking it if you've taken too much or you get it too quickly, so the shorter-acting version of these drugs can be crushed or snorted, and therefore have a higher street value typically than the longer-acting versions. Where there's a problem with all the drugs though, is people really using them for unhealthy reasons.

DVN: I'm intrigued by your term 'neutraceuticals,' and I've been doing a series on nutrition and mental health so I'm curious about if you could say more about the use of food in the treatment of ADHD.

CS: So when people talk about food and ADHD the older story about this is the Feingold diet, that there could be something in foods that were causing a problem, like sugar, and if you eliminate sugar perhaps people—or kids in that case—would have less ADHD. The more modern version of that story is what about all the additives that people are taking. And there's certainly data about if you give kids sugar, if you give kids additives that you probably are going to have bad behavior or worse behavior. That's different than saying that it's causing ADHD. There's no data that I've seen or know of at least, that

suggests clearly that it is a food-based or additive-based problem—because that's not the reason for the problem. On the other hand it would be very prudent for people on an individual basis to know what foods are the best foods for them. One very common phenomenon recently has been people identifying gluten sensitivity for example, and finding that if they cut out gluten they feel better. What I've seen in some patients is they just have more energy to get through the day and cope with their ADHD challenges. I haven't seen someone where it reversed their core ADHD traits, but maybe makes things easier for them.

The idea of using food-based interventions is very appealing, but we need a lot more science on this as well. One area I'm interested in is pursuing is looking at something like methylfolate, which is the agent—and I'm not recommending to people yet—but seems to augment anti-depressive therapy for some people with depression on an anti-depressant. For example, if you give the same agent which is part of a cycle of chemistry that produces some of these same neurotransmitters we've been talking about—dopamine and nor epinephrine—would you be able to support people with ADHD better by giving them enough folic acid, and in the right form for it to get to their brains? Also, a number of other compounds that are worth exploring because when you give to rats and you look at the density of the synapses and in the rats the rats function better—perhaps new synapses being formed. We don't really know how this translates into meaningful adult interventions.

There's a myriad of theories about tweaking different biochemical pathways to the advantage of the brain and brain functioning that really don't hold up when you actually look at things that okay, they say that this is going to help my brain on the label, but how much is actually getting to my brain after it's digested by the enzymes in my body? We don't know. In fact it could be very little in some cases where they're touted to be helpful. My model has always been systematic, placebo-controlled study of things, and I think it's very interesting that we have some possible candidates, but I'm far from actually recommending this. I do think that over the long-term we may have some idea of what is brain learning-promoting so to speak, that learning in the brain is rewiring, so can you promote optimal conditions for forming these synapses for example, and can you give someone the chance to practice new habits that would be a key to a more organized life while they're receiving some kind of neutraceutical or medical food course. Are they more likely to learn under these optimal brain nutrition conditions? I think that's the kind of space I'd like to see things move towards.

DVN: Currently, are you in the minority with this neutraceutical vision or is the pendulum swinging—or has it swung—more in that direction?

CS: There's more science now to understand how compounds get into the brain, how they fit into biochemical pathways and to actually produce them and to distribute them, so there's the know-how and a market for this. I think I may be a minority in terms of people actively researching the area but it is of growing interest to cross-medicine, and I think that one of the more common agents listeners have heard of would be omega-3 fatty acids. There's been tons of research on omega-3 fatty acids, and some of that research is

focused on things like mood regulation and some of it focuses on things like ADHD. Can you improve ADHD by supporting the mylation of the brain.? It's actually mixed results. It depends on the study and which version of omega-3s people are taking, but I think there are many people interested in this.

DVN: Earlier you mentioned gluten, and it seems like we're in a gluten bubble or a gluten fad. I never heard of gluten a few years ago and now everybody's taking non-gluten things and saying they have a gluten allergy. What's going on?

CS: I'm not sure what's going on. I would say that humans are definitely into fads. I think that's why it's so important to have placebo-controlled studies, especially for things that might have risk or a significant form of risk that can be expensive. There are a slew of recommendations for retraining your brain or taking this nutritional supplement or that. I really think consumers—and something we tried to put in the book—is people are best suited if they know what the evidence is for something. That said, I'm not against a low-risk, low-cost placebo if that's what it is. I think there is interesting example on a gluten story on weight, and how actually because of the kinds of foods people end up eating if they have a gluten-free diet is that some people actually gain weight as opposed to being globally more healthy. So people can take things too far and I think it's really important that people ground themselves in an approach that is the best evidence-based approach if it's appropriate. And I say that because there's some kinds of supports that will never have a good control, and never have a good placebo-controlled format that they can actually be studied in.

DVN: Yes. I recently interviewed somebody who's written a book on placebos, and it turns out that the whole issue of what's a placebo and what's a placebo control is a lot more complex that what I realized and one of the issues that I think you already alluded to is that biochemistry can be so individual that different approaches or biochemical or nutritional interventions might actually have an impact on one person, but not across a large population.

