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Naima: Hello everyone and welcome to the Happiest Baby Ask The Expert webinar. Thank you for joining us today, and our apologies for our tardy start. I am Naima Cozier with the Healthy Start EPIC Center and will serve as today's moderator. We have approximately 60 minutes set aside for this webinar. There will be a 30 minute presentation and 30 minutes for questions and answers. Questions are to be submitted via chat, which is at the bottom left corner of your screen. If we don't get to all of your questions by the end of the webinar we'll be sure to include them in the Frequent Asked document that will be available in the next week or so.

This webinar is being recorded. The recording, transcript, and the Frequently Asked document and slides will all be posted to the EPIC Center Website following the webinar, and we'll add that website address in the chat. Before I introduce today's speaker, I would like to invite everyone's participation during the webinar. At any point feel free to chat questions or comments again in the bottom left corner of your screen. This webinar will also include several short videos. In order to hear those videos please be sure to keep your computer speakers on. They will not be coming through the phone line.

Now I'd like to introduce our speaker for today. Dr. Harvey Karp is a pediatrician, child development specialist, and Assistant Professor at the University of Southern California's School of Medicine. He received his medical degree from Albert Einstein College of Medicine, completed residency at Children's Hospital of Los Angeles, and performed fellowships in ambulatory pediatrics and child development at UCLA. Afterwards, Dr. Karp practiced pediatrics in Los Angeles for 25 years. His highly regarded DVD's and books, The Happiest Baby on the Block, The Happiest Toddler on the Block, and The Happiest Baby Guide to Great Sleep Birth to Five have been translated into over 20 languages and have made him one of America's most-read pediatricians.

Thousands of professionals are certified to teach Dr. Karp's Baby Calming Sleep Program in hospitals, military bases, and teen programs in the United States and dozens of other nations. Over 1,000 of these educators work for departments of health, home visiting programs, and hundreds of WIC clinics throughout the US. Dr. Karp is a Fellow of The American Academy of Pediatrics, serves on several advisory boards, and has received numerous honors for his work. He's also a

nationally recognized advocate for children's environmental health and serves on the Board of Directors of the Environmental Working Group. I give you Dr. Harvey Karp.

Dr. Karp: Thank you, thank you so much. What a pleasure to be here today. Thank you all for participating. I look forward to your questions. We're obviously all in this to help families get off to a strong start. My goal is to give skills that will help parents be more successful, and hopefully through that creating a virtuous cycle of greater competence and improved bonding and attachment, and reducing the vicious cycle that infant crying and sleep deprivation oftentimes pushes a parent into where they have an increased risk of postpartum depression and child abuse, unsafe sleeping practices, and actually many other negative consequences.

I always like starting my talks with this quote, "A mind once stretched to a new idea never returns to its original size." So my job, for those of you who are not familiar with the Happiest Baby and the Five S's approach, I hope to stretch your mind to new ideas. Although, with all of your experience it will probably be a familiar idea, but nevertheless a new idea about how babies work and how we can be more effective in calming them.

There are three, basically, new ideas, key ideas for the Happiest Baby approach. The first is the idea of the fourth trimester, which is kind of a crazy idea that babies are born three months before they're ready for the world, not that I've ever talked women into trying that. It's just a theory, mind you. It's not a theory that I made up, it's been something that's been discussed for many years because babies seem so immature when they're born. But it turns out that this is the critical key concept for new parents because if they understand their baby's born three months too soon, then they're not worried about spoiling their baby by holding the baby too much or feeding the baby too much and attending to every baby cry.

They'll understand that in the uterus the baby was held, rocked, and fed every second. So even if they hold their baby 14 hours a day, that's a ripoff from the baby's point of view. That's really the key concept. These other new concepts are a bit newer, however. The next is the idea of the calming reflex. Babies are born with over 70 neonatal reflexes, but what was never known before is they also have a suite of reflexes that are a relative off switch for crying and on switch for sleep,

and when you learn how to activate that reflex you can oftentimes calm a crying baby in seconds and boost the baby's sleep an hour or more. That includes even calming babies who are so-called colicky babies, or babies who cry more than three hours a day.

