



## **Web-Based Radio Show**

### **The Do's and Don'ts of Early Identification and Early Intervention**


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Good morning and welcome to our web-based radio show. Thank you for joining us. Today we have lots of questions to catch up on that have been accumulating. But, also, there's one question that's come up quite a bit and I want to begin by spending a fair amount of time on this question that many of you have been asking for many weeks now, and it's also been getting more attention in the general field. That question has to do with early identification and early intervention. So, we'll title the first part of today's talk, really an answer to that question, and we'll title it, "The Do's and Don'ts of Early Identification and Early Intervention."

Now, the reason why there's been a great deal of interest in early identification and early intervention is because everyone is alarmed over the number of children who are being diagnosed with autistic spectrum disorders somewhere between ages two and five, with the majority of children not really starting an intervention program until they're three or four or five years of age. There is mounting evidence, however, that many children start showing some of the symptoms or some of the signs of challenges much, much earlier. But, either we fail to recognize them or we take a "wait and see" attitude and we lose valuable time when we could be helping children get back on a pathway towards healthy development.


On the surface this sounds straightforward enough. If parents and educators, including daycare staff, and healthcare providers, led by pediatricians, could work together with parents to recognize the early signs – some of the early risk factors – we could begin intervention programs at a much earlier time than we are now. But here are the key questions that make this rather straightforward proposition more complex than it may appear: One, what are the most appropriate early signs to look for and how early can we recognize them? And, two, if we do recognize signs of risk early, are we talking about early stages of autism or are we talking about general risk that increases the probability a child may develop this pattern and what is the best type of intervention to institute at that point?



This is no small question. For example, if we have a child at eight months of age who's beginning to carry out repetitive behaviors, such as just banging a toy on the table over and over again or staring off at a fan, rather than looking at Mommy and Daddy, should we think about that as the beginning of autism and, therefore, directly try to alter that behavior – the staring at the fan or the repetitive banging of the toy – or, alternatively, should we ask a more important question: In showing these behaviors that are worrisome, what is the child not doing that we would expect him to be doing if he were evidencing a healthy pattern of early emotional, social and intellectual development? What we would be expecting that eight month-old, for example, is to be interacting with caregivers with smiles and smirks and sounds and head nods, taking objects from their hands and handing it back. In other words, we would be expecting lots of back-and-forth interaction with emotions, with vocalizations, with motor gestures, and if a child is interacting this way – what we call “circles of communication” or, also, we call it more generally in the field “reciprocal social interaction,” the beginning of what some investigators who've made enormous research contributions have described as “joint attention,” i.e., the ability, let's say, to look at a toy, then look at Mommy, and go back-and-forth between the toy and Mommy.

So, regardless of the term we use – circles of communication, reciprocal social interaction, or joint attention – there is a pretty good consensus among clinicians and researchers that at eight to ten months, this is what babies can do when they're healthy. Our own group has shown that when babies can do this, engage in this back-and-forth interaction with emotional signaling and vocalizations and motor gestures, this is organizing for them – what they see, what they hear, what they do with their hands – with their emotions. So, everything is kind of working together, like a good ballet or a good basketball team – all the mental players are working as a team now, all purposefully and all interactively. Now, when this happens children are not staring at a fan and children are not simply banging a toy over and over. Why? Because they're interacting instead. In other words, the symptoms of repetitive action or the symptoms of self-stimulation, like staring at a fan, are symptoms that are secondary to not mastering the healthy capacity for back-and-forth social interaction or reciprocal social interaction or joint attention.

Now, this may seem like just an interesting academic discussion, but it comes down to a very practical issue – I would say a life-altering practical issue – when it comes to what we will choose to do when we observe an eight-month old who's just banging instead of interacting, or just staring at a fan instead of going back-and-forth between Mommy's face and the toy or the rattle on his table. If we focus on the symptom – trying to discourage the staring, trying to discourage the banging of the toy – and don't offer the




opportunity for extra practice at learning reciprocal social interaction or what we call opening and closing circles of communication, then we may succeed to some degree in discouraging the seeming symptom, but we may miss an opportunity to help a child master the healthy foundation for having relationships, for communicating, and for thinking because, again, we have mounting evidence that this ability for back-and-forth social interaction is a foundation for the ability to relate to others, to communicate with others and, ultimately, to think.

