Dr. Rebecca Dekker: Group B Strep and Evidence Based Birth

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IN THIS EPISODE

Dr. Rebecca Dekker, PhD, RN — founder and CEO of Evidence Based Birth® — joins Dr. Elliot Berlin, DC to explain how she gathers, reviews, and translates research on pregnancy and childbirth, then applies that process to Group B Strep (GBS). They explore how and when GBS is tested for, what it means to carry the bacteria without being infected, how approaches differ between the U.S. and the U.K., what the evidence says about probiotics, and how treatment during labor works — plus the drawbacks and open questions parents deserve to know about before that late-pregnancy swab.

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DR. ELLIOT BERLIN, DC: Welcome to the informed pregnancy and parenting podcast I'm your host dr Elliott Berlin and if you care about facts when you research options regarding pregnancy and childbirth You're gonna love this episode. My guest is a registered nurse with a PhD in nursing She has built a strong reputation in maternal and infant health circles for her pioneering work as the founder and CEO of Evidence-based birth an organization on a mission to raise the quality of pregnancy and childbirth By putting accurate evidence-based research into the hands of families and communities So they can make informed and empowered choices in addition to learning more about that concept and process We're gonna delve deeply into the topic of group B

DR. ELLIOT BERLIN, DC: Strep many pregnant people don't hear about group B strep until they're tested for it at the very end of pregnancy When there's little time to inquire about what it is and what the results mean Today's guest is also the author of the best-selling book babies are not pizzas They're born not delivered in addition to being a prolific writer speaker and teacher She's a mother to three young children Rebecca Decker welcome to the podcast. Thank you so much. I'm so happy to be here I am a huge fan of your work there's so much chatter about various topics and opinions regarding pregnancy childbirth and Those very first medical decisions that new parents need to make

DR. ELLIOT BERLIN, DC: But a lot of it's not backed up by research or evidence and the evidence-based material tends to be so Technically written that it can be really hard for non-medical or research oriented people to understand So I love how your work is both evidence-based and Presented in an easy to read and understand language I'd love to start by learning more about your background and how you got into this line at work. Where are you from originally?

DR. REBECCA DEKKER: So I was born in Louisville, Kentucky, but I moved to Tennessee when I was a baby and that's where I grew up I went to Michigan for college and after I got married my husband I moved back to Kentucky and that's where we live now because it's always felt like my home

DR. ELLIOT BERLIN, DC: We lived in the south for just a little bit and the environment that we were in at least in Atlanta was Super warm and I miss it When did you do you wanted to get into health care?

DR. REBECCA DEKKER: So I always wanted to be a vet like starting when I was three years old I wanted to be a veterinarian because I loved animals and I loved helping people I love putting band-aids on people and like finding sick animals and helping them and I thought that's what I was gonna do. But then when I was 18, I believe I was with my mom and we were Doing some she was doing some medical mission work and I happened to be with her and I just saw the power of What a nurse could do. My mom was a pediatric nurse practitioner and I literally witnessed her like saving lives And it was so cool to me to like see what you could do with just some basic knowledge in

DR. REBECCA DEKKER: Health education how you could impact people's lives. And so I knew from that point on that I wanted to be a nurse

DR. ELLIOT BERLIN, DC: It's really cool. I mean what really got me into health care is I just happened I think I was seven years old and I happened to walk by a CPR class in progress I was like, what are they doing to that poor woman? with no arms and no legs. And when they explained to me that if somebody's heart stops or lungs stop, that you could sort of act as their heart and lungs with your body for a little while. It just blew my mind. With no equipment really, you could just do it with your body. So it sounds like you had something similar from a young age.

DR. REBECCA DEKKER: Yeah, it was definitely a wake up call and it just kind of solidified that my life's mission was to make a difference. And I thought the best way to do that was to become a nurse.

DR. ELLIOT BERLIN, DC: When you got into nursing, did you start with pediatrics or pregnancy?

