Good evening everyone. I want to thank you for tuning in to momsfightingautism. I’m your moderator, Nancy Bernotaitis. I have 3 children—19, 18, and 13. My 13-year-old was diagnosed with autism when he was 4 and since then, I’ve been very active in the autism community. I served as president of the Dayton Chapter of the Autism Society of America and I’ve worked as the assistant technology specialist for Goodwill Easter Seals. Currently, I work as a one-on-one aide for a young lady with autism in her school.
Just some housekeeping issues to listen and send the questions to tonight’s webinar, you can log in to [www.momsfightingautism.com](http://www.momsfightingautism.com), and there you’ll see a blue box in the upper left-hand corner of the screen. It’s there that you can click, Listen In, and you can hear the discussion via the internet. You can click Slides and view the slideshow when it begins. And you can click Ask The Question and submit your questions via the internet. We try to get to as many of the questions and similar topics as we can in the time that we have allotted. You can also listen in by phone by calling 949-333-4806. Again that’s 949-333-4806 and then our conference ID number 168978# all callers are muted so don’t worry about background noises. We can’t hear you. Later I will let you know how you can raise your hand to ask a question live with our presenter if you choose to. We have allotted 2 hours for tonight’s webinar so let’s go ahead and get started.

This evening, our webinar is about sensory processing disorder and it is entitled “The Out-Of-Sync Child: How Sensory Processing Disorder Affects Kids With Autism Spectrum Disorder.” It is presented by Carol Kranowitz.

Carol was a preschool teacher for 25 years and she observed many young children with SPD or sensory processing disorder. Today she teaches parents, educators, and other professionals how sensory issues play out and she suggests activities for addressing them at home and at school. Her books and DVDs include *The Out-of-Sync Child* and *The Out-of-Sync Child Has Fun*—those are 2 of my favorite books—*Sensory Issues in Learning & Behavior* video; a children's book, *The Goodenoughs Get in Sync*; and *Preschool SENsory Scan for Educators*, it’s shortened to *Preschool SENSE*. It is a screening tool for therapists working with teachers. Carol is a Board Member of the SPD Foundation and Editor-in-Chief of S.I. Focus, the magazine devoted to sensory processing issues.

I want to remind you that Carol is not a therapist. She does have extensive knowledge about young children and she can’t answer specific questions about specific children but we will just try to hit the major topic. If you submitted a question about a specific child, we’ll try to hit the major topic.

Nancy: Welcome Carol.

Carol: Well thank you. Thanks Nancy. And thank you everybody who is listening all over the country. It’s 9 o’clock. I live in Maryland and it’s wet and cold and slushy out there, but I’m not alone.

Nancy: I know. I know across the country, everyone is feeling the same thing.

Carol: Anyway, if you have the slides, let’s proceed. I’m going to give you the spill
that gives the basics of sensory processing disorder and hope to tie in so that you as parents of children with autism will begin to understand better on what is underlying the child’s behavior.

So sensory processing. I’m sorry I’m just getting used to the slide. But sensory processing is the interpretation and the organization of sensations in the central nervous system and we take in sensation all the time at every given moment. Right now, you’re using your eyes to take in visual information and your ears for oral information and your skin is telling you what your clothes feel like and your body position sense tells you whether you’re sitting or standing or hanging from your ankles or whatever you’re doing. So we take in lots and lots of sensory information at any given second of the day that come into our central nervous system which interprets this and tells us what to do about it. So if you are uncomfortable with the light too bright, you do something about it, you turn it off or you close the door if there is too much noise behind you. We are conscious of many of our sensations and we have the ability to do something about it.

When we’re talking about sensory processing, it’s not just the 5 senses that we’re all familiar with—seeing, hearing, smelling, tasting, and touching. These of course are very important, but the basic senses that start while the baby is still in utero are the touch system, the vestibular system, and the proprioceptive system. And the senses of seeing and hearing that our miracles will teach to develop over time. The baby does not come out with those well quick. He needs a lot of sensorimotor experiences to find tune seeing and hearing so that he’s ready for school. And those will develop over time if some earlier senses have a strong foundation and that’s what we’re all about. We can’t skip the development of these early sensations. I’ll explain.

The touch sensation, if you look at this picture of a little boy. There’s a dotted line that goes all the way around his body. That’s to tell you that we have touch receptors all over our body and some of these receptors are very sensitive in the face, in the hands and fingertips, in the palms of the hands, in the genitals, in hair follicles were very, very sensitive. And then we have receptors in other parts of our body that has less receptor for instance the shoulder or the elbow. So you know when you want to get a child to pinch and you don’t come up and stick your hand in his face, you might put a firm hand on his shoulders and that will not elude him in a negative way.

The touch sense develops very young. The baby is already learning about
touch as he is developing in utero and it becomes, it is the primary sense for little tiny babies and is really the basis for first relationship. The baby enjoys being cuddled and held and that reminds having a bath or getting changed is an advantage over the child who has very sensitive skin receptors and resist and arch and scry when trundled and caressed and that can be very difficult for parents of course who are trying to love their baby and he doesn’t seem to love them, but it’s not about the parents. It’s about the processing of those tactile sensations.

Here’s another picture of the this little kid and he has here the vestibular sense and the proprioceptive sense and he loves to see interoception which is about internal organs. I’m more interested in the vestibular and the proprioceptive senses. The vestibular sense like the touch or tactile sense develops in utero. The baby is learning when he is upside down and sideways and he learns this because in the inner ear, there is a tiny little apparatus, the semicircular canals and other piece of equipment in there that I won’t go into right now. And they tell whenever head is tilted and it tells us when head is changing its position in relation to the surface of the earth. So the baby comes out and the baby seems to know that he is upright or he is lying down. He can tell when he’s falling and will grab on to something. And this is good. Nature needs us to know this is from the get go, where we are in space so that we can move confidently and feel connected to the earth and get it into different positions and get out of those positions.

The vestibular sense is considered the master sense. It’s so important that we know where we are, where our head is in space. It would cause primal terror in people who don’t have a good vestibular sense. An example would be if someone said okay, “Here’s a paraskis. Now I know you’ve never been on skis before and here’s this nice mountain called Mount Everest and here we are at the top having good ski down the mountainside.” You’re not going to do that. You’re going to sit down at the top of Mount Everest and wait for someone to come help you. You’re not going to go skiing down because your vestibular system couldn’t possibly handle it. We see people frequently having some difficulty with their vestibular system. I don’t get that.

Proprioception is another sense that develops in utero and this is the unconscious awareness of one’s muscles and joint. So as the baby is flexing and stretching his tiny little arms and legs and moving his head around, he is practicing getting information into his muscles and joints which is pretty important. It helps him get born.
So anyway, we need these basic senses—the touch, the vestibular, and the proprioceptive sense—to be in good working order when we’re born and those are the foundations for the all learning that comes ahead.

We need sensory processing for just about everything we do. We need it for our bodies so we have stamina, we’re strong, we can move, we can direct our movements, we can respond to what’s happening around us. We need sensory processing for developing our thoughts, for making associations for retrieving words and making and remembering memories. The more we use our body, the better our mind becomes because as we’re walking through space or relating to other people or going through an obstacle course or whatever we’re doing as little kids, definitely moving around, we are learning all about our relationship to the world and how we can affect it and that’s what we want. We don’t want kids always to be done too. We want them to be the ones who are doing and I think of it as we want kids to be do-ers, not do-ees. And good sensory processing helps children with their ability to do that thinking and creative work.

We need sensory processing for our emotional wellbeing too, because when our body is working well and when we’re self-regulated in our movements and our fleet and our self-consoling and our stop and go, then we are feeling a lot better about ourselves than we would if we didn’t have the sensory processing. If we were always concerned about our body that was uncooperative, it would make us feel not very good about ourselves.

The end result of sensory processing is praxis. This is a Greek word. It means doing or actions. And this is what we want. We want to be able to do. Praxis has 3 steps. One is ideation. That means coming up with an idea, and an example would be putting on a seatbelt in a car that you’ve not driven in before. The next step in praxis is motor planning. Okay, we want to put on the seatbelt, that’s a good idea. How are we going to plan our movements so that we can do that. And the third step is execution. Actually going through the motor plan.

