Jennifer Ashby: Today, I want to talk about fertility and its preservation according to East Asian Medicine. Fertility for us is based on four notions, the notion of your resources, your body's rhythm, your body's balance, and the fact that your body actually has an energy economy, which is a concept I'm going to introduce to you today. In East Asian Medicine, we look at fertility through these lenses, the resources, rhythm, balance, and energy. In East Asian Medicine, we ask unique questions. We ask, does this person have enough stored energy to support conception? Is your body's timing regular and coordinated? Is your nervous system calm enough to signal that it's safe to reproduce? Tonight I'm going to walk you through the East Asian Medicine model of fertility, including this foundational energy framework, a new concept of eight things that you can use every day for the rest of your life, not just in terms of your reproductive years. Then tonight I'm going to leave you with a practical, simple daily routine that you can start tonight or tomorrow. But first, a little bit of a note. Everything tonight is educational. I am not diagnosing any of you. I'm giving you a framework of understanding. East Asian Medicine is not a replacement for your OB GYN or your reproductive endocrinologist, especially if you're managing less than optimal fertility, like POS or endometriosis, male factor infertility, or if you're moving forward with IVF or any egg freezing. You can think about what we discuss as a terrain of support, not a substitute for your Western clinical care when it is determined necessary. However, I do want to emphasize that the two work beautifully together. Did you know that you have an energy economy within your own body? We call this an East Asian Medicine prenatal and postnatal. Before we talk specifically just about fertility, I'm going to give you a new map with which that you can use as a resource. It's one of the most useful frameworks in all of East Asian Medicine. Once I share with you, you will see your health choices differently forevermore. Within this system, you have two different kinds of Qi. We use the word energy for Qi because we don't have a word that actually defines Qi in English, but you have two different kinds. East Asian Medicine describes these two sources of energy, and these include your physical energy, your emotional energy, and your spiritual energy because those are the three components of a whole human being. In East Asian Medicine, we refer to these as our holy trinity of mind, body, and spirit. These energies together fuel your entire life. The first prenatal energy. This is your inheritance. It's the energy you were born with. It came from your parents' health when you were conceived, from your mother's health when you were in utero, and the environment you were raised in until about the age of seven, for men it's about the age of eight. Your prenatal Qi also comes from the generations before your parents. You get a whole load of information. Prenatal Qi in East Asian Medicine lives in the way we perceive your kidneys. You can think of your prenatal energy like a savings account that you opened at birth. This energy is special because it's finite. Totally irreplaceable, and it's meant to be utilized only for truly essential work of being human, which is growing, developing, reproducing, and aging with resilience. Prenatal Qi includes your genetics, but it's so much more than just genetics, and you didn't earn it, and you can't make more of it. Your only job with prenatal energy is to protect it. Because when it's used up, it means we're all at the end of our life, every single one of us. We call this precious Qi. Prenatal energy depletes naturally and slowly across your entire lifetime. Again, we use it for our growth and development and our rate of aging. But here's the kicker. We also dip into it appropriately sometimes in life. Those appropriate times would be things like childbirth, recovery from serious illness or surgery, and in emergencies. The flip side of that is that we can also tap into it inappropriately and deplete it faster when we live too hard. What is living hard? It is when you're living every day with things like chronic sleep loss or overwork or chronically sustained stress, extreme dieting, overtraining and exercising, and when we suffer repeated illness that we have to recover from. Our prenatal Qi was not designed to be utilized that way, but we can utilize it that way if we have to. In the context of fertility, this prenatal Qi is the foundation of your ovarian reserve, which is your number of eggs. It's responsible for sperm's vitality as well and the developmental potential of a fertilized egg. The egg quality, one rooted in that constitutional inheritance of prenatal Qi, are also shaped by then postnatal Qi, and these are the things that I'm going to leave you with that you can do every day. What determines postnatal Qi? We're going to get into it in a second, but it's where your lifestyle, your nutrition, acupuncture, and Chinese herbs can make a real difference.

