

## Web-Based Radio Show


### A Comprehensive Approach to ADHD

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Good morning and welcome to our show. Today we are going to focus on a comprehensive approach to ADHD – Attention Deficit Hyperactivity Disorder - and ADD. These are common challenges for children who have learning challenges, behavioral challenges, or sometimes they are part of a special needs condition including autistic spectrum disorder. Attention is a challenging capacity for human beings and there are different theories about ADHD. Some have recently claimed that it is simply a difference and may confer on an evolutionary advantage on individuals who need to be very active and participatory in their environments. Some suggested it is very adaptive for individuals who are more reactive to their environments. Obviously in a classroom where you need to sit at a desk and focus on the teacher and take in everything she is saying and think about it can be difficult if you are a person who wants to get up every few minutes and walk around and discover things. There is a lot of neuroscience research going on suggesting that the frontal lobes of the brain are involved in ADHD, particularly the prefrontal cortex, and that there are fundamental difficulties in many of the executive functions that are, in a sense, “housed” in the prefrontal cortex and the frontal lobes. There is strong feeling among many that the causes of ADHD are biological and specific, and involve certain biological pathways. Some have been teased out like isolating the frontal lobes and prefrontal cortex to some degree, but others suggest the cerebellum is involved as well.


In the approach that we are going to take as part of our comprehensive approach to ADHD and ADD, and really all kinds of attentional problems – ones that may not even fit the full criteria but nonetheless children or adults have difficulty with it – will involve how to improve functioning in the areas that support attention, focus, and concentration in a way that doesn’t require a “pill.” So in a



sense, this is a comprehensive approach without a pill. Now it doesn't mean that medication won't be helpful for some children or some adults; it may be. But there is much that can be done before medication is considered. I always do a trial of a comprehensive approach in my practice before considering a referral to a psychopharmacology expert for a medication consult, and I would suggest that this is a very sound approach overall but it doesn't rule out the use of medication and clearly there is a subgroup of children who benefit from medication, but it does suggest that we institute a comprehensive approach that can be tried because there will be a lot of children who don't then require a "pill" or "pills" and furthermore, even more importantly or equally importantly, as part of our comprehensive approach, if medication is indicated at some point, it's likely to be a lesser dose and lesser duration in the sense that if the comprehensive approach works and we strengthen capacities related to attention, and medication is helpful even at a lesser dose it may be for a short period of time until these other capacities become strong enough to support the child's capacity for attention.

Now in today's segment, we are going to review the elements of a comprehensive approach and we are not going to go into each element in depth. In subsequent shows we will go into one or more of these elements in greater, greater depth. Let me just review the first few of these, and then we will go to the others. It will involve, just in a brief, quick overview, and then we will go into each of these a little bit today and then go through them in greater detail in subsequent shows, it involves, basically focusing on the child's fundamental ability to use his or her nervous system in a healthy, age-appropriate way. This would include balancing, coordination, movement, integrating left and right, hand-eye coordination, and the like. So fundamentals of motor and sensory functioning and we will come back to that in just a moment.

At the second component or second level, we discussed before that many of the children have challenges in the way they process sensation. Some of the children are sensory craving so they want to move all the time and wanting more sensation; more touch, more sound, banging into people. Others are sensory over reactive – at least in one or another modality. They over react or over respond to sound or to bright lights or to certain types of touch. So they are constantly distracted by the stimuli in their environment. They may be over reactive to the movement of their own body so that moving in space on a swing may over stimulate them. Or they may be under reactive requiring lots of jumping, spinning, swinging, and dancing. So the second level involves working




with the child's unique profile of ways of responding to sensation and helping the child find adaptive ways to respond to sensation.

