

Announcer: Bulletproof Radio, a state of high performance.

Dave Asprey: You're listening to Bulletproof Radio with Dave Asprey. Today's cool fact of the day is that the birth control pill impairs women's emotion recognition. New research suggests that women who use oral hormonal contraceptives are less able to recognize facial expressions of complex emotions.

Dave Asprey: Now, in *The Better Baby Book*, my first book going back to 2011, I wrote about some very unfortunate side effects of oral contraceptives. Basically, your hormones are a delicate system that can be easily broken with all sorts of unintended side effects. In fact, some studies have suggested there's an association between taking the pill and having mood swings, and increased risk of depression. And this new research says that impaired social judgment is another adverse psychological effect to the real benefits of birth control. Birth control is quite liberating and really useful. There are just different ways to do it that might not affect your psychology.

Dave Asprey: According to this new study, women who take the pill are less likely to identify complex emotional expressions, like pride or contempt, accurately. And those differences in emotion recognition did not depend on women's menstrual cycle phase at all. And those findings now suggest that oral contraceptives should come with a warning label that say, hey, these could affect your ability to perceive and interpret emotions from others today. And this was just published in *Medical News Today*, and this came out of a research group in Germany that was published in *The Frontiers in Neuroscience*.

Dave Asprey: Now, today's guest is definitely going to talk about hormones, not necessarily just birth control, although I'm sure we're going to touch on it, because I'm welcoming Dr. Jolene Brighten back to Bulletproof Radio today. She's a functional naturopathic medical doctor, and a nutritional biochemist. And she really digs deep on women's endocrine health.

Dave Asprey: She was last on in episode 415, about a couple hundred episodes ago, about how hormones affect all parts of people's bodies and brains at different ages and stages of life. And today we're going to go in a little bit of a different direction, because we're going to talk about something called post-birth control syndrome, and the long-term effects of hormonal contraceptives.

Dave Asprey: And that's, in part, because Jolene just came out with a new book called *Beyond The Pill: A 30 Day Plan To Support Women On Birth Control, Help Them Transition Off, and Eliminate Symptoms of Post-Birth Control Syndrome*.

Dave Asprey: Now you may be listening going, I'm a dude, not my deal. Here's the deal. You probably have women in your life, and I am fully convinced that the side-effects of the way that we're doing contraception today are much, much larger than is necessary. And that if we acknowledge these things, we can improve the quality

of life, emotional life, physical health, and all sorts of things, for about 51% of the global population.

Dave Asprey: Jolene, welcome back to the show.

Jolene Brighten: Hey there. Thanks so much for having me. And I want to say, if you are a dude, you want to listen in, because birth control is impacting your mate selection. In fact, there's been research to show that strippers, or exotic dancers, I'm not sure the PC term, I've been googling this, haven't figured it out yet, but they actually-

Dave Asprey: When I do that, I prefer to call myself a professional dancer, [crosstalk 00:03:42].

Jolene Brighten: Yeah, probably professional dancer. No judgments, if this is what you do for your professional, but the interesting-

Dave Asprey: I just do it on weekends.

Jolene Brighten: Yeah, just on weekends, that's how Bulletproof keeps going, right? I can just see pasties that say Bulletproof, and you start spinning the tassels.

Dave Asprey: I'd have to check with the licensing department about that one.

Jolene Brighten: Yeah, right? Is that on the up and up? But here's the deal, is that these women make less money when they are on birth control, or when they're not-

Dave Asprey: No way.

Jolene Brighten: Yeah, or when they're not ovulating. And so, women who are ovulating, men pick up on that in their primal brain, and they actually pay them more money. But women who are on birth control, they're actually ... men are selecting differently. And there have been primate studies showing that the way that primates respond to a female on birth control is completely different than when she's off. Now, on the flip side-

Dave Asprey: Wait.

Jolene Brighten: Yeah.

Dave Asprey: Wait a minute here. Okay. How many guys know if a woman around them is ovulating? It's not like we're baboons, and we turn bright red, and jump up and down.

Jolene Brighten: Yeah, no. No. So it's really just picked up on by pheromones. There are hormonal changes that happen. So, leading up to ovulation, our testosterone is

rising, so we're going to be more energetic, we're probably going to be a little more flirtatious as well.

Jolene Brighten: But there's these subtle changes that we pick up on, and on the flip side, women are actually selecting for mates based on their NHC complex, which is what tells us about immune health. And what we select for, off of birth control, is a man that is genetically different from us, so that we have the most viable offspring.

Jolene Brighten: While we're on birth control, we actually select for a mate that's more genetically similar. When I say that, that's like dating your cousin, kind of thing. And what we've seen is that women, going on birth control, or going off, it can have disruption in their mate selection, but also their relationships.

Jolene Brighten: And as you started this whole conversation with these studies, the new study that came out, saying we don't pick up on these subtle social cues. At the end of that study, they were like, "It's probably not that big of a deal, because we would've noticed by now."

Jolene Brighten: Except that we forget that we're animals, and it's all these subtle social cues that we run in the background of our brain, put together, that help us with ... mate selection is one thing, but also how we mother, how we form communities, how we show up in the world.

Jolene Brighten: This is a conversation for everyone to get involved in, especially given that, where do you think that birth control goes when we excrete it out of our body? It's going into our water supply.

Dave Asprey: Wow, that is ... that's so much information. I'm still stuck on this idea that men unconsciously pay exotic dancers more if they're ovulating.

Jolene Brighten: Yeah. Well, we're also plumper then. Estrogen is rising. Our lips are fuller, our breasts are fuller, our hips are fuller, and so that, to a man, is perceiving, oh, viable mate. This is somebody who could birth me a baby.

Jolene Brighten: And although you might not want a baby, and people listening ... I always get people who are like, "Well, I don't want a baby."

Jolene Brighten: Well, it really doesn't matter what you want consciously-

Dave Asprey: Your mitochondria-

Jolene Brighten: ... you are an animal.

Dave Asprey: Your mitochondria want a baby. It's not up to whether you want it, it's up to you whether you do it, that's different.

Jolene Brighten: Yeah, totally. Totally, yeah. We really have to talk about mitochondria and birth control today.

Dave Asprey: It's really intriguing to me, because I didn't know that fact. And I can tell you that, as a young adult, I had no clue that women were more attractive when they're ovulating.

Dave Asprey: And as a married guy, married to a doctor, and coauthor of a book on fertility, I definitely know when Lana is ovulating, because she's just shockingly attractive, and I couldn't tell you why. There isn't, I could look and say, "Oh, your hair looks good today," but it's just, I'm going to do a double-take that I might not have done the week before.

