

Web-Based Radio Show

Working with Children with Hearing Deficits


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Good morning. This is Dr. Greenspan. Welcome to our Web-Based Radio Show. Thank you for joining us today. As you recall, we didn't have a show last week, but where we left off the week before was that we were going to talk about a number of challenges today. A lot of them are in response to your questions. I'm joined by my wonderful colleague, Serena Wieder, and she is going to join me in answering some of these questions and in commenting on some of these challenges.

As you recall, two weeks ago we talked about children with visual challenges. Children who lack sight, either fully or almost fully, and how important it was for children with these kinds of challenges to learn visual spatial thinking through the other sensory modalities – through movement, through touch, or through sound. We gave lots of examples about how to help children master each of the functional emotional stages of development, from simple attention, to multi-step shared social problem solving, and to even construct a visual map of their room and of their environment through touch, movement, smell, and sound. We gave the example, for instance, of a child at 15 months of age, finding toys that make sounds, or playing hide-and-go-seek games with mommy or daddy who make sounds and the child learns to move and touch and smell and develop fine tuned sense of distance in space through where sound is coming from, as well as his own movement and his own touch to construct these internal maps. So children, even with visual deficits, can have this ability.

Today we are going to talk about children with hearing challenges, children with motor challenges, and children with non-verbal learning difficulties sometimes called executive functioning problems or non-verbal learning problems. We are going to also talk about, we have some questions and if we get to them, about grief reactions and about stress disorders, and we have one about elected autism and sleep problems and eating problems and elimination problems. So we are going to see how many of these areas and topics we can get through, and for each one I'll start off and then turn it over to my colleague Serena, to add on some thoughts.




In terms of hearing, many children are born with severe hearing deficits – we’re not talking now about the children who don’t process sound or comprehend sound but hear, but children where sound doesn’t register, usually for a clear biological reason. Here the challenge is to help these children become full emotional and social interacters, as well as develop all of their cognitive skills in spite of the hearing loss, including helping them learn to think with images and symbols, and what later are thought of as verbal symbols. Here the challenge is similar to children with visual deficits. How we help the child use other sensory modalities to master the six stages of functional developmental capacities. So at each stage, you can imagine it is a little harder. A newborn baby learning to attend and regulate, ordinarily uses sound. Now we have to help our baby use vision and touch, so it’s going to be a little harder. Mommy can’t use that soothing voice quite in the same way, but she can use a soothing head nod and a soothing touch and rhythm with her firm pressure on the arms or legs or abdomen, and convey the same kind of warmth and the same kind of regulation. When she is helping her little baby learn to turn and coordinate motor with sensory input, again she can use touch and vision. She can even experiment with different smells, etc. What we try to do is enrich all the other sensory modalities, but have the baby go through the same experiences: engagement, joy and pleasure communicated through the voice and facial expressions and through rhythmic movement. Children can become very sensitive to the different gradations of pleasure and joy and intimacy through these other sensations. That means more time and more emphasis, purposeful two-way communication – again sharing vocalizations back-and-forth is very common, and a way children learn cause-and-effect thinking through “my sound makes you have this sound” and “your sound makes me have this sound.” But, that can be done through exchanging objects, through exchanging facial expressions, or through exchanging different textures of touch. Here too, we have to do more of it, not less of it through the other senses. When it comes to the second year of life, shared social problem solving, sounds are a great way of staying in touch with someone from across the room. They hear your voice, they hear you in the other room, they know you’re there, they learn to explore the house, and they can get involved in many back-and-forth interactions and problem solve through using vocalizations. They can do the same thing by seeing your face across the room. You need to be more animated in your facial expressions. They can learn to regulate their mood and behavior, not so much by your loud voice, but by the way you hold their hand gently, pleurably, or firmly or limit-settingly. They can get to pay attention to your facial expressions – the angry “no-no” look versus the joyful “ah-ha that’s wonderful to do” look. So you need to be more animated, more demonstrative, more subtle in the way in which you engage in using these other sensations.



When it comes to using ideas and symbols, the same thing holds true. Usually words are coming in the second year of life and children are learning to symbolize between 18-30 months in pretend play and in the use of vocal language. Obviously this is going to be harder for a child who is not hearing, but they can symbolize with pictures. They can still do pretend play. The idea is to get that symbolic system cooking through pictures, through pretending, or through motor actions. For some of the children who are learning to read mouth movements, and learning to vocalize even though they can't hear, this is a very good time to be working on getting that cooking as in earlier stages. So it is very important for the parents to be very animated with their mouths, even though the child isn't hearing the sounds from stage one in our six stages. It reaches a crescendo around this 18-30 month period when we can start teaching the child through imitation to imitate certain sounds by understanding the mouth movements and the tongue movements.

