# Low Breast Milk Supply Demystified—
## The New Edition of *Making More Milk: The Breastfeeding Guide to Increasing Your Milk Production*

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***Purpose:*** *Low breast milk supply is a common concern among breastfeeding families and is cited as being one of the top reasons a family might stop breastfeeding. Research on the causes of low breast milk production and how to improve the rate of breast milk production is still emerging and not always in the field of human lactation.*

***Method:*** *Barbara D. Robertson interviewed Lisa Marasco in June 2019 about her new book, co-authored by Diana West,* Making More Milk: The Breastfeeding Guide to Increasing Your Milk Production, 2nd Edition *to see how this new edition can help IBCLCs in their clinical work with families.*

***Results:*** Making More Milk: The Breastfeeding Guide to Increasing Your Milk Production, 2nd Edition *is a valuable tool that can help clinicians assess if the individual families they are working with do indeed have a low milk supply, and then, if the family is struggling with low milk supply, provide a framework to investigate why the supply is low and what might be done to help improve the rate of breast milk production.*

***Conclusions:*** *After the interview with Lisa Marasco and reading her manuscript, this new edition of* Making More Milk: The Breastfeeding Guide to Increasing Your Milk Production, 2nd Edition *is a valuable contribution to the field of human lactation.*

**Keywords:** low milk supply; increasing breast milk; breastfeeding

The new, 2019 edition of *The Breastfeeding Guide to Increasing Your Milk Production*, by Diana West, IBCLC, and Lisa Marasco, MA, IBCLC, is now available. This important book provides information on how to separate fact from fiction about improving low milk supply. *Making More Milk: The Breastfeeding Guide to Increasing Your Milk Production* incorporates the latest research and discoveries about causes of low milk supply, the way breast milk is made, and how babies contribute to milk production. There are suggestions for both time-honored and innovative ways to make more milk. Wanting to know more about the origin of the book and what has changed in the new edition, I interviewed Lisa Marasco about what the reader can expect from this new edition.

BR: We are going to be talking about the new, 2019 edition of *The Breastfeeding Guide to Increasing Your Milk Production*, by you, Lisa Marasco, and Diana West. Let's start out a little bit more about you. Tell me a little bit about yourself and your background.

LM: I have an unusual background: definitely non-standard, nontraditional. I was originally an accountant and I loved doing that, but then I had babies and while having babies, I fell in love with breastfeeding. Part of it was really about the relationship, not just about the food. I came from a strict home where discipline was emphasized, not relationship. Breastfeeding connected me to my baby and taught me about intuitive parenting. I developed a passion to be able to help my friends be successful so that they could have that same intuitive relationship. Back in the early eighties there really was very little support except for La Leche League, which is where I turned to for support. But many of my friends were falling like flies! Over time, I decided to become a La Leche League leader so that I could help more people, and once I did

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that, I realized I really enjoyed the technical side of the problem solving.

From there . . . just to take the story a little further, my interest in milk supply really started when the *Preparation for Parenting/Baby Wise* books came out; it was a very frustrating time for all of us because we knew that feeding babies when they say they're hungry was the right thing to do. But that had never really been spelled out with supportive research and so many parents were falling for these teachings and supplementing early on because of them. So I dug into the literature and wrote up a small article in order to refute what was being said about the superiority of scheduled feeding. That was the start of my focus and expertise on this topic and led to my speaking career.

BR: When did you become an IBCLC?

LM: 1993.

BR: What do you do now as an IBCLC?

LM: Currently I am practicing as a lactation consultant with our local WIC program, where we have a unique program in that we employ IBCLCs who only see mothers and do full consults, no other WIC activities. I've been there 13 years now. Before that I was in private practice. I still see a few clients privately when they've been unable to resolve their problems with local resources.

BR: What inspired you and Diana West to write the original 2010 *Breastfeeding Mother's Guide to Making More Milk*?

LM: So there's an interesting story to that as well.

BR: That's why we're talking.