Dave Asprey: And over the course of a decade-plus, you realize that. But then you wonder, okay, am I doing that unconsciously, and are all guys doing it unconsciously, pretty much all the time? Are we?

Jolene Brighten: Yeah. We definitely ... well, you guys are. You guys definitely are. And it's the same thing with women, that, as we're nearing ovulation, with our testosterone rising, our libido kicks up, and that, what is really going on from an evolutionary perspective is, how long does sperm live? Well, it can live up to five days. So, if we actually have intercourse, we capture sperm, and then we release an egg, and sperm's already there, we increase the odds of conception.

Jolene Brighten: And so, all of this is, again, your body programmed to make a baby. But it only happens when you're off of birth control, in this natural cycle. So the mate selection, but also, our brains fluctuate. Our emotions fluctuate. Our immune system fluctuates. There's a lot more going on to women's hormonal health that lends itself to this idea of, how crazy are we to give a medication, and to shut down a woman's reproductive system, and act like that's not going to have any long-term impacts, or any impact on her body as a whole?

Jolene Brighten: This is really borne out of who's been doing the research, who's looking at this? Men. They don't have this system. So, a lot of this has been, it's negotiable. You don't really need a reproductive system.

Jolene Brighten: Except, we've never done long-term studies to understand what happens to the female body. What happens when you start a 14-year-old gal on birth control, and she doesn't come off of it until 44, 48? She's never ovulated her entire lifetime.

Jolene Brighten: We know that progesterone is necessary for brain health, and for myelin sheath development, and also neuroplasticity. But without ovulation, you don't get that progesterone.

Dave Asprey: Wow.

Jolene Brighten: So this is a huge experiment that we've been running. It's not controlled. Nobody's documenting it. And in fact, most experts, as I do air quotes, are out there saying, "Oh, it's birth control, it's a woman's right. Don't question it."

Dave Asprey: All right. We just had a whole episode on adrenaline overload and progesterone, and how important having adequate progesterone is for people who have this long list of autoimmune symptoms.

Dave Asprey: And so, okay, now we're suppressing progesterone by using the pill. But here's the thing. The ability to choose when you want to have a child is really important. What's-

Jolene Brighten: Super important.

Dave Asprey: Before we get into the downsides of the pill, and there are so many, and what you could do when you decide to go off of it, I think a lot of people are asking right now, are saying, "I don't want kids right now. What is the best thing to do if you're not going to use the pill?"

Jolene Brighten: Chapter 13 of my book is dedicated to all of that. Because step one, if you want to come off birth control, is to have a backup method of birth control. What we found out from a 2018 study is that, even if you do want a baby, you shouldn't have a baby within the first six months of stopping birth control, because the risk of developing childhood cancers is higher. That's right. Your baby is at higher risk of developing cancer. And we need a lot more research to understand this.

Jolene Brighten: Now, in terms of alternatives, we've got barrier methods. And I know ... people usually eye roll when I say condoms. But let me ... if you are an eye-rolling person, please go into chapter eight of my book, and read about HPV and HIV infections while on birth control. You can potentially be more susceptible.

Jolene Brighten: So, if you're not in a monogamous relationship, a barrier method, like a condom, is definitely a good idea.

Dave Asprey: Yeah, and that's outside of just pregnancy control, that's more like-

Jolene Brighten: Totally.

Dave Asprey: ... disease control.

Jolene Brighten: Absolutely.

Dave Asprey: And if you're saying, oh, that's gross, look at things like mycoplasma, and all sorts of other bacterial things that are not talked about, even as sexually transmitted diseases. However, there's a lot of stuff that is designed to transfer that way, that goes beyond the stuff that we all recognize.

Jolene Brighten: Absolutely.

Dave Asprey: So, yeah, okay. To live a long time, be healthy, barrier method. But okay, there's a lot of people here ... all right, I'm monogamous. I'm monogamous. I don't want to have babies, but I don't want to screw up my hormones, or have my significant other, if you're the guy, you care about the woman in your life.

Jolene Brighten: Totally.

Dave Asprey: And so what's ...

Jolene Brighten: You want me to keep going?

Dave Asprey: Yeah. What happens ... and the cool thing is I say, if you're a guy, because here's the deal, if you're a lesbian couple, you don't have to worry too much about this.

Jolene Brighten: Yes. Yeah. That's definitely a bonus right there, not having to ... and this is something that women say as they enter menopause, is how nice it is to no longer be under the threat of pregnancy. And so these are a words that my patients have used.

Jolene Brighten: In other barrier methods, we have cervical cap, and we have diaphragm. Now those have a higher failure rate. So, when we look at birth control and contraceptives, we have to really weigh what risks are you okay with. And in my book, I go through hormonal birth control, whether it's IUDs, implants, NuvaRing ring, patch, the pill, all of these things. And then we go into these non-hormonal birth control options.

Jolene Brighten: There's also the copper IUD. It works well for some women, not for all women. Of all contraceptive devices, this is the one that women sing the praise the highest of. It has a really high efficacy rate, it means that it's very low to failure. And in addition, women who do well with it, they do really well with it.

Jolene Brighten: Now, who doesn't? If you have a history of heavy periods, painful periods, endometriosis, copper IUD is not going to be for you.

Dave Asprey: And this is not coated with hormones, it's just a piece ... like a little copper wire, basically.

Jolene Brighten: Yes. It's copper, and so that's something we have to consider as well. I recommend that women get testing for inflammatory markers. There's zinc, there's copper levels tested, and also look at their thyroid. Because just because you're not having overt symptoms, we want to test that before, and then again six months later, to make sure we're not ending up with any issues.

Jolene Brighten: There is research ... the research says, over and over, that copper does not go systemic. However, the research studies will also caution, if you have a copper storage disease, maybe you shouldn't use, we shouldn't use that.

Jolene Brighten: So that tells me-

Dave Asprey: And that's very common.

Jolene Brighten: Yeah.

Dave Asprey: Just to be super clear, I write about copper as a necessary nutrient, and as a potentially toxic nutrient. My new book, Super Human, that comes out in October, it's already on Amazon, for anti-aging.

Jolene Brighten: Yeah.

Dave Asprey: Right, so if you're a woman who has a copper problem, and you want to live a long time, and look good, and you get a copper IUD, it's going to do bad things. And if, on the other hand, if you're deficient in copper, or you have normal copper metabolism, it could work really well. But without being tested, you wouldn't know.

Jolene Brighten: Totally.

Dave Asprey: What's the test you'd get in order to know whether you're copper sensitive or not?

Jolene Brighten: You can do genetic testing, and then, in addition to that, actually looking at ceruloplasmin, or ... and I like looking at zinc as well, because those two minerals really oppose each other. They compete for absorption, and so that's why we don't supplement with zinc without copper, and vice versa, and we have to be mindful of that.