So research is showing that children who have sensory processing problems and that would probably be everybody with autism, people with these difficulties do not do such a hot job of ideation. They might look at a situation and not know what they’re supposed to do. And certainly you know children who you take to the playground and they look at the swing and they really need a lot of
guidance to get their bodies over to the swing and waited on it. They don’t have the idea of how to get on it. And then that causes problems with the motor planning and of course with the execution. So what we want to do is get kids as they are praxic.

Here’s a picture of a little boy who has great praxis. He’s kind of, the kid says, “Okay. I’m going to try something different.” And he came up with this idea to cram his feet into 2 sand buckets and his hands into 2 orange traffic cones and he’s flapping the cones together and shuffling across the gritty noisy black top around the sandbox and he’s having a wonderful noisy time. He’s making up his own rhythmic patterns with clapping and he’s laughing in this photograph. And this is what I love to see. I love a kid who picks up something and looks at it as a new way and tries to do something different.

And as parents and teachers, we need to be mindful of this because often, children are going to do something up and do something different with it that isn’t in the directions but hey, why not? I prefer having items around for children to play with it have no guidelines or directions and I like to see what they can do. This is what we want them to do. Come up with some novel idea themselves.

Sensory processing. Everybody does it. Everybody needs it and most people use it efficiently. But then there are some—and you’re here to learn more about—some kids are having difficulty processing their sensations and then their behavior and their learning are affected.

So let’s put on our sensory goggles. This is a term that my dear friend, Laurie Renke, came up with. Laurie is an SI mom who lives in New Hampshire. And she says, “Let’s just put on our goggles and we look at kids underlying motivation,” and it will explain so much about why they are grabbing on to your knee and tugging really hard. They’re not trying to make you fall down and they’re not trying to make you angry. What they’re trying to do in many cases is just get some deep pressure and crashing into sturdy things and holding on tight or trying to press against them is something that a lot of children with sensory issues do. They want, they are seeking pressure and resistance. And we think that they’re naughty or they’re certainly being annoying and if we can understand what this is, it helps a lot.

Okay. With our goggles on then, we can think about sensory processing disorder. And here’s one definition which is this is the atypical reactions in the
central nervous system to ordinary sensory experiences so the reaction is happening in the central nervous system. There is nothing wrong with the receptors in the body. There is nothing diseased or damaged that gets the same sensory messages that everybody gets, but the processing plant in the central nervous system is not operating smoothly. Therefore, the responses of the child are going to be irregular. And when we look at behavior, we can say behavior means something.

The "biggies" when we’re talking about sensory processing disorder are touching and being touched, moving and being moved. And when we look at our kid’s behavior, we think, hmm that’s sort of unusual. He’s not moving much or she’s moving way too much. We can begin to think, hmm, maybe this is all about sensory processing.

Possible causes. Tons of research is going on right now. In fact, sensory processing disorder is the most heavily researched area in the field of occupational therapy. And sometimes, you will hear people say, “Oh, I don’t know much about sensory processing. There isn’t much research.” Well those people haven’t looked because there’s tons in it.

At the moment, the specific genes have not been determined or the underlying cause of SPD but there’s so much fast research going on with MRIs and fantastic research. And I expect someday we will know what those genes are. But right now, we can say that SPD is familial, it runs in the family many times, and when it runs in the family, there is probably some genetic reason for it.

If it’s not running in the family, and then the reasons would be environmental and that would mean that it’s not because of the family the child came from but it’s because maybe he had a rough birth or maybe he was put into an orphanage or an institution which was overcrowded and where he didn’t get the kind of stimulation and affection and one-on-one connections that most babies need to try. It could be that the baby has a sensitive nervous system and so many things bothered the baby.

Toxins that other people might not notice might affect the child and might compromise the development of his neurological system. And I have heard that kids with SPD like kids with autism are like canaries in the cold mine, in the cold shaft that when we look at them being irritable, we might realize, well there might be something in this air or in this food that would make a lot of people irritable. So we’ll talk a little bit more of that as we get on.
Here we have the taxonomy, the classification of SPD. And according to Lucy Jane Miller who is the primary investigator in the world of SPD, Lucy Miller and some of her colleagues came up with this classification which divides SPD into 3 major categories. One is sensory modulation disorder, one is sensory discrimination disorder, and one is sensory based motor disorder.

And we’ll talk about sensory modulation disorder. This is most common and the most common subtype of this category is sensory over-responsivity. I call this child the “sensory avoider.” She is fearful and cautious. She is pulling away from activities that other children seem to like or she may be very negative and defiant and stating that “I’m not going to do that, you can’t make me, I’m the boss of my body.” So those are 2 different ways that over-responsivity often plays out—fearful and cautious or negative and defiant.

What happens with this child or adult because adults have SPD too. What happens is, let’s see, a door slams and het child jumps out of a seat and he looks around and the other kids might notice that the door has slammed too. They might look up for a moment and then go back to their books from their desk but this child might be out of his seat and very, very uncomfortable and anxious and it might take a long, long time to settle down. So there is often despite a slight response, sometimes children can also freeze when there is some sensory input that they cannot interpret.

So you know, Mother Nature is smart. Mother Nature says, “Okay person, if you can’t interpret what’s happening around you, the best thing is to react in a self-protective way.” So protect yourself and then you can figure it out when you’ve calm down. And most of us can do this in an instance, but not when they, run out when people have over-responsivity. It takes a long time to get over that door-slamming. This is also called defensiveness. So you might hear the term “tactile defensiveness” or “auditory defensiveness.” Those 2 are very common and they often go together in fact, auditory and touch over-responsivity often go together.

What can we do for kids who have SOR? One example is called the Wilbarger deep pressure and proprioceptive technique. And that little item there in the aqua box is a brush and that’s pretty picture on the box. It’s a brush like that. It fits in your hand and what you do with it is with the aid of an occupational therapist who teaches parents and teachers how to do this, you brush, brush, brush the child’s arms and legs and hands and feet if he wants that. You don’t brush the chest or the face, but you brush really firmly and that deep pressure
is very calming for the over-responsive child. For some of you who are new to sensory processing disorder, it might seem strange but the same technique is also very organizing for children who are under-responsive. It is calming and organizing. So that’s one thing that you can do with the help of an OT.

I will just say, I’m going back to over-responsivity for a moment because one thing that we all should be aware of is that all of us are over-responsive or under-responsive from time to time. If you can imagine what it’s like after a very, very difficult day at work and then you go to your car that you have a flat tire, and then you finally get home and you were looking forward to leftover casserole and someone has eaten at all, and one thing after another, it goes wrong, and then everything seems to go wrong and you get over-sensitive and you just don’t want to feel. When we’re sick, when we’re very, very tired, when we are having hot flushes, a lot of situations can arise when we’re feeling over-responsive.

And what happens to over-responsive people when they get older? If their over-responsivity is not recognized and addressed, these people would tend to feel isolated, alone, no one understands them, they don’t understand themselves, or they don’t want to participate in life. And as they get older, many people can learn to manage their over-sensitivity, they learn to wear very, very soft comfortable clothes. They learn not to go out into bright sunlight. They learn not to go to crowded situations. Some of them grow out to be extremely important thinkers and wonderful contributors to the world, but it’s best done in a quiet space, maybe in front of a computer or in a quiet office somewhere because with over-responsivity, with so many sensations pouring in over, their neurological threshold, they can’t cope with it so they just want to get away.

Okay, sensory modulation disorder has 2 other subtypes. One is “under-responsivity” and this is the person who you need a ball dropped on the person’s head to make him wake up. This child will seem very pleasant and you might say that, “Oh he’s not going to set the world on fire.” And you might say, he’s got kind of a blow up personality. And that’s not true. Many times under-responsive children are brilliant and dazzling and have so much to offer but they just need a lot of intense input to get them started. With the child that I thought at nursery school, we found that we need to help him, and he had autism. His mom would pull up to his school in the carpool line and he would not make a move and meanwhile, other children were starting to be glad of their car seat and he would just sit there. So we decided not to wait for him to do that. We decided that we would help him out of his seatbelt although we’re
always encouraging self-help skills but the more important thing was to get that little boy out of the car on the sidewalk and into our arms. And so whoever was opening car doors would say, “Oh we’re so glad to see you. Oh we need you so much. Thank you for coming to the school today.” And then we’d hug him and hug him and sometimes, we would hug him upside down and sometimes he would like us to wait forward and back while he was upside down. He loved that intense input.