The third level involves something I have seen clinically that characterizes almost all children with some type of attentional problems - difficulties in sequencing. It is hard for them to play a treasure hunt game with five clues or follow complex directions in writing an essay when they are older and in school or solving an obstacle course that involves sequencing many, many motor actions in a row. So what we call motor planning and sequencing and sequencing in general involving verbal sequencing too, as well as responding to visual cues and visual sequencing. So the whole area of sequencing will be our third level of a comprehensive approach. We will improve a child's ability to sequence.

The fourth level involves helping the child progress up the developmental ladder, as we call it, in terms of their ability to think. Helping a child progress from thinking with actions, through using simple gestures to complex gestures to using ideas to think to literally picture what is on their mind, to being a causal thinker, to connecting ideas together, to being a creative causal thinker and come up with new ideas, to being a multi causal thinker where they give you many reasons for something. Once they are becoming a multi-causal thinker, they are actually staying on task, you've got to remember, sequence many ideas in a row, in a logical way. So just being logical helps you attend and focus. To becoming a good comparative thinker where you can compare A, and B, and C and say which is better and why – that too requires attention and concentration, but also it is orchestrated by your thinking ability. So even though fundamentally you become a good thinker, you, in a sense, substitute a high capacity for thinking to keep you organized. Then becoming a gray area thinker – being able to discuss the degree to which A is better than B – “Well I like cookies better than vegetables a whole, whole lot because blah, blah, blah, blah, blah, blah, blah.” Because cookies taste better and on a ten point scale, 8 points better. So now you are becoming even more subtle in your thinking, comparing things but giving degrees in that comparison, and that helps you, obviously, not only focus and attend, but do so not only in a logical way but also in a more abstract way – you are comparing things and holding multiple things in mind.


Finally getting to a level where you are a reflective thinker where you can reflect on your own body; you can actually say, “Gee this task is hard for me. I better give myself some reminders.” Lots of my colleagues write on their hands or create a visual diagram in their bedroom in the morning planning out their day



so they can remember it easily or make sure to hire a good assistant who can keep them on task. Reflective thinking will allow you to identify your strengths and weaknesses to plan ahead accordingly and use lots of abstract thinking to reach your goals. So, a person who can say, “Gee, I’m angrier than I should be today” or “I’m more distracted today than I usually am” - that person can take corrective action. That obviously involves lots of concentration; lots of focus; lots of attention, but again it is orchestrated by this high level thinking capacity. As reflective thinking expands to include more and more of your psychological and new tasks as you move into adolescence and more and more understanding of the world as you understand different cultures; understand history; understand science and math better, you expand this reflective capacity to many areas of understanding how your environment and how your world works which essentially makes you a better concentrator because again here the high level of reflective ability carries the concentration with it, even if fundamentally you weren’t naturally gifted at concentrating. So increasing your thinking capacity – that is another level of our comprehensive program.

Then the last level that we will go over and we will think about is the level that involves coping with your emotions. For many, many individuals, children and adults, anxiety can cause you to be distractible; cause you to be forgetful. If you are anxious about a meeting you may selectively forget the meeting. You’re anxious about an assignment or homework – it’s easy to play ostrich and, as one child told me, “I just put it out of my mind and don’t think about it; I just think about the tree outside. I think about what I am going to do in the here and now. I don’t think about tomorrow; I don’t think about the test.” So anxiety can drive us all to be ostriches with our head in the sand or can drive us to be avoidant and not think about it or think about alternatives, or justify getting involved to the task at hand. So we have to consider the way we cope emotionally and being a reflective thinker allows us to do that - so dealing with our emotions and coping with our emotions more effectively.