LM: The need for this type of book had been in the back of my mind for a while. Diana West, in the meantime, had written a book to help mothers breastfeed after reduction surgery. She eventually discovered that people were using her book for supply problems well beyond breastfeeding after a reduction (BFAR) issues—especially for galactagogue information. She had a conversation with La Leche League, who had published her original book, and they said, "We need to do another book for everybody." So Diana started this process. Early on she reached out to me, asking for more information on polycystic ovary syndrome and some of the related hormonal issues with milk supply. After a few conversations she asked me, "Hey, do you want to help me write this book?" That was how I was invited into the project.

BR: Yes, Diana had written her first book, *Defining Your Own Success,* in 2001. You are right, there was such a lack and there still is such a lack of information about helping mothers make more milk. Your book is really, in my opinion, the seminal piece on that. Now it is interesting that even professionals like myself use this book too and it's very important to our clinical practice, yet your last edition was called *The Breastfeeding Mother's Guide to Making More Milk*. You really wrote this for families, didn't you?

LM: Yes, our first and foremost aim was to reach the mothers directly. We saw the need for everyone to have the information. But we had to choose a focus and we chose mothers because they don't always have access to lactation consultants who are going to be highly knowledgeable. We didn't want them to be held back because of that. We just wanted to put that information straight out there for them, information that they could take back to their lactation care providers.

BR: Absolutely. It is a book that if I have a mother who's struggling with milk supply, especially if we're not quite sure why, having her read the book, she will get ah-ha moments when she's reading the book, and then she can help inform me. It's this very back and forth. Tell me about the new edition of the book, and when is it going to be released?

LM: In the second edition there's just so much new information that we've acquired, and insights from our clinical experience, that of other LCs, and what families have shared with us. There's so much more to be said after 10 years.

BR: You really love reading and utilizing research, and I think that's one of the reasons why this book is so strong. Where does that passion come from?

LM: Well, if you think back to the fact that I was first an accountant—I tend to be a detail-oriented person. I've always loved research, I love data mining, and I've definitely become a research geek/junkie. I love picking up pieces from different places and putting them together. My clinical cases drive my research. I'm always really thrilled when I come up with one of those new pieces to the puzzle—not just for me, but for everyone to help put together.

BR: When writing the first edition what were some of the some of the most important things you felt like you had to say and share with mothers and families?

LM: It was two fold. We wanted to share a clear process that families could use to investigate issues, starting with "Is there even really a problem?" As we delved into low-milk-supply issues, it just felt like a giant spiderweb that you can easily get tangled up in it and have no idea where to turn. We wanted to make that investigative process very clear and take away some of the mystery. You do this, then do this, then this. The book shared a process of investigating and then ideas for addressing the problems that are revealed.

BR: One of the things that I feel was informative for me was your milk supply equation that you had in the old edition. I then had the privilege to help you a little bit with the second edition, and I was really surprised at how the milk-making equation changed. You haven't taken things away, but you've added some things (Figure 1).

LM: We spent a week in a cabin on an island off of Maine, thinking we would hammer the book out that week—hahaha. Diana and I started work on the outline and realized pretty quickly that the list of issues was growing bigger and bigger—and overwhelming. How to organize it? In my accountant's mind I was trying to make sense of it all, to reduce it to a logical structure. I was thinking, what do you need to be able to make enough milk for baby? You need this and this and this. After listing those factors, I realized it really was like an equation. So, I literally put it into an equation form, and we both liked that it seemed easy to grasp.

BR: But I do know since the first edition you learned a lot about nutrition and this other idea of "no other lactation inhibitors."

LM: What "no other lactation inhibitors" actually is referring to is what I call "accidental inhibitors of lactation": things such as hormonal contraception or a medication that might be an inhibitor. There's a whole list of things that could possibly impact lactation. You can have enough glandular tissue, you can have all the nerve pathways intact, you can have all the hormones and receptors. You can have all the critical nutrients. You can be nursing frequently and have a baby who is doing a good job. But if you're taking a substance that can inhibit lactation, then you still may not have good milk production. Inhibitors were covered in the last edition, but they had not been accounted for in the equation and this time around, I really wanted to fill in the gaps.