DR. REBECCA DEKKER: No, so it was actually kind of funny because in nursing school, you rotate through all the different specialties. And at the end of nursing school, you're prepared to be a generalist. Like you can go out and work anywhere. You'll have to be oriented to that field. But with each semester, I really struggled because I didn't like any of the specialties. Like I actually hated pediatrics, which was kind of funny because I'd spent my whole adolescence babysitting and working at summer camps and daycares. And I loved being around children. But I just couldn't stand watching the children suffer in the hospital. And it just broke my heart too much. So I couldn't do that. Labor and delivery was a definite no because I almost passed out

DR. REBECCA DEKKER: when I watched my first birth. In fact, when we had to watch like a computer simulation of a birth, I almost passed out. I thought it was just too painful. I had almost like too much empathy. I had this problem where I would literally feel someone else's pain. And so the thought of having to be in labor and delivery all the time was just like no. But I did get to witness an unmedicated birth when I was a student. And I remember the mom was a young woman and she was so happy that she got the birth that she wanted. Her partner, her boyfriend was just sitting in the corner the whole time with his face in his hands. I feel like she didn't really have the support that she needed. She was made to lay on her back the whole time.

DR. REBECCA DEKKER: The funny thing was I think maybe my presence in the room, the fact that I was just there the whole time was helpful to her because at the end she wanted a picture with me and her baby and her. And so I'm in somebody's baby book somewhere from when I was 19 years old. But I still didn't think that that was right for me. So I actually just through process of elimination I decided to do medical surgical nursing. So when I graduated I just worked on a medical acute care floor, also taking care of post op patients. And I enjoyed it but I knew that I wanted to teach. I had always loved working with students and I think I got my first precepti when I was like three months on the job. They already had me training the new nurses.

DR. REBECCA DEKKER: So it was kind of obvious that that was like my talent and skill was teaching. So I went after two and a half years of working on that floor. I got accepted into a graduate school with a full scholarship in Kentucky. So we left Michigan, moved to Kentucky and I started graduate school in nursing.

DR. ELLIOT BERLIN, DC: Oh, that's amazing. So that's when you started your PhD?

DR. REBECCA DEKKER: Yeah, I started with my master's but I knew I wanted to get my PhD but we kind of told our family that we were just there to get our master's. We'll be moving back to Michigan soon but we really intended to stay. So I kind of went straight from the master's into the doctorate and I spent about six years in graduate school full-time. I was working on a big research team doing really large trials, randomized controlled trials with human subjects and then I was also teaching all the nursing students and I started teaching in clinical, I started teaching in lecture and by the time I graduated, I had a bunch of publications, I had a lot of teaching experience. So that same university hired me to work on the tenure track

DR. REBECCA DEKKER: as an assistant professor in their college of nursing.

DR. ELLIOT BERLIN, DC: Wow, so you got a lot of experience both teaching and doing research.

DR. REBECCA DEKKER: Yeah and the teaching was actually really complex because I taught pathophysiology and pharmacology so I was teaching basically the diseases of the body and how they work which is really complex and then also the pharmacology for nursing students for medications and drugs. So I had to learn how to take really hard, complex topics and break it down and make it easy for them so that they could be successful on their exams and their board exams.

DR. ELLIOT BERLIN, DC: When did you circle back to maternal care?

DR. REBECCA DEKKER: So it was actually, while I was still in graduate school, I got pregnant with my first baby. I had about a year and a half left to get my PhD and my husband and I were really excited. We'd been married for five years so it was very much a wanted pregnancy and we were really excited and I got an OB at this same university academic medical center where I was a student. I had a student health insurance and went to the hospital childbirth class and read a few books and I just really had this attitude that I was gonna do as my doctor told me I wanted to be a compliant patient. I trusted the nurses because I was a nurse and I taught at that university. So it just made sense that I would do as they told me to do.

DR. REBECCA DEKKER: So when my water broke at 39 and a half weeks, I went to the hospital and they just basically said, all right, you're going to be in bed for the rest of your labor. They hooked me up to all the monitors, the IV fluids. They said, you're not allowed to get out of bed, not even to use the bathroom. You're not allowed to drink or anything. Yeah, no, they said I had to use a bed pan if I needed to pee. They wouldn't let me walk because my water had broken this. They said the baby's cord could prolapse and they were like saying your baby could die if you stand up. So they wouldn't let me get in an upright position. They made me lie on my back and use the bed pan.

DR. ELLIOT BERLIN, DC: But this sounds like it's not specific to anything that was going on with you. Like that's their standard policy.