Now one of the big problems in the approach to children with hearing deficits has been, particularly when there have been cochlear implants put in, is to work behind the child to get the child to use their hearing and not their other sensory modalities, or to cover the mouth with a piece of paper or something. This is counterproductive in our view because experience in a healthy way is multi-sensory. Each system supports the other system. The images that create symbols are multi-sensory affective socially mediated images. In other words, the image you have and the symbol you create is visual, it's tactile, it's olfactory, it's touch, it's movement, and it's often sound if you are a hearing individual. So if one of those channels is blocked, you want all the other channels. If you are going to learn to lip read, you obviously want to see the lips. But even if you are given a cochlear implant and you haven't been using the sound system very much, you are going to want to combine your new experience of sound with all your other sensations so you have a rich, multi-sensory image. If not, you're creating, in our view, an artificial problem and we see in lots of children who have different kinds of developmental challenges, their problem is that they can't integrate or cross the different sensory modalities. They separate sound and sight and touch and movement, so it's like a ballet or basketball team where everyone is doing their individual things and no one is working in concert with one another. That's the biggest problem. One of the biggest problems we see with children with autistic spectrum disorders, so we have to get the whole mental team working together. If we shut off the child's social experience by being behind the child or covering the mouth to get him to use hearing a little more, that's counterproductive. That doesn't mean you can't do it for short periods of time in a specific exercise just to get him practiced in detecting sound and discriminating sound. You can do it for 20 minutes a few times a day here and there, but that shouldn't be the



main diet of your experience. The main diet should be the experiences that we advocate to promote the six stages of development.


Then we get to higher levels of thinking – combining ideas together and high levels of reflective thinking, again – multi-sensory, either with visual supports or with the cochlear implants with newer hearing systems and where individuals without hearing learn to speak – they can lip read and speak and learn to think at the highest levels of reflective thinking. To do this, we have to pay attention, again, to the other senses.

Let me turn this over to Serena to add some more comments on the hearing impaired child before we move on to our next topic.

SW: The only thing that I would like to add is that often it is assumed that children with a major sensory deficit are likely to be self absorbed. It is really important to highlight that this doesn't necessarily have to be the case, but that would become the risk that a child would turn more inward and then not hearing the world around them and rely on their own internal interests or experience or stimulation. So the degree to which, I think, we bring in the heightening of these other sensory experiences and the animation really can go a very, very long way. Some of the things we would just do with typical children are highly important to remember – make sure you are in front of the child, make sure your child can take in visually your animation, use a lot more touch and vibration and feeling to convey the affect. We want to do that for all children. Similarly, when a child has auditory processing, we work very, very hard to focus in on that extra information they need to have to see what they hear. Similarly, if a child doesn't hear, they still have to see, even more so, although we can practice some of the pure listening, what you would do with a child who has any kind of processing challenge.

So we don't wait to see whether the child is getting more self-absorbed or more preoccupied. In this model, we would really work forward by building on what we want to establish as these kinds of core capacities. There are many ways, I think, in the examples you just gave, Dr. Greenspan, that I think would really make a very, very big difference in heading off some of the patterns we see when children come in, even as young as two or three. This can really be prevented.

SG: Next we want to talk a little bit about children with motor problems. Fortunately, because of good obstetrical care and very good prenatal and early post natal care, we're seeing less and less children with severe motor challenges. But there are still a number of children who, for a variety of reasons, either trauma or prenatal or immediate perinatal or post natal challenges, experience severe motor deficits. Here, we can see that children with severe motor deficits are going to have a harder time negotiating each of our stages. The simple act of turning towards the sound in order to learn to attend and




regulate, the ability to engage – to look at mommy and follow her across the room and make a big smile so mommy knows you’re happy – that may be hard to do. You may be happy inside to see mommy, but she won’t know it so she might not smile back. The ability to purposefully reach for the little rattle on mommy’s head, or the ability to take daddy by the hand at 14 months and search for the hidden objects – all those are hard to do with severe motor problems.

But nonetheless, each of our six stages still need to be mastered, so here is the key. Even though the child is at risk for not mastering these problems, need these challenges, because it’s harder, if we are alert to that fact, we can work around the motor deficit and help the child master it nonetheless. For example, most of the children even with severe motor problems, can still move their eyes. So maybe they can’t turn their head as well, but they can turn their eyes a little bit in the direction. You may not be able to move as far to the left and right when you are playing your little games with your newborn infant, but you need to move a little bit to the left and right so they get to show that movement and sensation are connected in terms of their own minds. As they learn to engage with you, they maybe can’t give you a big smile, but you may see just a little grin. Or you may see their eyes gleam a little bit. That’s your signal to smile back. You can still get into the back-and-forth smiling and rhythm of shared intimacy.