Can we afford to miss that foundation in the eight-month old? And, if we work predominantly on the symptom in the eight-month old, and not on the foundation for healthy development, might we make the child's problem worse? Might we, by becoming overly focused on a particular behavior – just as the child is overly focused on a particular behavior, in a sense doing to the child what the child is doing to the world – might we not actually undermine that child's healthy development? Because with a typically developing eight-month old we would be offering lots of opportunities for back-and-forth interaction through peek-a-boo games, through playful smiles, through making sounds at each other, through singing songs back-and-forth. In other words, the routine activities that many parents do is what babies need at this age.

So if we become overly focused on “an intervention program” and stop doing the things that we ordinarily do to strengthen these healthy foundations for relating, communicating, and thinking, we could actually be undermining the baby's development. We don't yet have clinical trial studies comparing different curricula for very, very young babies so, in a sense, we're in uncharted territory. That's why I'm raising these questions now because we are developing the ability to identify risk factors at earlier and earlier ages and we need to couple with that ability to identify risk factors early sensible and thoughtful intervention strategies. While we're collecting data on what the most effective intervention strategies are, which will take many years to collect, we have to use some thoughtful guidelines that guarantee we don't undermine children's development and, too, that we build healthy foundations for the wide range of relating, communicating, and thinking skills children require. That's why I'm raising this question today because it's such an important question.


Let me suggest some general guidelines that we follow in this endeavor. I'm going to tie these guidelines to a model for early identification and, really, the guidelines for intervention and the model for early identification follow from the same set of basic principles and these basic principles have to do with keeping our eye on what we can call the “core deficits” and the “core capacities.” In other words, there are core capacities that children master in the first few years of life that build the healthy foundations for relating, thinking, and communicating. These healthy capacities are the ability to focus and attend



in a calm and regulated way; the ability to engage with others with warmth and intimacy; the ability to exchange social signals – reciprocal social interaction, like I was describing before; the ability to enter into shared social problem solving where there are many, many social interactions used to solve problems like finding a toy together with Daddy or playing together with Mommy and Daddy with a new toy; the ability to use ideas as they emerge creatively, like in pretend play, which will express needs and desires and wants; and then the ability to eventually think logically – to combine ideas together. These are the six fundamental or core milestones of healthy social, emotional, and intellectual development all wrapped up into one and we’ve described these in a number of books, including *Building Healthy Minds*, as well as *The Child with Special Needs*.

Now, that’s one set of developmental capacities to keep in mind. Now, the other side of the coin – just flip that coin over – are what we call the core deficits that are associated with autistic spectrum disorders. And the core deficits are the inability to focus and attend; the inability to engage; the inability to have long chains of reciprocal social interaction or many back-and-forth interactions in a row – or what we call circles of communication; the inability to engage in shared social problem solving; and the inability to use ideas creatively and/or logically. So, those are the core deficits and it’s been shown, for example, that when you compare children with autistic spectrum disorders and children without autistic spectrum disorders – both of whom have the same IQ’s, who do equally well on standardized IQ tests – what separates the children is not their academic skills or even their structured language skills (language skills that come out on a test) – but it’s these core capacities or the existence of the core deficits. The children with autistic spectrum disorders have a harder time involving themselves in reciprocal social interaction, using ideas creatively, and using ideas reflectively.


So, it’s been shown that these core deficits are what really separate children with autism from children without autism, not so much the language problem itself. Now, also, when we look at these core deficits – the flip side of the coin from the core capacities that build healthy development – with each core deficit we can see how certain of these expectable symptoms come. If the child is not engaged, that child tends to be self-absorbed and withdrawn. If the child is not involved in reciprocal, back-and-forth social interaction, the child tends to be repetitive and do the same thing over and over again. If the child is not using ideas creatively, the child may just repeat what he hears and “script” or become echolalic. So, each symptom can be seen as a consequence of a core deficit – in other words, the inability to master that core deficit, i.e., the inability to learn the core capacity results in the symptom that we usually worry about and that gets our attention. But, just like a person who has a weak heart and, therefore, is tired, we don’t just want to work with the person’s stamina – we want to strengthen that heart



muscle. Here, too, we want to strengthen the core capacity because that will do two things at once: It will build the foundation for healthy relating, communicating, and thinking and, at the same time, it will reduce the symptoms. So, we don't have to choose one or the other – either symptom reduction or building healthy capacities for relating, communicating, and thinking – we can do both at the same time. And, in fact, if we focus on that, we will do both at the same time.

