

Elisabeth McLaury Lewin: My name is Elisabeth McLaurey Lewin, and I'll be talking today with Nancy Mohrbacher. She's an international board-certified lactation consultant and the co-author—with Kathleen Kendall-Tackett—of *Breastfeeding Made Simple: Seven Natural Laws for Nursing Mothers*. Nancy's also the co-author of *The Breastfeeding Answer Book*, which is a definitive encyclopedia of breastfeeding information, which is used by doctors, nurses, lactation consultants, and breastfeeding helpers around the world. Nancy's the lactation consultant for Ameda Breastfeeding Products at Hollister Incorporated and she's been helping breastfeeding families since 1982. She's going to help us today with some of the basic information that moms and families need to know about breastfeeding and milk supply. How are you, Nancy?

**Nancy S. Mohrbacher:** I'm good, Elisabeth, thank you.

Elisabeth McLaury Lewin: Well, it's so nice of you to talk with me today. Now, in my work as a volunteer with breastfeeding mothers, I get a lot of questions from new moms about milk supply. How do you tell whether you're making enough milk and whether your baby's actually getting enough milk? And I know some of those fears and questions aren't necessarily based in fact, so I was wondering if you could help me a little bit with some of the myths and some of the truths.

**Nancy S. Mohrbacher:** Oh, sure. I'd be glad to. It's interesting you bring that up because one of the most common reasons that women give for giving up on breastfeeding is worries about milk supply. So in my experience, I've found that it really has more to do with a mother's perception and her understanding of milk supply. And so I was hoping that we could clarify some of the common fact and fiction about it and maybe for mothers who are worried, it'll help to ease their minds.

Elisabeth McLaury Lewin: Excellent. Well, I guess one of the things that's most interesting to me is the idea that babies don't necessarily eat every three hours, that newborns need to eat sometimes a lot more often than every three to four hours.

**Nancy S. Mohrbacher:** Yes. One thing that is a fact about breastfeeding is that most newborns do need to breastfeed about eight to twelve times in a 24-hour day, especially in the first six weeks. However, often what happens is new parents do the math and they think this means their baby should be feeding every two to three hours. And that is a fiction because what newborns tend to do most often, and of course there's always exceptions to everything, but what they tend to do is what we call “cluster feed,” especially in the first six weeks or so. What cluster feeding means is that they tend to bunch their feedings together at certain times of the day and they may have a long sleep

stretch at another time of the day. So what’s most important is that babies get in the right number of feedings, but it matters not at all if they’re breastfeeding at set times. So a baby may feed, for example, every half an hour during part of the day, and often that’s in the evening for some reason, and they may have a longer four-to-five-hour sleep stretch at another time. As a newborn, that’s often not at night because babies tend to have their days and nights mixed up. But it tends to go that way in most cases.

Elisabeth McLaury Lewin: Okay. Well, then it’s not necessarily a thing you need to do then to set the alarm clock and wake up your baby every three hours?

**Nancy S. Mohrbacher:** Well, what’s most important is that babies get in the right number of feedings, not necessarily how often they feed. So if a baby’s feeding every hour for part of the day, they don’t need to be awakened before--I would say--at least four to five hours. One four-to-five-hour stretch is perfectly fine.

Elisabeth McLaury Lewin: I’ll make a confession here. With my oldest child, who did survive to adulthood, we actually slept on the floor next to his crib and set the alarm clock and every two hours woke him from a sound sleep in the middle of the night because the book had said every two to four hours which I took to mean well, if he was going to be the best baby, he had to nurse every two hours and so I woke a sleeping baby.

**Nancy S. Mohrbacher:** Yes. Well, a lot of people do that because they’re very concerned about it.

Elisabeth McLaury Lewin: But there are some times when you *should* wake a sleeping baby.

**Nancy S. Mohrbacher:** There are, yes. If a baby, for example, is not getting in enough feedings in a 24-hour day and the baby’s weight gain is not what it should be, that would be a time where it would be a good idea to wake a sleeping baby.

Elisabeth McLaury Lewin: So tell me, what is the range of normal with a newborn, a normal, full-term baby? What is that range of how often and how long they nurse?