When it comes to being purposeful, let’s say a severe example – all a child can do is move their tongue and their mouth a little bit, or just move one part of their body and not another – that part of the body that can be moved becomes the basis for back-and-forth interaction. You can play a little game where the child sticks out their tongue and you stick out your tongue. Or where the child just moves their left leg a little bit and you move your left leg. And you get a back-and-forth going. What that does is establishes a sense of causality, even though the child doesn’t have very much movement.

When it comes to shared social problem solving, you want to get many movements back-and-forth in a row to solve a problem. So one child with severe motor problems who needed the support of a chair, but there is this little toy he wanted, and he managed to roll out of the chair, couldn’t yet crawl even though he was 17 months old, roll over, and then kick the toy with his leg and get the little animal to pop up out of the pop up toy. That was a very complex shared social problem solving because his parent was interacting with him and encouraging him on, but done with very minimal motor capacities. The idea is to work around the motor deficit to master the stages.

When it comes to pretend play, even if the child has oral-motor problems and can’t speak, they can use pictures and pretending to learn to symbolize. Then they can




learn to think because you interact with symbols, whether they are pictures or pretending or even approximations of words through sounds the child can make.

So it is very important, again to master the six stages, and the same principles with the hearing loss or visual loss, is work harder with what the child has available. Use the other senses; use the existing motor capacities. Let me turn this over to Serena for some more comments.

SW: Certainly, what we know about development with whatever the challenge the child has, it's a moving target. We do treat the children in so many different ways, and they improve and we have to kind of keep up with them and provide the opportunities to create, I think, these core capacities. It's really not an all-or-none kind of situation. Most of the children who have partial challenges in one area or another or some combination, I think the point I really want to add is that I've noticed that sometimes when the child has one of these major challenges, the parents actually stop communicating through that modality. So, if you think your child is deaf, you don't talk so much. Before you know it, you don't even realize you're not talking. It's very important for the parent to still use the full range of communication of the affect and to keep talking to maintain their own energy, to maintain their own way of conveying affect and soothing, whether or not the child hears it or not. That rhythm or the vibration or the touch or the looks, we still continue to use all the modalities as we try to woo the children into whatever the next step is going to be in the interaction or the movement. It's been very impressive to see some of the approaches like Conductive Education that rely heavily on internal motivation to get the children to move on their own. The example of the little boy we just heard about, that image is so vivid where we saw him tipping over, willing to fall, rolling across, arching his back because he really wanted to get to that toy. He did the same thing for his mother. She had to become his toy as well. This kind of motivation, regardless of the quality of the response, which I know is an issue for some people, it's really very critical to mobilize. What we want to convey to every child is that they can do it in one way or another and they will be able to do more and more as they continue to develop.

So we should always think of these things we are hearing and not hearing. For most children these are always partial and evolving capacities. We keep enhancing what we can do with them together through the interactions as they improve. Fortunately, we know a lot about how to help each of these major sensory deficits improve.


SG: It's important to add on when we talk about the motor problems, but also for hearing challenges or visual challenges, that what we are talking about is in addition to specific techniques that have been developed, let's say for motor challenges by physical



therapists and occupational therapists. What we are urging is that in addition to the specific exercises to reduce high muscle tone elasticity or to improve coordination and movement. In addition to those exercises we be mindful of helping the child master each of their functional emotional developmental capacities and that we encourage our colleagues in physical occupational therapy to do as much as possible while they are working with the child, even in the specific techniques to strengthen a particular area of functioning, to do it in the context of engaging and interacting and shared social problem solving and using ideas creatively and then logically. In other words, often these things can be combined. I'm reminded of an example of a child who was working on a scooter board and was just a little bit verbal and the occupational therapist made up a game where they were pretending to be driving automobiles and zooming around. That way, we have pretending and verbal and back-and-forth interaction and the child was working on their muscle tone at the same time and their coordination.

The next category that we want to consider briefly that relates very closely to what we have been talking about, is what has often been called nonverbal learning disorders or nonverbal learning difficulties. Sometimes these are called executive problems or kids with organizational difficulties. Here, the developmental pathway is often one that is a gradual path. We often see this for the first time in an obvious way when children are in school and can't sequence, they forget to bring home their homework, they forget to do their homework, or don't follow the instructions on an exam, they don't follow the directions of the teacher. Sometimes we pick it up in preschool, but often we can see the beginnings of this, in terms of its developmental pathway, right in early infancy. The ability to sequence, to solve a problem that has multiple steps that requires some ingenuity and creativity, as opposed to something that is very structured where you are being led to do something, requires you, as the child, to have an intention or an idea, and then to put together a plan of action that carries out that idea or a plan of thoughts – sequence of thoughts – and then follow through on it.