Now, specifically, how do children with autistic spectrum disorders show these core deficits early on? If it were very, very obvious, most parents and pediatricians would recognize it immediately. But, in fact, in the first two years of life the expression of these core deficits, or the lack of full mastery of these core capacities, which, again, are flips sides of the same coin, can be subtle. Therefore, we have to look carefully in order to pick them up. But, in looking carefully, we don't want to label children or think of children as having a disturbance. What we want to do is think a little differently. We want to think in a what I would call a dynamic developmental model – and colleagues use the same term quite often – where you're always trying to strengthen the child's healthy foundations and whenever we see vulnerability or even subtle signs of weakness we strengthen it in a healthy way. That way we don't pathologize a child; we don't risk labeling a child. But if we see a child who's struggling, we provide a little extra practice, a little extra support and, in that way, we start intervening with children in a healthy way. Just like a child who's a little sluggish in learning to read – we don't have to label the child “dyslexic,” but we can provide a little extra support and work. If the child has a severe problem with reading, then the label may be helpful in getting a very organized intervention program. But in very, very small babies, we want to come at this in a very constructive, adaptive way – strengthening rather than labeling, but we do have to identify differences in order to strengthen capacities.

So here's what we look for. In the first stage where we talk about shared attention and interest in the world, what we've noticed in children at risk for autistic spectrum disorders is that they're not as persistent in the way they turn and look at Mommy's face or look at Daddy's face – they don't initiate it quite as much. So, it's a little more fleeting. We have to work harder to sustain it. Here, some very, very simple exercises or games – and they're playful – so these are things that help all children and even if we err when we think a child has a challenge and he doesn't, it will only strengthen that child's capacities! So, here extra time playing games such as “look at me” and making little interesting sounds and moving your head to the left and the right of the child and letting the child respond to different textures of your sound and different textures of your touch and different movement rhythm patterns as you move your head from left to right, in trying to sustain that child's attention, and then seeing if the child can find you, as you go




off a little bit up and a little bit down, a little bit left and a little bit right. All these kind of what I call “looking-doing” games – and many of these are described in our book, *Building Healthy Minds* – are very useful to do.

The key principal that runs throughout the next suggestions I’ll give as part of our preventive intervention strategy – the key principle is to tailor the way you play with a child – and these are playful, fun interactions for babies – to the child’s nervous system. So, some children you’ll notice even at birth – and some of these may be children a little more at risk for problems later – will be a little under-reactive to the sound of your voice – they won’t turn as readily, so you have to activate and energize up, talk in a little more energized voice – playful, but energized. “Oh, here I am!” as opposed to, “Here I am.” So, it’ll be a little more energetic. You may have to use more animated facial expressions to draw that child’s attention to you. For the child who’s over-reactive and startles easily and when you raise your voice she looks off in the other direction, you may be doing the opposite – you may make your energetic, but very soothing. “Here I am.” Same thing with touch – you may need to experiment with different textures of touch, different rhythms of movement as you move your own face. So what you’re doing is tailoring to the child’s nervous system – the way the child takes in sights and sounds and touch and the way the child moves. Some children will be very slow to turn their heads and you’ll have to very patient with them. Other children will turn their heads very quickly, as you move to the left or right.

Now, in the second stage – engaging, showing pleasure in relationships – here, too, we’ve seen as a risk factor the children at risk for autistic spectrum disorders – again, many of them do engage and show pleasure – but they’re more reactive, they have a harder time initiating and sustaining the pleasure. So the gleeful smiles tend to be shorter and you have to do more tickling and more work to achieve it. When you lose interest for a moment, the child doesn’t work as hard to draw you back in. In other words, Child A – when you lose interest because you’re looking at Daddy walking in the room – starts squawking and drawing you back in like, “Hey, pay attention to me!” but four-month old Child B may just – as soon as you turn to Daddy – all of the sudden start staring off at the wall and you have to come back and woo him or her back in. Well, that, too, is a difference.