Then there was garden that his teacher started and he loved pushing the wheelbarrow and carrying the big bags of mulch and he loved digging and he was fantastic. He just loved all the heavy work activity we could give him. And then what we learned was that would do the other kids. So what we were doing for him, we were doing for all the other children most of whom were typically developing.

Here’s a picture of Edward Goodenough. He’s a little boy in the Goodenough family in the children’s book that I love, “The Goodenough Get In Sync.” And this slide is the book, it came out too well.

But what to do about under-responsivity? Well one thing is, and it’s what I call an accordion squeeze. That’s where you sit behind the child and this is a little kid of course. She wouldn’t do this with a 14-year-old. But behind the child, hook your feet under the soles of the child’s feet and your legs surround his legs. And then you pull his feet in, your feet will come into, you pull the feet in and squeeze until his knees are wrapped under his chin and then you will wrap your legs and his leg will pull up stand and then you squeeze his knees in and up, and in and up. And meanwhile, give him a lateral squeeze. You’re squeezing his too. Kids love it.

Heavy loads—that’s things like boxes of books to carry or here’s a—as you can see in the picture, it’s a root beer bottle. You can pour the root beer down the drain because no one needs all that sugar. And instead, chill the bottle 2/3 full with water and you can put some food coloring in it. Food coloring should not go into food for these kids, but it sure can go into these bottles that we call “bottle babies.” And give your kid 5 or 6 bottle babies and you’d be amazed at the things these children will come up with to do. And this is for their sensory input. It’s wonderful.

Okay, here’s another kind of subtype. It’s called "sensory-seeking” or "sensory craving.” And this is a child who notices sensation so he’s not like the under-
responsive child who just does not notice. The sensory-seeker likes a lot of sensation unlike the first 2 example of the child who is frightened or uncomfortable by many sensations. And this one wants the more, more, more. And he’s almost like a sensory addict. He’s got a habit. These kids will be your bumpers and crashers. They are your climbers. Everything is to climb a ladder. The bookshelf is a ladder, the car is a ladder, climbing up on the hood. They just got to go, go, go. They never seem to be filled up and in their impulsive behavior, they seem devilish and like they’re seeking trouble all the time. And when we put on their sensory goggles and we look at kids who are seeking, seeking, seeking input all the time, it may become a bit clearer that the child is trying to get some input.

So what do we do for that child? Well, heavy work activity and deep pressure like that accordion squeeze, that would be good for kids who are sensory seekers. Other things, if we see these children spinning a lot as many children with autism do, one idea is to stop the direction so they are on a tire swing or say they’re just standing and standing. What you do is stop them abruptly and either turn them so they’re going in the other direction or you can also invert the child’s head and point the child upright while he’s spinning. You can bend him over so his head is down, but sometimes that has a good effect too. And the therapist usually has good ideas on what to do with that.

Here’s some kids who are seekers. The one on the left, Patrick is I think he’s a developing child. His mother sent me this picture but I included this here for you just because someone you see, some kids are just low rolling in the mud. This mom had finally figured it out. He needed it. She wasn’t going to try to deprive him of it so she gave him the host and then one summer day, she let him make a big mud puddle at the base of the slide and he came down the slide and landed in the puddle and then behind him, you can see there’s a blue tub of swimming pool and he would get in there and kind of wash off.

The picture of the child on the right, I love that too. This is a child with autism. He has limited language but he said to his mom, “no squishy” and that means, mommy, please put the tub out and this is in the kitchen. And she puts some more water into it and gives him some crazy sound and so he’s having a slightly cleaner time of it than Patrick, but these are both seekers.

Now their behavior looks like they are just out to make life miserable for everybody. When they’re finger-painting and they are not just sticking to the paper but they are finger-painting the table and their neighbors and their own
bodies from head to toe.

So what we can do, one thing is when the kids are little, shaving cream is pretty good. Get the unscented kind and come up cleaner, then they are started. Play dough is good and if you don’t approve of having children play with their food, then don’t let them play with their food, but you can always welcome children into the kitchen to do things like mix cookie with their hands and meatloaf, or another neat thing to do is fill the sink with a little bit of fuzzy water and give children old-fashioned eggbeaters. And if they can manipulate that eggbeater, they can get quite a nice soft going and they’re busy, they’re active, and they’re learning and they’re where the action is, and you can tell them all the time how much you need them, and everybody needs that. Everyone needs to be needed.

So here are some strategies for the sensory-seeking child and that would be interesting activity, reverse the direction, give the child some heavy work to do, change head positions, or moving from spinning to pushing or from pushing to spinning. And an OT who has some experience with sensory integration techniques would be able to come up with some more.

Okay, let’s go to the second category—Sensory Modulation Disorder. It’s the first big category of SPD. Sensory discrimination disorder is another category. I call this child the sensory jumbler and this is the one who has difficulty differentiating a mum in between stimuli. So that means you say, “Look at this picture,” and say you have a picture that you’re showing the child. And the child says, “Where is the pitcher?” And he hears the word pitcher like you’d put water into and can’t make the connection between the picture in front of him and the word he heard in his ear.

One day I wish playing a recorder for group of children. And I said, “This is a recorder and some people called this a song flute.” And a little boy in the class, said, “Oh Mrs. Kranowitz, I had fruit loops for breakfast.” And you know, if I didn’t know about auditory discrimination problems, I would have thought, “What are you talking about? Why is he always off-track?” But fortunately I did have some understanding and I knew that he had heard song flute and thought I said fruit and so he thought we were having a conversation about fruit. Needless to say, this little boy who was very cheerful and funny and friendly and loved being at school, he had a lot of difficulty with conversations with the other children. They would be talking about a cat and he might think they said that or something and he would not be in on the conversation at all and his
attempts to make conversation would be unappreciated because he was talking about something different.

Sensory jumblers. Let’s see, they have trouble getting the right button into the right buttonhole so they often look like they’re kind of sloppy like they’re not put together very well because they don’t have good tactile and proprioceptive skills in their fingers for instance or their eyes aren’t seeing what has to be seen so that they can dress properly. They might go to pick up a bucket of water that they picked up many times before but each time is a first time so they pick it up and the water goes all over the place because they’re not making all those sensory associations of how heavy a bucket of water would be based on other buckets of water that the child has picked up.

So auditory and visual discrimination are often part in partial of SPD. And you can have visual or auditory problems and we would not say that it’s SPD because SPD has to have touch and/or movement problems to be SPD. So in other words, you can have SPD and have visual and auditory discrimination problems but if you have auditory or visual discrimination problems, that is not necessarily needed to have SPD.

What do we do with these kids? Well my best suggestion is allow more time. In the classroom, our teacher might say, what’s the capital of Connecticut? And Billie might know that it’s Hartford but it takes him a little bit longer to process what the teacher has asked and then to get his mouth around the word and to get it out. Teacher does not have 10 seconds to wait. She might turn to somebody else who has got her hand in the air. So what we need to do is if at all possible, give children more time so that they will feel successful so that they’ll know that they are being heard and that their knowledge is being acknowledged.

Here’s a picture of this is not a song flute in my mouth. This is called a slide whistle and I was playing a game with them where I make the slide whistle I go wooooh, and their hands start at their knees and they go up and down and up and down. So I’m hoping to help children strengthen visual and auditory discrimination.

Now most of these kids get it. The little boy with a cap on has autism and he understands game and he’s enjoying but he is late and not fine. I go slowly so he can be at the top. He can try and get to the top when all the other kids are at the top and bring his hands down when they bring their hands down too. By
the way, notice that he’s wearing a cap here. At the nursery school it was okay. He wishing it out that he liked that cap because it helps occlude a lot of visual distraction from him. And that was something that he came up with himself. When that cap came down over his eyebrows, it was saying, there’s too much commotion all around me and this is helping me focus.