Now that is called executive functioning or organizational skills. Many children with what are called nonverbal learning disabilities have a hard time with that. Usually what is referred to with nonverbal learning is that there is a problem in the areas of the central nervous system that have less to do with words and language, and more to do with visual spatial thinking, motor planning and sequencing, and having to do with nonverbal skills. That's why it is called nonverbal learning disability. In fact, these things are not really separated in the central nervous system or in the mind. We need to sequence words and ideas and we need to sequence motor actions and we need to sequence what we see – organizing our physical world in terms of what we call “visual spatial thinking” or “visual cognition,” as Harry Wachs, a pioneer in this field, has called it. All of these




involve, in a sense, seeing patterns and making sense of things. Patterns involve sequences.

So how does a child learn to do this? The first sign, often, is when we see a child who has a hard time figuring out how to look at mommy or how to find mommy when she is a little more to the right or a little more to the left or when daddy walks into the room, difficulty with looking at mommy and smiling and then looking at daddy and then smiling at daddy. The child is either rigid and can only look at one person at a time, or the child who gets so distracted and looks at everyone and can't really focus in on one and then the other and then the other in a systematic way. We can see that by 3 or 4 months. The child, who by 8 months, has a hard time moving back-and-forth between the object that they are playing with – the little rattle – and mommy, and giving mommy a smile and waving the rattle so she can take it.

This skill, for example, to move back-and-forth between the object and the person has been called joint attention. Joint attention is really the ability to sequence between the animate and inanimate world; to shift attention. So there are a lot of different terms that have been used for this ability. As we get to shared social problem solving – the ability to take daddy by the hand, walk him to the toy, point to the toy you want, and get him to pick you up – involves sequencing many actions in a row. We can see, in other words, the developmental course of children who are having trouble with this sequence, as leading to what later may be called a nonverbal learning difficulty or an organizational problem.

When the child starts symbolic play, the child who can only do one or two pieces of pretend rather than develop the grand epic where they have six steps to their drama – where the bus is going to their house and then picking up a child and then bringing him to school and then sitting down and being talked to by the teacher, versus the child who just has the truck going in and out of the garage 16 times. There is a big difference in terms of sequencing. Later on, when the child is talking and combining ideas together, the child who can create a logical, coherent argument – give you three reasons why he wants to go outside and not just one – is showing the ability to sequence many ideas in a row, all orchestrated by his desire to go outside and explain to you the reasons. Later on in school, this comes out in the ability to write a coherent essay with many sub-points, to follow complex directions in math, to understand the steps in solving math problems, remembering to do your homework, etc.

Now some of these children have relative weaknesses in verbal sequencing, some have relative weaknesses in sequencing what they see – the visual spatial sequencing, and others in carrying out just the action part. So you may see relative weaknesses in one




system and not in another. Some children are pretty good at talking in an organized way, but can't behave or act or use their motor system in an organized, sequential way. Other children can't see the world in an organized way, even though they can verbalize in an organized and sequential way.

So there may be relative weaknesses, but the pathways are fairly clear from the beginning and so it shouldn't wait for the child who is 7 or 8 years old. Then the therapeutic implications of understanding the development is, as soon as we begin seeing problem in sequencing, we give the child extra practice and to recruit the other senses. So, the child, for example, who can't order what he sees easily, to help him kind of talk his way through it. The child who can't organize an essay in writing, to help him visualize it and diagram it through a series of pictures. The child who can't do either – see it easily or verbalize it easily, but is a good athlete or a good dancer, have them move through the sequence. Have them create literally a dance step or a sports drama that has the steps in it. Then what you do is add the visual and the verbal onto the motor, if the child is stronger motor-wise, or if the child is stronger in the visual or with auditory you start with the verbal or the visual and then add the motor on. So you use the strongest systems to learn to sequence and then add on the weaker systems to them. The idea is to work with all the senses and to increase the child's affect or emotion or motivation. So what every parent and what every teacher knows is that a strongly motivated child sequences and has better organizational skills.

So here the goal is to create strong motivation, recruit many of the senses working together, and practice the sequencing, whether it's treasure hunt games or obstacle courses or search games. You can start practicing these skills early on, right in the first days of life when you play your little “look at me” games. Here is Serena.