So these are the levels that we will consider in a comprehensive program. Obviously family dynamics play a role, certainly in the last one in our emotional coping, but also in the way we master each of these other capacities. For example, thinking: When we are three and four years old, if we say, “Mommy, I want to go out” and mommy says yes or no, it doesn’t encourage our thinking. But if mommy or daddy says, “Why do you want to go out?” all of a sudden we have to give a logical answer. If we are capable of it, we say, “Because I want to play.” “Well, why do you want to play outside rather than inside?” “Because the




slide is outside.” So now we are becoming a logical thinker just because parents are curious about our reasons. Some families do this naturally, some don’t do it so naturally. So the family component will be important here. Also, just how well we sequence. Families with toddlers that use lots of back-and-forth gesturing; availability of mom or dad to be taken by the hand to the refrigerator so the child can point to what they want and lots of back-and-forth interaction even before words become used supports the ability to sequence; supports the ability to attend and focus for longer periods of time around the child trying to meet his or her own needs. A child who is easily distractible – getting even more practice at that, even as a toddler - will begin to learn and attend more effectively. So the family dynamics and the patience of the parents and the natural capacities of the parents – if they aren’t too distractible themselves - will play a significant role. So consideration of family factors really relates to all the levels we are talking about. Also, all the levels we are talking about are influenced by the natural environment that we are in. For a child to be sensory over reactive, a highly stimulating environment with lots of noise and commotion or very anxious parents who have good reason to be worried because of finances or for other reasons or marital discord may not provide the kind of environment the child needs. Toxic substances in the child’s diet, not just lead which is well known, but we are discovering that there are substances that are called endocrine disruptors, there are lots of other substances that make the nervous system harder to function, it can be in the natural environment – things from paint fumes to children with individual sensitivities to certain products they may either eat or fumes they may take in – everyone is different - can cause more irritability, more distractibility, or more under reactivity. So we have to consider the physical environment as well in our comprehensive approach. So the family factors in the physical environment are overarching concepts that need to be part of a comprehensive approach to ADD and ADHD.

Now in just a moment, I’ll go through each one in a little more detail, then we will take each one in subsequent shows. Now let’s say a few more words about each of the components we talked about just to amplify and set the stage for subsequent shows when we will go into more depth. So don’t fret, we will give you more information.

At the basic level, while some children are diagnosed with ADHD or ADD, and are gifted athletes or gifted dancers, and show lots of good ability – some with great hand-eye coordination, some with great movement and balance – the majority of children do have some fundamental problems in the way they use




their senses and coordinate with their motor system and coordinate the different parts of their bodies working together, which in a sense, relates to how they coordinate the different parts of their mind or brain working together because each part of the mind or brain is responsible for different types of sensory or motor capacities that we have. Seeing is in the occipital cortex in the back of the brain, planning is in the frontal lobes and so forth and so on. Now when we talk about this first level, there are a series of exercises that I will be recommending have to do with basic abilities. The first and most fundamental are the basic motor skills – movement; being able to move left, right, forward, backward, and then do so with greater dexterity and greater coordination. For older children, sports and dance can be the way children learn to master these movement patterns. For younger children, I like to recommend the evolution game and even for older children, starting with worm-like or snake-like crawling or slithering on the ground, getting into moving on all fours, then doing different balancing on all fours, and then moving into upright positions, and then coordinating what we see and hear with how we move, moving left, right, forward, backward to sound and to different sights and doing it more quickly and then beginning eye-hand coordination and foot-eye coordination, then doing it to rhythmic and music and lots of rhythmicity and timing exercises. For some children we recommend the Interactive Metronome which is a computer device that I have participated in the research on and advised the company, where children are taught to move rhythmically in response to certain sounds that appears to help in concentration and also in motor planning and sequencing and as we get more complicated, we go to integrating the left and right parts of the body in these movement patterns so children may be throwing a ball up in the air, catching it with their left hand, throwing it into the right hand, or we may even be having a catch game with them. Then it involves having lots of balance exercises because the cerebellum has been postulated by many to be involved in different thinking capacities including concentration and planning – it's like a coordination center in the brain just like the frontal lobes are, but in a more fundamental way. So standing on koosh balls with two legs and then one leg and then eyes closed and then adding tasks to it like throwing and catching a ball while standing on a koosh ball, and then having a conversation with eyes closed while standing on one leg. Then they do three or four things like throwing a ball, standing on one leg on the koosh ball while having a conversation and that adds to greater ability to balance and coordinate. Walking on a balance beam, and then walking on a balance beam with somebody trying to tip you over a little bit or throwing balloons at you, and making fun games out of all of these. As you will see, we involve fantasy play and thinking and pretend to be a bird or pretend to be an action figure fun while