Jolene Brighten: But you're absolutely right. This is something that is more common than we think, and in addition to that, if a research study uses that cautionary language, it tells us that there's something they were seeing that maybe they couldn't report on, wasn't in the scope of the study, or wasn't statistically significant enough to enter into the study. There's something these researchers are seeing that says, you know, let's just pause with this one.

Jolene Brighten: Now, another form of non-hormonal birth control is fertility awareness method. And these days, you can leverage femtech devices, like Natural Cycles or Daysy. And so this isn't a guessing method. In fact, this is a very scientific method in which we really leverage mathematics to predict fertility. And you'll have a fertile window. No, you can't get pregnant any day out of the month. No, you won't get pregnant from French kissing.

Jolene Brighten: There are people who have told a lot of things about fertility, and I'm sure you go into this in your first book, is that, really, there's only one day that a woman's fertile. Sperm can live longer, and so that extends the fertile window to anywhere from five to seven days. But I love this method, even if it's not your primary method of contraceptive, baby-making prevention. It's also a great way to get in tune with your cycle, and to literally biohack your cycle and your hormones. Because you can start to make correlations between cervical mucus, cervical position, temperature, and also what are your other symptoms going on throughout your menstrual cycle?

Jolene Brighten: In fact, I've had patients that've caught their hypothyroidism while they're doing fertility awareness tracking. And they're like, "Why is my basal body temperature always so low?" We do a test, and there it is, they're hypothyroid.

Jolene Brighten: So, it's an incredible amount of data, and I think it's really important for women to understand, and men, is that your symptoms will show up before your labs show gross enough changes, that is, to fall outside the reference range of sick people, for your doctor to catch onto it, which is why it's so important to be collecting your own data, even on a daily basis, and understanding where you're at.

Jolene Brighten: And if you're going to use FAM, fertility awareness method, you can couple that with condoms, with other sexual activity that does not include a penis entering the vagina, so that there's no risk of sperm. And there are people who elect for the pull-out method. And I was shocked, when I got into the research, because as a doctor you're taught, never, ever, ever condone that, it's not okay. But when done correctly, it's got about a 4% failure rate. That's with perfect use.

Dave Asprey: I was just going to say, as someone who really looks at the way things work, I'm pretty sure, if the sperm isn't where it needs to be, it's probably going to work most of the time. But 4% failure rate, it's still, if you have sex a couple hundred times a year, you have a 4% failure rate, well, what if you had some awareness of when you were going to ovulate, and you just didn't practice that method then, you're now approaching really, really good odds.

Dave Asprey: And frankly, that's what Lana and I do. It's like, look, you can tell, even without all the cool femtech that's out there right now, you can tell, within about three or four months, oh, I'm about to ovulate. I'm ovulating now, because there are very obvious changes, once you're taught what they are, and your mom may not have told you.

Dave Asprey: And then, okay, now I know, this is my risk window, so ... this will be crazy, I'm going to change my behavior during my risk window, and I'm calling it risk, it could be, if you want to get pregnant, it's your opportunity period.

Dave Asprey: But whatever you want to call that, your behavior during that time, you are probably going to have a lot more sex during that time, because guess what?

The guy in your life is going to be all over you, because you're ovulating, and because you're going to feel really horny because you're ovulating, because that's what your mitochondria are doing to you.

Dave Asprey: So, that's it. You're like, "Oh, this is the risk period, so I'm going to use a barrier method, just for this one period of time, or at least I'm going to do the pull-out thing."

Dave Asprey: And, shockingly, this is what people did for thousands of years before we had latex.

Jolene Brighten: Yeah, yeah. And you know, I've also had patients who are like, "Because I'm practicing FAM, I've actually started engaging in all these other sexual activities that I had no idea I was super into." So it's also an opportunity for exploration. It doesn't always have to be intercourse.

Jolene Brighten: So, what does it look like for you, in terms of, there's so many other things to do. I'm not the expert on that, but let me just say, Google is. Google has lots of information for you, but that's something a lot of patients have reported, increased sexual satisfaction, because now they were like, "Well, I don't want to risk it, I'm feeling nervous about this. Let's do XY and Z instead."

Dave Asprey: Got it. There was a rule in *Game Changers*, my last book, about that, find the stuff you really like in the bedroom. I'm forgetting the name of the exact rule, it's something like, something about fantasy unicorns ... after 46 laws. But it was basically, the people who are happier with their lives are like, "You know, I've always wanted to try X." And they go out, and they do it. So this could be a good way to do that.

Jolene Brighten: Totally.

Dave Asprey: I want to be really clear. We're talking about the pill as something that can mess with all this stuff, and we're saying, here's some things you could do, but we're also talking about shots, patches, and pellets. Essentially anything that's giving you unnatural levels or types of estrogens.

Jolene Brighten: Well, the synthetic estrogens, and the progestin. This is something really important for women to understand, is that progesterone that you make following ovulation is not the same as progestin. And progestin is when we get into really big trouble in terms of ... we've always vilified the synthetic estrogen because of the clot risk. And what we've come to understand is that synthetic progestin actually changes a woman's brain. It's associated with higher risk of depression, and we can certainly go into all of that.

Jolene Brighten: But when we talk about it, yes, the pill. She's the leading lady. She stepped on the scene first. We have the most research, she's the most widely used. However, that IUD? That's progestin. That Depo shot? That's progestin. So these

other forms of birth control also have progestin. So when we talk about synthetic hormones, we are talking about all hormonal birth control. So don't be like, "Okay, it's all good because I only use the NuvaRing, I don't use the pill."

Jolene Brighten: And no, sorry. All of these forms of hormonal birth control come with these risks. And with progestin, as we were talking about, at the top of this, with the alterations in female behavior, progestin has been shown, on brain scans, to decrease the cortical thickness of the brain, which explains a little bit about the behavior changes that we see when women are on birth control, because this helps with regulating emotions.

Jolene Brighten: And this is where we see that women have an increased reward-seeking behavior. And so there have been studies to show that women on birth control can be more prone to becoming addicted to drugs, to alcohol. We don't have that stop brake on our brains when we're on hormonal birth control.

Jolene Brighten: And, like you were saying at the top of this, we're not judging anybody for using birth control. I'm not anti-birth control, and I used the pill for 10 years to become a first-generation college student. But given now that we understand that over 66% of the population developing Alzheimer's are women, and 98% of women have used hormonal birth control at some point in their life, we've got to start asking these question. And if you are a woman who's used it, I'm right there with you being like, "Okay, what did I do to my brain? How did I sabotage my mitochondria by depleting CoQ10, taking this birth control?"