BR: I saw a mother who was eating a ton of parsley. As soon as she stopped, her milk went up. We know that these things absolutely can affect our milk supply.

LM: The irony is that it might only happen to one in a thousand women, but if it's you, you want to know about it.

BR: Right, because you might be that one in a thousand. As clinicians, what do you think are some of the most important things that this book tells us?

LM: That there's a lot of ways to kill a milk supply.

BR: Indeed, there are. I think the way that you have created a system for families, but also a system for professionals: A) make sure is a family is really struggling with milk supply. And then going through the equation as possible reasons for why. I find it a very helpful way to help organize my thoughts as to what to pursue.

LM: I'm so glad it's been helpful to you, because that's exactly what we were hoping to accomplish. I think that, especially for new and aspiring lactation consultants who don't have a ton of experience yet, this can be very overwhelming, and we are hoping to provide some structure to the process as they guide families through low-supply situations for the first time.

BR: Right, because it is very complicated work.

LM: It really is. You know what? Even I don't remember all this information all the time despite the fact that I've written a book. There's a lot to know, a lot to remember. In this edition, I had the privilege of pulling in knowledge from an herbal expert, Sheila Kingsbury, a naturopathic physician and registered herbalist from Bastyr University who also works with breastfeeding mothers—she helped vet my galactagogue information.

BR: What are some of the most helpful things that you use the most as a clinician?

LM: I am often looking at the prolactin table, the galactogogues table; and this time around, the nutrition section is going to be really big for me.

BR: It's hard for us to remember all of these things. Using this as a reference tool is very beneficial. We still have so many practitioners and clinicians who, if a mother is struggling with milk supply, they say, "Oh, take fenugreek"—but there are contra-indications for fenugreek.

**Figure 1. The milk supply equation.**

## The Milk Supply Equation

The components necessary for good milk production can be summed up in this equation:

**The Milk Supply Equation**

Sufficient glandular tissue
\+ Intact nerve pathways *and* ducts
\+ Adequate hormones *and* hormone receptors
\+ Adequately frequent, effective milk removal and stimulation
= GOOD MILK PRODUCTION

If one part of this equation isn't there, milk production can be compromised. If more than one part falters, the possibility of problems is greater. Sometimes boosting another area of the equation can compensate for an area that is missing or low, though not always, because each one of these factors is necessary for good milk production.

## [A]The Milk Supply Equation

Let's start with the big picture first—it's easier to grasp how breastfeeding works when you can see the master plan. The components necessary for good milk production can be summed up in the following equation:

**THE MILK SUPPLY EQUATION**

Primary
- Sufficient glandular tissue
- + Intact nerve pathways *and* ducts
- + Adequate hormones *and* hormone receptors

Secondary
- + Adequate lactation-critical nutrients
- + Frequent, effective milk removal and breast stimulation
- AND *No other lactation inhibitors*

= GOOD MILK PRODUCTION

When the first five components are present *and* there are no saboteurs, the body can produce plenty of milk. Now let's take a closer look at how your milk factory is built and runs.

LM: If there's one message that's important to me, you're absolutely right, it's that. Fenugreek is the probably the number one turn-to galactogogue, and yet in certain situations it can actually cause harm. If I could just get that message out to people so they are not just jumping in and taking it without making sure they're good candidates, I'll be thrilled.

BR: As clinicians, we might be using this as a reference book as well as a guide when we are working with mothers and babies. First of all, determining do we have a milk supply problem or are we worried that we have a milk supply problem? Then, going through systematically, is there sufficient glandular tissue? Are there intact nerves, pathways, and ducts? Are there the adequate hormones or receptors? Are there adequate lactation-critical nutrients? Adequate, frequent, effective milk removal transfer, no other lactation inhibitors? Systematically going through these. You said that the lactation-critical nutrients have been an interesting kind of eye-opener for you. What are some of the big things that you've learned from this new dive into nutrition that you felt like you didn't understand before?