The child that I’m really interested in in this picture is little one whose taking the camera with a faraway look in his eyes and he has cleaned the parts of the T-stool. The T-stool has one leg, it’s wonderful thing that kids sit on because it requires them to find the center instead of straight and he’s not finding his center very well. This little boy turns out had a vestibular difficulty which got in the way knowing where his balance was and what was up and what was down. He for instance could not go up one step without like for instance from the sidewalk into the school without hanging on to a person or to the door. He was not very good at out of school—. He would cling to them, he go very slowly and what we noticed was that his discrimination was affected and his vision and in his proprioception and then his vestibular senses. So he wasn’t getting that feedback that was important for him to know where his body was and where to push his body parts.

So what was the answer for him? Well, it was sitting on more T-stools so it took him forever to get situated on that T-stool. More T-stools would be good for him, more obstacle courses, more of the very activities that he did not excel at. And you know so often, we think oh he’s no good at the playground, I won’t take him to the playground, but if there’s a way we could inch the children to do the playground and bring them gently in little bit to the table so that they get to participate in ways that make it comfortable for them, then we’re doing these children a great favor. But I think oftentimes, we think well we’re not doing kids a favor. Well this is torture for the child, we’re going to take them away from it but I like to think, well we don’t want to torture the child but we can’t excuse the child from life. You know, everybody has to get out the door every now and then. Most people do have to go to a birthday party now and then. And so what can you do is can take the child just for 5 minutes just to hand over the present, wish the birthday person a happy birthday, and then they can anchor it, but a lot of times because things are hard, we do a lot protecting.

Another kind of category is sensory-based motor disorder. Oh you know a doctor, I’m remembering all the stories I want to tell you. Sensory-based motor disorder has 2 subtype too. One is called postural disorder and I think of the kid as the sensorimotor. This child just can’t sit up straight. He’s always
leaning or folding over. This is a child who often would sit on the floor in the W position with his knees together and his ankles splayed out to the sides so this does look like a W rather than like an X. And this W position is really very bad for the child’s skeletal development, it’s bad for his knees and his hips. Now, why does the child do that? Well it’s to get himself a wider base because being over the legs folded in front of him, he might tip over, but since his legs are out to the side, he’s not going to tip over so much.

So we get kids out of this position as much as possible and a way good to help that child is to give him a seat that has little back to it. You might know the ——stool seat that folds or sometimes TV chairs that don’t take up a lot of space when they’re not being used but they give a back support to child. That might help. There’s a beautiful chair made in Maine, it’s called howdahug. You can go to howdahug.com and this is made up of flat wood that conforms to the child’s shape so it’s like a hug and it’s wonderful. Children just love it. Or a beanbag chair or even putting a sensory slumper on a T-stool that we just saw in that photograph. You might think, well that’s the last place I would think of putting a kid like this. But, in fact it’s very useful and helpful. The child might do very well on it.

This is the child who’s all over the place so he’s flipping and sliding and I knew a boy who is 17 years old. He had not been diagnosed until he was 17. And in fact, the reason he was diagnosed at all with SPD was that his 5-year-old brother was a student at the school I taught at—St. Columbus Nursery School in Washington D.C where we were screening kids for SPD. So the little brother was screened and found to have vestibular problems and the mother said “Oh I think that describes my older son too.” And then she told us the story that he was always falling out of his chair at the dining room table or hit the desk in his room, and they thought he was being goofy and they scolded him. Anyway one day, while he was at school, the mom went into his bedroom and she saw that he had put little blobs of glue on the side edges of his desk chair and in this little blobs of glue, he had stuck thumbtacks pointing side up. So when he came up for school, she said “I fell over sharp thumbtacks pointing up on your chair. What was going on?” And he said “Oh Mama, I figure that that was the way to help me remember not to fall out of the chair.” So here’s a child 17 years old who was finally recognized as having tactile vestibular proprioceptive problem. He didn’t get that input that he was falling out of the chair and that he rolled in him into this postural disorder.

Kids with postural disorder will often fatigue very easily. They say, “oh it’s too
far to go to the mailbox” or they certainly don’t want to do any sports. They also might have attendance we do of sprawl so little kids will be on the rug sprawled out their whole bodies might be flashed out on the rug when everyone else is sitting up at circle times.

Overflow in another problem goes along with postural disorder and that is using body parts that are not needed for the task and a typical example of that is when a child is trying to write or do a fine motor skill and he has tongue hanging out of his mouth. And we all use our mouth a lot when we’re trying to concentrate. We might bite our lip or bite a fingernail or want a piece of gum or rub our lips. When we do something with our mouth, that is an organizing technique we have. The mouth is a big organizer. Anyway the child might take his tongue out while he’s trying to put 2 pieces of Lego together. Now, we all do similar before so don’t get a credit but it’s when it’s more than that.

Oh here’s something you can do even though you can’t see me to demonstrate it. I want you wherever you are now, but you need to hunch your shoulders up really high where your shoulders are nearly touching your ears. And squeeze your elbows into your ribs and if you’re sitting, squeeze your legs and your knees and ankles together. I want you to be really tight all over, okay. Now pick up the pencil and start to write a few letters with your pencil. And I want everything really, really tight. Now if you’ve done that, it will be hard to write but that’s how a lot of kids with postural disorder do visual motor test. They will recruit their shoulders, their tongue there, their whole body gets involved, they get very, very tight all over using whole body part that aren’t necessary and the reason is that they don’t have underlying sensory skills that allow them to isolate just the muscle groups that are necessary. So they can’t just use their hands or leg. They have to use their whole arm and the shoulder and in fact, the whole body.

Here’s a little kid with this motor, this postural disorder, always, always rising, never comfortable in his chair stool. And you know, the teachers understood it and they gave him a lot of quizzes and a lot of playground activity and you can see from his done quiz that he’s been certainly been trying up hard, and that was useful for him but still moving, moving, moving all the time.

Okay and another kind of sensory-based motor disorder—this is the last subtype—is dyspraxia. We saw that little boy before who was not dyspraxic at all, the one with the feet in the yellow sand buckets getting all that wonderful sensory input through his touch system, his proprioception, his vestibular system, his
tactile system, his hearing, his seeing. He was totally engrossed. Kids with dyspraxia wouldn’t go near those yellow buckets and orange traffic cones. They wouldn’t come up with that idea. These are kids who tend to like just what’s easy to do, they prefer the same old same old because each new complex action is daunting.

Before I was talking about putting on a seatbelt in a new car. There’s a lot of sensory information we need. First we need to use our vestibular system to turn our head to see where the seatbelt is coming from. Then we need vision to locate it. Then we need our proprioceptive sense to extend our arms. Then our tactile sense is involved as we hold on to the gizmo. Then proprioceptive comes in again as we draw the seatbelt across our body, and our auditory sense is involved as we latch the seatbelt. So it’s important and we will be attentive in many of our systems to a job like this. Well that kind of thing is very hard for a dyspraxic person and many, many children with autism of course are dyspraxic because their sensory systems are not well-developed. So what happens if they tend to be clumsy and uncoordinated and it takes them a long time to do simple task that are simple for other children? One thing we want to do is break the jobs down and I’m sure many of you are doing that beautifully where you don’t just say okay, do this 500 piece. No of course not. We start with something simpler but then we want to keep adding to it and adding to it.

Here we have a little boy. He has high functioning autism. He was very anxious and high anxiety is given that goes along with sensory processing disorder because children are not feeling confident about their bodies and what their bodies can do. They know they are clumsy. They feel different and they would like to be successful and tend to be anxious about it. A common phrase you can hear from kids is “I can’t do that” even before they have had an opportunity to try it. They will turn off before they start probably because they are already so down on themselves. So what we want to do is with our goggles on, find out what’s giving the problem in the sensory way and see if we can ameliorate that problem somehow.