DR. REBECCA DEKKER: It wasn't actually a policy because I requested my charts afterwards just out of curiosity and there was no doctor's order for me to be on bed rest. It was just I happened to get a nurse who believed it was not safe to get out of bed. And when I couldn't pee in the bed pan, they actually inserted a catheter in me because they were like, well, if you can't pee in the bed pan, we have to catheterize you. And I didn't have an epidural or anything. I could have stood up and walked. It was just a couple feet to the bathroom. But lots of little things happened during that labor. For example, they told me I was not allowed to eat or drink. And when I asked for something for heartburn, because I had terrible heartburn my whole

DR. REBECCA DEKKER: pregnancy and all I did was take a little pill of Pepsid, a little, you know, antihistamine for when you have heartburn. And I asked if I could take one. I also had a little tiny allergy tablet that I took every day. And they said, no, you're not allowed to take anything by mouth, not even just a sip of water with your pill. And so they actually injected me with some other medication for heartburn through an IV and had a horrible reaction to it. And so it was just really like one thing after another. I was in labor for 24 hours. I was starving. I laid on my back the whole time when it came time to push. I pushed on my back and I pushed for three hours. I did have an epidural by that point and they didn't realize that my baby

DR. REBECCA DEKKER: was posterior. So my baby was fairly small, but I couldn't make any progress. So I ended up with the physician having to use their hands up my vagina to like rotate the baby. And then they also had to use vacuum at the very end to get her out. And all of that I was okay with. Like I accepted all of that. I was okay with that. But what I wasn't okay with is after my baby was born, because there had been a little bit of meconium in my waters, they took her away for observation and I didn't get to hold her for three hours. Yeah. And I think it's because it was the middle of the night. And to be honest, I think it's because they were short staffed. And they didn't have

the staff to like bring her to me and show me how to

DR. REBECCA DEKKER: breastfeed. So I kept pushing my call light saying like, where's my baby? Where's my baby? And they said, oh, sorry, not yet, not yet. And then they were like, oh, we just gave her a bath. Her hair is wet. Her hair's got to dry. And I was like trying to justify it. I was like, oh, that makes sense. Like she did have a lot of hair. Like she was born with a full head of hair. So it's like, maybe her hair is too wet to come to me. And finally I got to see her. And to this day, it just really makes me upset that she was alone in an isolate in the nursery for three hours and I was kept away from her for no medical reason.

DR. ELLIOT BERLIN, DC: Yeah. I'm so sorry you had that experience.

DR. REBECCA DEKKER: Yeah, that was kind of the eye opening. Like everything else seemed weird. You know, the not letting me eat, not letting me get out of bed, kind of all the pressure to have all these interventions. But it was like, well, why would you take a baby away from its mother for no reason? And that's what spurred me about a year later to start looking at the research on separating mothers from babies on things like not eating during labor. And I was really inspired. I said, well, the next time I have a baby, I'm going to do it differently. Three years later, I had my next baby and I was able to have an amazing birth with a midwife at home and almost completely free of any interventions.

DR. REBECCA DEKKER: And it was like the most empowering experience of my life. So after that, I said, well, I really want to get into maternal health research because this is where my heart is now. And I was like, well, the best way to do that is to start reviewing the literature and just start reading everything I can. So I was like, well, I'll start a blog and like document the research that I'm finding. So that was in 2012, a few months after my second baby was born, I started posting all of this research online just for my own benefit. And I thought, well, maybe like 10 or 12 people will find this and read it and find it helpful. But I was mostly just for my own curiosity. I was curious, like, what's the evidence on this? What's the evidence on that?

DR. REBECCA DEKKER: And that's how evidence-based birth got started.

DR. ELLIOT BERLIN, DC: Was born. That's a really powerful story. And now I understand the passion behind your work a lot better.

DR. REBECCA DEKKER: Yeah, I just really felt like more people deserve that kind of care I got the second time around, where my needs were centered, where it was about protecting normal when possible, but also really respecting that bond between parent and baby and my autonomy and letting me be the one to make the decisions.

DR. ELLIOT BERLIN, DC: Absolutely, and completely in line with everything we do at informed pregnancy. But you have the most important thing, which is the research. We're going to take a quick break. And when we come back, we're going to see how you apply that process to group B strip. We'll be right back with Rebecca Decker. slash Dr. Berlin for up to 30% off. Welcome back to the Informed Pregnancy Podcast. We're talking to Rebecca Decker from Evidence Based Birth. So how you got into this is really powerful and passionate, and I want to talk about Group B Strep because it's something that a lot of people don't find out about until 36 or 37 weeks of pregnancy. They're getting swabbed all of a sudden, they don't know why, and then depending on the results,

DR. ELLIOT BERLIN, DC: it can kind of change their whole birth process. So it's an important topic to talk about, but it's important to talk about it from an evidence-based place. So what's your process when you review something like Group B Strep? How do you go about doing that?