What is postnatal Qi? We discovered prenatal Qi. If prenatal is the savings account that you were born with, postnatal Qi is like a checking account that you can replenish every day. It's the energy that you generate daily through how you live, and it's totally renewable, which makes it completely infinite as opposed to prenatal Qi, which is finite. Completely infinite because you make it constantly. You build it through eight daily practices. This is what I refer to as the Epic 8 framework. We're going to learn about that now. The epicate building your daily checking account, these lifestyle competencies that build your infinite postnatal energy, which I will tell you later on how that ties into your fertility. But this is good use for every day. This is general health advice. The first is diet. Diet is the raw material that your body uses and transforms into your energies in your tissues. The second is hydration, which is the medium through which everything moistens and helps to get moved throughout your body. The third is sleep. Sleep is when your Qi and blood, and we're going to go into what blood means in a very special way for fertility in a little bit. Sleep is where they are rebuilt, and the deep restoration hours of sleep is when your body completely is able to rejuvenate. The fourth is your breath work. Believe it or not, breathwork can come in very handy with fertility. Breathwork is your most immediate regulator for your nervous system. The fifth is movement and exercise. It's when you circulate your Qi. It's the antidote to stagnation, and believe it or not, there's no one size exercise for everybody. You need to exercise based on your constitution so that you don't underperform what your body needs or over perform and dip into your prenatal Qi. The next is your gut health in your bowel movements. The gut health being that digestive factory, your spleen is actually responsible for that, according to East Asian Medicine, and that is what builds your physiological strength. Gut health is crazy important in the long term for avoiding all chronic illness, but it also has a deep rooted place in East Asian Medicine and with fertility in terms of not having too much inflammation in your body. To those six essential functions, I add two practices. The Number 7 is finding joy and awe every day. Joy and awe are known scientifically to boost your innate immune system, but they also have a wonderful positive effect on your hormones and your fertility. The last one is tools to not embody stress, which is not a statement about not having stress. We all have stress. It's not about living without it. It's about gaining the capacity to not internalize it. It's gaining tools so that we can determine what is allowed to produce stress response hormones and what is not. We will learn about the toxicity of stress, according to East Asian medicine and in terms of fertility in the stock. When you're postnatal Qi, that bank account is well funded, like with these eight things that I just described, it acts as a buffer so you don't overutilize your prenatal Qi, your prenatal energy. You draw from the checking account and the savings account is protected. When postnatal Qi is chronically underfunded, though, like poor sleep, skipping meals, shallow breathing, a lot of us hold our breath. When you're not moving enough, you're not finding joy in your life, or you're chronically stressed out without outlets. When you're working too much or you have chronic gastrointestinal issues, you're working long hours constantly, or you're chronically dehydrated. Notice how I say there's a chronicity to this. This isn't because you did it one day. You know, it's not because you were dehydrated one week. Those things are not going to affect your fertility. These are chronically. When you're doing that, your body reaches into that prenatal Qi savings account reserve to cover the gap. Then the question always arises for me. How do I know if I'm dipping into my savings account? Well, when you are chronically, again, pushing through your days, physically, emotionally, or in a spiritual crisis, this is when you're using that savings account. It's different for each of us. Only you know exactly when that push through part is, but I'm sure that every one of us on here tonight knows when we're pushing through a day. Now we're going to talk about the four pillars of your reproductive energy. Within this broader energy economy, East Asian Medicine describes four specific resources that directly underlie reproductive health. The first one is something called Jing, Jing Qi. For those of you who have been in an acupuncture office, you may have heard of all four of these already. Jing Qi is your reproductive essence. We use the word essence a lot in Chinese medicine because it has to do with an energy that is not always measurable. This reproductive essence drawn from your prenatal Qi, and it governs your ovarian reserve and the developmental arc of new life. Jing is very important and very precious. It cannot be replaced, but it can absolutely be protected. The next of the four pillars is Blood, and we write blood with a capital B

to distinguish it from the Western concept of blood. Blood is the building material. If Jing is your reproductive essence, Blood is the building material for fertility. Blood builds your uterine lining and supports implantation and nourishes follicle development also in East Asian Medicine. This is a special form of East Asian Medicine blood called the Tiangui. The translation of Tiangui is literally heavenly water. Some call it Tianshui. This Tiangua after you've had a baby, becomes your breast milk. In East Asian Medicine, this is why we do how we explain ceasing menstruation while you're breastfeeding. Blood with a capital B for reproductive health is generated by your heart and your kidneys in Chinese medicine, which are the fire and the water that come together as part of its production, and it is also produced by your spleen, your digestive factories. This special reproductive blood, which is your menstrual blood and has all the jobs that I just named, it takes three organs to create. When you are working with an acupuncturist or any East Asian medicine practitioner for fertility, they will always be focusing on your heart, your kidneys, and your spleen energies according to East Asian medicine. The spleen extrapolates where in Western medicine, it doesn't have anywhere near the same job as it has in East Asian medicine. It is essential for making Blood and Jing because it extrapolates food and water that you give it into many things, but for this talk into your Tiangui. Signs that you might be deficient in this special Blood, is that you would have light or short periods. You might have spotting between cycles, dry skin, dizziness, restlessness, anxiety, but especially at night, you might have dry stools or dull aching headaches. That's the second of the four pillars. The third is Qi. We've got your reproductive essence, your building material. Qi is the conductor of it all. It's a magical system in East Asian medicine, and it's very poetic. Qi coordinates movement, timing, and mood. Liver Qi specifically governs the smooth unfolding of your menstrual cycle. Make sure that your ovulation arrives on time, that menstruation flows on time and without pain, and that your libido is still present and that your mood is stable, and stress is the primary disrupter of librgy. Then the fourth pillar is Yin and Yang, which I'm sure you've all heard of. Those are your internal climate. Yin provides cool fluid environment that nurtures Tiangui, nurtures developing follicles in your follicular phase of your cycle, and it sustains cervical fluid. Yang, on the other hand, provides warmth and metabolic drive that completes ovulation, fires up your libido, and sustains the luteal phase of the second half of your cycle. Healthy fertility requires a healthy balance of both Yin and Yang. Jing is your battery, Blood is your building material, Qi is your conductor, and Yin and Yang would be your internal climate. We have two common patterns. Rather than diagnosing conditions here because I can't see you all and look at your tongues and feel your pulses, we're going to use some East Asian medicine concepts. In East Asian medicine, we group presentations or symptoms into patterns. Which are clusters of signs that point toward a particular imbalance. That imbalance becomes your diagnosis. We all have a diagnosis. None of us are perfectly balanced in East Asian medicine, probably past the age of, I don't know, 8, 9, or 10. Aging, living, eating, being automatically disrupts homeostasis within us. East Asian medicine, it's a medicine that takes a unique set of diagnostic skills to discover where you're imbalanced and then makes an attempt to rebalance or re-establish homeostasis in your body. I'm just going to name two common patterns for you. Important note, these do not map one to one to Western diagnosis, and we're not making that equation. We're describing just a terrain for you, and they're very simplified descriptions. First, you have a depleted. What does it feel like when you're depleted? You're fatigued. You've got low backache, you're anxious, you have light or short sleep, poor sleep or periods poor sleep, lethargy, depression. East Asian medicine, root causes are there. Then within the Epic 8 that I'm going to get into in more detail, you would sleep and eat nourishing foods and have gentle movement. Excess or stagnant types have PMS and irritability and breast tenderness and irregular cycles and painful periods with clots, pelvic tension, and what your clinician would focus on is next, but this kind would take in breathwork and movement and stress reduction tools, and acupuncture is really good for stagnants and excess type conditions. You can think about which of these resonate with you. They can coexist together. You can have deficiency components and excess components, they can switch during the month. In East Asian medicine, you are a different human being physiologically every week of the month. How do you preserve your fertility through this Epic 8s concept? Here's the practical part of the top. Fertility preservation in East Asian