LM: The importance of them. Historically we have been taught that good nutrition is wonderful, but it's not crucial for making milk. We often point to babies who are growing up in countries where food supplies are scarcer and saying, "Well, even in those conditions the babies are still growing well," but I've come to the conclusion from all my reading that we probably have made assumptions that we shouldn't. Especially if we listen to the families. Because even though we had some of our experts saying nutrition is not important, you have mothers who were saying, "But for *me*, I had to have this in my diet or I wouldn't make enough milk." One mother had to have more roughage in her diet.

One mother needed more zinc and B12 and her diet. One mother who needed more calories. Calories is a very interesting issue because we kind of set a threshold, saying you have to take in at least 1,500 calories. If you have at least 1,500, you probably should be OK. But there are some old references, and one that fascinates me in particular where a researcher observed a mother who basically had to double her caloric intake in order to fully feed her baby. I've heard other people and I have also read other testimonies where people have said, "Every time I tried to diet, every time I tried to cut back on what I'm eating, my milk production drops." Some people's systems are very sensitive and they need those fats.

In an era where everybody's concerned with getting rid of the baby weight, I am wondering how often that's an issue that maybe we've overlooked. In one particular study from Thailand, they had two groups of mothers who were taking in the same number of calories. This was not a very high-calorie diet, but the two groups were getting the same number of calories and the same amount of protein. However, one group ate high carb, low fat and the other was low carb, high fat. The babies of the mothers who had the high carb, low fat diet gained less weight than those of the mothers who had a high fat, low carb diet. Especially in the United States, we tend to eat a lot of carbs.

BR: And we're afraid of eating fats in the United States.

LM: We're afraid of fats, we eat a lot of carbs, and I just have to wonder how many people that actually affects.

BR: We often do say you don't have to have a special diet. I think as a profession we're terrified of scaring off mothers from breastfeeding, if she thinks she's going to have to eat more calories, if she thinks she might need to eat more nutritiously. It's a fact that we are what we eat. Yet in our culture in the United States, we tend to ignore that.

LM: Yes. This was a real tightrope that I had to walk as I wrote about nutrition. I don't want to scare off mothers who say, "I don't eat a good diet, so I can't breastfeed." At the same time, we cannot withhold the information. I really worked hard to present it in a manner that said that this is for your milk, but it's also for taking good care of you.

BR: Well, it is. Because as I said, we are what we eat; foods are the building blocks of the good health for our body. And that's getting back into formula feeding. The idea that you can eat at McDonald's every day and not have health repercussions from that. The idea that you can drink formula instead of breast milk and not have health repercussions from that. It's healthy food versus not-as-healthy food.

LM: Exactly. But at the end of the day, it's really about the energy content of the milk. Just getting enough calories to the baby. And you can have a richer milk; we already know that the calorie content of human milk can vary tremendously, and yet we tend to overlook that. So, there's more than one way to come at this issue. More milk is one way. But richer milk is another. Again, that flies against the wisdom that we have learned in the recent past. But at the same time there's plenty of information to support this idea. I'm really hoping that we're going to develop our knowledge on this a lot more in the future. You just have to have enough calories to give your baby, it's not just about volume.

BR: Because there is such a variation in our calorie count per ounce from mothers that you could have two or three times the number of calories, one mother versus another. That's a tremendous difference and how much milk the baby will need to drink to get the calories they need.

LM: I can get caught up in the whole milk-volume thing myself. But at the same time, I really tried to make the point in the book that it's about having enough milk to support good weight gain for your baby; it's not always necessarily a high volume of breast milk. That is the whole reason why we say some babies have gained well with 600 mL a day and some have needed 1,200 mL a day. That's the reason for the variation: energy content.

BR: And making sure that there's not birth control, there's not a medication, there's not foods that she's eating that are anti-galactogogues.

LM: Some of the things that happen in labor and birth process,

BR: What specifically are you referring to?

LM: I'm referring to things like magnesium sulfate, a treatment for hypertension, that can suppress lactogenesis II. I'm talking about synthetic oxytocin/pitocin augmentation of labor, and the potential effect on the baby being able to nurse well. If the baby doesn't start well, the breast doesn't make lots of milk. This may also affect the oxytocin receptors—that's more theoretical but there is evidence to support that theory. All of these little things can play into lactation not getting as strong a start as it should.