DR. REBECCA DEKKER: Well, the first thing we do is we actually choose the topic. So that was something that I started from the very beginning in 2012 when I started blogging. I would ask the people who are reading my blog, what would you like me to write about next? And they had all kinds of interesting suggestions, things I'd never thought about, like what if I have a big baby? Like what if my doctor says I have a big baby? Or what if I get diagnosed with gestational diabetes? And one of the questions was like, what if I test positive for Group B Strep? And these were great questions because they weren't things that I had personally experienced. So I was kind of curious too, like what does the evidence say? So when we choose a topic,

DR. REBECCA DEKKER: one of the first things I do is I write down like what my personal biases are, or I talk about them with somebody. And that is a strategy that we use in research to kind of get your biases out there first so that you can be aware of your personal biases so that you can try and avoid them as much as possible. So it's kind of like, instead of pretending like I'm not biased, instead being like, okay, well, what are my biases on this topic? And let me make sure that I keep those in mind so that I don't fall into any traps of biased thinking. Wow, how great would it be if all healthcare

DR. ELLIOT BERLIN, DC: providers did that, you know, from time to time? In the way we approach different patients and different topics that come up to figure out. where our biases are and try to eliminate them. That would be amazing.

DR. REBECCA DEKKER: Yeah, and then I basically do the same strategy that I would for a scientific literature review if I was writing an actual paper for a research journal. You know, I pick the keywords that I'm gonna research. I search for meta-analyses, which are combined studies where they take multiple studies and put them into one. I look for randomized controlled trials, observational studies, and other papers. And then I kind of determine which papers are relevant. Then I download each of the articles and read them in their entirety and start drafting the article. So we kind of have an outline based on what people's questions are about that subject. And we make sure when we draft the article that I have a reference for every factual statement

DR. REBECCA DEKKER: that I make. So I can't just say, this is because of this. Like I have to find an actual original reference. And I can't just reference somebody else. I have to go to the original source. And then once the article is drafted, right now I work with a research editor. So it goes back and forth between us for a while. But once we feel like we've got a good draft, we start sending it to reviewers in the field. And we look for clinicians who have experience with that subject. And we also look for the top researchers in the field. We reach out to them and say, would you like to peer review this article? A lot of them say yes. So we send it to them, give them a timeline. They get their feedback back to us. We make changes.

DR. REBECCA DEKKER: We then have a medical editor. We'll go over the article, make sure it's easy to read, that there's no bias in there, that there's nothing that needs to be cleared up. And then once it's finalized, we publish it on our blog for free.

DR. ELLIOT BERLIN, DC: Wow, that's kind of amazing. And the process is so thorough and careful to take out bias. I love it.

DR. REBECCA DEKKER: So- Yeah, and it takes about like six to nine months from start to finish.

DR. ELLIOT BERLIN, DC: To do one article.

DR. REBECCA DEKKER: Yes, to do one article.

DR. ELLIOT BERLIN, DC: Incredible. All right, let's talk about group B strep. I know you've studied it and covered it. What is group B strep?

DR. REBECCA DEKKER: Oh, okay. So good question. Group B strep is a type of bacteria that can cause illness in people of all ages. So in babies, it's a major cause of meningitis, pneumonia, and sepsis. And sepsis is infection of the blood. Now, it doesn't cause illness in everyone. Some people just carry it. And that's called being colonized. And if you're colonized with group B strep, it lives in your intestines and it can migrate down to your rectum and urinary tract. If you're female, it can migrate to your vagina. So all around the world, it's thought that about 10 to 30% of people who are pregnant are colonized or carry GBS in their bodies. And they test for it using a swab of the rectum and vagina. And you can test positive for group B strep temporarily,

DR. REBECCA DEKKER: like on and off, or it can be a persistent thing that you test positive for. Now, just because you carry it doesn't mean that you will ever have an infection. And most people who have GBS in their bodies don't have an infection. But it can cause urinary tract infections and it can cause newborn infections. So it is something that can have an outcome but doesn't always cause anything.

DR. ELLIOT BERLIN, DC: Does everybody get tested for it during pregnancy?