Again, here, you don’t want to label a child who has that challenge. What we want to do is we want to work with that child to strengthen that capacity. So, here, playing the typical smiley-face games with children, again, using the texture of your voice, the animation in your face, playful objects the child may enjoy – such as a favorite color or rattle, putting it on your head – may draw the child to you. Putting a little napkin over your face and showing your face to your little four-month-old baby, playing a peek-



a-boo game may lead to a big, big smile. And then helping your child sustain that, by keeping this interaction going longer and then seeing if your child can initiate it. In other words, not overwhelming your child, but enticing him to then kind of by deliberately, for example, while you're playing, looking at your child and saying, "Are you going to make me a smile now? Can you take over?" and if he doesn't do it, then do it yourself. But see if he gets the idea where he starts initiating the smile to draw you in or making the sound to draw you in, like going "Wo-wo-wo-wo-wo," like, "Come on, give me a smile back!" But making it a back-and-forth game where you kind of gradually give him or her the opportunity to take a little more of the initiative in the interaction and doing that much more than you would under ordinary circumstances – again, that can only help all children. So these are little interactive games – and, again, more of these are talked about in *Building Healthy Minds*.

At the third stage what we've noticed is that children at risk for autistic spectrum disorders – when we look at reciprocal social interaction and we look at opening and closing circles of communication or the beginning of joint attention – we notice that they would only open and close maybe two or three circles of communication – have a little back-and-forth. And, again, we have to work hard at it and we're not seeing ten, fifteen, twenty back-and-forths. So, typically, between eight and ten months we should see children who can exchange ten or twenty vocalizations in a row, each one being a little different – not the same one. Ten or twenty different facial expressions, taking that little hand and reaching for something in your hand and taking it back and then giving it back to you as you open your hand and take it back. So, you get exchanging social interactions with motor gestures and facial expressions with exchanges of emotion, but the child at risk will do this fleetingly – will do two or three, not ten to twenty. And, you also notice again that you're carrying the ball – the child is not taking as much initiative – they're more reactive.

So, here, too, the goal is to strengthen that capacity to help that child become more assertive and sustain the interaction longer. So, the goal isn't to help the child not look at the wall, but the goal is to help the child be interactive with you, which automatically keeps the child from looking at the wall. The goal is not to stop the child from banging the toy, but to make a little interactive game with the toy, where you put your hand down where they're banging it and then you hide it and the child has to open your hand up to get it. So, little interactive games. Here you can play real peek-a-boo, you can take an object a child's interested in and begin putting your hand over it so the child takes his little fingers and opens your hand up. So, we're doing many of the things we do, again, ordinarily, but we're doing more of it for longer periods of time and we're, again, tailoring it to the child's nervous system. So, for the child doesn't respond very




much, we energize up our voice, we energize up our facial expressions, we build on what the child is interested in and use that as the basis of interaction, even at eight months. So if the child is interested in a little rattle or a little play thing or is staring off in a certain direction at a fan, we take that fan and put it on top of our head and then we hide it and put a napkin over it until the child now reaches out to pull the napkin away, and we make it an interactive game.

If a child is over reactive we're extra soothing. If the child is better at seeing than hearing we couple lots of visual animation in our face and lots of extra visual cues with toys and facial expressions with our voices so they're getting a lot of sights along with the sounds. We're patient if the child is slower to respond to our sound with his sound and we slow down the rhythm, but we keep the rhythm going, so instead of "Are you going to say something to Mommy? Are you going to go 'woo woo woo'? Are you going to go 'woo'?" But instead of, "Are you going to go 'woowoowo,' it's "Are you going to go 'woo'? I know you can! I hear you! Ah – you did it!" So we change the pace and slow down the rhythm, but we strengthen that basic capacity. So, the key principle here, too, is we do more of it and we tailor it to the child's nervous system.

Now we get to the next stage, now we're talking about toddlers, we're talking about ten to eighteen-month-olds; we're talking about complex, shared social problem solving. Here is where we see more complex joint attention, where the child is going back-and-forth between toys and parents in a more complicated way. Here we also see lots of pattern recognition, where the child will recognize a whole sequence of events, know how to, for example, take us to find a toy, know how to take us to the refrigerator to get her juice, will play much more complex social imitation games. When Daddy comes home, now the 16-month old will put on Daddy's hat and walk around the room trying to carry Daddy's briefcase, just like Daddy does. So, we'll see imitation that goes way beyond simply a child sticking out her tongue when you do when she's one-month old. Now it's complex social imitation.