medicine is not just a protocol you followed for three months before an IVF cycle, although it can be incredibly helpful even in that situation. But ideally, it's an ongoing lifestyle practice based on East Asian medicine theory of funding your energy economy well every single day. Here's how it applies directly. Your diet builds Qi and blood and protects your Jing. Protein and iron rich foods are incredibly important for women in reproductive years. You pair it with vitamin C for good absorption. I don't tell you exactly what foods to eat. These are concepts about how to eat. Raw salads are terrible for fertility. In East Asian medicine, we want things warm and cooked because they're easier to digest and you get more of the essence out of the food. When you eat cold and raw foods, your body has to break it down, warm it up, and then digest it so often it takes more energy to eat it than you get after eating it. What are these warm foods? They would be like soups and stews and embraced vegetables. I'm the queen of roasting vegetables, but it's also consistent meal timing. The spleen loves regularity. You can think of the spleen in terms of your gut microbiome, keeping your gut microbiome healthy and reducing inflammation. Making sure that you're replenishing that Qi every day, not eating rushed, not drinking cold fluids, not eating erratically, not skipping breakfast. If you eat animal products, bone broth and slow cooked lean meats are among the most blood building foods, but there's also many things to do if you're not a meat eater, dark leafy greens, beets, berries, and then also quinoa and lentils, mixed with those for protein are great. Eat as many different cumber vegetables as you can every day, but try to steam, blanche, saute them, not just raw. Hydration is the most underrated fertility component. It's the medium that keeps everything supple, supplied, and moving. How do you hydrate yourself properly? You take your weight in pounds, you divide it by the Number 2, and that number is the minimum number of ounces of water you should be drinking every day to be properly hydrated. Sleep. This is when that jing, that prenatal essence, and the rest of your body's physiology completely restores itself. Finding a really good sleep hygiene before bed, breathwork is the fastest way to calm your nervous system. I was going to practice home breathing with you. We'll have to do that another time. But when you breathe slowly and intentionally, you are calling forth your vagus nerve. You are calling for your parasympathetic nervous system, which is your rest and digest. You're telling your body that you're not in fight flight freeze. Practicing this daily is essential for a healthy, happy hormonal system. Movement and exercise. Fifteen minutes of a morning walk, if you can get that up to zone two heart rate, which is 70%-80% of your maximum. That's another class is really important. Do not overexercise. Use your body's daily energy to tell you if you're eating enough, if you're hydrated enough, if you're well rested enough, if you need to breathe because your energy is wired and tired and how to exercise. If your exercise makes you tired and you need to rest afterwards, it's too much. If you feel too sluggish to exercise, you're often not doing enough. You must move your body for a healthy reproductive system in so many different ways. Chinese medicine loves Tai Chi, Qigong and walking. The more you can do outside of nature, the more balances your Qi. Gut health and bowel movements, did you know that a healthy gut actually has no symptoms, no gas bloating, belching, nausea, vomiting, or reflux? We all get it occasionally, but chronically, it's no good. Bowel movements are once to twice a day, easy to eliminate and full evacuation. If you have anything else going on in there, you're either depleted or you're stagnant, and you can work with your acupunctures to regulate your gut health and your bowel movements. Joy and awe is the solution to all stagnant liver Qi, PMS, irritability, irascibility, reactivity, play, joy, ease, grace, laughter, flexibility, gratitude, all nourish the heart. We know we need the heart for producing the tiangue. Joy and awe are a wonderful way to balance your hormones. Your body listens and reacts. Then the last one is tools to not embody stress. It's a cascade. Chronic stress leads to liver Qi stagnation, leads to heat that consumes skin and blood in your body and makes those depleted. Once you're that depleted from chronic stress, you're dipping into your prenatal Qi. That is really, as we've gone over, not a good place to be in positioning for fertility. The goal is not absence of stress. It is the 21st century. It's unavoidable. The goal is to stop wearing stress like a badge of honor, to stop presenting your ability to multitask like a trophy and to gain real tools to decide when there's a real sabre toooth tiger chasing you, and it warrants the release of stress hormones and when it's a mere inconvenience, and you're going to preserve your well being physically, emotionally and spiritually, and that you're not going to give yourself away to

the stress that's in front of you. Quickly, a simple daily routine you can start tomorrow. Morning. Warm breakfast, no more cold yogurt and cold smoothies, please. This is how you're building that checking account of postnatal Qi with easily digestible foods. Warm breakfast, 10 minute walk, 20 minute walk. Try swapping coffee out for tea because that is a less inflammatory caffeinated beverage. Midday protein centered lunch with cooked vegetables, and then three minutes of slow home breathing, if you can. Nighttime screens off 60 minutes before bed, and then try to be in bed by 10. I find that most people need to be in bed an hour longer than the number of hours that you want to sleep. None of us should be getting less than seven hours. 10:00 because in East Asian medicine, we need those nighttime hours before midnight to get into deep sleep for full restoration of our Qi and our blood. Then weekly, make sure that you have two true recovery blocks with no intense training, no intense work, but still moving. Closing. East Asian medicine is strongest at improving your terrain. Stress physiology, sleep quality, digestion, Qi and blood production, prenatal Qi preservation, and cycle regularity. In East Asian medicine, these are the conditions that make reproduction possible, and they are accessible to almost everybody. If you work with a licensed acupuncture they'll give you herbs and acupuncture, and if you are looking to get pregnant, find someone who specializes in fertility. Think of Western fertility as like handling the diagnosing and the procedure, egg freezing, labs, sperm embanking IVF, diagnosing structural stuff. Think of East Asian medicine as the support readiness and recovery before, during, and after. If you're trying to conceive or thinking about preserving fertility, the most important consult first is with your physician to determine your fertility status, and then use East Asian medicine to support. If you're going to remember any three things, fertility is your energy, economy, and actions so what you do every day matters. The ethic Aid is a wonderful map that you can follow to make sure that you're meeting your body's physical, spiritual, and emotional needs and then the first step is always to start now. There's an appendix at the end of this, all that you can use as your cheat sheet. That is it. Thank you.