CS: I'm very interested in the personalization of supports and the course I teach at APA, www.AmericanPsychiatric.ADHD, the point is to bring people the research data, but also how is it obtained and how applicable, how generalizable it is to the general public. I think it's similar to what you're pointing out that research generated shows you what's true on average, but nobody's average. So you have to take it with a grain of salt, and I've had so many people come in and say they've tried medicine for ADHD and it didn't work, and I say what did you try, and they say "The one thing my doctor is comfortable with," And I say why do think that nothing won't work when there are so many other things you can try, too? It's very interesting.

DVN: Coming back a bit to ADHD, is there a single ADHD entity or is it really more of a grouping with many different versions of the disorder?

CS: It holds together in terms of paths in life, and in some degree inheritance and also in terms of what treats it, but there are radically different elements to it—impulsivity versus

focus versus behavior control, so it's very heterogeneous in terms of how the pattern of symptoms is for any individual. The idea is that the symptoms—even though there are different patterns—that they should all be grouped under one category.

DVN: So it's not like autism where they talk about it being a spectrum disorder.

CS: I think it would be reasonable to think about many things as a spectrum. It's any syndrome that has multiple different symptoms is how I think about it. You can have a spectrum in the sense that you have many different dosages of it. I have people that are for example, are very impulsive and people who are not very impulsive at all and more towards obsessive, and they are both in an ADHD category and I'm giving them the medicine. It's very interesting.

DVN: Yes, you mentioned impulsivity and it's part of that acronym in *Fast Minds*—I don't think I had previously associated impulsivity with ADHD. How does impulsivity manifest itself in adults with this disorder, and what sorts of complications does it lead to in their lives?

CS: Impulsivity is probably the most important trait if it's present because it's where the most damage can be done. I think it takes one email to your boss when you're frustrated to get fired, or a few too many comments to your spouse to really do some collateral damage. Impulsive speaking has made its way into the DSM notion of ADHD—interrupting for example, and also patience in lines—like trouble waiting—those are two main things that have shown up. Acting without thinking is an older symptom that's not really in the current notion of DSM ADHD, and in that whole development of DSM5 is a strong push by some researchers and clinicians to try to balance out the impulsivity traits and really what you have end up happening is you have impulsive hyperactive subtype of ADHD and only three of the symptoms are impulsive and he other six are hyperactive and restless—on the go, driven by a motor, can't sit still—that kind of thing. So people thought this imbalance should be evened out.

The other six symptoms of impulsivity is such a big deal in these people's lives. The committee decided there really wasn't enough data to support that—that it wouldn't be a different condition if you did that. Also, impulsivity is one of these dimensional things that cuts across lots of different conditions, so why should it really factor with these other traits and hold together as a member of a flock so to speak, of symptoms in the syndrome. So the academics will keep going on this stuff and they may not ever really have a nice, neat home in DSM but I'll tell you, impulsivity is a major factor in the suffering of many people.

DVN: In your work with people with ADHD you stress accountability. What can you tell us about that? What is it that they have to be accountable for, and why?

CS: People can engage in things that are interesting and meaningful to them, and there's a subset that's just challenging and hard. For example, the person with ADHD has things where they have to be still for a long period time or they have to pay attention to things

that aren't stimulating—they're kind of boring and tedious, and this is where you see the challenges. Anybody gets bored in one way or another and has trouble with focus or follow-through circumstances. The issue is that it's just that much more often in folks with ADHD. It's much more common and much more of a burden.

I think you can look at in the big picture a pattern of life where people are thriving and fulfilling themselves and doing what they really want to do and being healthy, or where they're not able to follow through on all those key aspects of life. Sometimes what you need is to make it shinier, make it more interesting. I use the gym example a lot--getting to the gym. Having someone who comes with you, it's going to be a lot easier to get there, perhaps. You've got a meeting to go to—well, somebody comes by and reminds you, saying you've got a meeting may fire you up to do it. Having a project where you have deadlines and other people are relying on you and you're a people person it's going to help. These are all different kinds of accountability and a lot of them in the book what we're trying to do is help people pick habits that are going to help them thrive and we know that people already know about these habits, but what they don't know is how to be consistent about them. So, when I get the mail I should throw out the junk mail right away. That could actually be a really nice thing—you have much less stuff on your desk. So whatever the habit is—it might be when I get home I'm going to get ready for bed as soon as possible right after dinner because I know I get tired and I start watching TV—maybe I need to DVR my shows and not let myself watch TV. So what's the critical moment, what's the critical habit that you're not following through on?

Another question is what do you follow through on and what makes that happen? Is it something that I mentioned as interpersonal factors? Can you team up with somebody? Can you challenge yourself? These are the different kinds of accountability we want people to brainstorm, and I don't think it's really reasonable to say there's no more than three ways to have more of a nice life or people can run like robots and hit everything in stride, but we do think that people can pick their battles so that the things that are the most meaningful are attended to.

DVN: You've been very generous with your information and your time, and we're probably at a place where we should wrap it up. Is there any final thought you would like to leave our listeners with?

CS: I think you can get great information from www.CHADD.org, which is a very well-managed website and has good information about Attention Deficit Disorder. Otherwise, we've spent a couple of years on *Fast Minds: How to Thrive If You Have ADHD Or Think You Might*, and hope that's a useful resource for people as well.

DVN: Okay, well Dr. Craig Surman thank you for being my guest today on Shrink Rap Radio.

DVN: It's been a pleasure.