The key here is to look for these things in a continually back-and-forth social manner, as opposed to just one little episode. Words are not as important as these complex social interactions. We do see increasing sounds and the beginning of words, imitating words, using some words purposefully, but that's less critical. It's important, but less critical than the complex social interaction. I rarely see a child who has a complex social interaction who doesn't go on to develop good language eventually. But I see many children who are repeating words and even memorizing numbers and letters who have serious language problems because they don't have the complex social interaction.



Now, again, when we see children at risk for ASD, here's where we see it most clearly. It's very rare in children who go on to develop autistic spectrum disorders that we see children open and closing 30 or 40 circles of communication, back-and-forth social interactions geared to solving social problems, like finding a toy or playing a complex social imitation game with Mommy or Daddy, or pointing and showing and sharing delight in a toy with Mommy or Daddy. Again, a lot has been made of pointing, per se. Pointing is often one of the things that are missing, but it's not the most critical sign. The most critical sign is the lack of complex social interaction because children with low muscle tone, for example, or with a motor problem, may not point, but if they have the complex social interactions, they're cooking pretty well. On the other hand, some children will point, but not have the complex social interaction and need lots of work. The pointing is part of it, often associated with the complex social interaction – like taking a parent somewhere and showing her what you want – because you'd use pointing to do that, but in itself shouldn't be the main criterion. We should always be cautious about hanging our hats on any one particular behavior. Just like there's no magic bullet in treatment – it's a whole program – there's no one magic early sign of risk, like lack of pointing, and we should be suspicious of findings that suggest the contrary. They usually turn out to be not as reliable as maybe some preliminary early research suggests they might be.

So, here, what we see in children at risk is the vast majority are not able to engage in these complex, multi-circle social interactions. And, interestingly, this is where most parents begin describing that they felt there was something a little different about their little Susie or little Johnny. Because the signs in the first year of life may be present, but very, very subtle. Or they may not be present at all. Some children may be cooking pretty well that first year and not show any of the signs until this fourth stage or the second year of life.

But here what you should look for, for healthy development, is, again, very complex – 30 to 40 – circles of social interactions with the child taking a lot of initiative in a situation where the parents are responsive, obviously, or the caregiver is responsive. The risk is with a child who's only doing a few circles in a row. He's not moving much beyond what we expect of an eight to ten month-old. Even if that child is speaking up a storm, memorizing whole books and chapters, identifying letters, taking interest in books and pictures, and seems like a perfect little lady or gentleman – in terms of being compliant and responsive and even following little directions – even if all those things are present, if the child is not engaging in shared social problem solving, in many, many episodes of joint attention in a row – going back and forth between you and the toys, or in complex social imitation – all of which can be thought of as simply the ability for




complex shared social problem solving as the over arching category – if the child is not doing that, then the child is showing some degree of risk and, again, the goal becomes at that age not to be passive and do nothing while you wait for an evaluation or not to try to see if the child is pointing or not pointing but, rather, to help that child become more of a social shared problem-solver.

In other words, engage the child in longer and longer interactions. And how do you do that? Well the child interact a little bit, usually, so maybe the child, again, is beginning to line up some toys. So, again, you offer him another toy to put in his line. You put your hand over one of his toys, he has to take your hand away. The child wants to go outside, you play dumb. As he's banging on the door, say, "Well, who's going to help? I can't open it! Can we get Daddy?" Then see if the child will help you go find Daddy. And then Daddy pulls and he can't do it. So we have to go get big brother Charlie to see if Charlie can come and help. So we make a simple interaction, like opening the door, into a ten-step interaction. If the child starts getting frustrated, we help him succeed sooner so we don't go beyond the point where the child has a tantrum, but we help the child get motivated – sometimes a little bit frustrated – to get more and more complex social interaction cooking.