The way you activate this reflex is by imitating five experiences that babies have in the womb, called the Five S's, which are swaddling, the side or stomach position, never for sleep of course, that's just calming crying babies. Babies have to sleep on their backs. The third S is shushing or white noise. The fourth S is swinging or rhythmic motion, and the fifth S is sucking. It turns out its the way you do those things that have a very particular quality of actuation that allow you to be effective or that will make you ineffective. Since it's a reflex it's not dissimilar from hitting a knee. If you hit the knee in the right place you'll get a reflex, but if you're off by an inch or if you hit in the right place too softly, you get no reflex. So it turns out it's not enough to know about swaddling, side, shushing, etc. You need to know exactly how to do those.

Let's do a demonstration of that. In the next slide I'm going to show a video. This is a six week old patient of mine who I taught the Five S's to in the office and I taught it again at the two week visit, but then I was called by the mother. "He's six weeks old, he's been crying for an hour and a half," and nothing was working. You'll see she's even given up. She's no longer feeling any understanding of what she needs to do. I am going to come in and I'm going to do the Five S's, and I want you to watch carefully and see if you can tell the instant that this calming reflex gets activated. So could we play this video, please?

You're going to see actually he quiets a tiny bit on his stomach, but then gets upset again when he goes on his back. The back is the worst position for crying babies. So that's the swaddling, the side, shushing, now a little rhythmic swinging. Now watch his face soften as he comes into quiet alert state. Clearly he wasn't crying because of pain, because pain wouldn't go away with these simple maneuvers. Now I want to show you one other demonstration. This is a father at the U.S. Naval Hospital in San Diego. He was taught this approach in a Happiest Baby class that's taught down there. Then he posted this on YouTube, so he's going to take his crying baby and again do the Five S's. Again I want you to see if you can tell the instant that the calming reflex gets activated.

Notice the arms are straightened as he does the swaddling. Again, watch the baby's face. You'll see the baby comes into quiet alert state. A beautiful, receptive state now that the calming reflex has been activated. Now I want to show one last demonstration. Again this is a man calming his baby. The reason I'm showing the three men is because men, while we're terrible at breastfeeding, we're very good at baby calming. Having a man be effective in this role takes a lot of pressure off the woman, and it's been demonstrated that with more participation by men we reduce the risk of postpartum depression, we improve breastfeeding outcomes, and improve the father's relationship with the baby if we can give him a feeling of competence. So let's move on to that.

So the first step is swaddling. That's really a crying baby. That baby is clearly upset. They're tricky, those little babies. So the first step is swaddling. You can see he's still crying. Swaddling oftentimes won't stop the crying, but it makes whatever you do next work better. As you saw before, some babies come into quiet alert state, but if they're sleepy, babies will go into sleep state at this point. When it comes to taking care of new babies there are three main tasks, feed the baby successfully, calm the crying, and get sleep. Over the last 70 years there has been tons of help in supporting women in the feeding part of this, La Leche League, Breastfeeding Consultants, formula of course, but there's been very little hope given to parents to reduce crying and improve sleep.

In fact most parenting books and professional books say that for some babies there's nothing you can do. Some babies cry for hours, three, four, five hours a day and all you can do is put them in a room by themselves and close the door. Other books will tell us about sleep, that there's no way of improving the child's sleep in the first months of life. You have to wait until their natural circadian rhythm takes over. I would challenge those concepts. I believe those are fundamentally incorrect. Let's look at colic for example. Colic is defined as three hours of crying for more than three days a week, and approximately 50% of all young children in our culture are diagnosed with colic.

About 50% of children in our culture, crying lasts for more than two hours a day, and that is a lot of crying, and it's a big burden on a family. You can see Kirk and Brazelton's article in 1982 showing there's not much crying in the first week or two of life, then it ramps up and it peaks around six or eight weeks, and then it comes

back down to baseline at around 12 weeks of age. But this is the really high risk period in this middle for depression, for child abuse, for unsafe sleeping practices. It's not just the crying that's the problem, but it's the exhaustion as well. This is a study by Kathleen Kendall-Tackett looking at moms.