Dave Asprey: Oh, wow, that's an interesting thing. I did not write about that in my fertility book. I didn't even know about that. If you're listening to this, you've probably heard somewhere or other that statin drugs, one of the reasons that they're so harmful for you, is that they deplete something called Coenzyme Q10, which is necessary for cell membranes and for your mitochondria to turn food and air into energy.

Dave Asprey: You actually have a study that says that the pill does the same thing?

Jolene Brighten: Yeah, so the pill depletes CoQ10. And in addition to that, what's really important for women to understand, because the conversation about will birth control impact my fertility, always gets dismissed. People are like, "That's a myth," straightaway.

Jolene Brighten: However, there are some mechanisms at play that we really have to question. And I talk about the CoQ10 depletions in my book, and how the mitochondria are concentrated in a woman's ovaries.

Jolene Brighten: Now, we will make CoQ10 ourselves, and we will support ovarian health egg quality. However, as we age, CoQ10 declines in production, and you're on a pharmaceutical that's actually depleting CoQ10, also vitamin A and vitamin C and vitamin E, these things that are really important antioxidants.

Jolene Brighten: There's alterations in vitamin D metabolism. We deplete folate and B12 when we're on it. These are all things that will make it so that you do not make the most viable egg possible. We cannot, at this point, saying birth control causes infertility. You don't have enough data for causation. However, by this mechanism, it may impact your fertility, especially if you are delaying fertility, and saying, okay, I'm going to come off the pill at 38, and that's when I want to get pregnant.

Jolene Brighten: Well, your CoQ10 production is down if you've been taking antibiotics, if you're exposed to glyphosate. What have you been doing to your mitochondria? And there's this other question that I raise, which is that we know that birth control is actually toxic to our good gut bugs. And anything that is toxic to the microbiome can be toxic to these little organelles called mitochondria, that actually evolved from there.

Jolene Brighten: So, there's a lot of mechanisms at play that I just don't think researchers have been asking the right question. And so many people shut down, and want to say, "We've already solved this. Shut it down, don't ask any questions, that's anti-women."

Jolene Brighten: Anti-women, and anti-science, is not asking the questions, not staying curious, and not being humble.

Dave Asprey: I'm sorry here. I'll just say it, and I think I've probably said this somewhere before. The pill is anti-woman. To be really straightforward. If you love the woman in your life, and she's on the pill, she's at greater risk for huge numbers of diseases, and things that suck the quality of life, and alter her ability to perceive reality around her, as in the cool fact of the day.

Dave Asprey: So, I would just say it's up to you, as a friend of someone like this, or a mate of someone on the pill. It's like, "Look, I care about you. I will do my part in us not having a baby, so that you can have the full experience of your health."

Dave Asprey: And so when someone says that if you're opposed to the pill for health reasons, that you're opposed to women, that's just industry marketing. There's no other word for that.

Dave Asprey: The pill ... we'll just say birth control, not even the pill, but readily accessible birth control has raised the income of women by about 30% in developed countries. It's really a good thing to have control over reproduction, but the pill is not the same as control over reproduction.

Dave Asprey: And when people conflate those, it's because they've been influenced by industry propaganda, from birth control companies. And I'm not a conspiracy theorist there, but I understand marketing. I'm pretty good at it. And you can see what's going on here. So, do not ... just, if you're listening to this, and you're

stuck in that loop that was planted by someone trying to sell you hormones, you might want to pay attention to that.

Dave Asprey: All right, I'll get off my soapbox.

Jolene Brighten: Well, when you talk about ... no, but it's great, because I talk about this in my Reversing Metabolic Mayhem chapter, in which a drug was introduced, so new ... and just to be clear, everybody, these are drugs. These are medical interventions, even though they're passed out like candy. I would actually argue, your doctor's more cautious with sugar these days than they are with birth control.

Dave Asprey: That's so bad.

Jolene Brighten: Now ... it's so true, though. With this, there was a new progestin, derived from androgens, Drospirenone is what it's called, and it came out in Yaz, you'll also find it in Yasmin and Ocella, and they knew it had a potassium-sparing effect. And this was there, and they marketed, they actually did TV commercials, where they were like, "This is all these benefits, and it's this wonderful thing."

Jolene Brighten: And the FDA got all up on them, and was like, "Wait a minute. Actually, this is not a good thing. This puts women at a higher risk of stroke and heart attack." So if you're a woman with polycystic ovarian syndrome, you need to listen in, because you're already at higher risk for those things.

Jolene Brighten: And in addition to that, Bayer was saying, "This will fix your PMS," but they actually had no studies or data to back that up. And a lot of experts have said, by the time the FDA stepped in, it was too late, because the indoctrination was done among healthcare practitioners, and among women, thinking this pill will cure my PCOS ... or, excuse me, my PMS.

Dave Asprey: Now, there are two recent clinical studies around the active ingredient in a Bulletproof supplement called KetoPrime. And in both of these studies, that ingredient treated the emotional symptoms of PMS, and-

Jolene Brighten: Oh, really?

Dave Asprey: Yeah. And the way-

Jolene Brighten: I'm excited!

Dave Asprey: The way that KetoPrime works is, it goes in, and it provides a molecule that allows Krebs Cycle, this is the ability of your mitochondria to make energy, it provides the compound that primes the pump. So you can take a new molecule of energy into the top of the Krebs Cycle, a molecule of food, I should say, and turn it into energy.

Dave Asprey: So it's one of the things where, wow, upregulating mitochondrial function can help with that, because at certain times, even if you're not on the pill, if your energy production is going somewhere other than into your brain, you're like, oh, and then you have less emotional regulation.

Dave Asprey: But I want to know, aside from those claims about PMS and the pill and things like that, and certainly some pills seem to do that, you wrote on your Instagram that the pill depletes B2, B6, B12, folate, magnesium, zinc, selenium, CoQ10, vitamin C and vitamin E. Does that mean, for people who are listening, who are on the pill, and are choosing to stay on the pill ... oftentimes they're like, the risk reward for me isn't there, should they be taking all these supplements with the pill, at least to minimize the harm?

Jolene Brighten: Absolutely. You're going to need at least a multivitamin, or a prenatal. And in addition, bringing in that CoQ10 as well.

Dave Asprey: How much? How much CoQ10?

Jolene Brighten: In CoQ10, it depends on the quality of the product, right?

Dave Asprey: Yeah.

Jolene Brighten: Because we don't ... there are some products out there that is 400 milligrams is the sweet spot, but that is something it was-

Dave Asprey: And it's \$20.

Jolene Brighten: Yeah. And I always wonder about absorption. But at least 100 milligrams is what I like to see coming in, if women are thinking about their future fertility, and really wanting to protect their egg health.