Jeannette C. Lager: That was wonderful, Jennifer. Thank you so much for that presentation. We are going to have Jennifer come back for the Q&A at the end, but I'm very excited to also introduce Dr. Marin Shapiro. She is a reproductive endocrinologist and fertility specialist who cares for patients with a wide range of reproductive and hormonal issues, including conditions that cause infertility. Her expertise encompasses diagnosing and treating irregular periods, polycystic ovarian syndrome, recurrent pregnancy loss, primary ovarian insufficiency, and endometriosis. She also provides fertility preservation through egg and embryo freezing. We're so glad to have you here, and I'm going to turn it over to you. Thank you so much.

Maren Shapiro: Thank you so much, Jeanette. Thank you all for having me. I'm really excited to be here as well and talk to you about one of my favorite things to talk about. My talk today is going to be on creating the optimal environment for conception. How can you set yourself up for success when you're starting to think about trying to conceive? What are the dos? What are the don'ts? I talk to my patients about this every day. Most people are coming to me when they're having trouble getting pregnant, but I see people early on, too, and I think these are important no matter what point in the process you're at. We just heard about East Asian medicine. There's a lot of overlap and a lot of similarities there. Just a little roadmap of what we're going to talk about. We'll start with talking about preparing your body for pregnancy, then trying to conceive optimally, what should you do? How do you actually try to conceive? Then when it's time to seek help and when you should come see someone like me. Preparing your body for pregnancy, let's start with diet. It's all about balance. We know that extreme underweight and extreme overweight can have impact on fertility rates. But in between that, there doesn't seem to be much difference within normal BMI ranges. Weight matters, but it is not the end all be all. I think as you'll hear me say over and over again, balance is what's most important. There have been studies that show that the Mediterranean diet is a good diet for fertility. Now, I don't think that's because olive oil is magic. I think that a Mediterranean diet is a very balanced diet. It has lots of healthy fats, fruits, vegetables, proteins, low glycemic indirex carbohydrates. It's very balanced. It is not overly restrictive, and it gives you all the nutrients that you

need. When my patients ask me what they should eat, I say, eat something balanced. The Mediterranean diet is a good blueprint. That doesn't mean you have to follow it completely, but you just want a good balance of things. Try to limit ultra processed foods. There's more and more data that ultra processed foods don't have the same nutritional value that more whole foods do. There are studies that show that elevated levels of mercury in the blood can be associated with infertility. While fish is really good for you, it has a lot of really good things like Omega 3s, which I'll talk about later. Some fish, especially big fish like tunas, swordfish, can have high levels of mercury, so you want to avoid heavy consumption of those high mercury fishes or limit those as much as you can. Don't be overly restrictive, get a little bit of everything. Now, supplements. People love taking supplements, especially here in the Bay Area. That's a hot topic. Everyone's always asking about the supplements to take. What supplements actually have evidence behind them? Well, I think the most important supplements to take when you're trying to conceive is a prenatal vitamin, and really within that prenatal vitamin, the thing that's most significant is the folic acid. Many studies have shown that folic acid is really important for neural tube development in the early portion of a pregnancy, really in the first eight to 10 weeks that you're pregnant, and supplementing with folic acid in the form of a prenatal vitamin can reduce rates of neural tube defects like spina bifida and other complications like that. This is one of the supplements that has really good data behind it. Anyone who's trying to conceive should be on a prenatal vitamin. In fact, I want you to be on that vitamin before you start trying to get pregnant. It's better to have your stores built up before you get pregnant and oftentimes you don't know you're pregnant by the time it's essential. If you're not on contraception, if you're even just thinking about it, start a prenatal vitamin early. It's not something that you should start only when you get pregnant. In terms of brand of prenatal vitamin, I get that question a lot. I don't think any brand is better than the other. Whatever vitamin you can take regularly, I love the gummy ones because I found those the easiest to take, but whatever you can take regularly is the one that's right for you. Other supplements that I think are very important really depend on the context. If you're vitamin D deficient or insufficient, which we don't spend enough time outside, a lot of us are, then vitamin D is important. Usually, if you're aiming for eight to 1,000 international units a day is a standard over the counter supplement. Some people may need a little more if their levels are really low, but studies have shown that low vitamin D can be associated with infertility, and so we want our levels to be above 30 ideally. Too much vitamin D can be bad, so you don't want to take too much, but most psoratesfficient. If you're anemic, if your blood counts are low, then iron supplements can be helpful. Anemia is associated with infertility, too. Those are the ones that I would take if needed. Other supplements I have in the second column are the nice to have supplements. These aren't things that everyone needs to take, but if you're a supplement person, if you want to take a little bit of extra, these are the ones that have good evidence behind them. CoQ10 is a supplement that's been shown tmprove egg quality, especially in older women or women with diminished ovarian reserve. Most of the studies look at about 200 to 600 milligrams per day, and it can take three months to really see the effect of that. Especially if you're over the age of 35, CoQ10 is a good thing to add on. Omega 3s, I talked about this with fish. Omega 3 fatty acids and fish oil, also things that have been shown to be associated with improved fertility so another one of those nice to have things. Other supplements can be good. I'm big, if I don't think they're harmful for you, then try it if I don't have good evidence. These are just the ones that have the most evidence behind them. Sleep, stress, and exercise. We know that moderate exercise is really good for your body. Moderate exercise has been shown to improve fertility. It helps keep us healthy. It helps to keep stress levels low, but extremes can be harmful. if you are over exercising to a point where it's impacting your periods and your cycles, that means it's impacting ovulation, and that means it's going to be hard to get pregnant. I think that you want to do the general recommendation is like 30-60 minutes, 3-7 times a week. Moderate exercise is good. Don't overdo it. Studies have shown that if you get less than seven hours of sleep at night or disrupted sleep hours, that can be associated with infertility or subfertility and with worse outcomes, even in IVF. We really want to be aiming for seven to 9 hours of sleep at night, seven to 9 hours of restful sleep. Finally, stress. This is a common question that I get. Does stress matter? A lot of my