doing these games to make it fun for children. So at the fundamental level, we really want to work on the basic coordination, balance, using the senses, and using the motor system, and then using everything together – vision, hearing, movement, balance, coordination, and in rhythmical ways. Again, we will go into more of that.

Then at the second level, remember we talked about dealing with all the individual differences. We have research data now that supports the notion that ADD and ADHD is not one biomedical condition. It may be one common name for many different challenges involving children who are over reactive to sensation or under reactive or sensory seeking, or who have a hard time comprehending what they hear in terms of words – not in terms of simple words like “go get your juice” – but more complex directions or abstract concepts. Or they may have more of a problem with visual spatial processing, for example, being able to see a design or look at a whole room and take it into account instead they just look at one feature of the room; they can’t scan their whole environment. Or they have difficulty tracking, or they have difficulty copying designs with blocks or figuring out what the mirror image of a design will look like, or difficulty with quantity concepts – realizing that a long piece of clay may be just as much clay as a round piece of clay or water in a tall glass is the same amount as water in a short glass, particularly if it is the same amount of water but just in different vesicles. So we will have challenges in the way we react to sensations – under, over, sensory seeking – and we need to look at that in each pathway - touch, sound, smell, taste, movement, how we respond to our own bodies moving in space – as well as how we respond to sensation; how we make sense of what we see, what we hear, what we feel through touch, what we smell, what we taste, how we comprehend these things. So that is our second level.

Our third level involves sequencing, as we talked about. - verbally with visual cues, with visual and verbal cues, using treasure hunt games, using obstacle courses, graduating to complex directions for board games or eventually for schoolwork. I found nothing more difficult myself than following the directions of whether the answer was 1 and 3; 2 and 4; 1,2, 3, and 4 - just the directions themselves can be mind boggling. So that can be very challenging and difficult. Sequencing what we see, what we hear, sequencing movement patterns through experiencing them – do it once with direction but then can you do it yourself. Some people are gifted, like for example, the coach helps them with an ice skating move or a tennis move and they got it but others require 100 practice sessions. Then we talked about thinking levels, obviously as you graduate up



the levels of thinking, your thinking can carry your concentration and focus because as you get to be a reflective thinker or gray area thinker or causal comparative thinker or even just causal thinker, you see the world differently than when you are just an impulsive thinker who lives in the moment or not using ideas at all but just responding with actions and even sequencing actions has a number of steps from just responding in a catastrophic way with flight-or-fight intentions which makes you very inattentive when you are overwhelmed, to being able to sequence two or three actions in a row even without thinking. So we'll walk the ladder when we develop our thinking skills. And we need to do that and we will get to the verbal capacities as well as our visual spatial capacities how we think with visual images as well as how we think with words because both can carry our attention and focus. Obviously if we could do both together, we'll be that farther ahead of the game. Then finally, as I mentioned, we will talk about our emotional capacities – our ability to recognize what makes us anxious or what leads us to be ostriches or hide our heads in the sand or avoid or get distracted onto another subject. We will also talk about the role of the family and the role of the physical environment in all of these capacities. So this is a comprehensive approach. As indicated, while some children will need a pill to help them, many, many children, and in my experience a vast majority, as we develop this comprehensive program do fine without medication and make wonderful progress. And even if medication is indicated, as I mentioned, often it is for shorter periods of time and at lesser doses. So this is what we are going to return to in subsequent sessions, but this is the framework we are going to be using for our comprehensive approach.

Thank you for listening today.