Let’s look at this little boy. This was a lovely, mild, spring day in Washington DC. There is no reason for mittens but this little boy had his mittens or his gloves on not for work but to protect the sensitive problems of his hands. So he had tactile over-responsivity. And we saw that in the classroom all the time. He had no interest in using the tool and he had to be coaxed in this situation and had to be quiet and he had to feel that he had some control over using those fine motor implements and we did that for him. Anyway, here he’s
outside so he’s not cold but he’s got the gloves on. He is stuck. He is on a climbing apparatus, it’s about 4 feet off the ground. It’s part of an obstacle course that his classmate had been enjoying and he really wanted to do it because kids like obstacle courses but it was very hard for him. This came a long, long time to do everything. And he got to this last obstacle and he is stuck. The term we use is “fixed.” His knees are fixed together, his ankles are fixed, his shoulders are tight. You can’t see it here but his tongue is out. So there’s some overflow there. So his tactile, his proprioceptive, his tactile sense is affecting his behavior. His proprioceptive sense which is not well-developed is preventing him from being able to use his body freely for extending and flexing his muscles and using both sides of the body together. His vestibular sense is off. He’s uncomfortable being off the ground and he can’t go up and can’t go down.

Fortunately, his teacher is here. You can see her profile on the very right edge of the photograph. She knows she can’t talk him out on this because you all know this too. When the child is very anxious or is afraid, talking is not going to help. It’s being there to help. I don’t mean don’t talk because soothing words are very comforting but I mean this is not a situation where a teacher would win if she gives the child detailed verbal instructions about how to get off that climbing apparatus. So anyway, she said to him, “I’m right here” and she does technique that I recommended called “hand-underhand” or in this case, it was hand behind knee. When you put your hand under a child’s hand or behind him, it gives him a psychological sense that he’s the one in charge and that can be very helpful instead of facilitating him but putting your hand on top of his, try putting it under. So she did that with him. And she talked to him a little bit. She said, “Now we’re going to move this leg here, we’re going to put this hand there,” and step-by-step inch-by-inch, he got down to the blocked, pouring buckets of ——. But he smiled and he said, “I did it, I did it” and then he wanted to do it again all by himself so it was a winning day for that little boy and he managed to get to that obstacle course a little bit faster each time but a lot of going on.

There are possible coexisting disorder. A bunch of possible coexisting disorders SPD. Anxiety that we just mentioned. Autism Asperger syndrome, definitely. And I talked to Temple Grandin about the coexistence of SPD and autism and she believes that 100% of people with autism have sensory issues.
You may see that there are other statistics that are not 100% and that depends on who’s talking I guess. But it’s pretty clear that people with autism and Asperger’s do have oversensitivity or under sensitivity to sensations.

And these other disorders on this list also overlap with SPD and sometimes the SPD look like one of this when they are different. I knew a little boy who had SPD. His mother was a good friend of mine and she would tell me things like how he washed his hands all the time and how he ran around the dining room a lot before going out of the house and how he liked to press his hands and his knees and his hips into the door jambs and get a lot of pressure that way. So then one day, she told me that she was telling the pediatrician about this and he said, “Oh that sounds like he has obsessive-compulsive disorder. Maybe we should consider giving him anti-anxiety medicine,” and she didn’t want to do that so we talked about that night, “Why don’t you just take him to an OT and see if these behaviors are significant enough to warrant some OT?” And I thought they were, but you know, I didn’t want to push too much. Anyway that was correct. This little boy just had SPD. He was on obsessive. He was washing his hands because he did have tactile over responsivity he liked his hands clean. And he ran around the dining room table because he needed to wrap up his vestibular system. And he liked to press his body against the door jamb and get that resistance because his proprioceptive system needed more input. So he had over-responsivity, he had under-responsivity and an OT fixed him up. Everything had turned out well for him.

There are some other possible coexisting problems with SPD. Vision and hearing and speech are often coexist. Here’s what happens with vision. We are born to move and we are born to see far out there and we need to move and we need to be able to see as protective skills, survival skills. So we need to be able to look out at the horizon to see what’s coming at us and make a decision whether we’re going to run or go toward that thing or hide or freeze or whatever we’re going to do. We’ve got to have eyes that can see out for and then see close and see out far and see close rapidly. We are not designed to look at electronic screens. Our eyes are not designed for that, and that’s what we’re doing more and more. Most children today watch—I don’t know what the statistic is now—something like 6 hours of screen time a day. Little kids, it’s so bad because what’s happening is with looking at 2-dimensional screen, kids are missing all the opportunities to move their bodies and learn about the world in the more important natural way. It’s really hard to learn about a 3-dimensional world through a 2-dimensional device like an electronic screen. You’ve got to get your kids out there moving and doing and participating so that they learn
about things like how far away something is or how much time it takes to get
ready for that thing, for instance to swing a bat or catch a Frisbee or hug a
friend who is walking towards him.

So vision is impacted by our society these days and in kids who have sensitive
neurological system. All of the screen activity is not doing them any favor.
Here’s something you can do right where you are. Push your hand out away
from you in front of you with your index finger pointing to the ceiling and your
elbows straight. Now bend your elbow and gradually bring your finger towards
your nose and as you do, I want you to hang on to the finger with your eyes.
Now your eyes will cross. Now you’re there now. Push your finger away again
and do this a few times. This is called convergence when your finger comes
towards your nose. And it’s called divergence when your finger goes up here.
We should be able to do this smoothly. It should not hurt. And we should be
able to hang on to one picture of our finger. But a lot of kids, if you try that
with them, and their eyes cannot hang on to that one finger. The eyes don’t
cross. Or maybe their eyes do cross but at the wrong time.

Another thing kids are having trouble doing is tracking. That means being able
to hold their bodies and heads go and let their eyes go back and forth from side
to side as they were watching a ping-pong match. Convergence and tracking
are the important skills for reading, for doing work at school, for seeing the
blackboard and then looking at your desk, for watching a ball in the playground
and determining what you’re supposed to do with it. We need to have that
rapid back and forth ability and visual problems can arise if the underlying touch
and movement sensations are not working well.

Similar story with hearing. If we are having our kids do a lot of sitting which
they are doing and having them listen to what’s coming out of a TV or the video
game or worse through ear buds in their ears, they’re not learning the huge
variety of sounds that they are in the world. They are not getting sharpened
skills on locating where sounds come from. So remember I was saying before
about the over-responsive child who startles when the door swings, he jumps
up and he will fall around. Many kids with SPD have difficulty locating where
sounds come from so wouldn’t you be scared and uncomfortable too if you
didn’t know where that sound was coming from, and when the teacher calls
your name and you don’t know where it’s coming from and you’re looking all
the way around? Wouldn’t you feel lost? And I think that something happens
quite a bit. Hearing the whole world helps you differentiate and discriminate
sounds. What’s a friendly sound? What’s a hustle sound? What’s the sound of a
human voice versus a barking dog and a vacuum cleaner versus a truck going down the street? The more sounds we hear, the more adept we become at differentiating the parts of speech so that we can establish a good sense of grammar and syntax and we can develop a vocabulary and use all the sounds that we hear to formulate certain things and speak, and then as we get older, we can use our good sensory underpinnings for writing too.

So vision and hearing and speech are big issues that can also be affected by the underlying sensory vestibular and proprioceptive problems that prevent children from gaining the sensorimotor experiences they need.

Sleeping and eating are big issues. Many children with SPD are erratic sleepers. In my book, The Out-of-Sync Child, I have some suggestions including no TV time, no electronics for at least 2 hours before bedtime and I know that’s really hard for a lot of families but it’s a projection withdrawn. Watch the child’s diet carefully. No additives or sugar before bedtime or in fact during the day. And there are supplements that you can give that would help children with their sleeping. A good idea is a nice warm bath just before bed right into pajamas and right into bed and that doesn’t mean that sleep has to be right away. There can be some games or some reading or storytelling at bedtime but right from back into bed, it’s a good way to get the child ready for sleep. So there are other things that can be done as well and the OTs can help with that in many cases.

Eating is a huge issue, a huge. And let’s look at why eating should be a problem. Well, tactile over-responsivity means that things that are strange are not going to be welcome to the mouth. So some children just want a very smooth diet. Everything has to be creamy and like yogurt and milk and maybe grilled cheese sandwiches but the crust on the bed has to be off and pasta would be acceptable but not a carrot, heavens no, not an apple, nothing crunchy. Then there are kids who like only the crunchy and they will want crackers and pretzels.