patients are super stressed out because they haven't been able to conceive. I very much believe in the mind body connection. I think that stress impacts cortisol levels, and that impacts hormones. There definitely is a connection. Now, do I think that stress is preventing people from getting pregnant? Probably not. It is not the cause of infertility. I want my patients to be less stressed because it's going to make them feel happier overall. It's going to make the day to day feel better. Don't stress about being stressed, but try to find good ways to manage your stress just so that you are happier and more content overall. What should you avoid? The things that you should not do when you're trying to get pregnant. Some of these are hopefully obvious, but I think understanding why is important. Tobacco, we know that people who smoke cigarettes not only have significantly reduced fertility rates, but also go through menopause 1-4 years earlier on average. We think that something in tobacco accelerates follicular atresia and actually makes our body go through eggs faster. Smoking, very bad for fertility. Marijuana. New evidence is coming out that heavy marijuana use is associated with infertility, mostly for men, and I'll talk about that a little bit later, but for women too. I think if you're trying to conceive, really cutting back or cutting out marijuana is really important. Heavy alcohol use. You know, when you're pregnant, we say no amount of alcohol is safe. But when you're trying to conceive, having a drink or two every once in a while is okay. You don't have to cut everything out all the fun out completely, but heavy alcohol use, meaning more than 1-2 drinks a day for women is associated with reduced fertility rates. We try to keep it below 1-2 drinks a day, so a moderate amount. Then caffeine. This is my advice. This is the thing that I had the hardest time with in pregnancy. There have been studies that high levels of caffeine, so greater than 500 milligrams per day, which is like five cups of coffee. That's a lot of coffee is associated with infertility and subfertility. We recommend keeping it below that amount when trying to conceive. In pregnancy, we'd like to keep caffeine levels less than 200 milligrams, which is more like 1-2 cups of coffee because more than 200 milligrams has been associated with increased rates of miscarriage. Again, everything in moderation doesn't mean you can't drink coffee at all. It doesn't mean you can't have a glass of wine every once in a while, but we just want to keep things balanced. Other things I often get asked about endocrine disrupting chemicals, microplastics, air pollution. These are the things that the data is just coming in on, and I think the verdict is still out. It seems like they're probably not great for our overall health and not great for fertility, but there haven't been studies that show absolute impacts, and they're really hard things to avoid. Microplastics are in our water. It's hard to avoid these things. I think my approach and what I tell my patients is to do your best, but don't make yourself crazy. Make smart decisions. Don't microwave your takeout food in the plastic containers. Try to microwave in glass or heat things up in glass, but try to avoid bottled water if you can. But do you have to avoid every little plastic in your life? That's not realistic or possible in any way. Do your best to limit these things, but don't stress about them too much. I know this is a talk on female or women's health, but I think it's important to acknowledge that fertility is a team effort. It takes two people, and the sperm is important too. I just want to highlight the things that are important for male fertility and for sperm health because those are the things we need to optimize as well. Well, people with ovaries are born with a set number of eggs, and we have all of our eggs from the time that we're born. Environmental things don't impact them quite as much. Men make sperm every day and continuously make sperm throughout their lives. They're much more prone to impact from the environment and impact from lifestyle changes. We know that anything that increases the temperature of the testicles, so hot tubs and saunas, particularly, but working with your laptop in your lap as well can decrease sperm motility and sperm concentration and really have major impacts on sperm parameters. Other things, heavy alcohol use, tobacco, marijuana, especially. There's a lot of data that marijuana is really bad for sperm for sperm motility and sperm quality. Actually, a recent study that was really interesting showed that. With most environmental things, we think that the impact is really for about three months. It takes men three months to produce new sperm. Most of the impact is going to of any lifestyle changes, you'll see three, maybe six months later. But there are studies on marijuana that show that the impact on DNA damage in the sperm can be seen six, nine, 12 months after stopping marijuana. Really something you want to cut back on when trying to conceive. Testosterone