You can see whether they're formula fed or breastfed, pretty much they're getting around six and a half hours of sleep a night. That's on average, which means that 50% are getting less than six and a half hours. Studies demonstrate that if you're getting less than six hours of sleep on a regular basis, you have the cognitive impairment of someone who is drunk. In fact, this curve is looking at a vigilance task to see how alert you are. The more you've been deprived of sleep over days and days, even just a few hours a day, after 10-14 days of that, you are up in this range, which is really the visual surveillance and vigilance of someone who's drunk. That's why it's important, even though parents would never bed-share with their babies if they're drunk, it's important for them not to bed-share if they're drunk tired also, and that's an important concept for us to bring to the families we care for.

Crying and fatigue are dangerous and expensive. They lead to marital stress, they lead to postpartum depression, SIDS, suffocation, child abuse. A crying baby is the number one trigger for shaken baby syndrome, breastfeeding failure, obesity, and car accidents. Let's look at those individually. This is a study by Ron Barr looking at hospitalization for shaken baby syndrome in California. You can see this big peak of hospitalizations that occur right around that peak of crying in those first months of life.

This is a study by Marian Willinger at the National Institutes of Health looking at unsafe sleeping practices. What she found was 82% of people who place their baby to sleep on the stomach do it because their babies fuss less, they like that position better, they cry less on the stomach. What this means is if we can teach parents a better way of sleeping, with the babies on their back, but they're still crying less, parents will be less tempted to put the babies to sleep on the stomach. That was demonstrated also by a study done by Rosemary Odin and Rachel Moon where they demonstrated that mothers who were taught swaddling were much more likely to put the babies on the safe back position.

Finally we want to reduce postpartum depression, and this is work by Cheryl Beck at the University of Connecticut where she said, "Once modifiable risks of postpartum depression are found, we can target our interventions to decrease a woman's risk of mood disorder." I want to show you if you can read this on this graph. I'm sorry for the small figures on this table, but you can see a prior history of depression, prenatal depression, is associated with a 0.44-0.45 risk of postpartum depression, but childcare stress, which basically means exhaustion in this work, is just as impactful on a mother's risk of postpartum depression as a prior history of depression. Infant temperament, which means how much they cry, is almost as impactful.

So crying and sleep are big modifiable factors that we can take advantage of to reduce postpartum depression. A study by Jenny Rudowsky [SP] showed that if a baby cries more than 20 minutes a day inconsolably, that quadrupled the risk of a mother's tendency to postpartum depression. A study at Brown University found that in their colic clinic, mothers bringing the babies there because they're colicky babies, 45% of them already had moderate to severe postpartum depression at the intake. That's an order of magnitude more moderate and severe depression than you would expect in the general population. There are many, many more studies that support this association between postpartum depression and infant crying and exhaustion.

So let's look at this missing fourth trimester. Horses are ready to run when they're born. Here's a baby horse standing up and actually running. Look how small the head is compared to the body. Horses don't get stuck by their bodies, they get stuck by their heads. They have to run to survive, otherwise if they can't run they're going to be eaten by predators. We on the other hand survive because of our big brains. Look how big the head is compared to the body and how immature our babies are compared to that baby horse. If a baby is born too early, then our goal is to imitate the womb, and so you need to know what it's like in the womb. It's a symphony of sensations. It's not just quiet in there. There's constant touch, lots of jiggling motion when you get up and walk and are in exercise class, of course, and the sound inside the womb is louder than a vacuum cleaner 24/7. It's a low, loud, rumbling sound.

We all know when you shush a baby, when you rock a baby, they calm down, but the question is why do they calm down. That's where I believe it's important to understand this concept of the calming reflex. This is just a theory, but I believe that this reflex evolved over thousands of years to keep fetuses calm the last two months of pregnancy, because you don't want a fetus moving around too much those last two months or they may get stuck in a transverse or breech position, and then they're going to get stuck by their head coming out and they're going to die and the mother's going to die. So we are all descendants of these zen babies who were calmed by the rhythms of the womb, so we just keep our head down and we stay in ready position.