BR: Well, and when you have a mother who, let's say she had preeclampsia and she had magnesium sulfate, and then was she separated from the baby and she feels so sick and you know, she's not getting as good of milk removals in as well. It is all of these things, it's not just one thing. It is as you say, a spider web of this and that.

LM: The birth issues are very tricky. I have had concern expressed that sharing this information would be overwhelming and depressing to mothers. I've tried very hard to navigate it in a way to keep on the positive side. I feel like parents deserve the information. But, the other side of my point to them was you know, if this has already happened to you, it's water under the bridge. Let's just look for what can we do to compensate coming out of this. It's not a death sentence. It's just understanding why things did not take off as strongly as they should have.

BR: I find in my practice, Lisa, that when families have explanations, they often stop kind of blaming themselves and it gives them some peace. Like, "no wonder I struggled."

LM: Exactly, exactly. I don't think that is appreciated enough. I become frustrated sometimes when I would like to check on a couple of hormones for a mother. Then we're told, "Nah, we're not going to look at that. Why do you want that information? What would you do with it? Can you fix it?" In some situations, no, I may not have the fix. But what I would have is an explanation for the mother, which gives her peace because now we finally understand what went wrong, or have at least ruled something out. Never knowing for sure what happened, that just haunts them. Especially if there's going to be a new pregnancy, a new baby down the line. I think parents deserve an answer if it's in our power to get it.

BR: It's very paternalistic to withhold accurate medical information, worrying that families are going to feel guilty. I find it's the opposite. The information provides families an opportunity to become empowered.

LM: In my experience when we don't have an explanation, many mothers can come under fire from family members who are telling them, "You're not trying hard enough. If you only did this; if you only did that." But when you're able to go back and say, "Guess what? Here's the reason why I'm struggling," then the family members back off and things go better. It's hugely important, and I don't think that point is well appreciated by some of the healthcare providers who

are caring for these mothers and disinterested in pursuing some of these issues.

BR: We have to wrap this up, but I would like to thank you so much for taking the time to talk to us about the new, 2019 edition of *Making More Milk: The Breastfeeding Guide to Increasing Your Milk Production*—such a valuable resource for professionals and, perhaps more importantly, to families.

LM: Thank you for this opportunity to share some of the big ideas from the book with your readers.

Lisa Marasco has been working with breastfeeding mothers for over 30 years and has been internationally board certified since 1993. She holds a master's degree in human development with specialization in lactation consulting and was designated a Fellow of International Lactation Consultant Association (ILCA) in 2009. Marasco is coauthor of *Making More Milk: The Breastfeeding Mother's Guide to Increasing Your Milk Production*, a contributing author of the *Core Curriculum for Interdisciplinary Lactation Care*, and a new Cochrane Collaboration author. She is employed by WIC of Santa Barbara County, California, while she continues to research, write, and speak. In addition, she is an associate area professional liaison for La Leche League of Southern California/Nevada, and serves with the Santa Barbara County Breastfeeding Coalition.

Barbara D. Robertson, IBCLC, RLC, has been involved in education for over 30 years. She received a bachelor's degree in elementary education in 1988 and her master's in education in 1995. Robertson left teaching elementary students in 1995 to raise her two children and is now director of the Breastfeeding Center of Ann Arbor. Robertson has developed a 90-hour professional lactation training program and a 20-hour course that fulfills the Baby Friendly education requirements, and is a speaker on a wide variety of topics, including Motivational iInterviewing. She has volunteered with the United States Lactation Consultation Association as director of professional development for more than four years. She just retired as associate editor of *Clinical Lactation*. Robertson has free podcasts, a blog, and YouTube videos, which can all be found on her website, bfcaa.com. She has written many articles and created a phone app for working and breastfeeding mothers. She loves working with mothers and babies, helping them with breastfeeding problems in whatever way she can.