And I knew this little boy who only ate carrots pretzels and crispy bacon and his parents knew this was a problem but they wanted to have regular mealtime and so they would make him these 3 items or provide them for him so he would come to the table. And they had other children in the family and this dinnertime was important so I thought that was a good idea. Then he came to nursery school and would have a meltdown if at snack time, it was not carrots or pretzels and of course, there was never the option of crispy bacon in nursery
school, but the teacher brought out an oatmeal cookie, he would have a meltdown or applesauce, he would have a meltdown. Or if they bake zucchini bread which was a thrilling experience for many kids to do the cooking, he wouldn’t go near the cooking either and he hated the taste and the smell and everything about zucchini bread.

What to do with this child? Well it turned out that we screened him and found that he really, there is a lot of evidence of sensory processing and suggested occupational therapy for the parents. So they did get OT for him. They were a little apprehensive because they didn’t know what it was but they were fast learners and we’re just thrilled with the outcome. A few weeks after he had started OT, he was having 2 or maybe 3 sessions a week with an OT in the clinic and then at home, the parents will have implemented the sensory diet which were activities that the OT suggested that included arousing, organizing and calming activities for him. So he was doing the sensory diet at school and the teachers at school were working to make things better for him. And one day, he came to school late. And the story was that he had just started to enjoy playing in the mud outside and it was a very muddy season and there was so much mud in the sandbox. And he now with OT was beginning to be more comfortable with messy play. And he liked that he was getting more social. This is like after 3 weeks of OT. So one day he was late and when he finally came, the mother came out to me, she said, “Oh the most exciting thing happened today. My son put and tried his boots and he likes to wear his boots like the other kids do because outside, it’s so muddy and we’re still happy that he’s in the mud, it’s just wonderful. He couldn’t find his boots and he knew that his little brother had hidden them. So my soon took his little brother’s arm in his hands and he bit it and it was the first soft thing he ever put in his mouth.” So we all had a good laugh at that. Fortunately, he did not break the skin of his little brother’s arm but it was the first soft thing he put his mouth. He only ate crunchy things. And the OT for this little boy turned him around. He’s now an adult almost 30 years old, doing beautifully. He eats all kinds of things. And I saw his mom recently and she said, “You know when he was little, we despaired that he would ever have a friends or a girlfriend because he couldn’t tolerate the touch of another person, but I’m happy to tell you that he does have a wonderful girlfriend and they are going to get married.” Well that’s one note about eating and there are many others.

Another is a story of a child with autism and Winnie Dunn, the well-known occupational therapist whose work is the *Sensory Profile*. Winnie Dunn was working with a child who only ate French fries and his mother was frantic and
the doctor said, “Oh well he’s growing,” and the mother thought the doctor be better not, but anyway, Winnie Dunn and the mom decided to figure out what was okay about French fries. So they watched him eat and he would a French fry and he put it right in the center of his tongue and kind of swallow it whole. And they decided that probably, he just had a one special place that was comfortable for him and anywhere else would not be comfortable. And the texture was right. So they were discussing. They began to julienne other kinds of food like chicken and turkey and they started parboiling vegetables so that there were a consistency that didn’t require a lot of chewing and gave this child little sticks of food and he would take them, plant them carefully on the center of his tongue and swallow them. His diet improved dramatically. He didn’t care what it tasted like. It was just what the shape was like. So that was just a great use of sensory goggles.

Now kids who don’t eat well are also not going to have great digestion. They might be constipated or have diarrhea quite a bit. They might have bladder control problems and a lot of that is related to what they eat. Also many, many children with autism and with SPD have inflamed guts, leaky guts, where the bacteria builds up and they’re gassy, they flatulate a lot, they might burp a lot, they may not smell good, they might have bad breath. And these kids are in stress. A lot of it is because the food they eat is not something that they can absorb well. The culprit seems to be milk and dairy products and wheat and other children seemed to be very sensitive to additives and food. So what you need to do is look at labels of course and be careful about getting foods that’s over-processed. That food is fresh food that needs refrigeration. The worst food is food that can stay on the shelf for years and years and years because it’s made in a laboratory.

What can we do to help our kids? Well if you’re interested in learning more about sensory processing disorder, I suggest you go to SPDFoundation.net. This is the big website. Lucy Jane Miller whom I mentioned before is the director of SPD Foundation and this is the website where you’ll see postings of recent research and there’s a registry where you can find some specialist in your area. You can do some e-learning. You can join the support group or start one and be able to see many other wonderful things at that website.

I also am very proud to be the editor-in-chief of this magazine, SI Focus. We are just about to have our first e-magazine. It’s been a hard copy up until now but it’s now going to go online which greatly reduces the cost of the subscription and there are many, many benefits to it. So it’s a wonderful
magazine. I do think so myself. Kathleen Morris, a speech and language therapist who also like me is an OT wannabe. Kathleen is the publisher.

Another way to help is early prevention and with these kids with autism, what we want to do as soon as possible is get them on a nutritious diet that is going to give them real food and not Twinkies, not the things that they like unfortunately, but we have to find ways to make things taste good.

One thing that I’ve heard people having success with is it’s called the "Trojan horse method." Some of you might know more about it than I do but it’s where you chop up or grind up fruits and vegetables and put those ingredients and things that the child will like. And I know one little boy who refuses all fruits and vegetables but he likes to cook, he likes that messy play and his mom encourages him to stand on a stool counter and they mix beets and zucchini and carrots, and you know, she grinds them up and get them really small and he mooches them into the muffin dough and then he will eat the muffin. So he’s getting the nutrients from the fruits and vegetables and he knows that they are in there. Of course, you know, don’t put a beet on his plate, he would never look at it. But there are ways to sneak food into a child’s eye if necessary.

And if you’re desperate and if you feel your pediatrician is not as concerned as you want them to be, the I would suggest looking for a nutritionist who understands the whole development of the child, and a nutritionist who really understands sensory processing. She will be able to say, “Oh it’s tactile issues that are preventing your child from eating,” or “Oh it’s proprioceptive problems. He does not know where the food is in his mouth. He doesn’t have the stamina to chew which is a proprioceptive function.” It could be the smell is something that the child is offended by. Even vision can interfere with a child’s enjoyment of food. If, for instance, he doesn’t like the way the juice from the hamburger slashes over toward the French fries, you know, he might be very uncomfortable that way. All kinds of sensory things can affect the way a child eats. So nutritious diet is important to find that a child would eat comfortably.

Sensorimotor and perceptual motor experiences of course are very important. Sensorimotor would be activities that bring in the touch, the movements, the visuals, the auditory information in a way that the child can not only tolerate but also benefit from. Perceptual motor experiences, these are built on sensory experiences. Perceptual motor experiences are moving in a diagonal or rolling down the hill or, I just wrote a book about it with Joye Newman who is the perceptual motor therapist. But if you want to see a book about it, the book is
“Growing an In-Sync Child.” And that there are tons of ideas in their perceptual motor activities that helps kids get the skills they need.

And of course, we want quality child care and education which is so much better early than later. If a difficulty is getting in a child’s way, I mean if you see your child is avoiding activities that other child find present, let’s say finger-painting or if resisting, letting his feet leave the ground like swinging, then don’t wait about getting therapy. Go ready. The sooner the better because while children’s brains are still plastic, therapy can help very much and help the child develop the skills he needs so he won’t need later instructions.

Here are some therapies that I recommend. OTSI which is occupational therapy using sensory integration techniques. And that is the best kind of experience for kids with SPD and most children 99.9999% of children getting OT love it because the experience, occupational therapist will follow the child’s inner drive and will help the child master the skills that he really wants to master. If a child is getting OT and is not enjoying it, maybe it’s time to think about another therapist. Or maybe that OT does not know very much about sensory processing and sensory, also called sensory integration. And so maybe the technique she is using are usual but not really getting to the core of what the child needs.

Physical therapy using SI is helpful too. PTSI. Speech and language therapy that uses sensory integration techniques is very beneficial.

Vision therapy. I love vision therapy, also called visual training. This is provided by a behavioral optometrist or developmental optometrist who is an eye doctor whose concern is with the behavior of the eyes as opposed to an ophthalmologist whose interest is the health of the eyes. And so many kids, some of the kids have visual problems because their eyes are not functioning together as a team and the behavioral therapist will play games with the child that will strengthen the way the 2 eyes work together. It can be fabulously beneficial.