Jolene Brighten: And you know, something about your product, what I want to say is, is that, if you are feeding the mitochondria to do their job, then, when you ovulate, so you're going to ovulate a more viable egg, a better quality egg, the corpus luteum that's left behind will produce that progesterone. You'll see a reduction in those actual PMS symptoms.

Jolene Brighten: So that's a great mechanism in how that works, but there's so many doctors that've pushed back on me, and say, "Why are you telling women to take a prenatal or a multivitamin? Why would you do that with birth control?"

Jolene Brighten: And I say, like, "Okay, with statins, we know there's a CoQ10 issue. So what do you say?"

Jolene Brighten: "Oh, we're going to supplement with CoQ10."

Jolene Brighten: "Okay. Great. So metformin, a leading drug for diabetics, depletes B12. What do you tell your patients?"

Jolene Brighten: "Oh, take B12."

Jolene Brighten: Okay, so birth control is depleting B vitamins, like folate and B12, which, by the way, if you're taking the pill, nine out of 100 women will get pregnant. So it's 91% efficacy rate with typical use. So that's 9% failure with typical use.

Jolene Brighten: If you become pregnant, by the time you know, you've got a positive pregnancy test, you already needed that folate, and that folate's been depleted. So that's the other concern that I have here.

Jolene Brighten: But when I list to doctors, when I list off all those nutrients, which, some of these people push back, and they're like, "Where are the studies to prove this?"

Jolene Brighten: I'm like, "Look, there are studies since the 1970s. This is not something anybody debates anymore."

Jolene Brighten: When I was getting my nutrition degree, this was part of standard curriculum. So this is not something where people are like, "Oh, I need studies to prove that I need to take a multivitamin or prenatal while on birth control."

Jolene Brighten: No. You need to take that, and you need to also recognize, you have to have your diet dialed in. Because if something is hating on your mitochondria, and hating on your microbiome, and impairing liver detoxification, and causing all of these issues in your body, you don't have as much wiggle room as the average person to be binge-eating sugar, or eating inflammatory fats, without feeling worse.

Jolene Brighten: And that's really the name of the game. It's not food-shaming you, it's not trying to push you in one direction or the other just for the sake of doing it. It's really about how do you live an optimal life, and be a high-performing individual?

Jolene Brighten: And, as we were talking about, it is something that a lot of women ... I've had women who are ... I had a practice in the Bay Area, lot of executives at tech companies, women who are on birth control, who are like, "I'm losing my edge, I have brain fog, I am not the sharpest one in the room."

Jolene Brighten: And having all these complaints. They come off of birth control, we work them through that, and they're like, "I just got a promotion, I just got a raise. I am killing it at work."

Jolene Brighten: And so that's when I really started to get interested in what is this brain health connection between birth control, how it impacts our brain, but also how we can work with the menstrual cycle to be more productive, wherever you're at in

life, whether that's being a stay-at-home mom, or being an executive in a corporation. Either way, women, world is always demanding that you multitask.

Dave Asprey: When a doctor says, "How dare you? There's no science behind this," here's the deal. There's 29 million papers just on PubMed. And you go back to 1960, when a lot of these doctors apparently got their license, there's 100,000 new papers a year coming on.

Dave Asprey: But back in 1960, you had microfiche. If you're a millennial, you don't know what that is. But before we had the Internet, they would photocopy things until they were microscopic on transparent little pieces of plastic, and you'd have to shine a light and a magnifier through it, so you could go to the library and read these things. I'm not even making this stuff up.

Jolene Brighten: No, I know, I'm old like that.

Dave Asprey: Yeah, I did that too, in seventh grade and stuff.

Dave Asprey: Okay. So, back then, they couldn't keep up with it. That's 100,000 a year. And now, there's about 900,000 new papers a year coming on, and it's going up exponentially from there. We've had a nine X increase.

Dave Asprey: So, I'm pretty sure that these doctors haven't read all 29 million, nor should they. But they probably haven't searched. And when you do a search with a specific lens, like you have, you're going to find some interesting stuff. So the answer for those people is, basically, "Because science."

Jolene Brighten: Yeah. Well, and it's this crazy thing that doctors, they have the education they received in medical school. It's a lot of information. Then they have the education they receive in residency, and then they have continuing medical education. And so what does that all mean? If they're not actively doing the research ... you don't find a lot of doctors who are like, "Let me ... I can't solve a problem with my patient, let me go into PubMed and spend hours there."

Jolene Brighten: There's other databases, there's other ways, but there's a filter going on in terms of the education that they're receiving, and that's an issue. And so your doctor's not a bad person. They've been taught that this is the pill for every female ill. You've got a lady problem, pass her some birth control, problem solved.

Jolene Brighten: And if you truly believe, you were taught, that is the best solution, why wouldn't you offer it? And it's just ... it's a very narrow toolkit. I've a much broader toolkit, and it's something that ... it's also ... you know, as you talk about unicorns, people are like, "How do I find a doctor like you?"

Jolene Brighten: I'm like, "It's kind of hard to find a doctor who studied nutritional biochemistry concurrently with clinical nutrition, then became a doctor, loves sitting on PubMed."

Jolene Brighten: You know, there's not a lot of doctors. And especially when they've caseloads of 30 to 40 patients that they're seeing a day. They're tired, they're exhausted. There's a lot more going to this story, which is why, in my book, I set out to put the medicine in women's hands, so that they can make an informed decision about their body, know how to talk to their doctor, know what labs to ask for, and know that their symptoms are not their body betraying them. In fact, it's an opportunity to heal on a deeper level. What is acne today may very well be hair loss in a few years, and then may end up being an issue with your cardiovascular system or diabetes, in 10 years.

Jolene Brighten: So, this is the thing we have to recognize. Our hormones are not expendable, and our hormonal symptoms are often rooted in a whole lot more dysfunction lying under the surface.

Dave Asprey: I want to talk about post-birth control syndrome, but I also have an overarching question.

Jolene Brighten: Yeah.

Dave Asprey: When you're done with post-birth control syndrome, do you have better sex when you go off the pill?

Jolene Brighten: Oh, women report this all the time to me. My customer service are women, because a lot of ... we did have a customer service gentleman, and he was like, "I don't really want to hear about women's vaginas and stuff. I don't know, I don't feel appropriate."

Jolene Brighten: Women report increased lubrication, better orgasms, feeling like their libido upticks, that is, if you do the work, hormonal birth control actually alters your liver's genetic expression of sex hormone binding globulin-

Dave Asprey: Oh, wow.