**Nancy S. Mohrbacher:** Well, babies at the beginning, typically feed very often. As I said, they do the clustering. I would say eight to twelve feedings in a 24-hour day would be the range of normal for most newborns at the very beginning. Babies right after birth have very small stomachs. In fact, we have a teaching tool that shows the size of a

newborn’s stomach on day one is about the size of a marble. And parents are often very surprised to see that because they are concerned that the amount of milk mom is making in the first few days is very small and perhaps it’s not enough for the baby, but in actuality, the amount of colostrum or first milk that a mother has right after birth is perfectly sized for her newborn’s stomach. And in fact, recent studies have found that the newborn’s stomach doesn’t actually stretch in that first 24 hours, so trying to put more in usually just results in the milk coming back out through spitting up.

Elisabeth McLaury Lewin: And it might be good too to talk about what that first milk looks like. Colostrum is strange and if you’ve not seen it before, it doesn’t look anything like milk or formula or anything you’ve seen before.

**Nancy S. Mohrbacher:** It can look very yellow in many cases and very thick. It’s concentrated. What happens as the milk increases on the third or fourth day is that more liquid, more water is added to it to decrease the concentration. But that’s another reason why colostrum is considered sufficient for the newborn because it is so highly concentrated. So at the beginning, newborns may want to feed round the clock, very, very frequently. And in fact most babies are born with their days and nights mixed up so often the first day that a parent goes home with a newborn, they find the baby thinks nighttime is the right time. It’s time to party and really be up. And that’s something they’re not always expecting. But that is a very normal part of breastfeeding is wanting to feed frequently during the night. Now, when the milk increases on the third or fourth day, sometimes things can change then. The baby may seem to be satisfied for longer periods of time because the baby’s stomach has stretched out somewhat, about the size of a ping-pong ball on day three and so is able to hold a little bit more, but still this cluster feeding would be the most common feeding pattern that babies would have. What the research has found is babies during the first week or so typically are feeding more from about nine p.m. to three a.m. and feeding less often from about three a.m. to about nine a.m. That’s the least amount of feedings on average.

Elisabeth McLaury Lewin: Wow. So it’s a good idea at that point then for mom to get her sleep in late in the night and sleep in in the morning if she possibly can.

**Nancy S. Mohrbacher:** Right, and learn to breastfeed lying down because that allows her to rest and feed at the same time. Sometimes moms think they have to choose between feeding and sleeping and that’s kind of a bad choice to have to make.

Elisabeth McLaury Lewin: Yeah, you’re darned if you do and you’re darned if you don’t in that case if it’s one or the other.

**Nancy S. Mohrbacher:** Right. One thing to keep in mind regarding milk supply is that milk supply increases exponentially in the first 40 days especially. You start off on the first day producing about one ounce or thirty milliliters. By day 40, if the baby's allowed to feed whenever the baby needs to feed, then the mother is up to about 30 ounces or about 900 milliliters in 24 hours so it's a huge increase and it's really driven primarily by the baby's drainage of milk from the breast; in other words, by breastfeeding. The more times a day a baby feeds and the more well-drained the breasts are, the more milk a mother produces. And that's why women can breastfeed twins and triplets and even quadruplets. It's quite remarkable.

Elisabeth McLaury Lewin: Wow. So if that's possible, then just the average mom breastfeeding one average baby is going to work out okay.

**Nancy S. Mohrbacher:** In the vast majority of cases, absolutely. One thing that I often hear mothers say, especially during pregnancy is, “Well, I'll wait and see if I have enough milk. I'll see if breastfeeding works. I'll try to breastfeed and if I have enough milk, then I will, and if I don't, then I won't.” And I think what that reflects is the fact that milk supply is something that's gifted on a mom from on high rather than related to something that she's actually doing. And I think if I had one thing- one message to give to moms out there, it would be what you do, how you manage breastfeeding can make a huge difference in the amount of milk that you produce.

Elisabeth McLaury Lewin: Well, so let's tackle some of those things that we're often told when we're pregnant. Most pregnant women, at least in the United States, sort of feel like they are public property; everyone is coming up, total strangers in the grocery store. And you go to buy some little baby T-shirts at the discount store and strangers approach you and start telling you what you really ought to do with your child who's not even there yet. One thing you often hear is that like in the early weeks it's a good idea to fill babies up completely with as much milk as you possibly can so that they can go farther and farther between feedings so that you can get that mythological more sleep in the night.