The traits of a neonatal reflex are that an exact input leads to an exact output. So when you precisely do the swaddling, the white noise, and shushing, you will precisely get the same outcome, which is the calming. There's a threshold phenomenon. So if you shush too quietly, it does nothing until you get to that threshold. It's the same thing with rhythmic motion. You have to be a little bit jiggly when a baby is crying. If you're just rocking them without a little jiggle involved, which stimulates the vestibular mechanism in the inner ear, you're not going to be able to turn on the reflex. Baby reflex is obligatory in the first months of life, and then they wean after four months of age.

So the five steps for turning on the calming reflex are the five that I've mentioned already, but they need to be done exactly right for it to work. The first step is swaddling, and I hope there are a lot of questions about swaddling we can talk about later on, but it's the cornerstone of calming. If you do not swaddle a baby with the arms down, the arms get out, the baby cries and fusses, the blanket gets loose, and it is not going to work well to reduce crying and promote sleep. Interestingly a study was just published this year by McDonald and Moon that showed that over an eight year period of reports to the Consumer Product Safety Commission there were only 12 deaths related to swaddling blankets, and 92 of those babies who died were either prone or they were in bulky bedding. Twelve deaths over an eight year period is actually a very small number. Every death is regrettable, of course, but it's a very small number compared to the millions of babies who were being swaddled.

So this speaks to the safety of swaddling in a swaddling blanket, as compared to babies who cry and fuss, which then leads parents to walk with their babies and sit down on a sofa which, looking at that same eight years of data, was associated with 1,000 sofa-related deaths. So by comparison, swaddling was much, much safer. The second S is the side/stomach position. As I mentioned, the back is the best position for sleep, but it's the worst position for crying babies because it makes them feel insecure, like they're falling, and triggers a Moro reflex.

The third S is shushing. This is a very important one of the S's, especially for promoting sleep. Many parenting books will say, "Turn on a hair dryer to calm a crying baby." But now we're also promoting white noise to use to help babies sleep throughout the night. You want to use a sound for calming crying that's loud, but for promoting sleep, it shouldn't be a loud sound. It should be kind of like a soft shower sound. Rumbling, low pitched sounds work best for sleep. High pitched, hissier sounds work best for getting a baby's attention. I want you to look at this little video and tell me if this looks like a reflex is being turned on by the sounds.

The fourth S is swinging. This is a tiny jiggle. I call it a jello-head jiggle because the head has to jiggle like jello on a plate for the baby's calming reflex to be activated when they're upset. But it's tiny, so that's different than shaken baby syndrome, which is a slow but very abrupt and large swinging so that the head, which is unsupported, swings back and forth and causes the brain to be damaged inside. This is a tiny jiggle, no more than an inch back and forth with the head and neck supported. This is why babies calm down in car rides, when we dance with them, when you go for a walk around the block, when you sit on the edge of your bed and bounce or sit on an exercise ball and bounce. You're giving the vestibular stimulation necessary to turn on the calming reflex.

I'm going to show you a demonstration of this. Watch the baby's face. You'll see that you have to let the head jiggle. If I keep the head from jiggling, it's actually going to make the baby upset and it's not going to be effective for activating calming. The fifth S, of course, is sucking. There are other things that calm babies, like skin to skin, which is wonderful as well. So the Five S's don't have to be done the instant a baby cries. You can feed your baby first, you can hold them, you can put them skin to skin, but if the baby isn't calming or if you want to put the baby down to sleep, that's when the Five S's are helpful. As I mentioned earlier, men are

particularly good at this, and we teach this in fatherhood programs all across the United States and military programs, incarcerated youth programs, teen fathering programs, etc.