DR. REBECCA DEKKER: It depends where in the world you live. So yeah, they do in the US, they do something called universal testing where they test everybody regardless of your risk factors. And in other parts of the world, they don't test people? So in the United Kingdom, it's controversial. They use something called the risk-based approach where they treat people with antibiotics and labor depending on like how long your waters have been broken, if you have a fever and that sort of thing. And that's called the risk-based approach. And there's actually a lot of controversy in the United Kingdom. In the US, people are often upset about the fact that they have to be tested. Like, I don't want this test, I don't wanna have to have antibiotics.

DR. REBECCA DEKKER: In the United Kingdom, it's like different. It's like people are like, I want to be tested but the NHS won't test me. And there's like consumer groups that are advocating for testing when it's not considered something that the National Health Service does. So it's kind of funny to see like the two groups having different, you know.

DR. ELLIOT BERLIN, DC: Where here you're kind of forced to get tested and some people don't want to. And there you don't get to get tested.

DR. REBECCA DEKKER: Yeah, you have to pay out of pocket and basically find someone who will test you if you wanna be tested.

DR. ELLIOT BERLIN, DC: Wow, that's interesting, the different approaches. So when you said 10 to 30%, is that the number of people that carry Group E Strip or is that the number of people that test positive during pregnancy?

DR. REBECCA DEKKER: It's the number of people who carry it and could test positive during pregnancy. So you have about a one in three, one in four chance of testing positive, which is a significant. percentage of pregnant people.

DR. ELLIOT BERLIN, DC: Are there things you can do to try to, because you're saying that a pregnant person could carry GBS but not have a rectal or vaginal colonization when they get swabbed, right?

DR. REBECCA DEKKER: That's true because being positive with the rectal and vaginal swab is kind of an indication that you have a heavier colonization, that it's able to migrate down there.

DR. ELLIOT BERLIN, DC: Would it be smart to do things before you get tested to try to clear up any group B strep colony?

DR. REBECCA DEKKER: Yeah, so some people try different things. The only approach that seems to have any research evidence to back it up is taking probiotics.

DR. ELLIOT BERLIN, DC: Orally or vaginally?

DR. REBECCA DEKKER: Orally, taking capsules. So we only have one randomized trial on this that's found positive results. It was published in 2016 by a researcher named Ho, H-O, and this was done in Taiwan. They assigned 110 women who were positive, so they already had tested positive with GBS at 35 to 37 weeks, and they took two probiotic capsules at nighttime, or they were randomly assigned to take two placebo capsules. So everybody was blinded, they didn't know what they were taking. And each person took the treatment for about three weeks on average, and then they repeated the culture at the time of labor. So they swabbed everyone and then grew culture. So they wouldn't know the results during labor, but they would find out later.

DR. REBECCA DEKKER: And they found that if you were GBS positive and you were randomly assigned to take the probiotics, almost half of them, 43% tested negative for GBS when they were swabbed again three weeks later. And 14% of the placebo group tested negative. So the vast majority of the placebo group was still testing positive, whereas about half of the GBS positive group who took the probiotics was no longer testing positive. So I thought that was pretty encouraging news.

DR. ELLIOT BERLIN, DC: I mean, a lot of people take a probiotic during pregnancy anyway, but this would sort of indicate a stronger reason why.

DR. REBECCA DEKKER: Yeah, exactly. But we need more research on that because that's only one study.

DR. ELLIOT BERLIN, DC: Sure, sure. But I mean, generally speaking, I don't think there's harm in taking a probiotic. It's always good to talk to your provider first, but here's just another potential benefit for it. Because if you test positive for GBS, so then what's the treatment for it? What do we do?

DR. REBECCA DEKKER: Well, unless you have a UTI with it, they don't typically do anything during pregnancy. And the reason is there was some studies a long time ago where they took people who were GBS positive and gave them antibiotics during pregnancy. And they found that the group B strep just came back by the time they went into labor. So there's really no point in treating it with antibiotics during pregnancy. So the main strategy is to treat it during labor because what they're worried about is that your baby will have something called early onset group B strep infection.

DR. ELLIOT BERLIN, DC: Which means what?

DR. REBECCA DEKKER: So it's a type of infection caused by group B strep, which occurs in the first seven days after birth. But for most babies who develop this, symptoms usually appear within the first 12 hours after birth and almost all babies will have symptoms within two days. In fact, there was one study that looked at 148,000 babies and 94 of them developed early GBS infection. And almost all of them were diagnosed in the first hour after they were born.

DR. ELLIOT BERLIN, DC: Wow.