SW: I would just like to say that this is one of the most critical areas of development we have to recognize early on and quickly do something about. What happens often is by the time the child reaches school age, compensatory strategies come into play to help the child. We put a little list on their desk telling them what to do next, next, next. We highlight things on the board and those are helpful because we all resort to compensating strategies to keep organized - remember everything we have to do, and to do it in the best order. I think the indications of this challenge are evident very early, as you can see in the examples we just heard. As we see in a lot of common behaviors that can cue you into this – the child who doesn't pick up what he drops, the child who kind of plows through space to try to get something and doesn't even register that all these things are on the floor and in his way, the child who maybe even is purposeless and kind of roams around the room, not even able to pick up the toy to play with. The repetition of certain patterns is often called “perseveration” which kind of has a dirty



reputation in my mind. It really talks to the motor planning challenge. If children don't know how to expand, and for them even just lining up or getting that car in the garage or rolling it down the track, is really how far they can take it unless we really get in there and intervene and block. Very often we see the challenge when we see the children coming and having to use your hand instead of their own to try to open something or just to get what they want. When we see these kinds of things, they are just kind of the tip-off's to how important it is to start working in this area and working in multiple ways from the start. So we have the day-to-day problem solving where you just seize those opportunities where a child who really wants something and create additional steps for them to do. So they have to get it, unwrap it, open it, and have this nice back-and-forth exchange – “How are we going to do that? What should we do next? Is this like that other package you opened?” We do a lot of cuing – “Uh, oh, our luck!” and see if the child can make automatic what isn't automatic.

The dilemma with motor planning is that most of the time you don't have to think about it. But when you do have to think about it, and it's not automatic, when you find yourself repeating or coaching or prompting a child through the steps for getting dressed or getting ready for a bath, those are the signals that you want to attend to so that we can implement some intervention strategies and bring in some of the other systems. They could be visual, they could be auditory, they could even be pausing long enough to give the child a chance to think about something they may know but don't do automatically. Try to strengthen this because it is such a basic need through the rest of life. Depending on where the relative strengths are, as the children do reach school age, it is even more and more important to work through the strengths in order to reach the higher level thinking capacities and extraction and to figure out if this is going to be a tree child or is he going to see the forest. That involves sequencing. But those early interventions are very, very important for getting ready. This is no surprise. As soon as children reach school age, you'll see all the strategies – teachers have to help with it, but often they don't actually address the individual specific ways in which that child needs extra support. So I really think motor planning is probably the most crucial core capacity that we want to focus in on, and the one that needs the most practice, where augmentation isn't going to be enough the way we use it for some of the other sensory issues.


SG: Thank you, Serena. The key is, as Serena was pointing out, is to really identify the challenges as early as possible and to create affect, create opportunities for sequencing, and to recruit all the sensory channels and motor system together as an orchestrated team. That is the same strategy that we use on children who are older and are confronting educational challenges.



A closely related challenge that we will be getting into now, and I should add that all the challenges we are talking about today, are frequently seen across the full range of children – from children with severe special needs conditions to children who are diagnosed with mild learning disabilities, to children with mild attentional problems, to just individual differences in all children with relative strengths and relative weaknesses in certain areas. The principles we are talking about are true for all children. Many of the children with special needs, as they improve in their language and their relationship skills are left with motor planning and sequencing or organizational or executive functioning challenges of the kind Serena and I were just talking about. So these strategies can be very important. Often, children graduate into them, so rather than being a burden, we should look at this as an opportunity.

Let's talk a little bit about another common problem that we see in all children: elimination disorders. Children who have difficulty with controlling their urine or feces or with holding their urine or their feces – why do some children have trouble or difficulty getting into a calm, regulated routine that some children appear capable of? Again here, these kinds of problems which we may see at age 3 or 4, or sometimes with older children, sometimes it's limited just to overnight bedwetting, other times it is episodic with a child who withholds having bowel movements and then becomes very uncomfortable and that effects the child's behavior.