Sixth S is sleep. I'm just going to mention briefly that one of the key concepts that I recommend to families, there's confusion right now. People say, "Don't hold your baby or nurse your baby to sleep and then fly them into the bed because then they'll never learn how to put themselves to sleep," which is kind of true, but on the other hand you can stop a baby from falling asleep at the breast, and it's the most beautiful thing a woman ever does with her baby, and a man holding his baby and rocking the baby to sleep is wonderful. So what we need to teach parents is feed the baby, swaddle the baby, turn on the strong white noise, let the baby fall asleep in your arms or at the breast, slide the baby into the bassinet, and once they're in the bassinet, wake them up very briefly. Usually within five or ten seconds they'll fall asleep.

The white noise is playing, they're swaddled. If you have to you might have to jiggle the bed just a tiny bit to get the baby back to sleep. What you're doing is, in that five or ten seconds, they're beginning to learn how to self soothe if they wake in the middle of the night and they're not in discomfort or hungry, they'll have a much better chance at being able to self soothe if you start teaching them that skill at this point in time. Sorry, that should be months, not minutes. The wrapping is for four to five months. Please correct that on the slide. Wrapping is for four to five months. Using the sound is for at least 12 months because that helps a baby not only sleep through these early months, but sleep through teething and growth spurts and really establish much more effective sleep patterns.

Think of white noise as an auditory teddy bear, a sleeping cue that you have total control over, so you can wean it when you want to at the end of 12 months or you can use it longer. Many adults use white noise to promote sleep. This is one study of using sleep with babies in the first months of life. What you can see is 75 decibels is the sound of a vacuum cleaner. As you increase the intensity of sound you decrease wakefulness and you increase quiet sleep. We're doing a study right now with the Kansas University Medical Center trying to promote sleep of babies in the pediatric ICU using swaddling and white noise. This is a study that was published from Children's Hospital of The King's Daughters in Virginia where they

used the Five S's to help calm babies after they got three vaccinations at the two month and the four month visit.

They either did the Five S's, the residents did the Five S's, or the baby was given back to the mother, or the baby was given sugar water to drink as an analgesic before the vaccines were done. What you can see at 60 seconds is, at 60 seconds if the parents were holding the baby, 50% were still crying and fussing. On the other hand, if they were pre-treated with sugar water, 30% were still crying and fussing after 60 seconds, but if the residents did the Five S's, 0-10% were still crying. So it was significantly more effective at calming crying. A study that's currently being done by the University of Amsterdam is a home visit study on babies who have colic. So they're crying more than three hours a day at baseline and they're taught the Five S's, then they're followed up over the next two weeks in terms of sleep and crying.

What we've seen, these are just our first three patients, but of these three patients we went from three to four hours of crying down to one hour of crying within the first week, actually. When it came to sleep we were able to increase sleep from about 12 hours to 14-15 hours. In the first patient we didn't see any change in sleep. Actually in this first patient the parents did not use the Five S's during sleep. They didn't swaddle the baby or use white noise. So one wouldn't have expected to see any change in sleep. Then a study that was done out of Penn State University used the Five S's as a way of improving sleep with the goal of reducing obesity at one year of age. We know that if you can improve sleep in older children and adults, you can reduce their obesity risk. So this was used as part of the intervention in this study.

Basically there were two interventions, the Five S's and a dietary intervention telling parents not to feed solid foods until six months of age. You can see this blue line. There was increased sleep in the Five S's group, 30-45 minutes longer sleep over those first months of life. When you combine the Five S's with the dietary intervention we saw a significant decrease in the rate of overweight and obesity at one year of age. So that study is not being replicated with a three year followup. This is an NIH-funded study.

Finally a survey, this is not a published survey, but a survey that was done in Arizona, analyzed through the University of Arizona, looked at 225 parents who went to a Happiest Baby class, these are prenatal. Before the class 40% said they were moderately to very worried about being able to calm a crying baby, and after the class that dropped to just 1%. Current studies are being done at Boston Medical Center looking at the use of the Five S's with babies withdrawing from drugs. A study at the University of Texas Houston looking at treating colicky babies, the Penn State study I mentioned to you is looking at obesity and the Five S's and sleep, a Kansas University study, and a University of Amsterdam study on reducing colicky crying and improving sleep. We have several other studies that are currently in development.