**Nancy S. Mohrbacher:** Right. And actually, as I mentioned, the size of babies' stomachs has a big impact on that because babies are not really ready to take large amounts at that time so it's actually much better, it's setting up a healthier feeding pattern for babies to take small amounts more frequently rather than large amounts less often. We're often told as adults to eat slowly so that our appetite-control mechanism kicks in and that it's actually healthier for us to eat many smaller meals in a day rather than three large meals, and the same thing is actually true for babies.

Elisabeth McLaury Lewin: And I guess it underscores that fact that if they have a ping-pong ball-sized tummy, that's not going to be able to take much more than a couple of tablespoons of anything at a time before, like you say, it's going to come back up or cause some great distress.

**Nancy S. Mohrbacher:** Yeah. On day three, you know, about an ounce or 30 milliliters would be, you know, a pretty big feeding for a baby that age so it's not actually to their benefit to be doing that. I think what's more helpful is to figure out strategies for how to get your rest, yet still feed your baby as often as needed. As I mentioned, the milk supply increases exponentially in that first month and what drives it is very frequent feedings. And so if your goal is to have a really good milk supply, the best thing you can actually do is to feed frequently. Sometimes mothers get confused though about how to manage feedings. One thing that I sometimes hear mothers say is, “I need to make sure my baby takes both breasts at a feeding and that the baby feeds the right number of minutes.” And I would put that in the category of fiction, not fact, because mothers and babies are all different. And we've learned actually a lot about how milk supply and rates of milk production work due to some research that was done in Australia over the last 10 years or so. And one of the things we found is that there are individual differences between mothers in particular that affect what would be a good breastfeeding pattern for that individual mother and baby. In other words, one size does not fit all.

Elisabeth McLaury Lewin: So what variety is there and how do you figure out what's going to be a good working pattern for you and your baby?

**Nancy S. Mohrbacher:** Well, there are two factors at work here. One thing that we've learned is that drained breasts make milk faster and full breasts make milk slower. Sometimes mothers are told that they should wait till their breasts fill up before breastfeeding.

Elisabeth McLaury Lewin: Right. I remember hearing that.

**Nancy S. Mohrbacher:** Right. And that actually is quite the opposite if you're concerned about your milk supply, because keeping your breasts well drained actually sends the message to your body to make more milk faster. There's a substance in the milk that's called feedback inhibitor of lactation. It sounds technical, but it has an acronym which is FIL which is kind of amusing; it goes along with what it does. So when the breasts fill up, then that substance actually sends the message to slow down milk production. Between that and the pressure in the breast, that causes production to slow down.

Elisabeth McLaury Lewin: Oh, so that feeling of fullness that you get in between feedings or when it's been a couple of hours, that actually tells your body also to slow down?

**Nancy S. Mohrbacher:** It can if you let your breasts stay full for too long, so that's another good reason to feed frequently. The other side of it though that relates to the individual differences is something that's called breast storage capacity. Breast storage capacity is how much milk your breasts can comfortably hold in the milk-producing tissues.

Elisabeth McLaury Lewin: Now, does that have to do with being large-breasted or amply endowed?

**Nancy S. Mohrbacher:** Not necessarily because breast size actually is determined more by the amount of fatty tissue in the breast and what we're talking about here is the room in the milk-producing tissues. So it's possible that a woman could be small breasted and still have a large storage capacity. But what that means if a woman has a large storage capacity is it takes longer for her to feel full. So in other words, you might have a mom- I remember once I visited a mom who wanted to buy a breast pump and she was sitting and we were talking and she had a baby about three months old who looked like the Michelin baby, you know, big rolls of fat.

Elisabeth McLaury Lewin: And his rolls of fat had some rolls of fat?