Regardless of when we see it, there are certain features in the developmental pathway leading to elimination difficulties that are worth noting. Often, children with elimination difficulties have individual differences in the way they react to sensation. So their sensory modulation often evidences some challenges from the beginning. Some are under-reactive to sensation, such as touch and sound and so they may not only be less aware of when you're talking to them or when someone is touching them or to pain, but less aware of internal sensations. So they are less aware of when their bladder is full or less aware of when they have to have a bowel movement. Other children may be over-reactive to things like touch and sound. That can also make it hard to regulate because they may be very sensitive to internal sensations and so the signals of having to eliminate in terms of urinating or having a bowel movement may be very responsive and very reactive and therefore, they are never sure of when they really need to "go to the bathroom" because their system is so responsive and so reactive – over-reactive in a way. Also, the stages of our functional emotional developmental capacities – regulation, attention, engagement, two-way signaling, and shared social problem solving are all part of another aspect of development. They all have to do with the ability to regulate. For example, once a child can be a two-way emotional signaler, which builds on attention and engagement, they are learning to regulate their mood, their behavior, their overt




movement patterns as part of two-way back-and-forth signaling. This helps them regulate their whole body. We noticed that children who are engaged, their relationships for example, early in life, begin getting more likely into regular sleep patterns and wake patterns and eating patterns. Children who are deprived because they are in institutions or because of stress in the family are more likely to be dysregulated. If this dysregulation is intense enough, their basic ability to enter into cycles of sleep and wakefulness and eating patterns or elimination patterns also gets dysregulated.

The children I mentioned who are hypersensitive to touch and sound, or hypo-reactive (under-reactive), need even more mastery of their functional emotional developmental milestones to get into nice cycles and patterns of regulation. So when we studied children in multi-risk families and multi-problem families, particularly children who were sensory under- or over-reactive, the environments were either so chaotic or so depriving that the children had difficulties with the most basic aspects of these patterns, let alone the more fine tuned regulations.

So what we see, often, is a combination of some biological differences in terms of sensory modulation challenges, coupled with difficulties in mastering each of the functional emotional developmental capacities and stages that then contributes to the elimination disorders. Now if you add onto it another challenge that is often biologically based, a challenge with motor planning and sequencing, children with low muscle tone and children who can't sequence actions, that also often plays out in the way they sequence the actions involved in urinating or defecating. That, too, can make it harder. Again, that can be compensated for in part by having either even better mastery of each of their functional emotional developmental capacities, which strengthens their sequencing and their regulatory capacities. So, there is a developmental trajectory in history to elimination problems. Sometimes it runs in families. What will run in the families is not just the elimination difficulties, but the motor planning and sequencing or the sensory hyper-reactivity or the sensory hypo-reactivity, especially when you look more closely and do a more careful analysis of that.

We just got a good question relating to this, so let me give this over to Serena to add on some more on elimination problems and also answer a specific question.


SW: I think this notion of thinking of multiple components of a problem is very important. It is actually one of our seven stages as a core capacity that there is multi-cause thinking and whenever you address any problem, we have to really look at the contributing components which could be the sensory system, the environment, just kind of the practice of what was established as a pattern and the nature of the child. So we can think of it that way, but I think it's putting it all together that really counts because



sometimes you could have a problem which tips you to really another problem and you don't always address it directly. So for some children who have difficulty with the sensory registration – too little or too much – we can establish nice patterns certainly by ritualizing the toileting and, you know, helping them kind of get comfortable and deal with the anxiety of are they going to be able to master it. Without putting it together with looking at the other capacities for the engagement and the communication, we don't always solve the problem. There are lots and lots of tricks people use, but they don't always work.

I thought of that as I looked at this question that came in, let me quickly read it. It's a parent asking about her son who just turned 7 who is very well potty trained for urination but will not comply for pooping. The dilemma seems to be that he will not leave either his computer or the TV to go to the potty in enough time. He could be quite purposeful because he might actually do it in the kitchen, but be sure to avoid the rug in the kitchen. He has been able to do it when he has the computer laptop with him in the bathroom.


So this is a very bright little boy. Occasionally it is a very inconsistent pattern. So my question would really be, where is this little boy at with respect to these other interactive capacities? We have a lot of competition here. The computer and the TV are very competitive with your time and with what you can do and how you could, if your child is used to much more being entertained than just doing things on his own, will just enjoy it like most kids do. But, if in fact we don't really start to examine what engages this child and will help him become more responsive on a two-way street, how can we woo him away from the computer and the TV and think about the impact it is having, not just with respect to this problem, but in general. It is going to be very hard to get the flexibility you need to get him to want to go to the potty on time and not to worry so much about just missing his computer, but really missing the pleasure and the engagement and the exciting conversation with you. Usually, at this age, you need probably a combination of approaches where you can set up some nice routines which are contingent on what you are doing because that can sometimes help, but mostly you want to go back and look at what's happening, especially in a child like this who is already quite symbolic with the interaction, with the conversations about what this problem is about, and what the child might propose in terms of solving it, with the play and getting back into being more interested in working with you and playing and where you can then integrate and recognize when those signals start and when they are pushed away and where you can just stop and pause and really support the child being able to both recognize his own internal signals while he enjoys the extra external signaled interactions with you. So in this case, I would really try to go back and try to strengthen some of that



and get to the point where you can have the conversation with your child about this dilemma and it doesn't have to be the first thing that you do. It might be naturally more followed through once you have the other flow going where the child will have his own motivation or he could even tell you what his dilemma is. But, this being so dependent on the computer has some meaning. We need to figure out what it does for him and how he is using it and what we can do to support a more adaptive response.