supplements. You'd think high testosterone, good for fertility. But when you're taking excess testosterone, it actually is going to decrease endogenous your own testosterone production and can decrease sperm counts and decrease fertility. Then certain hair grow supplements like finasteride and minoxidil can have impacts on men as well. Then what are the good things, eating a diet rich in antioxidants, fresh fruits and vegetables has been shown to improve sperm parameters and sperm quality. Those are the things to do in advance. One other thing just to add there is if you have any major health conditions, talking to your doctor about optimizing those, making sure that you are the healthiest you possible before trying to conceive. Now you're ready to conceive. Now you're ready to start trying. What does that look like? Well, unfortunately, we are not fertile every day of the month. I think when you take sex ed in high school, they make it seem like every time you have sex, you're going to get pregnant, and human reproduction is actually very inefficient, the most mammals. There is a narrow window in our menstrual cycle when we can actually get pregnant. It takes a little bit of timing to get that right. What does that look like? Well, an egg only lasts for 12-24 hours after it's released, whereas sperm can last in the reproductive tract for 3-5 days. I always say you want the sperm at the party before the egg gets there. You don't have to have sex the second you ovulate, but you really want to be having sex in the time leading up to ovulation is going to be your most fertile. Really, the six days leading up to ovulation is going to be your most fertile time. How do you know when that is? We get our period and we know when our period comes, but we don't know when ovulation comes. Some people can feel ovulation, but that's probably the exception, not the norm. How do you know when you're ovulating? I'll talk in a minute about ways to know that. But first, we really need to understand the menstrual cycle before we can figure that out. This is a diagram of menstrual cycle. It's my favorite thing to talk about. On the top, you can see what's happening in the ovaries. In the middle, you can see what's happening with your hormones. Then on the bottom, you can see what's happening with your endometrial lining which is inside the uterus. We artificially say that Day 0 of your cycle or Day 1 of your cycle is the first day of bleeding, the first day of your period because everyone knows when that happens. After the bleeding starts, your brain starts to release a hormone called FSH, follicle stimulating hormone to the ovaries to grow and mature an egg inside of a follicle. As that egg grows and that follicle matures, the follicle releases estrogen, which tells the endometrial lining to thicken and grow and mature, prepare it for a pregnancy. When the estrogen gets to a certain level, it tells the brain that that egg is mature, and the brain then releases a hormone called LH, which is the ovulation hormone. That LH tells the ovary to release the egg, and ovulation happens. In addition to telling the ovary to release the egg, it also converts the ovary from producing estrogen to producing progesterone, which is the hormone that's really important for pregnancy implantation and pregnancy support, pro gestation, pro pregnancy. If the egg and the sperm meet and they fertilize and it implants in the uterus, it starts releasing a hormone called HCG, which keeps the ovary producing progesterone. You stay pregnant, you don't get a period. If you are not pregnant, after 14 days, what's called the corpus luteum, the place in the ovary that's producing that progesterone dies off, progesterone levels drop, and that tells the endometrioliing, the uterus to shed, and you get a period. That's when you get your next period, and the whole thing starts over again. To figure out when you're ovulating, it's going to be 14 days before your next period because that's how long that corpus luteum lasts. There are a couple of different ways to figure out when you're ovulating. If you have regular predictable monthly periods, you can use a calendar method where if I know my cycles are 28 days. I know when my next cycle is going to happen, and then I can back calculate 14 days before that, say that's when ovulation is going to happen, and my most fertile days are going to be the six days leading up to that. Now, that requires predictable cycles. Most people or not everybody has predictable cycles. I think another thing just to highlight is we always talk about 28 days is the normal menstrual cycle, but that's average. Most people are not average. It is still normal to have cycles that are a little bit shorter, a little bit longer than that. I'd say 26-35 days, 36, 37 days are normal lengths of menstrual cycles. What that means, though, if the luteal phase that corpus luteum is only around for 14 days, is that someone with a 30 day cycle is not ovulating on the same day as someone with a 28 day cycle. If you have a 28 day cycle, you're probably ovulating on

Day 14. If you have a 30 day cycle, you're probably ovulating on Day 16. If you have a 32 day cycle, you're ovulating on day 18. It's not one size fits all. It depends on your cycle length. If you don't have predictable cycles or if you just want a little bit of extra data, ovulation kits, ovulation predictor kits or OPKs are another way to try and pinpoint when you're ovulating. What those are is they're sticks that you can pee on that are measuring LH levels in the urine. Remember, LH is that ovulation hormone, the thing that surges right before ovulation happens. You can buy these at the drug store. You pee on a stick every morning, and when you get LH, your LH surge, you're going to see either a smiley face, two lines. It depends on the kit, but it'll tell you when you're having that LH surge, and that's going to be the day of ovulation or right before ovulation, that's going to be your most fertile day. Now, the thing about ovulation predictor kits is ideally, you're having sex in the time leading up to ovulation. Not just on the day of ovulation. I view ovulation predictor kits as when you can stop having sex, not when you should start having sex. If you wait until the ovulation predictor kit is positive, you're missing most of your fertile window. Another people sometimes thing people sometimes use is their own body signs. Cervical mucus changes are going to happen as estrogen increases, and then when progesterone increases as well. As estrogen increases, we get an increase in the volume of cervical mucus and then changes in the characteristics of the cervical mucus. When the cervical mucus is slippery and clear, that is peak fertility. Some people are really in tune with their own cervical mucus and they can figure out when that's going to happen. For other people, it's a little harder. I think it depends on the person and whether that is a reliable indicator for them. Then basal body temperature. Progesterone causes an increase 1-2 degrees in basal body temperature. After you ovulate, when your progesterone goes up, your basal body temperature should go up. That is a marker of ovulation having happened. Now, the problem with that is it's going to go up once you have ovulated. Remember, the egg only lasts for 12-24 hours after ovulation. Once you ovulated, it's too late. If you're waiting until your basal body temperature goes up, you're missing your fertile window. Similar to ovulation predictor kits, I think of basal body temperature as when you can stop having sex, not when you should start having sex. How often should you be having sex? We said the six days leading up to ovulation is the most fertile time. Do you have to be having sex? Only once then, every day, three times a day. Studies they've done studies on this, and they've shown that having sex every other day is just as good as having sex every day. You don't have to have sex three times a day. Every other day is just as good in that fertile window, but less than that is probably slightly less efficient. What's a way of doing this? Usually, I tell people depending on your cycle length, if you have a 26-30 day cycle, if you want to keep things easy, start cycle Day 10, start having sex every other day until maybe cycle Day 20. You should hit your ovulatory window in there. If you want to make things a little bit, if you want to be a little more involved with it, you can use ovulation kits, you can monitor your cervical mucus changes, you can do basal body temperature changes. But do what feels right for you and whatever causes the least amount of stress. Some people find that doing something active makes them less stressed. Other people find that trying to figure out if the ovulation kit has two lines, they're peeing on a stick every two weeks just adds more stress. Do what feels right for you. You don't have to be using ovulation kits to get pregnant. It's just additional data that can help. I sometimes have people come into me who are using three different ovulation kits. That is not going to help you get pregnant anymore than using one or even just using a really good calendar method. If you find that what you're doing is adding stress, peel it back, be a little bit more basic, be a little bit more simple. Myths and truths. There's a lot out there on what you should do to get pregnant and what is good, what is bad. There are some truths to them, and some of them are probably not found in the truth. Truths. Lubricants can be bad for fertility. A lot of the commercially available lubricants like Astroglide, KY jelly, even saliva, olive oil, they will dramatically impact sperm motility by 50 or even 100%. They can be decreasing your fertility a lot. That doesn't mean you can't use lubricants. Just use ones that are sperm safe. Pre-seed is a brand that's sperm safe, mineral oil is okay, canola oil is okay. You just don't want to be actively hurting the sperm. Now the myths. Do you have to lay down after having sex with your feet in the air for 30 minutes? No. They've done studies that sperm will make it into the cervix within just a few seconds of getting into the vagina and into the fallopian tubes