Jolene Brighten: ... and the research ... yeah. And the research has shown that it doesn't return to pre-birth control states. Now, I will say, with the protocols in my book, which were developed one-on-one with patients, you can get that sex hormone binding globulin back in check, because epigenetics is everything. And-

Dave Asprey: And just for people listening who don't know what that is, this is something that will stick to your sex hormones so your body can't use them. You don't want a lot of that, otherwise, even if you have a little bit of that testosterone that makes you horny floating around, and I mean that for women as well as for

men, just different levels, it won't do anything, because it sucked up by that stuff. That's what that is.

Jolene Brighten: Totally. Yeah. And that's not a bad thing, you guys, because it's a protective mechanism if you're on birth control. Your body's protecting you from too many hormones. However, it's a big problem, when you come off, and with testosterone, it's not just about libido, it is our wake up, kick ass, repeat. When your testosterone gets too low, you find yourself low energy all day, crying all the time, and your muscles can actually start to atrophy. So you don't have muscle strength.

Jolene Brighten: Now, take that to your pelvic floor, where everybody's doing their Kegels and whatnot. That's also involved in orgasm. So, this is really important to understand. While we're on birth control, we're not bathing in our yummy hormones. There have been studies showing, the younger you've been put on it, the higher odds you will have pain with sex, dyspareunia is what that's called. And in addition, you can have vaginal atrophy.

Jolene Brighten: I've talked with physical therapists who have seen 20-somethings whose vaginas look like 50, 60-something-year-old women, because of this vaginal atrophy and tissue changes.

Jolene Brighten: But when you come off, and you restore that hormonal health, women do report better sex. Because while you're on it, if you do actually get in the mood, and then you get lubricant, and then you finally do achieve an orgasm, sometimes those orgasms can be really painful. And as I am in your Game Changers book, talking about the benefits of orgasm. So, you guys, you need Game Changers, and you need Beyond The Pill, if you want to get your orgasm health dialed in, and modulate your immune system, live forever, all that business.

Dave Asprey: All right. I'm going to be a crass guy. I'm putting on my man hat for a little while here. Not that I'm not normally wearing it.

Dave Asprey: But okay, this is a bit of a leading question, but asking for all married out there. If my spouse goes off the pill, am I likely to have more sex or less sex than I do now?

Jolene Brighten: You're likely to have more sex, in terms of my clinical experience, and what ... But think about it. For women, and I go through this, I have a whole libido chapter in my book, and for women it's complicated. One thing you have to know, men, is that everything you do during the day adds up, for either safety and security, or this is a bad do.

Jolene Brighten: And so this matters.

Dave Asprey: So you're saying, do the dishes, is that what you're telling me?

Jolene Brighten: Do the dishes, that's actually foreplay. Or hiring someone to do the dishes, if you can't do the dishes. But it's those things that, for women, you have to understand, having a penis enter your body, it puts you in a really vulnerable position. And so, as an animal, and through the evolutionary spectrum, we have developed to be like, "I want a man who takes care of me, and that I've got this safety and security."

Jolene Brighten: And also, if she's not bananas stressed out with her cortisol pumping, she can put that energy into reproductive health. The fastest way to get your libido back is to find a way to signal to your body throughout the day that the environment is safe.

Jolene Brighten: And so, while on birth control, it's this thing where we think like, "Oh, she's going to start birth control. We're going to have more sex because we don't have to worry about babies."

Jolene Brighten: And it's the sneaky way it really prevents pregnancy, is that she is not in the mood anymore. She has vaginal dryness, pain with intercourse, inability to achieve orgasm, or pain with orgasm. Who wants to have sex when all of that is going on? And if it's painful, those neuronal pathways almost get ... I want to say solidified, but we know there's plasticity here, so it's not forever, but if it's painful, organisms avoid pain, it's what they do. And so she's going to want to move away from that pain sensation.

Jolene Brighten: And so it's a very interesting thing, that I've seen time and again with my patients. They come off of birth control, and they're like, "Whoa, I thought women ... my doctor told me women don't have libidos, and a libido's a nice bonus. And yet, I'm really into my mate."

Jolene Brighten: Yeah, because now you can smell them, you can perceive them, your brain is changing, you're fluctuating. Your hormones are made to give you superpowers. It's like ... it's the best-kept secret of women's health, is that they actually help our brain in so many ways. They help our performance, when you work with your menstrual cycle.

Jolene Brighten: If you're an athlete, and you're on birth control, there's studies that show that your muscle gains are lower. Your performance is impacted.

Dave Asprey: Wow.

Jolene Brighten: And when I say that, people might be like, "Why are we talking about sex and athletes?" Sex is an athletic event, okay? It's an athletic event. And if you do it right, you can get a little cardio in for the day. Bonus!

Dave Asprey: That is fantastic. I just, I love that. All right. So, there's our answer. What happens in the first 30 days when a woman goes off the pill, maybe for the first time in decades?

Jolene Brighten: That's when we can see the post-birth control syndrome symptoms arise. So, what is post-birth control syndrome? Like all syndromes, it's a collection of signs and symptoms that like to hang out together.

Jolene Brighten: Now, when you understand that hormonal birth control impacts every single system in your body, then you can understand how these issues can arise, showing up with new onset neurological symptoms. So maybe you start with migraines, brain fog, you're starting to have anxiety or depression coming off of birth control.

Jolene Brighten: Perhaps your digestion changes. You were having some digestive issues on birth control, and now you come off of it, and those things are getting worse. This is a phenomenon I've observed. When women don't start ovulating right away when they come off of birth control, which is not uncommon, by the way, it can take up to three months, if you had a normal, every, clockwork, 28-day, let's say, cycle before birth control, it can take up to three months to start ovulating again.

Jolene Brighten: But if you're not ovulating, you don't have progesterone to oppose estrogen. Estrogen can cause issues, not only for your liver, but for your gall bladder. And so we can start to see gall bladder issues. There's women who lose their gall bladder after coming off of birth control, and part of this is the mechanisms that's been put into play.

Jolene Brighten: It also impacts your thyroid, your adrenal glands. We actually see that there's massive HPA dysregulation with women on birth control. So they lean one way or the other, where they're anxious all the time, or they're feeling depressed. They've got that burnout.

Dave Asprey: HPA is hypothalamus pituitary adrenal.

Jolene Brighten: Oh, thank you.

Dave Asprey: So, in other words, your brain and stress system gets jacked.

Jolene Brighten: Totally, totally. And part of that is because hormonal birth control is inflammatory. So they've done studies where they measure a woman's blood, her C-reactive protein, which is a marker of inflammation, they put her on birth control, and in some women it's three times as high. What's the fastest way to develop a chronic disease? Jack up your inflammation.

Jolene Brighten: And so this is really important to understand. Because when women come off of birth control, in those first 30 days, it usually starts really subtle. And then what we see happens is that, around four to six months, symptoms really start to peak. But for some women, actually a lot of women do this, head down, push through, you've got to be everything to everybody, ignore your symptoms,

manage them the best you can, until you can't handle it anymore. And that's when you end up at your doctor.