I think that's general to whether it's toileting or sleeping or eating. The general purchase to target and just work on that particular problem in and of itself and semi structured or behavioral pattern without enough support to what it is going to take to help a child master these challenges, and make changes. Changes are really, really hard and a lot depends on them and it may have different meaning for different children. I was just seeing a little boy yesterday and it was very clear for him the notion of mastering some of these areas had to do with his fears of losing his mother's support. Will she really be there for him? The source of the problem wasn't rooted so much in the actual mastery of his behavior, but just some of his concerns about other issues that were going on in this family's life. So you can't just look at the small picture. You just keep drawing these concentric circles until you really get the whole picture and examine how we can strengthen the other elements within the family, within the environment, within the core developmental capacities, and then that becomes a better base for solving the particular skill.

SG: Just one other thought about elimination challenges. One of the particular areas that are hard for children with elimination challenges is assertiveness and coping with anger and aggression. That's part of the regulation challenge, and it's a question of helping the children learn to be constructively assertive without being impulsive, but being comfortable with "flexing their muscles." Frequently, I've seen children, particularly who withhold their feces, begin doing better as parents help them through Floortime pretend play, get more comfortable with flexing their muscles, expanding the range of their pretend play so that there are themes of conflict and themes of adventure and themes of mastery and themes of assertiveness. It's not as though these themes in themselves have caused the problem, but the lack thereof of these themes, but they are a product of the general difficulty the child has in feeling confident in his body and feeling confident in his ability to regulate his body. If the child has sensory over-reactivity or under-reactivity or motor planning problems or muscle tone difficulties, there is less confidence in your body. Then if it is coupled with less than optimal interactive regulation through your emotional signaling with your caregivers, whether it is educators or parents or other caregivers, and you haven't fully or thoroughly mastered all of your six levels of development that we talk about so much, then what we have is the




biologically based challenges being intensified by the developmentally oriented challenges, i.e., the interactive challenges, and the two then conspire to make certain issues harder for you. For some children it's one thing, and for some children it's another. You can play it out at many different stages so if the child is at the stage where he is able to do pretend play, when you're challenging him to be more assertive, he's learning to sequence, learning to flex his muscles, learning to explore the assertive side of life, and through that learning to get more confident in himself and his body. Obviously, while you're doing this, you're always working with the biomedical side of things – making sure there's no physical cause for the problems. Often, there can be biomedical help even if there is not a physical cause. For example, for a child who is under-reactive to sensation, eating more fiber and having better sensations from the gut can be very, very helpful. For the child who is over-reactive to sensation and maybe is getting too much sensation from inside his body, advice from a GI specialist or a nutritional expert in terms of diet and nutrition can be often very, very helpful. Exercise can often be very, very helpful. So, it's a whole comprehensive program, but a critical ingredient is understanding these developmental pathways and all the factors that contribute.

Now when we come to eating problems, it's the same basic issue. Eating challenges also have biological contributions, often in terms of differences in sensory modulation, so children with eating problems often are either under- or over-reactive to sensations. Some may have motor planning problems, particularly in oral-motor development, if there is low muscle tone in the mouth, chewing can be very hard, swallowing can be very hard, children may gag on their food making eating very unpleasant for them. If children are over-sensitive to sensation, they may smell and taste things in a very intense way that makes it unpleasant or aversive. Again, this will be intensified if the stages of functional emotional development are not mastered, each one sequentially, because then the ability for interactive regulation intensifies the challenges.

Take a child, for example, who is over-sensitive to taste and smell. Therefore he gets alarmed by certain tastes and smells. Do they have a catastrophic reaction – an all-or-nothing reaction? Or do they have a more calm and regulated reaction where they gesture “This doesn't taste good” or where they eventually verbalize, “Mommy, I don't like this as much as I like that.” Well, which reaction they have, whether the catastrophic throwing the food down or calm discussion about it, asking for a little less salt or a little more soy sauce, will depend on how well they have progressed and mastered each of these functional emotional milestones.

So feeding problems and eating problems also have their strong biological, oral/motor, motor planning and sequencing, muscle tone, sensory modulation, over- or under-reactive to sensation, and the mastery of each of the functional emotional




milestones. Here too, medical complications and medical contributions need to be ruled out. Esophageal reflux, for example, other organic difficulties, allergies and sensitivities need to be looked at. As often as we comprise a team approach, the missing piece of the team has often been the more subtle look at the nervous system, the more subtle look at the pathways that have to do with emotional and social regulation as part of understanding these types of problems.