DR. REBECCA DEKKER: Yeah, which means that we think the infection actually starts before they're born. So the thought is that once your water breaks, your membranes release or rupture, that now that bacteria can migrate up to the baby because that protective barrier is gone.

DR. ELLIOT BERLIN, DC: It's gone.

DR. REBECCA DEKKER: Yeah, and so that's why antibiotics are given intravenously during labor if you're group B strep positive because antibiotics cross the placenta, typically penicillin is what's used, which easily crosses the placenta, reaches a therapeutic level in the baby's blood, and then can kill off any infection that might be brewing. So that's theoretically how it's supposed to work.

DR. ELLIOT BERLIN, DC: Is that, I mean, because part of my brain is just saying if the goal was to get the baby antibiotics, my brain is saying, why don't we just wait for the baby to come out and give the baby antibiotics?

DR. REBECCA DEKKER: Well, then you are talking about, you know, starting an IV on a baby. And some babies, like I said, most already have symptoms within an hour so they're already fighting an infection and may need NICU admission.

DR. ELLIOT BERLIN, DC: Labor can go on for a while.

DR. REBECCA DEKKER: Yeah, so the thought is to treat it in utero that way the baby is getting the protection of the antibiotics fighting the infection and may kill. off so that you don't even know, you know, if your baby was infected. And so we do have some data on the effectiveness of that method. So if you were GBS positive, the chance of your baby getting an early onset GBS infection is about one to 2%. And that's a serious life threatening infection. It's not just like a little cold or infection. It's a serious like need to be admitted to the NICU. So it's about one in 100 to about one in 50 are the chances of that happening because it's one to 2%. If you're given antibiotics during labor, the risk of your baby developing

DR. REBECCA DEKKER: that early infection drops to 0.2%. So it goes to one in 500. So that method is effective. Now it does have some drawbacks, but it has been shown in randomized trials to lower the risk of infection.

DR. ELLIOT BERLIN, DC: All right. I'm going to take another quick break. When we come back, let's see what those drawbacks might be. We'll be right back with Rebecca Decker. Welcome back to the Informed Pregnancy Podcast. We're talking about GBS group B-strap with Rebecca Decker from evidence-based birth. So we were saying that it sounds like if you do the IV antibiotics during labor for someone who tests positive for group B-strap, then you pretty dramatically reduce the risk to the infant of having a serious infection at birth. But you also mentioned there might be some drawbacks.

DR. REBECCA DEKKER: So although there is evidence supporting screening everyone for GBS and then treating you during labor with IV antibiotics, typically penicillin or ampicillin, of course, there's a problem. If you are allergic to penicillin and you have a severe allergy, the options are not very good in terms of IV antibiotics. But the main drawback is the microbiome changes in your body and your baby's body. So when I first looked at the research on group B-strap in 2014, this was six years ago, there was nothing about the microbiome. But as you and I both know, like that's been of increasing interest to researchers and people in general over the last few years. Now there's at least eight studies on the microbiome

DR. REBECCA DEKKER: after you've given IV antibiotics during labor. Probably the most important study on this topic and the only one to actually follow babies for at least a year was conducted by researchers in Canada in 2016. And the author of the study, their last name was Azad, A-Z-A-D. And they looked at 198 mother-infant pairs from a large Canadian study. And infants could be in the study if they had samples, stool samples collected at three months in one year. And there was complete information about antibiotic exposure during labor and infancy. So they kind of separated the babies into four groups. Babies who were born vaginally with no antibiotic exposure, babies who were born vaginally and had antibiotics,

DR. REBECCA DEKKER: babies who had an elective cesarean and also had antibiotics, and babies who were born by an unplanned cesarean with antibiotics. And cefazolin was typically used during cesareans and penicillin was usually used during vaginal births. And then they also measured breastfeeding. And they found that the infant microbiome was influenced by antibiotic exposure during labor. It was also influenced by whether your baby was born by cesarean or vaginally. And it was also influenced by breastfeeding or chestfeeding. So at three months, if your baby was exposed to antibiotics during labor or birth, they had decreased level of beneficial bacteria, as well as a decrease in the richness of their microbiome,