Jolene Brighten: And that might be a year later, or two years later. So your doctor's not making the connection that coming off of birth control, you never reclaimed your natural menstrual cycle, your adrenals, your thyroid never got the support they needed. Your gut microbiome is still struggling.

Jolene Brighten: You know, in fact, we see women who have repeat yeast infections, so vaginal yeast infection, on birth control, very well-known side-effect, but lesser known is all the dental research, where yeast is overgrowing in their mouth, and that doesn't just go away once you stop. It's also overgrowing in your gut.

Jolene Brighten: So if you're somebody who's like, "I can't clear candida out of my gut," that's what yeast is, you've got to start looking in your mouth. You've got to start looking in other places, because hormonal birth control has skewed that microbiome enough, and created intestinal hyperpermeability, leaky gut. That's not going to heal itself just because you stop.

Jolene Brighten: And, you know, what's really shocking, there was a study that came out of Harvard showing, if you have a family history of Crohn's disease, or inflammatory bowel disease, which also includes ulcerative colitis, you're at 300% increased risk of developing Crohn's disease after five years on the pill. And you know how that can start? That can start with little ulcers in your mouth that you're ignoring.

Jolene Brighten: And being on hormonal birth control can trigger autoimmunity. Coming off of it can be a triggering event for autoimmunity. Any hormonal fluctuation that is somewhere extreme, getting pregnant, having a miscarriage, giving birth, menopause, starting your period for the first time, can trigger autoimmunity.

Jolene Brighten: So that's why we see this whole collection. And people are like, "It's so much stuff, it can't possibly be related to birth control."

Jolene Brighten: To that I say, if your natural hormones can impact every single cell in your body, and every single system, then why are these synthetic ones any different? When you're taking such a high dose that it shuts down brain ovarian communication, because that's how it works, it shuts down your entire reproductive tract, why would that not have an impact on the rest of your body? To me, I'm like, that is some of the most craziest logic I've seen in women's medicine, right up there next to hysteria. Your uterus is just wandering.

Dave Asprey: That's crazy. So there's so much evidence, but still, 60% of women are on the pill instead of the other methods.

Jolene Brighten: Well, 60% of women are using birth control for symptom management, that's a big reason. And so ...

Dave Asprey: Whoa.

Jolene Brighten: Which is scary, right? Because you might be using birth control for acne, and trading it off for a stroke or heart attack, and not knowing it. It is your right to know that, and to make that informed decision. Women with polycystic ovarian syndrome, these are women who have irregular periods, it's rooted in a metabolic disorder. There are issues with insulin regulation and inflammation. So they're at higher risk of metabolic disease.

Jolene Brighten: And yet, they're passed birth control. Their doctor says, "We fixed your period." By the way, that bleed is a withdrawal from a medication bleed, and not a real period, there was no ovulation. But with that, these women are already at highest risk for diabetes, for heart attack, for stroke, and we know, with the new study that came out, that taking hormonal birth control for six months or more in your lifetime, is associated with a 35% increased risk of diabetes when you enter menopause.

Jolene Brighten: That, to me, is like, we've got to pause, because that is something a woman has the right to know, so she can make that informed decision.

Dave Asprey: It's such important information, that I'm super happy to be able just to share it on the show. And it's something that I've known about and believed in for, jeez, it's going on almost 20 years. And it's-

Jolene Brighten: Well, you're a trendsetter, man. You're way ahead of your time.

Dave Asprey: It's kind of weird. It was actually, T. S. Wiley wrote a book called Sex, Lies and Menopause, sometime in the late '90s, and I read that book, I'm like, wow, it's one third scientific references, and she's actually been on the show, not that long ago.

Dave Asprey: And so I remember that weird conversation where you sit down, I sat down with the woman I was with at the time. I'm like, "You know, I want you to go off the pill. Not because I want to have babies, just because I care about you."

Dave Asprey: And it was ... and then we had a conversation about, here's all the science and all the data, and it's going to be good for you.

Jolene Brighten: For sure, and if you just want her to be happy, and not walking around irritable and cranky ... something that was really interesting is that when the depression studies started coming out, the big ones that we saw out of Denmark in 2016, showing this high correlation between birth control and new onset of mood symptoms, there were so many researchers and doctors who lined up to dismiss what, essentially, women have been saying since the introduction of the pill.

Jolene Brighten: But then another study came out, and I was so grateful, where they started looking at the mechanism of action. And we understand the pill is inflammatory.

Well, inflammation in the brain is always a bad thing. But in addition to that, hormonal birth control actually alters your tryptophan pathway, so you make more quinolinic acid, you make more neurotoxins, instead of nourishing compounds in the brain.

Jolene Brighten: And the progestin, so again, that synthetic progesterone, may actually be upregulating free radicals, so oxidative stress in the brain.

Jolene Brighten: So we've got inflammation, neurotoxins, and oxidative stress. So when she's really cranky and irritable, it may not be you. It may be what she's actually popping in that pill pack every day.

Dave Asprey: Wow. Okay. A new study just came out, I talked about it in one of the recent episodes, about willpower. And some scientists using advanced algorithms for computational analysis figured out the mechanism of action of inflammation on reducing willpower.

Jolene Brighten: Interesting.

Dave Asprey: And they're just straight out, oh, we can show this. So when there is inflammation in the brain, it's predictable, and we understand the mechanistic behaviors that cause a reduction in willpower.

Dave Asprey: So let's see. The pill causes inflammation. Inflammation reduces willpower. The pill liberates women.

Dave Asprey: I kind of like willful women. Can I say it like ... I would like all human beings, men or women, to have their full willpower. Because guess what willpower does? It allows you to overcome your biological urges to act like an asshole all the time.

Jolene Brighten: True that.

Dave Asprey: And I say this as a guy who used to have massive inflammation. Here's the thing. When you have enough energy, even if you get an urge to yell at someone, you will act like an adult and not yell at them. And if you don't have enough energy, or you have too much inflammation, you'll get the urge, and you won't have what it takes in that microsecond to make that decision, and you'll say something. And then, later, you'll be like, "I'm really sorry I said that."

Dave Asprey: And this applies to men and women equally. That's what willpower is for. It's your ability to overcome the biological urges. Because if you just listen to your biology, let's face it, all we would do is, basically, eat and have sex all the time, and that would probably be the end of the species.

Dave Asprey: So it's probably a good thing that we have this dynamic, but I would like all of this to have that, because we're meant to be nice to each other, and you've got

to have enough energy to do that. Anything that sucks energy from men or women is bad news for all of us.