So we started ten years ago a Happiest Baby educator program. It's a DVD-based training program. We now have 3,000 Happiest Baby educators across the U.S. and 25 nations. Every WIC clinic in the state of Pennsylvania, most of the WIC clinics in the state of Massachusetts, hundreds were trained by the the Minnesota Department of Health, all home visitors for the Department of Health of Wyoming, Nurse Family Partnership in L.A. County, Harlem Children's Zone in New York, many many centers working with middle class and at-risk families across the nation are using this, including university hospitals like University of Michigan, University of Pittsburgh, University of Kentucky, etc. I think that is my last slide. So we're finished. I'm sorry I ran over just a little bit, but let's turn it over to Q&A.

Naima: All right. Thank you, Dr. Karp. Great presentation. We have a couple of questions. Our first one is, is it okay to swaddle a baby overnight to help them sleep?

Dr. Karp: It's not only okay, but it's important to do that. One of the things we've seen, I had mentioned there was a study done in Washington, D.C. showing that babies who were swaddled were less likely to be placed on their stomachs by the mother. Mothers were less tempted. The reason is, swaddling has been demonstrated to improve sleep efficacy. White noise has also been demonstrated to improve sleep efficacy, so if you use swaddling and white noise together overnight that gives you the best chance of improving sleep and reducing the temptation that a mother has to bring the baby into bed with her, to fall asleep on a sofa or to place the baby on the stomach.

So the swaddling with the arms down. Again it's important, if you swaddle with the arms up the arms are much more likely to get out, and that is likely to cause the blankets to get unraveled and cause the baby to roll to the stomach. People get confused because the arms up position is the normal fetal position, but within a week of being born, that hypertonicity or the tenseness in the upper arms relaxes, and within a week or two the normal physiologic position for sleep for babies is with the arms extended.

Naima: Great. Thank you, Dr. Karp. The next question we received is a two part. Why are men such excellent calmers, and how can we advertise this to the men in our community?

Dr. Karp: The curious thing, men don't follow instructions except sometimes. The Five S's work particularly well with men and teenagers because they're very concrete, do these five things. In fact, that's why we made a DVD. It turns out that you can teach this to families, but they don't remember the nuance of it. They're likely to forget it and what happens is, if they don't do it exactly right, it's not going to work, just like a knee reflex. If you don't do it exactly right it's not going to work. So we made this DVD, which is in Spanish and English, and we give that to all families who go through this program.

We also give a CD of specially engineered white noise because most white noise on apps and white noise machines is "Sssshhhh," too hissy. High pitched sounds wake you up. Sirens, alarms, beepers, screams. They get your attention, but they're terrible for sleep. Low pitched, rumbling sounds, the sound of a train or a plane or a car, promote sleep. So we created this white noise that's especially low pitched. For example, at the Nurse Family Partnership Program in L.A. County every family is given the DVD and the CD of white noise. The DVD by the way is in Spanish and in English. So it turns out men can watch that, the visiting boyfriend, the husband, and the grandparents can watch it so that everyone is learning the same technique, and we're not putting the burden on the mother to not only learn this but to teach this and convince everyone on the family that this is the right thing to do.

The swaddling is like an engineering task. So men are particularly good at that with their spacial relations capabilities. Men also tend to shush a little louder and

jiggle a little bit more. Women tend to be more timid about that. Unfortunately, when a baby is crying you have to get to a threshold, you have to get to a certain level of jiggle to stimulate the vestibular mechanism and a certain level of shush to stimulate the auditory mechanism that triggers this reflex. If you don't get to that jiggly level then you're not going to be able to calm your baby. So men are a little bit more willing to do that. Women are a little bit more timid about doing it.

Naima: Okay, great. Dr. Karp, there's a follow-up question to the swaddling. Is there any age that a baby should stop being swaddled to go to sleep? For example, when a baby is able to flip onto its stomach?