**Nancy S. Mohrbacher:** Yes, exactly. And so I was so impressed and I said to the mother, “How many times a day are you breastfeeding?” And she looked me right in the eye and she said, “Five.” And I was just shocked. I was a new lactation consultant at that time and I thought my head was going to explode because that was counter to everything that I thought was true. But in her case, clearly, in fact when she used the breast pump, she was getting lots and lots of milk very, very quickly; she was a mom who had a large storage capacity. So those moms often have babies who will only want to take one breast at a feeding because they get so much at each feeding and yet feeding infrequently will not slow down their milk supply because their breasts never get to the point of really feeling full for a very, very long time. So that's why you could have two next-door neighbors, one of whom has a baby who feeds every four hours. That's very unusual, but she probably has a large storage capacity and her baby's thriving and doing well. And then her neighbor has a baby who needs to still feed eight to ten times a day even at three months or four months or five months and that may be because that mother, much like myself when I had babies, has a small storage capacity. And the mothers with the small storage capacity, they still produce plenty of milk for their babies, but for example, if their breasts only hold two ounces per breast, then the baby will

always probably need to take two breasts at a feeding or they may also be babies who need to feed frequently at night for many, many months and they're not going to necessarily sleep through like the neighbor's baby.

Elisabeth McLaury Lewin: Okay. What's the best way then to sort of figure out- it sounds like it doesn't necessarily matter whether you have a small storage capacity or a large storage capacity as long as the baby gets fed adequately. And for many mothers, they really worry that they are feeding the baby adequately. I guess breastfeeding is one of those things where you don't measure it out, you can't necessarily tell how much goes in except by sort of seeing in diaper output how much is coming back out and is baby gaining and looking hydrated and feeling well, so what do we do to sort of help reassure that in most situations there is enough milk and it's a question of just managing the supply so that it's just as much as baby needs?

**Nancy S. Mohrbacher:** Well, the best way to know is by doing a weight check with the baby. And most mothers are taking the babies to the pediatrician or the family practice doctor on a regular basis anyway. So when they do that, they can see if the baby is gaining normally. And what you expect to see in the first three to four months is a weight gain of about six ounces a week. That would be average. And no matter what else is happening with that mother and baby in terms of breastfeeding, if the baby is gaining at that rate, then the mother can know that she's doing just fine in terms of her milk supply. It's not possible for a mother to have a low milk supply and a baby who's gaining well. And that's something I think a lot of people are confused about.

Elisabeth McLaury Lewin: So you could pretty quickly reassure yourself that baby is gaining.

**Nancy S. Mohrbacher:** Yes.

Elisabeth McLaury Lewin: And even within that, that six ounces a week in those early weeks, there's some range too.

**Nancy S. Mohrbacher:** Well, babies normally lose weight at first in the first three to four days.

Elisabeth McLaury Lewin: What is it that causes that? Is that just the meconium going away?

**Nancy S. Mohrbacher:** The meconium is the stool that’s in the baby’s intestines when they’re first born. Actually, babies have been floating in amniotic fluid for nine months so they tend to be sort of waterlogged at birth. And so they lose some of those extra fluids right way and the colostrum they’re taking in is small in amount, although, as I said before, exactly what they need, so most babies, even babies who are bottle fed, actually do tend to lose a little bit of weight right after birth. So up to seven percent, some people would say even up to ten percent weight loss is considered in the normal range, and then at around day four, we start to see that weight gain. So it’s a little dangerous to be looking at birth weights and then weight at a week because you have to factor in that weight loss first.

Elisabeth McLaury Lewin: I see. So there’s a bit of a dip and then there starts to be a gain.

**Nancy S. Mohrbacher:** Right. So once the baby starts to gain, that’s when you start to look at the weights. And that’s a very, very reliable way to tell how a baby’s doing. So I would encourage any mom who is worried—and it’s easy to be worried in our culture because so many people are questioning whether breastfeeding is working—just to have a weight check done and then the mother can know for sure how breastfeeding is going and not be worried.

Elisabeth McLaury Lewin: Now, a lot of popular magazines and TV shows and strangers in the grocery store say, “Oh, no matter what you do, you need to get that baby on a schedule.”

**Nancy S. Mohrbacher:** Right.

Elisabeth McLaury Lewin: And I know for people who are concerned or wondering about their supply, that seems like a surefire way to do that, but we also tell mothers that that’s something that can actually be detrimental to the breastfeeding relationship. Can you touch on that a little bit?