SW: Well, you can see we always come back to the same issues, but these are really the most essential components of understanding the interaction between the biological and the developmental or the functional developmental aspect. Whatever else, it sometimes takes time to resolve some of these issues and understand them best, but meanwhile, the one thing that is always reassuring is doing that kind of interactive work that helps you know your child is moving forward. It encourages you to keep going until it's better understood, or until the interactive component supports the resolution of the problem and sometimes more maturation of the nervous system and the biology kick in, as well as the support of social supports. Many of these challenges often, children will respond to once they are in school or once they are in a social community, once they see other kids doing this, so there is no one answer for every child, but I think as we consider the big picture, we can usually find the path to help each one.

SG: Just, very briefly, before we end today, the last one I'll talk about very briefly, are sleep problems. They too, are part of the same pattern. Typically, children with sleep problems who wake up very frequently, as opposed to the child who sleeps too much, tend to be sensory over-reactive as a group, although there are individual exceptions. So they are very, very alert and easily hyper aroused and very tuned into their environments. They may also be very sensitive to what they eat and get more hyped up from things that are stimulating in their diets, whether it's caffeine or whether it's lots of sugar or lots of processed carbohydrates that converts very quickly to sugar, because those nutritional items that convert quickly to sugar create a little more norepinephrine or adrenaline in the body. Children who are not very sensitive, that may not make much of a difference and it doesn't alter their sleep patterns or their activity level. But for children who are very sensitive that can and may. Also, the down slope as you are withdrawing from the sugar response like the adult who gets a candy craving in the afternoon, well you get up in the middle of the night and have a very sensitive system and you're going to wake up.

So sleep problems can be related to biological differences with frequent awakenings and difficulties going to sleep, having to do with tendencies of being hyper-sensitive, excessive sleeping can do with the opposite tendency. To be hypo-reactive or having hypo-reactivity or low muscle tone. But also it's very important with sleep




problems to recognize that these basic cycles of sleep and wake are very much also under the control of interactive regulation. The first shared rhythmicity we see during the first days of regulation and attention to the world where we see caregivers and children in almost rhythmic synchronous interactions with one another, that's a very fundamental type of shared rhythmicity where systems are getting aligned. Engagement, the early affect of engagement is really a high level of that joyful rhythmicity where systems are getting regulated with each others. As children become more interactive and reciprocal by our third stage, they are now getting to a higher level of interactive regulation. Often, this is missed when we think about sleep problems because we don't think about it in the broader context of interactive regulation. So again, when we saw our children in multi-risk families, we saw either the over-chaotic environments or the depriving environments resulted either in too much sleep or too little sleep for the children. The child's physiology, as I mentioned, the hyper-sensitivities or hypo-reactivities would certainly be contributions.

So when we look at sleep problems, again we have to look in the context of the child's individual differences and their sensory modulation and sensory processing and motor planning, and look at the way in which they are mastering each of the early levels of development, particularly the first three or four stages, even before the child becomes verbal. Later on, as the child becomes more symbolic and verbal, obviously fears and anxieties and stresses, just like with adults. But even adults or older children, I tend to see more sleep problems adults who are sensory over-reactive, and then the stress of life disturbs the regulated pattern other people seem to be able to use sleep as an escape. Even when they are stressed they can sleep very well. So we see lots of individual differences, but there's that developmental pattern and the therapeutic implication is to deal with that full developmental matrix, not just with the sleep issue per se. Obviously getting into a sleep routine, being calm and regulated before sleep, dealing with nutritional issues – all that is important and all that is critical, but that should be embedded in a larger understanding of the missing pieces or challenges in development that need to be renegotiated.

We've covered a lot of material today, much of which related to questions that you all have been asking about children with special needs, but also about children with learning differences or learning challenges as well as children without challenges.

Next week we look forward to your joining us again. Next week we're going to talk about a very interesting topic. There are many new advances in terms of the biology of the brain that support what we've been talking about as our Developmental Individual difference Relationship-based Model. In turn, the model of development that we have been talking about over these many months, helps explain many of these diverse findings



about the central nervous system. So next week we are going to do an update on recent discoveries in neuroscience, and it's relationship to the DIR Model, and how the DIR Model helps explain and give meaning to some of these diverse advances in neuroscience, particularly as they relate to autistic spectrum disorders. So we look forward to being with you next week. I hope you have a good week.