Dr. Karp: Great question. Right now there's some confusion in the nation about how long to swaddle a baby. Some people are recommending stopping the swaddling at two months of age because some babies start to roll at two months of age. Two months is really the worst age, in my opinion, for stopping swaddling because it's just when they're starting to roll over. Swaddling actually makes it harder for a baby to roll over. If you use swaddling and white noise, that even makes it harder for a baby to roll over because the white noise keeps them in a more peaceful state. Once a baby can roll over swaddled with the white noise on, then you have to make some decisions.

Either you stop the swaddling at that point, which only makes it easier for them to roll over, which is a danger, or you speak to the pediatrician to get permission to let the baby sleep buckled into an infant sleeper like the Papasan by Fisher Price. There are other infant sleepers that are inclined sleepers that the baby can be buckled in so that they're safe, they're swaddled, they have the white noise playing, but they're safely buckled so they can't accidentally roll over. That takes away any concern of the risk.

I want to say that some people swaddle their babies and they don't use white noise because they go, "My baby sleeps so well swaddled I don't need to use white noise," but the fact of the matter is when you wean the swaddle, which is usually done around four months of age, if it's totally quiet in the room, these babies are now nosy and they start waking up and suddenly you have sleep problems again. So what should be done is using white noise and swaddling from the very first days of life. Then when you wean the swaddling at four or five months, the baby still

has the white noise, which is a familiar sleep cue, so when they do get into light sleep or slight wakefulness in the middle of the night, they're much more likely to just go back to sleep, roll back into sleep as opposed to waking up totally and crying for the mother's assistance, unless of course they're hungry. A hungry baby will wake up despite the white noise and despite the swaddling.

Naima: Dr. Karp, there is another question regarding the white noise. This participant said they attended a training where they were told not to shush a baby. Is that true?

Dr. Karp: No, that's completely not true. It's kind of interesting, shushing is done by every single culture around the world. It's one of the very few things that's an absolutely universal human characteristic. Everyone shushes babies, and the reason we do it is because they respond to it. The reason they respond to it is because it activates this calming reflex by imitating their experience in the womb. That's why every parent recommends going for car rides or even turning on a hair dryer or a vacuum cleaner to calm a crying baby. What you should not do is you should not blast a white noise machine one foot from a baby's head all night long. That's excessive exposure to sound. It turns out that putting a baby in a totally quiet room is sensory depriving for a baby.

Putting a baby on a flat bed, a flat bassinet in a quiet room by themselves is like locking an adult in a dark closet. It's sensory depriving. Babies cry much more because of sensory deprivation than they do because of sensory overload. In fact, we all know that, anyone who's held a baby knows it's when you rock the baby and shush the baby that they calm down. In fact, when you calm a baby, normally if they're crying you shush louder and more high pitched, like this, "Sssshhhh," as you're jiggling the baby back and forth. Then if the baby calms down you naturally go "Sssshhhh", you lower the pitch and the intensity of your shushing. It's the same thing for us. We all calm down with the sound of wind and the ocean and the sound of the car or the train or the plane. These are universal and deeply hardwired into our neurology. The idea of not using sound or shushing is really antithetical to what it means to be a human being.

Naima: Thank you, Dr. Karp. The next set of questions are related. There are a couple participants that had issues with the videos buffering on their computer. So

they wanted to know if the demonstration videos shown today are available via YouTube. The second part of the question is, how can folks get access to the DVD's that you had mentioned?

Dr. Karp: The DVD's are available, you can buy it on Amazon or on our website, but the best way of doing this, and this is the way we work with state governments and municipalities is we certify educators. The goal is not just giving out these DVD's. Our goal is making sure that educators are properly taught the nuances of this approach. If this were so easy someone would have figured it out a hundred years ago. It's not this complicated, but there is nuance and there are many ways to do it wrong as to do it right. Just like with breastfeeding we train IBCLC's so that they have full competence to handle all issues. So what we're encouraging programs to do is to certify their home visitors or their educators, which is through the DVD-based training program.