**Nancy S. Mohrbacher:** Well, sure, I’d be glad to because there are some popular books that do recommend feeding on a schedule. And I would say first of all, there’s no scientific basis for that advice. It’s something that is sort of a throwback I think to our grandparents’ era when scientific mothering was very popular. But the drawback to that is, I explained about breast storage capacity, is that different schedules are not necessarily going to be good for individual mothers and babies. So if you have a mother with a large storage capacity, it may be that she could follow a schedule and

breastfeeding would work just fine because her breasts can- it takes a lot longer for her breasts to fill up and she may not get full and her supply may not be reduced, even if she goes for several hours between feedings. But if you have a mother and baby where the mother has a small storage capacity, that could be enough to cause problems with milk supply and weight gain. For example, if a mother has a small storage capacity and she decides to make her baby sleep all night and cry it out, she may be so full by morning that that has caused her supply to reduce. So to try to get every baby on the same schedule is not necessarily going to work.

Elisabeth McLaury Lewin: And so then to make sure the baby's got enough milk, it's best then to encourage the newborn to take both breasts at each feeding to stimulate supply by having extra demand. Is that really how that works?

**Nancy S. Mohrbacher:** Well, that's another instance where you have to look at individual differences. So again, if a mother has a large storage capacity, it may be that her baby will be satisfied with one breast. If she has five ounces in each breast, that may be all her baby needs. And so what's a good idea, what we use a strategy that we recommend is to do what's called “finish the first breast first.” That means let the baby take the first breast for as long as he or she wants and then when they come off, then you can burp them, you can change them and then offer the other breast. And in some cases, babies will want the other breast and in some cases, they won't. Probably what's most typical is babies will take one breast at some feedings and both breasts at other feedings.

Elisabeth McLaury Lewin: I've heard a lot of different old wives' tales and each of them purports to have sort of the magic food that makes more milk. Okay, so you need to drink more fluids or you need to not eat broccoli or that garlic is the thing that makes your milk better.

**Nancy S. Mohrbacher:** With regard to fluids, often when mothers call me at Ameda, they tell me they've tried everything to bring up their milk supply and I'll ask them, “What have you tried?” And they often say, “Well, I've started drinking more fluids. I've improved my diet. I'm trying to get more rest.” And while I think all of these are wonderful things to do, it's not necessary for milk supply. They don't really seem to impact milk supply so I feel badly when mothers say that. I think there's a lot of confusion on that point because I feel like they feel like they're putting a lot of time and effort into increasing their milk supply, but they're really just spinning their wheels because these aren't things that will really impact milk supply. Milk supply is really about how many times a day the breasts are well drained, either with the baby by breastfeeding or by breast pumping. So that isn't a reliable way that a mother can increase her milk supply.

Elisabeth McLaury Lewin: Are there any foods or things that are definitely contraindicated or any things that are really recommended for enhancing the breast milk?

**Nancy S. Mohrbacher:** There are not foods that I would say we in the field generally agree on as being good. You'll probably hear lots of recommendations, but there hasn't been any sort of studies done to see if there's a food that increases milk supply. I think again the driving force is really about how many times a day the breast are well drained.

Elisabeth McLaury Lewin: Now, as babies get bigger, when they hit that six-week mark or so, their feeding behavior seems to change and many mothers kind of get antsy about their milk supply because it seems as though their supply has decreased or something's wrong because baby's nursing all the time.

**Nancy S. Mohrbacher:** Right. There's a couple of things that can happen as babies get older. One that's very common is that babies do cut down on their feeding times as they get older and their stomachs get bigger and they just get more practiced at breastfeeding. And there are some mothers who worry about their milk supply when that happens because they think, “Oh, my baby needs to nurse a certain number of minutes in order to get enough milk.” So I think it's important to know that babies' feeding faster is very common so that is not a sign of low milk supply. Another thing that can happen is babies go through periods where they do want to feed more frequently. That's a very common thing as well and that also is not necessarily a sign that babies aren't getting enough milk; it's just something that babies do. We often refer to these times as “growth spurts.” But what's interesting, a lot of mothers don't know this, is that once they get up to a full milk supply around five or six weeks or so that the amount of milk that their baby needs doesn't actually change significantly over the next few months. When they look at their bottle-feeding counterparts, often what they'll hear is that the baby's taking more and more and more formula as they get older and so breastfeeding mothers have assumed that this would be the case with their babies as well. But what the research has found is that the amount of milk they produce actually stays relatively stable from about five to six weeks all the way through six months. The feeding patterns may change depending on their breast storage capacity so the baby may cut down on the number of feedings and take more at a feeding or they may not depending on how much milk is available in the breast, but the actual amount of milk over a 24-hour day stays remarkably stable. And then once a baby gets to be around six months and starts taking solid foods, then the milk supply very naturally starts to decrease because the baby is taking other foods and doesn't need as much milk. So that's a normal part of breastfeeding as well.