DR. REBECCA DEKKER: regardless of whether or not they were exclusively breastfed. The most severe deficiencies happened in babies who were born by cesarean. Infants born by cesarean also had higher levels of potentially harmful bacteria, such as clostridium or streptococcus. So at one year of age, though, most of these differences in the different groups were gone, showing that the effect on the microbiome is probably short term. However, there were some negative effects on the microbiome in babies who were born by unplanned cesarean who had antibiotics and were not breastfed for at least three months. So the changes in the baby's microbiome is consistent with what

you would expect after administering IV antibiotics,

DR. REBECCA DEKKER: killing off what they call gram-positive bacteria. So you're trying to kill off a type of bacteria that's called gram-positive, which is like group B strep, but that can lead to an overabundance of a different kind of bacteria called gram-negative bacteria. And then there's some beneficial bacteria that are called bacteroidettes that are sensitive to penicillin that can be killed off. So in summary, it basically appears that if you're given IV antibiotics during the birth, this does have a short term negative effect, but you can... kind of lessen that negative effect by breastfeeding or chestfeeding. And there's also research that has not been published yet that I know of to see if you can give probiotics to newborns

DR. REBECCA DEKKER: and mothers after the birth to kind of lessen that negative impact. We don't really have research on that yet. We also don't have research on any long-term effects related to that kind of temporary decrease in beneficial bacteria.

DR. ELLIOT BERLIN, DC: Right. Your mind kind of goes in two different places. One is, can you treat GBS without IV antibiotics, without killing all of those bacteria, those beneficial bacteria, systemically throughout the entire body? Is there any localized way to treat GBS? And on the flip side, is there anything you can do to help restore the microbiome for the baby and the mother, really, because they both get it?

DR. REBECCA DEKKER: Right. So, a lot of people are interested in something called chlorhexidine, which is Hibiclans. It's like a topical disinfectant that kills bacteria on contact. And it does...

DR. ELLIOT BERLIN, DC: Do you use it vaginally?

DR. REBECCA DEKKER: Yeah. So, it's used vaginally during labor. The problem is we do have quite a few randomized trials on this. We have four randomized controlled trials on this using this vaginal chlorhexidine versus a placebo or no treatment on people who are GBS positive during labor. And they found that it does not lower the baby's risk of being colonized with GBS. And there's no difference in GBS infection rates in the babies. So, basically, the research indicates it doesn't work. Correct. So, unfortunately, people think, oh, that is something that I could do instead. But there's really no evidence to inform that practice that is positive evidence. And it's probably because treating it topically isn't going to change the fact that the bacteria

DR. REBECCA DEKKER: can still be migrating up your vagina into your cervix into the baby and growing inside the baby, if that makes sense. That's why the antibiotics are effective because it actually gets in the baby's bloodstream and prevents any infection or treats any infection that might be brewing. Other popular methods I see written about online, including putting garlic in your vagina because garlic has antibacterial properties, but there's very little research to back this up. There's no research to inform that practice. So we don't know if there's any benefits or harms.

DR. ELLIOT BERLIN, DC: On the other side of the coin, trying to reintroduce the microbiome. I know of late people are trying to do vaginal seeding where they get a sample of the microorganisms that exist in the vagina and then try to introduce that somehow to the baby after birth. Have you looked at that at all? I have not personally. I think there might

DR. REBECCA DEKKER: have been some introductory research on that, but I haven't looked at it myself. I do know that sometimes that research, they don't recommend that if you've had groupy strep. It also makes sense that it might not be as effective if you've been on antibiotics for groupy strep because then you're not going to have the right balance of bacteria either. Well, it sure makes sense not to do it if you're a

DR. ELLIOT BERLIN, DC: groupy strep. But I think normally they would try to get the sample early on.

DR. REBECCA DEKKER: And I know we talked about the baby's microbiome, but it does affect the birthing parents' microbiome as well. We do know that one of the drawbacks of having antibiotics during labor is that it can increase the risk of maternal and newborn yeast infections. So in one study, 15% of people who had antibiotics in labor had what they call a mother-baby yeast infection where the maternal nipple and the infant's mouth both had a yeast infection or thrush compared to 7% of the birthing parents who did not have antibiotics. So again, it's another reason why you want to talk with your provider if you get antibiotics during labor about going on some kind of probiotic regimen to try and prevent that and also knowing the signs and

DR. REBECCA DEKKER: symptoms of yeast infection so that you can get treatment right away if it

DR. ELLIOT BERLIN, DC: happens. That's really interesting. A while back when I was looking at potentially product development, one of the products we were looking at was a probiotic nipple cream to try to help mother and baby both reintroduce some of the good bacteria. I think that's something a lot of new parents aren't aware of the fact that they can get that kind of yeast

DR. REBECCA DEKKER: infection during breastfeeding or chestfeeding. So it's good to know that if you have any redness or pain or if your baby's mouth looks red or has that kind of white stuff in their mouth, not milk, but a little yeast infection growing in there to get help right away. Really

DR. ELLIOT BERLIN, DC: fascinating. We're getting towards the end of the podcast, but do you have anything else about GBS specifically that I didn't cover?