Auditory therapy. That therapy like a listening program where the child typically is wearing big cushy comfortable ear phones and listening to often is classical music like Mozart or Bach, and sometimes at the same time, the child is balancing on a titter-tatter and throwing bean bags into a bucket and doing some perceptual tasks at the same time that he is getting the music into the ears in a way that calibrated just for him. So those are some activities and
nutritional therapy we talked about too.

Here are some other website, not shot very well, but sensoryworld.com. And my two websites might be helpful. And devdelay that stands for developmental delay resources.org which has a lot of very good information.

Now, Dr. Ayres said that fun is the child’s word for SI. And so the more we can provide for these kids where they’re going to get real fun, where they’re doing, they are in charge, they are coming up with what they’re going to do with the object around them. They’re making up the world. That is so beneficial for kids and if they don’t already do that, encourage them to do it. I like to use things like cardboard from paper towels and an 8-inch section of loop from laundry room and a few strings and a few stretchy bands like Therabands and just things around like that and have them handy and we can work out them enough. Then what do you do with it because they are waiting for the —— button and if you say, “I don’t know what you can do with it, you show me.” You will see some pretty magical things happening.

Another thing I want you to remember is that the more important an activity is, the more sensations we use. I referred to that a little bit when we were talking about getting into a new seatbelt. The more important activity is, the more senses we use so that we will get it, we’ll understand it, we’ll master it. And there are 2 human activities that use all sensations simultaneously. One of them is eating and the other is procreating. So if you can come up with any more, you let me know. Other than those 2, since we’re not doing those all the time, we want activities that use a lot of input and here are some suggestions on the slide. In natural settings such as a playground, the backyard, the kitchen, the bathroom, that’s where we can offer kids things that they can do what they want with. In the bathtub, you can have sponges and different texture and different things to pour with and squeeze and all kinds of things you can find around the house that don’t require big expenditure. Try them in the bathtub.

Beet crusher. It seems that many kids can’t get enough of that and I think we should give our kids many, many hugs a day. I have an OT friend who says everybody needs 12 bear hugs a day for god mental health. And especially when your child is behaving in a way where what you’d like to do is walk out the door, get in the car and leave, that’s when you need to go toward your child and get her a hug.
We also need to provide heavy work activities and we don’t do that anymore. We don’t have so many work activities in our lives. We have snow-blowers and leaf-blowers instead of rakes and shovels. We have remote control so we don’t even have to get out of the chair to go, turn off the TV.

Let’s make our kids go back to the old-fashioned then called movement and that leads me to the last bullet here which is swing, pop, jump, stumble, climb, stretch, run, dig, crawl, slide as much as possible.

So tomorrow when it’s dinner time, instead of them come to the table, why don’t you try jump to the table or slid to the table. Or make a game, a different way to go upstairs for bed, but actually if the child does not want to go to bed, you can say, “Oh well tonight, you get to choose which way you’re going to go up. You’re going to go up sideways or backwards.” Give a child a choice he has then some control and it might be just that instead of you’re saying it’s time for bed and having him say, “no.”

Here’s our last slide. This is a little boy carrying a big bag of mulch and what I want to open to you is keep our button sensory goggles on, think positively about our children, think about all the things they can do, think about their deep interest and deep knowledge in their favorite subjects and why not go with that, you know, if it’s trains or planets or vacuum cleaners or why not figure out a way to stretch that somehow because that in-depth curiosity leads to in-depth learning and knowledge. And I want us all to think that we’ve got to get our kids moving. Every child has a movement quota. You do too. Everyone if you’re listening has a movement quota and you know if your desk is too long, how you’re restless when you’re trying to sleep or you’re cranky, I know it’s true for me and it’s especially true for our children.

So that’s dropping the bucket about sensory processing. Thank you for listening and I’m going to have a little sip of water and you can ask questions now.

Nancy: You know that was just wonderful. I wonder if you could go back and put up the slide with your website on it. Out-of-sync child website because you have link from that website to all these other resources that you’ve listed there as well. You actually have a link to the spdfoundation.net and sensory resources, specialneeds.com. all of those.
Carol: Yeah, good.

Nancy: All those wonderful links.

Carol: Thank you, so its out-of-sync-child.com. And I would welcome people to come to this.

Nancy: It’s just a platter of information I have to say. All your listed resources you have, OT, PT, all the auditory therapy, training, brain gem, you list chiropractic and I wondered if you know much about interactive metronome.

Carol: I have had one day of a session with this and that is the extent of it and of course I want to remind everyone that I’m not a therapist myself, and of course I want to remind everyone that I’m not a therapist myself. And I liked it, I liked it. It's based on the idea that a lot of us—many people and especially kids with sensory issues don’t have good rhythm, and we need, when we walk, when we talk, we need to have what’s called “rhythmicity,” and interactive metronome helps kids learn to find that rhythm which is not natural. So I like it. I have found more people like the listening program and that’s the most popular with therapists and with family, and then there’s another one that I’m very interested and called integrated listening system, ILS. And they rather knew ILS and they guarantees success which I think is bold so they must know what they’re doing.

Nancy: Yeah. Very nice and you mentioned brushing and the T-stool both in your presentation there, I wonder if you might know where folks might look for these items.

Carol: Well, the brushing should not be something that parent does independently. It really needs to be done with an occupational therapist guiding it. So, you can, anybody could go online and learned about it, but then they have to hook up with an OT. And now, that is not to say that we can’t use brushes and all offer the brushes to the kid. And like you could take I have a brush that I got at a grocery store, brushing cornsilk off a cob which I think is ridiculous but I think children should be picking that up. But anyway it’s a soft plastic kind of bristle. Now we can brushes like that to kids and let them do what they want with it or maybe we could even brush their arms and legs but a little bit, we wouldn’t call it the Wilbarger protocol and I just want to be cautious.

Nancy: And howdahug.
Carol: Oh yeah and the T-stool you mentioned. The howdahug.com, and those are just lovely and the T-stool, I think parents go to therapro.com, I think you see some choices there. They can also Google T-stools. I have made T-stools myself so I don’t buy them. It’s so easy to make. You get 2 piece of a 2 x 4 and each piece is about 12 inches and you can be approximate in your measurement and you just take with screws and screw one on to the end of the other. I have directions for it my book The Out-of-Sync Child and The Out-of-Sync Child Has Fun. And what you want to is make this little stool so that when the child sits on it, his ankles and feet are at right angles. So in other words, the average height for 4-year old would be 14 inches off the ground. An average height for a 3-year old would be 12 inches off the ground, but you know it varies of course. I love the cheap stuff, Nancy. As a former teacher, I learned about beautiful junk, and you know I never look at it as a wrapping paper too without thinking oh how we can use that. So, that’s a kind of thing that I like to do with little kids.

Nancy: That’s what I like about both of your, you know, your Out-of-Sync Child book and your Out-of-Sync Child Has Fun book, is that you’re using everyday objects in new ways.

Carol: Oh yeah, yeah

Nancy: Things you would never have thought about. Is that carried on through your other books such as Growing an In-Sync Child as well?

Carol: Definitely. Definitely. I think the most expensive thing we suggest in Growing an In-Sync Child is a flashlight. And the other materials are stuff you just pick up around the house and Growing an In-Sync Child, Joye Newman who is the perceptual motor therapist, she has a company here in town called Kids Moving Company and she works with a lot of kids with autism and motor coordination problem and they do obstacle courses, and they jump over string and they poke their fingers through a hole that one of her activities is taking a piece of pipe cleaner and making circle out of it and then having the child stick his finger right into the center of the hole. So this is not hi-tech. But that was, for instance, where you’re poking your fingers through the hole of it. They buy a pipe cleaner, that’s visual motor, it’s vestibular because you have to be steady and balanced while you do it. It’s proprioceptive because you’re stretching, it’s tactile. There’s so much going on it’s great. And the kids love it.