Elisabeth McLaury Lewin: Sometimes mothers worry about the supply or the quality of their milk because baby tends to be very fussy and sometimes is fussy before feeding and sometimes continues to be fussy after. What are some things you can do to help reassure that it's not a problem with the mothering or the milk?

**Nancy S. Mohrbacher:** Right. Well, there are babies who have fussy times and there are babies who are not necessarily soothed by breastfeeding and that can be very difficult for moms. It's a very emotional thing. Many mothers feel that their competence as a mother is partly determined by how well they can settle their babies and make their babies happy. But especially in the first three months or so, there are babies who just are not happy a lot of the time. And again, the best way to tell if a mother's milk supply is good is by a weight check. There are other things that she can look at on a daily basis. For example, the stools that a baby has are produced from the fatty hindmilk and the fatty hindmilk comes near the end of the feeding. Some people know that at the beginning of a feeding the milk tends to be thinner and more watery and has less fat in it so it helps slake a baby's thirst. And then as they continue to feed, the fat which sticks to the milk ducts in the breast begins to be released and the milk becomes fattier. So when I taught breastfeeding classes, I used to say it's like a continuum where you start with one-percent milk and then you go to two-percent and whole milk and then eventually you get to half and half and cream towards the end. And when a baby's allowed to finish the breast, then they can finish whenever they're done and get the right mix of foremilk and hindmilk. And it's that hindmilk, the fatty milk that creates the stool. So you know if a baby's having a good amount of stools and that would be at least three to four stools the size of a quarter or larger in a 24-hour day that they're getting enough of that fatty hindmilk to thrive and gain weight. Some mothers I talk to are very concerned that their babies are getting enough hindmilk, but it's actually very easy to tell because you can look at the stools and you can check the weight gain. A baby who's not getting the hindmilk is also probably not gaining weight very well. So most mothers, these fears are groundless if they just know what to look for. Now, after six weeks or so, I will say some babies do have fewer stools and yet still are gaining fine and in that case, it's just a normal variation and nothing to be concerned about.

Elisabeth McLaury Lewin: Excellent. Well, I guess any parting words that you'd like to offer because it sounds as though in the large, large number of situations, it's very normal as a new mom to worry about your milk supply, but it's also almost every time something that's just a matter of perception or management.

**Nancy S. Mohrbacher:** Um hmm. Well, one thing I would say is we live in a culture where breastfeeding is not completely accepted yet and so many mothers are told on a regular basis, “Are you sure you have enough milk? You know, you're feeding so often, is that normal?” and so their confidence is undermined. One thing I would very much

recommend for mothers who are feeling this way is to attend mother-support groups because that is a way they can be with other mothers who are breastfeeding. I did that when my babies were young and I felt that it was--my monthly support group meeting--was an antidote to all the negativity I was hearing everywhere else about breastfeeding and helped give me the confidence I needed. Because breastfeeding can be a confidence game, you know. As well as understanding how it works, you have to develop a certain confidence that the process does tend to work and I think support groups can help with that. I mean keep in mind, up until a hundred years ago or so there really was no substitute for breastfeeding that was really safe that kept babies alive on a reliable basis.

Elisabeth McLaury Lewin: Well, that's reassuring and I like the idea of going to seek out some peers to bolster your confidence and it's nice to have some information to arm us to know that we can manage a good milk supply and get baby off to a really good start.

**Nancy S. Mohrbacher:** Well, if mothers can breastfeed twins, triplets and quadruplets, I think that in most cases, milk supply shouldn't be a problem.

Elisabeth McLaury Lewin: Absolutely. Well, thank you so much, Nancy. It's been really fun.

**Nancy S. Mohrbacher:** Same here. Thanks, Elisabeth.