So we challenge that child and, again, we tailor it to the child's nervous system, energizing up for the under-reactive child and we soothe the child who's over-reactive. By this age many children begin showing a pattern we call "sensory craving," where they're running around the house trying to get more sensation into their system, whether it's staring at fans or banging into things or touching everything or just shifting from one toy to another in a seemingly aimless way, or just spinning around and jumping around or shaking their arms and legs in a seemingly disjointed ways. These all look like terrible symptoms and they scare parents and they scare some professionals, as well, understandably so. But they're often signs of sensory craving – a child wants more sensory input, but doesn't know how to do it in an organized social way. So, here, too, we tailor it to the nervous system. So we find sensory meaningful ways to have interaction with the child. The child likes to move, we move with the child. Put on some music, see if she'll hold our hands and we can dance together. The child may not be able to jump yet, so we might go in something soft and we'll help the child balance with us as we hold the child. Airplane rides may be great if the child can point or show us with his fist which direction he wants to go in or whether he wants to go faster or slower; where the child gestures for being picked up and gestures for moving left or right or faster or slower.


So we use the child's natural interests and the child's differences in his nervous system to get more and more back-and-forth going. If the child is strong with what they



see, we can play little hiding games where the child's got a favorite toy we hide, again, in our hands or we hide it under the rug and we point to it and give him clues and make little hiding peek-a-boo games and hide and go seek games part of our interaction. If the child is stronger with sounds than with sights, we may have lots of vocal interactions and use words that the child understands, but help the child use that to find his objects to strengthen the visual capacity if the child is not a good searcher. So we may say, "Oh – you better look under the rug!" or "I'll give you a clue!" The goal is, though, to increase social interaction and increase the child's initiative.

So, that's how we begin working in a preventive intervention way at that fourth stage. And, again, the majority of children – if they have risks – will show it by the fourth stage. One way to think about these first four stages which occur in the first 18 months of life, before most children are diagnosed – it's only a rare child who will be diagnosed with a problem before this. And, again, we should be cautious about diagnosing and I would say we shouldn't diagnose a "disorder," what we should do is talk about a child's not evidencing the full strength of the healthy foundations we want to see and we're going to strengthen those foundations. And be aware that when a child is not evidencing the four healthy foundations, it's putting the child at risk for developing ASD, but being at risk for is not the same as developing it and we can talk about reducing the risk and strengthening the healthy foundations at the same time.

So it's in these first four stages that we want to focus our attention and the way to think about this is that some children will show their risk or their lack of full mastery of the healthy foundations very early in those first months of life; other children not until their second few months. So, the first few months we look for attention and calm regulation. In the second few months we look for engagement and warmth and intimacy – by four months, for example. Then, between four months and eight to nine months we look for the beginning of back-and-forth interaction, reaching a crescendo by eight to nine months where there are lots of circles of communication, lots of reciprocal social interaction. A third group of children will make their risk and their lack of full mastery of the healthy milestones clear by that stage. Then there will be another group of children whose problems were so subtle or who didn't show any of these risks or who had pretty good development up to that point, and then will show the risk in that stage at about 10 months to 16 months of life, or 10 to 18 months of life. Often by, I find, by 12 to 14 months of life if they're not getting involved in more complex shared social problem solving interactions, then we can identify and work harder with those children. And if we did that I think we would have the vast majority of children in programs that were strengthening their healthy abilities and reducing their risk factors very early in life before they were 14 or 15 months old, which would be terrific. But we shouldn't expect




a magic bullet in terms of a single identifier by two months, nor should we look for a magic bullet intervention. So, the caution here is don't look for one early ID (identifier) and don't look for one simple intervention. The way to mount an early identification program is with a developmental model where we look for some children at stage one, some at stage two, some at stage three and some at stage four and, where we, at each stage, strengthen the capacities that are weak or vulnerable, reducing risk factors and, therefore, increasing the healthy foundations for relating, communicating, and thinking.

Now, if we have this type of a model what happens is if we identify a child at risk who's not really at risk the only thing that's happened is he or she has gotten a little more good stuff, a little more healthy foundation. So, we've done that child and the family a favor because the family's done a little more practice, maybe, than they might have needed to do but that's actually, in my view, good for all children. So, what we've done is helped the child who maybe didn't need the help but who is stronger for it. And if we've identified a child at risk we've helped get that child going and cooking and strengthening their foundations and reducing their risks at an early age, which is obviously a very, very important, very good thing. So, it's a win-win situation.