within a few minutes of getting into the vagina. Sperm moves really fast. If you stand up after sex, it's not going to all come out. Laying down for 30 minutes after does not improve chances of pregnancy in any way. Certain positions, there's no position that's better than another one for getting pregnant or for trying to have a boy or trying to have a girl. Studies haven't really shown that those pan out. When to seek help? Well, in order to know when to seek help, you have to know what normal expectations are. Again, we talked about how in sex ed, they make you think that every time you have sex, you're going to get pregnant when human reproduction is actually pretty inefficient. In the most fertile couple, the chance of getting pregnant every month is about 20 to 30%. It's not 100%. It's 20 to 30% if you're timing things correctly, and you're the most fertile couple. Most couples, it's going to take 3-6 months for them to get pregnant, even if they have no fertility problems at all. This chart here is showing percentage of couples that get pregnant with amount of time trying to conceive. After six months, about 60% of couples will get pregnant. After 12 months of trying, about 80% of couples will get pregnant. At that point, the chance of getting pregnant flattens out. After two years of trying, about 90% of couples will get pregnant. This is where we get our definitions of infertility from because the curve of trying to get pregnant flattens out. We say if you've been trying to conceive for over 12 months and you haven't gotten pregnant, that's defined as infertility in people under the age of 35. Now, that doesn't mean that you can't get pregnant if you were to keep trying. It just means that you're no longer the most fertile couple and chances of pregnancy are probably about 5% per month. It's when we want to start looking for things that could be going wrong that we could fix or start thinking about treatment. Another big thing just to acknowledge and talk about is that fertility declines with age, and it's the biggest, most difficult to treat fertility issue out there. These are studies done in different populations of people trying to conceive. A lot of these you can see were done a long time ago. But the general trends hold true, and it's pregnancy rates by age of the female. What you can see is that fertility rates start to decline a little bit after, like, in your mid 30s, more significantly after the age of 37. After early 40s, we're not seeing very many people being able to get pregnant on their own. It can happen. It's just few and far between. That has to do with the eggs and the quality of those eggs or the genetic makeup of those eggs. As I said, we're born with all the eggs we're going to have, which means that the number of eggs we have declines with time, but more importantly than that number, the quality of eggs declines. When we're talking about the quality of the egg, we're talking about the genetics of that egg on a chromosomal level, which are like big chunks of genetic information. What happens is, as we get older, a larger percentage of our eggs become chromosomally abnormal. Just don't have that right blueprint to make a baby. It's not that all of our eggs are worse. It's just that a larger percentage have this abnormal chromosome number called aneuploidy and just don't have the right blueprint. If you're only releasing one egg per month and a larger percentage of them are abnormal, it's going to take longer to find that good egg, and it's going to be harder to get pregnant. This is showing percent rates of aneuploid, chromosome abnormality by age, rates of aneuploid in an embryo, but you can kind of backtrack and assume egg quality. You can see a similar curve kind of in the opposite direction to what we just looked at. As the age of the egg gets older, the chance of aneuploid goes up a little bit after 35, more significantly after 37, that's really where age plays in. Age impacts sperm too, but not to as absolute a degree and at a later age than it does for eggs. When should you get evaluated? We said definition of infertility is not getting pregnant after 12 months of unprotected intercourse in women under the age of 35. Then we say after six months of trying in women over the age of 35. Now, it's not that I expect women who are over 35 to get pregnant faster. It's just that I'm being mindful of that age and that clock. I hate to use the clock analogy because we don't want things ticking, but the time and age is real, and so we just don't want if you're over the age of 35 and you've been trying for six months, we don't want you trying for two or three years if there's something that we can fix and something we can intervene on. Other reasons why you may want to get evaluated sooner before, you don't have to try for 12 months if we know something's wrong. If you have irregular menstrual cycles or known issues with ovulation, like polycystic ovarian syndrome, PCOS, you should see a doctor sooner. You don't have to try for 12 months with no periods. Just to see a doctor. If you have known conditions that impact fertility like

endometriosis, fibroids, if you have a history of major abdominal surgeries or major pelvic infections that might put you at risk for having your fallopian tubes blocked, you should see a doctor earlier. Then any form of male sexual dysfunction or known testicular problems can be signs of sperm issues. You should see a doctor sooner. Take home points, everything is about balance, and I want you to remember that you're optimizing, not controlling. You can be fully optimized. You can eat the healthiest foods, take the best supplements, exercise, sleep, not be stressed, and still have infertility because a lot of this is out of your control. I know we want to control everything as much as we can, but we can't. We don't have complete control over this. It is really complicated to make a human and things don't always go right. Optimize as much as you can, and then try to be a little at peace with the things that are out of your control. Seek help when you need to, and we'll take care of you.