Then you have access to getting these materials at the deepest discount. That's the most economical way to provide these to the families. While every program is strapped for funds, we certainly understand that, the popularity of this program has really been based on the fact that not only does it help give skills that strengthen the family's competence and improve bonding with the baby, but they also have the potential to reduce the triggers that lead to postpartum depression and child abuse and unsafe sleeping practices, excessive visits to the doctor and the emergency room, cigarette smoking, breastfeeding failure, and even maternal obesity, because when you're overly exhausted you're eating impulsively and you're not exercising.

So there are many important health factors that are tied to reducing crying and increasing sleep that make this a very cost effective intervention. So I guess to answer that question, please feel free to contact me at my e-mail address. That's Dr.Karp@TheHappiestBaby.com. Or you can just get information at our website, which is HappiestBaby.com.

Naima: Thank you, Dr. Karp. Our last question it looks like, for now, in the queue is, have there been any follow-up studies showing a decrease in postpartum depression after implementation of the Five S's?

Dr. Karp: No. We're actually very eager to enter into that study. So I encourage any of the listeners, if you're interested in doing research, I'd be more than happy to

discuss with you collaboration because we do need to develop that evidence. However, having said that, we have evidence that the Five S's reduce crying and evidence that the Five S's improve sleep, and we have evidence that crying and exhaustion are key motivators or provocations for postpartum depression. So it's a reasonable assumption and it's a reasonable likelihood that by improving sleep and reducing crying with the Five S's we will be able to some degree to reduce postpartum depression.

Naima: All right, great. As a reminder, the recording of today's webinar, the Frequently Asked Questions, the slides will be available. We'll be in touch with Dr. Karp to see if it would be possible to share the links to the videos that were shown today, but you definitely know how to access the DVD's as was previously mentioned, and we'll be sure that the Frequently Asked Questions document includes Dr. Karp's e-mail and website as well. If there are no other questions, I don't know, Dr. Karp, if there's anything else you wanted to share. There's nothing else in the queue.

Dr. Karp: I would just like to ask the listeners about swaddling and if any of them live in states or municipalities where swaddling is discouraged in their hospitals, and if so, what the rationale for discouraging the swaddling is. I don't know if during the question and answer period if I can ask a question. [inaudible 00:47:10] but having so many experienced professionals on the line is really a great thrill for me and an opportunity to get feedback from what's going on in other parts of the country.

Naima: For sure. We'll see if anyone chats in a response to that. So far nothing is there.

Dr. Karp: Let me just say while we're waiting, one issue about swaddling, another issue that people hear about is loose blankets can be a problem for babies. [Inaudible 00:47:55] that have been done showing that thin blankets actually, even if they get loose and get on a baby's face, are not associated with an increased risk for SIDS or suffocation, as opposed to heavier blankets or duvets or comforters. Also when it comes to hip dysplasia it turns out that it's only incorrect swaddling that is associated with hip dysplasia. There is hip safe swaddling which basically just means the hips have to be able to flex and abduct, which means open up at the

crotch. So in fact swaddling is recommended by the Academy of Pediatrics section on pediatric orthopedics, and by the International Hip Dysplasia Institute. But it's safe swaddling, so that means the arms are really down and snug, but the hips are flexed and slightly open.

Naima: All right, Dr. Karp, it doesn't look like we have any more entries in the queue. So I'll go ahead and wrap up the webinar. I just wanted to say before we end to mark your calendars for two upcoming webinars this month. March 24 from 3:00 to 4:00 p.m. is another Ask The Expert on Learn The Signs, Act Early, a CDC program. Then on March 31 there is an Ask The Expert on The Overview of Gabby, which is a virtual preconception assessment, education, and behavior change tool. As a reminder, as was mentioned before, all of our webinar recordings, transcripts, slides, and Frequently Asked Questions can be found on the EPIC Center Website. This concludes our webinar. Thank you so much for your participation and we look forward to having you on future webinars. Have a good day.

Dr. Karp: Thank you, everybody. Take care now.

Host: Ladies and gentlemen, we thank you for participating in today's presentation.