If, however, we don't use this type of a dynamic developmental model and we think, "Okay, here's an early sign of autism," not a risk factor for autism and we're going to focus on just the symptomatic behavior, then we are in jeopardy of actually undermining favorable development because we're not strengthening the healthy foundations. In fact, what we're doing is drawing attention away from that by over-focusing on the symptom. It's kind of like – again, to use an analogy – let's see a child had a sore throat or a little bit of an ear infection, so we treated the child with antibiotics or with some medication to reduce her fever and reduce her discomfort, but in doing so we stopped playing with the child and stopped interacting with the child and stopped engaging the child because we became so focused on taking the child's temperature and giving her something to reduce her fever or giving her antibiotics and letting her "be quiet," that we stopped doing the healthy things. Well, we would be creating a bigger problem than we were solving! You might be getting her over the fever, but we might be undermining her development by not doing the things that build healthy foundations for relating, communicating, and thinking.

Now, that may seem like a far-fetched analogy, but we have to be cautious about that when we think about early intervention and early identification. So, the general principle is we should only identify challenges in terms of the core foundations for healthy relating and communicating or the emergence of core deficits, not by single behaviors alone – that's principle one, and that should be underlined. Principle two is interventions should only be permitted for infants and young children that focus on




strengthening core capacities, i.e., reversing core deficits and strengthening core capacities, such as the ability to attend; to engage with warmth, intimacy, and pleasure; to exchange reciprocal social interactions; and enter into shared social problem solving and joint attentional activities, and so forth.

Those are our general principles and I would advise they need to be adhered to very, very seriously as we embark on this new territory of early identification and early intervention. Again, we have to remember that we don't have a huge number of studies that have compared all the intervention strategies and different early identification strategies. So, since we're in uncharted territory – new ground – we have to be very safe and very thoughtful and use developmental principles that are tried and true, that have survived the ages and the ones I've been enunciating are just those. That's why it's very, very important to begin with a set of guidelines that most clinicians who work with babies and young children and most researchers who are studying these processes would support.

Now, it's also important to acknowledge one other factor: At present, there aren't a huge number of professionals who are trained to work with very little babies and toddlers. There are very gifted occupational therapists and speech pathologists and early child educators who've worked in their areas and their domains, but in terms of individuals who have worked on the totality of the child's development, on these core – what I call – integrated functional capacities that we've just outlined, there aren't a huge number with a lot of experience. So, one of the things we're going to need to do over the next few years as we meet the challenge of early intervention with children at risk for ASD and other developmental problems is train more colleagues to recognize the core deficits or the lack of mastery of the core foundations and then to work on strengthening these. So, we've got a lot of challenge ahead. But, there are, fortunately, also materials for parents and parents have to be the co-leaders in this effort. And, again, I recommend reading *Building Healthy Minds*, a book I wrote about these milestones, these core capacities for healthy children. The book *The Child with Special Needs* talks about the flip side, when the risk factors emerge. But *Building Healthy Minds* has wonderful games for kids to play and strengthen all these capacities and it shows parents how to tailor these capacities to the child's nervous system.


Now, just a few words about the next two stages of development, because sometimes some children won't have been identified until we get to the stage where we're expecting more words and pretend play – the stage that we call level five, where using ideas comes in – and here the healthy capacity is using ideas creatively and meaningfully – a child talking about what he wants, “Mommy juice,” or “Mommy give me hug,” or “Mommy love you.” We're talking about feelings and needs or desires –



talking from your emotions, from your affect – and getting into pretend play. That’s what we look for in healthy development and doing that in a continuing interactive way. The risk factor is the child who’s just scripting – repeating things he’s heard – or just labeling things – and not using language meaningfully or not getting into pretend play.