DR. REBECCA DEKKER: I mean, I think so. I mean, if you live in the U.S., you're probably going to be screened between 36 and 37 weeks. talk with your health care provider about, you know, the best course of action for you. And one of the things I didn't mention is that the infections that we do see these days in babies related to group B strep are in people who had a false negative result. So the test results are not perfect. Just like we found with COVID-19, you can be tested and actually have something, but the test shows you're negative. The same thing can happen with group B strep. So in some hospitals, they're moving towards a rapid test that they do in labor, which can actually help lower your chance of needing unnecessary antibiotics. So, yeah.

DR. ELLIOT BERLIN, DC: That would be great. Yeah, I mean, we're recording remotely now. We don't usually do that, but because there's coronavirus outbreak, right now we're in the thick of it, I'm actually recovering from a bad case of COVID-19. I know that your process is long, so you probably haven't had a chance to fully work through your process as it relates to the coronavirus and COVID-19. Have you been getting questions about it?

DR. REBECCA DEKKER: Yeah, we've been getting a ton of questions. So we're not doing the whole peer review six month process, but instead, every week my research editor gathers all of the new research on COVID-19 and pregnancy, and then we combine it into kind of a research update that we send out to our newsletter subscribers. So we've been doing that every Monday for about a month now that we're recording this, and we're getting tons of questions from people all over the world about the effects of the pandemic on birth plans, on getting pregnant, on options, on water birth or home birth, and can I have my doula with me? Should my partner wear a mask? And then we have a lot of labor and delivery staff who follow evidence-based birth.

DR. REBECCA DEKKER: About half of our followers are workers in the healthcare field, and they have a lot of concerns too about having enough personal protective equipment. There's research coming out showing that a significant percentage of people who do not have symptoms in the hotspots actually are positive with the virus. And so protecting labor and delivery staff during labor is really important, especially when you think about how they're in kind of close conditions during the second stage of labor, like with pushing and breathing and shouting and coughing and vomiting. And so many bodily fluids, species, you name it. And so that's a big thing we've been working on as well is like getting information out there to healthcare workers in labor and delivery

DR. REBECCA DEKKER: about what best practices are, which as you know are like changing. Yeah.

DR. ELLIOT BERLIN, DC: Weekly is not daily. Sure, it's an amazing service that you provide. And I'm definitely gonna go check it out myself because I'm getting a lot of questions too. And I don't know, I don't have the time or the mind frame, the background like you do to kind of put it all together and present it like you do. So I'm really grateful for the way you laid out in Group B strap. It's a topic that I think is under discussed and it's important to know what's going on. So I'm very, very grateful for you for sharing your research on it. In terms of other topics, when people want to have your magical approach to research, how does your service work? Evidence-based birth.

DR. REBECCA DEKKER: Yeah, so anybody can go to evidence-based birth and just click on the blog at the top of the page. And you can filter the articles by like if you want one of our signature articles, which is the really long peer reviewed research articles. And we also have some shorter series on like pain management during labor, natural induction, some newborn procedures. So you can kind of filter the blog that way. And then at our main page at evidence-basedbirth.com, we also have a free crash course on like what is evidence-based care? And any of our newsletter subscribers get that for free along with all of our handouts. And then how we're able to support our work is through a professional membership where professionals in the field join our site

DR. REBECCA DEKKER: for continuing education. So that supports the work of my team and I to do this full-time. So it's really a great relationship and collaboration. And it's a place where parents come for information and then professionals can also get education there. So it's kind of fun.

DR. ELLIOT BERLIN, DC: Amazing work. And are you also on social media?

DR. REBECCA DEKKER: Yeah, you can follow us on Facebook at evidence-basedbirth and on Instagram at EBbirth.

DR. ELLIOT BERLIN, DC: Awesome. Rebecca, thank you so much for joining me today.

DR. REBECCA DEKKER: Thank you, Dr. Berlin.

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