Anyway, we, Joye has treated many kids with autism, and as a teacher, I taught
at a school that included 10% of the population of the school where kids with identified special needs so we got all kinds of kids with special needs. And then there were many children who did not have diagnosis but came to our school knowing that it took kids where they were and love them and honor them and let them to play their hearts out. So we were outside all the time at least 90 minutes out of every 3-hour program. So the school attracted children with some developmental delays because it was what these kids needed and tried. And so, that’s more, I find once you get...But when I’m trying to get at is that Joye and I have experienced working with kids with special needs and so many of them are doing well. It is the kids who are not diagnosed that we’re concerned about these days. We think we are at a critical juncture in our raising up children these days. are giving them the wrong tools and so our book, *Growing an In-Sync Child* is really designed to grab the attention of typical, the parents with typical children to say get them away from the TV and the flash cards and give them a ball and a road made out of masking tape.

Nancy: Now are diagnoses or assessments done typically by OTs?

Carol: Yes. The OTs, well, this is the way it works that the OT does the assessment and then she says to the pediatrician, I say that Jimmy has SPD, and then the doctor gives the diagnoses and it’s really unfair and it might change and it is changing in some state but mostly it’s the doctor who gives the diagnosis even though he depends on the OT to come to that conclusion. Many doctors do not understand SPD and it’s not their fault. There is a time for learning about this in medical school, and it’s not a disease and there is no medicine for it. You can’t cure it, so you can help it and you can ameliorate it and you can make huge permanent fabulous changes in the brain with OT that will make a huge difference for kids with SPD but there is no medicine.

And here is the sad thing because there’s no medicine, because activity and kind of a lifestyle is what helps kids with SPD, because there is no medicine, drug companies are not supporting research. So there’s the money for research comes from private forces, it comes from family foundation. It comes from you and me. And it’s not in the DSM yet because there hasn’t been sufficient research according to the DSM writers and there isn’t research because there isn’t money to pay for it and there isn’t money to pay for because it isn’t in the DSM. So it’s like a circle but it might get into the DSM, we’re pretty helpful and then there will be more recognition.

And what’s so crazy, you know there’s no controversy about sensory processing.
Everybody will accept the fact that there’s sensory processing, and everybody can understand when some people don’t process sensation easily. The controversy is what helps and that’s because it’s so hard to say that OT has cleared up SPD the way you know penicillin can clear up strep throat. We see significant differences that OT makes and children are better and parents are better and families are better and Lucy Miller and her colleagues are doing research. They’ve done a longitudinal study, a 10-year study taking different groups of children and giving some OT for several weeks and then just praying for several weeks and you know, there’s a variety of different ways. They treat these children and then they study the children’s responses to given tasks and the ones who get the OT have shown very good improvement. But it’s really hard and time consuming to do that kind of research to show the benefits even though they’re there.

Nancy: From understanding, you say that while there could be significant improvement, there is no known instant cure.

Carol: Yes. So as you know, if a child has significant SPD as a child and gets recognized and gets treated, the chances are good that those sensory issues will greatly diminish and the child will turn into a functioning adult. If those sensory needs are not addressed, the child does not grow out of them. He grows into them and becomes more reclusive or more sensory seeking or more clumsy. So you know, with our goggles on, we can really make a difference when we seek it. And I’m going to tell you one more, I was very interested in screening kids for this and I worked with a wonderful occupational therapist, Lynn Balzer, Martin who taught me a lot of about his back in the 80s and 90s and we would screen kids and we would talk to their parents and say, “Looks like your child really is uncomfortable on the playground and we suggest maybe getting some therapy or trying that, let’s work together at school and home together to collaborate to see how we can make this child be more comfortable and more of a participant.” And then a week or so later, we would begin to see this incredible improvement in the child whose parents we just talk to, and we teachers would say, are they getting OT so soon? Do that OT have room for them to get started so soon? Well, no, the parents were in line to get OT but in the week they have started taking the kid out more to the playground and giving the child more tasks to do around the house and spending more time at the swing and assisting flower and pushing boxes across the kitchen floor and you know carrying bottle babies around them. It was just the consciousness of the parents was raised in making the more active and we begin to see dramatic differences with the child.
Nancy: That was so exciting. That we should do something different and simple?

Carol: Yes. Yes. Now, what I want to qualify, I mean there are kids. I don’t want everyone to get excited and say, okay we’re going to get some bottle babies and everything will be fun. It’s not that simple but we can never hurt our children by making them active participants. And if it’s taking away sensory overload that makes the child participate more, then take away the overload. If it’s providing more sensation, then provide it. So, I love it when people buy my books but I don’t mean to be sales one about it, I just want to say that if you go to the library and take out The Out-of-Sync Child and look at some of the characteristics that are in the book and you know make a xerox of it of the list and then check off the ones that describes your child, that can be very helpful in showing you patterns. When I started learning about this, I didn’t understand why the child who only ate Saltine for snack and would not take his shoes off on barefoot day and could not stand in line without plugging the kids around him and complained about these tags in his t-shirt, I didn’t understand what was going on until I saw that this was the pattern of tactile over-responsivity. I wish it was clear as chickenpox. What you see is what you get.

Nancy: And you got to put on those sensory goggles.

Carol: You too.

Nancy: That’s for sure. We’re running low on time but I did want to give the opportunity for our callers to ask a question or two before we sign off tonight and it’s obvious that we’re going to have to have you back.

Carol: Oh thank you.

Nancy: Just for two hours of Q&A because there is no way we can fit all these in to just 2 hours. So we have to have you back for sure.

Carol: I would like to.

Nancy: You would be sensory silly. We want to let our callers know that if you would like to ask a question, please press *2 to raise your hand and we will take your calls. We are running low on time but I have been addressing our internet questions as we went along and ask them as bundled questions because they are so very similar. One of them is being repeated over and over to Carol is can
kids fall under more than one category, as far as the categories of sensory?

Carol: Oh, good question. Yes, indeed. And it can be bewildering when you put your goggles on and you say, but wait a minute, he’s touching everything, yet you say he’s over-responsive to touch, there can be a lot of confusion. There can be a combination of issues that we see at a child. A common combination is tactile over-responsivity where the child does not want passive touch. He will shriek and jump if you surprise him with a touch, light unexpected touch, like someone just giving an affectionate little stroke on the child’s head or having to wear hat or having a raindrop drop on his head, that might be really, really terrified to a child who has over-responsivity, and food, eating food is a big problem, and socializing and clothing and being touched and not being in control can be very scary. At the same time that child might be touching everything because he’s the active toucher, he’s not the touchy, he is the toucher and so he’s going to have the special playing kid and he’s going to have a special teddy bear and he’s going to walk around with the plastic scoop in his handle at a time, and he’s going to have things that bring him comfort or he would like to be exploring things wanting to touch a lot because he’s craving tactile information but just can’t stand being touched. That kid can also be the child who craves movement and we see a lot of that tactile over-responsivity. Don’t come near me but give me that playing. And that can be the same child.

Nancy: My son falling in a couple of different categories.

Carol: Yeah, and it can stage, it can vary with time and circumstance. It can be dependent on how much sleep the child has had or what he has eaten or what kind of activity he has had or especially what kind of activity he has NOT had and let’s always think that our children never get enough activity. I really, that’s pretty blanket statement but kids need a lot more activity and a lot less sedentary stuff.

Nancy: Even the kids that are bouncing off the walls?

Carol: Yes they do. They need it structured, but there’s, you know their behavior is saying they need movements. Now the kids are bouncing off the wall and you can give them more deep pressure and more heavy work activity and that might be helpful because what they’re looking for is input into the muscles and joints. Or give them resistive things to do like Therabands to stretch or you came to a conference I did. Did I have a bicycle inner tube? Did you see them?
Nancy: Yeah. That’s one of my really, really cheapo toys, you go to the trash bin at the bicycle store and pull out the old bike tube. And a couple of kids inside tug and pull each other out on the grass. That’s a lot of fun.

Carol: But I don’t feel like I understand the question. There can be, our child can be affected in all sensory domains or in one or two, or one on Monday and then the other one on Thursday, so that can be a lot of back and forth, but commonly we see the over-responsive to tactile sensations kid, we see the same kid under-responsive to movement so he needs more or he’s seeking. And often that child also has auditory processing difficulty.

Nancy: Wow.

Carol: Yeah.

Nancy: We must have done a really good job of either answering folk’s questions or we’re just going to hold them until next time we have, because no one has their hands raised. That’s okay because we are out of time, it’s been such a delight topic, Carol, and your presentation is always…..

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