At the sixth stage when we’re combining ideas together, the healthy capacity is to be able to combine ideas together, like answer “why” questions. So by three to four years of age you’d see, “Why do you want to go outside?” “Because I want to play” – the child’s combining his ideas with your ideas. The risk factor is a child who just walks to the beat of his own drummer – the child who may be able to speak but seems to ignore what you’re saying or doesn’t give a logical response to what you’re saying. So, he continues on with his scripts or may repeat and become echolalic – again it’s the lack of this ability and here, too, the key intervention is to strengthen the core capacities, to work with the child on imaginative play together by using language meaningfully to express needs and desires and then on answering the “w” questions like “where” and “why” questions as part of pretend play or part of your life, again, in a meaningful way that challenges the child to do this. I rarely have seen – I don’t think I’ve ever seen a child who can repeat things and be echolalic or script who we can’t help to learn to use that language meaningfully and purposefully if we challenge the child in the right way. But simply teaching them social scripts to replace book scripts is still scripting and if we dig the hole deeper we’re not building a healthy foundation. We’ve got to shift from scripting entirely to meaningful dialog and it was long believed that children at risk for ASD or who had ASD couldn’t learn meaningful language, but we’ve shown in recent years that that’s not true at all and they have to be engaged in meaningful, back-and-forth dialog.

So, this takes us through the first stages of development from zero to about age three or four and what to look for in terms of the risk factors and what to look for in terms of the core healthy capacities we want to see, and what to do when we see risk factors emerging – how to strengthen those core capacities. Now, many children will require at some junction along the way help with some of their specific individual differences that are contributing. So, for example, some of the children we’ll notice – and, again, at different ages for different children – for some children it may be four months or five months – some of them not until 12 or 13 months – we may notice, for example, that they have low muscle tone and, therefore, it’s hard for them to take initiative and be involved in social interaction. So, we’ll want an occupational therapist or physical therapist involved in his care to help the family strengthen that motor system. We may notice that some of the children are sensory very over- or under-reactive. There, too, a sensory integration trained occupational therapist may help with exercises that can help that child




regulate sensation better while you're working on engaging that child and interacting with the child. We may notice that some of the children have a hard time articulating their sounds or understanding language and, for example, at 12 or 13 months we may see that beginning to emerge very clearly, and we may involve a speech pathologist with the team while strengthening the child's capacities. Some of the children may require a developmental pediatrician or a pediatric neurologist to evaluate the possibility of a seizure disorder or to look at a possible genetic or metabolic cause for some of the child's behaviors, for example, to rule out a thyroid disorder or another type of metabolic disorder.

So, when we talk about early identification and preventive intervention we're talking in the first instance about identifying deficits or risk factors in the core capacities; identifying lack of full mastery of the core healthy foundations for relating, thinking, and communicating; we're immediately starting to strengthen those interactively, particularly as parents, but as educators and health care providers, guiding parents and working with parents and working as a team; and then we're always looking at the reason – so we're trying to investigate why the child is having a hard time with this and bringing in further evaluations in an appropriate manner in consultation with developmental pediatricians or pediatric neurologists, speech pathologists, occupational and physical therapists, early childhood educators or special educators – so we're all working together and to what degree others are needed on the team and at what ages the others are brought in to the evaluation depends on the child's developmental pattern and what's observed.

So it starts off with the parents and their pediatrician and/or their educator and then we'll move out and involve others on an as-needed basis, depending on what's observed and we'll talk about that in more specific ways at another times. But the key is to follow those principles: to focus on the core capacities the child needs to master; focus on the core deficits, not just on isolated behaviors; and then have the program focus on strengthening the core capacities, not work on what can be called “splinter skills” or isolated behaviors. If we follow those general rules and support the child's healthy development then the promise of early identification and early intervention can become a very, very valuable emphasis in our long-term goal to reduce and hopefully, eventually, some day prevent autistic spectrum disorders.

Now, what we've done today is we've focused all our energy on this first most important issue, but I think it is a critical enough issue and we didn't get to many of the questions that have been mounting, but I think a number of the questions were about this issue so I hope this proves helpful to many of the listeners.



Now we're going to take a two-week break and return two weeks from now – so it'll be the first Thursday after the New Year when we'll return – and then we will catch up on questions. So the first session will be a post-New Year answer-your-question session. We have lots of mounting questions and they have to do with many of the issues we've talked about over these many, many months. Then after that we're going to have a series of sessions on the characteristics that really make for healthy relationships and healthy family life with all children, children with special needs and children who don't have special challenges.

So, I hope you all have a good holiday season. I look forward to interacting with you right after the New Year in just about two weeks from now. Bye bye.