Jolene Brighten: Yeah, or alters mood. This is something we are seeing, that depression is rising. We are seeing that suicide risk is rising. In fact, when these studies came out about the mood correlation, and birth control, we thought, oh, estrogen's the bad guy. So women who took a combination pill, most commonly prescribed, with estrogen and progestin, they were 23% more likely to be prescribed antidepressants.

Jolene Brighten: Now, if they were a teenager, so if they were actually a teenager, they were 80% more likely to develop depression, and at higher risk of suicide. So teens actually had double the risk of suicide after one year on the pill.

Jolene Brighten: Now, it peaks within the first two months, the first several months, but it continues, even a year later. And we thought, okay, well, this is a combination pill issue. If women are just taking progestin only, which is most commonly prescribed to new moms, they were 34% more likely to be prescribed an antidepressant.

Jolene Brighten: And teens who were taking the progestin only, they had a twofold increased risk of their depression. And when this research came out, I had to stand back and say, well, what's up with postpartum depression? Because my first book was on postpartum health, and I had a lot of theories around that, a lot of things that we've seen in the research.

Jolene Brighten: But now to understand you actually can bring in this progestin-only birth control pill, or a progestin-only IUD, and that increases it by over 30% in women, that they're likely to be prescribed an antidepressant.

Jolene Brighten: That means new onset depression has happened, which led to the researcher ... you know what's really awesome? We're seeing more female PhD researchers stepping up to study brain health, and there's actually some in Canada, but we're going to see ... women are really taking hold and control of this issue. And a lot of us are speaking up.

Jolene Brighten: When I was talking about this eight years ago, I was not popular, I will say that. Now I talk about it, and I get way more women, and I even have women in their 60s, who've read my book, who write me and say, "For the first time in my life, I finally understand what happened to me, that I wasn't crazy, it wasn't in my head, and I was never broken like my doctor told me. It wasn't that way. I finally feel validated in my experience."

Dave Asprey: Well, that's a gift. Wow. I still think, though, you ought to file a patent. Imagine, birth control pill plus antidepressant plus CoQ10, and maybe some zinc and some vitamin E. Imagine the riches to be had. I'm kidding.

Jolene Brighten: Yeah. Right. Yeah. And yeah, let me just say, for people with the alteration, the tryptophan pathway, I often get people who write me and say, "Well, then the answer is just to take more tryptophan, right?"

Jolene Brighten: No. Again, it's I Love Lucy, down the conveyor belt with chocolate. Again, I'm old like that. No. The answer is not to start up the machine and try to move it faster. Now, 5HTP won't have the same effects, it can't go into that quinolinic acid pathway, that we know of, but really, the answer is, okay, well, really, the answer is get off birth control. But if you can't go there, you have to be feeding the pathway with things like magnesium, which is depleted by birth control, B6, depleted by birth control.

Jolene Brighten: If you just look ... and this is the thing, is no matter what theory of depression you subscribe to, whether it's the serotonin theory or the cytokine theory, there is evidence in both camps that birth control can, in fact, lead to depression.

Jolene Brighten: But so much of what goes on is indirect. It's not that you took birth control, and that caused depression. You took birth control, it caused inflammation, it caused increase in free radicals, it caused nutrient depletions, and all of that led to your depression.

Jolene Brighten: And so that leads people to be like, "Well, then, it's not birth control causing it. It must be fine, right?"

Jolene Brighten: But I think that your ... and that's why I'm excited to be here. Your audience is freaking smart. They're way ahead of the curve, with even a lot of clinicians that I engage with. I think biohackers actually understand a lot of these more complex lab tests than a lot of doctors do, because it's just not what they've been trained in.

Dave Asprey: There's definitely an influx of people just saying, hey, I'm going to pay attention. And I think it's happening across food, it's happening across nutrition, it's even happening across aging.

Dave Asprey: And that leads us up to the final question on the show today. So, Jolene, you're a functional doctor, you know a thing or two about hormones. You've got pretty much all the tools of anti-aging at your disposal if you want them. How long are you going to live?

Jolene Brighten: Oh, man, I saw your thing about living to 180, and I'm like, can I reach for that goal? If I'm healthy in my body, let's go 100, 120. Because I have this thing where I'm like, look, if I can't jump on a bike and ride, and do all the things that I love, is that really living? Are you really living?

Dave Asprey: I've got to say, if you ask 110-year-olds, "Hey, are you really living? Do you want to die right now?", unless they're in an awful lot of pain, they generally say, "You know, I think I'd like another year."

Jolene Brighten: Yeah.

Dave Asprey: Even if they're not riding a bike. But there's nothing that says you couldn't be riding a bike at 110.

Jolene Brighten: Totally. But we see these centenarians around the world that are totally kicking ass. That's why I take my supplements, I go do my hydrotherapy, and I do all of those things, because I want to live long, but I also ... I want to live long and prosper. I want to be very healthy.

Dave Asprey: Wow. Star Trek jokes, right at the end of an episode on post-birth control syndrome. That I did not predict.

Jolene Brighten: Oh, dude, I'm such a nerd. I was definitely not the cool kid in school.

Dave Asprey: All right. You got your nerd points on that one, for sure.

Dave Asprey: Well, Jolene, your website is drbrighten.com. And your new book is ...

Jolene Brighten: Beyond The Pill.

Dave Asprey: All right, I want to get the title exactly right. Beyond The Pill, but the subtitle is long and complex. So, Beyond The Pill is your new book, and then there's some other words that come after that that you don't need to put into your favorite search engine to find it.

Dave Asprey: All right, so Dr. Jolene Brighten, Beyond The Pill.

Dave Asprey: And I just have to say this, if there women in your life, probably, no matter who you are or what you do, who would really benefit from this kind of knowledge, it is totally normal and healthy to have control and reproductive freedom. And that's not what we're talking about here.

Dave Asprey: We're talking about reproductive freedom done in such a way that it doesn't suck your willpower and damage your biology, and cause biological harm that is the opposite of your goal.

Dave Asprey: And I believe that this is something we can do, and it's not even that hard to do. And the side effect is you have better sex.

Jolene Brighten: Word!

Dave Asprey: Wow. Who loses, right? So that's why this episode matters. If you like this episode, share it with a friend, someone who would benefit from this. There are lots of people who have this knowledge now. This isn't a fringe thing. It might've been, 10 or 20 years ago.

Dave Asprey: This is just ... hey, this is what all the science is showing, and new studies are coming out all the time. So get on the bandwagon and say, "I'm going to take care of my biology on all levels, including on the reproductive side."

Dave Asprey: You will win. So, share the episode if you like this. Review it. And have a wonderful day.

Jolene Brighten: Awesome.