Jeannette C. Lager: Thank you so much, doctor Shapiro. That was wonderful. What a great team of speakers. We've had some great questions that have come up, and I just want to start with one of the first questions for both of you is, are there any particular considerations for either people that are in their early reproductive years or in their later or perimenopausal reproductive years as we're thinking about these two ends of the spectrum.

Maren Shapiro: That's a great question. We just talked about that, that age really matters when it comes to fertility. I think the biggest thing to think about is just when you're older. Over the age of 35, I want you to see a doctor sooner, just because I don't want you to miss out on the opportunity for treatments that are available. Over the age of 35, after six months of trying to conceive, I'd want you to see a doctor. If you're over the age of 40, I might even see a doctor sooner after three months or so, just because time is of the essence.

Jeannette C. Lager: Jennifer, do you have thoughts from the Eastern perspective?

Jennifer Ashby: Since women age in seven year cycles, for us, it goes 35 42. We do this jump. In East Asia medicine, you're basically your G is not that dramatically different 35-42, so our window is a little bit longer, but I think that was also written 4,000 years ago, and modern life definitely has its effect on our body. I don't think that the principles are different. I just think your resiliency to not include lifestyle as a major mechanism to help your body stay balanced gets more and more essential as we age. That concept of prenatal and postnatal, since we do make a jump at 42, in terms of how we age and how much prenatal checkups we still have, which is essential for getting pregnant and maintaining healthy hormonal balance. I think that lifestyle factors become even more essential, and it's not just in the moment. It's what you've done the ten years, the five years prior. I think that map of eight things are really wonderful ways to start. I know that everybody listening probably knows the things that they do really well on that list and keep doing those. Then as time goes on, pick like two or three that you want to improve on and find techniques to fold them into how you define yourself in your daily life.

Judith Cuneo: Thank you. Here's a question from someone who identifies as younger in their early 20s. The question is, which of the Eastern medicinal routines or interventions do you see doctor Ashby as the most important to start early? I read this question as perhaps in someone who is considering conception, but not ready yet. I would extend the question to doctor Shapiro, and maybe it's what lifestyle interventions or medical interventions, if necessary, are most critical in those years before conceiving.

Jennifer Ashby: I think that sleep, stress reduction, and I struggle between diet and hydration on this level. My fastest growing population of fertility seeking women are tech and medical residents. What that tells me is that stress, long work hours, they're not a good work life balance is such a bad term because work is also life. But having that balance between joy and overly focused, playtime and movement and overly focused. Then that I would add that movement if you're working hard, does not mean going to a HIT workout after work. It means moving your body in a way that nurtures you where

it's not more energy output. Those are the ones that I would focus on the most.

Maren Shapiro: I would say I think I would focus also on the things to avoid. Smoking cigarettes, as I said, so bad. I don't think most of the people here are doing it, but it is one of the few things that we know can really negatively impact fertility and shorten time to menopause, accelerate egg depletion. That's a big thing that I would just focus on either cutting out, cutting back, not doing, not picking up at all. Then I would echo the healthy exercise stress habits. Not because I necessarily think that they are going to negatively impact your fertility in the long term, but because I want you to have those habits in place, so that when you are trying to conceive when you're pregnant, they're already in place and they're easy to implement when things get more stressful.

Judith Cuneo: Great point. Thank you.

Jeannette C. Lager: Thank you. Another question because there's so many elements of thinking about fertility that align so well with East Asian medicine and from the perspective of reproductive endocrinology. What does good collaboration look like between the licensed acupuncturists and physicians in terms of fertility care or what is the best way to communicate across those lines?

Maren Shapiro: I can say, so many of my patients do acupuncture and have so much benefit from it. I think especially, and there have been a lot of good studies on acupuncture in fertility. From an academic evidence based medicine standpoint, it is very evidence based. It I see the biggest benefit in mental health and stress reduction. People just really feel good after going to acupuncture. People are often asking me about it. I recommend that my patients do it. I think there's a lot of cross talk in terms of recommendations. My patients. I don't know that I speak directly with the acupuncturist and the Eastern medicine practitioners, but a lot of times my patients will come and say my acupuncturist recommended this. What do you think? Vice versa. I had a patient just the other day who said I was talking to my acupuncturist. She pointed out that I was telling her my periods are painful, and I have to take a lot of ibuprofen, and she pointed out that that's not necessarily normal. Do you think I have endometriosis? That started a conversation about endometriosis that didn't come up in our initial patient intake. It was really, really valuable and really helpful. I think that there's a lot of cross talk and a lot of collaboration there. It would be great if we could communicate directly, but I think that would be so fun if I could just so great.

Jennifer Ashby: Agreed. I think that I can I can speak for myself. I like to work totally collaboratively, and I work very hard to not reduce the efficacy of whatever hormonal schedule you're on. The first thing, if I'm seeing someone just on a fertility journey, it depends on what that journey is, whether it's egg preservation, whether you're solo parenting, whether it's a a heterolytic couple, it very much depends on the schedule as well and what your goal is and your age. The first thing I ask about is your schedule, because if we're going to use herbs, I want you to be off of them, at least 2-3 weeks before you start on any fertility drugs. Then if I have questions, I mean, I have the benefit of working at UCSF, so I just shoot messages off to people if I have questions. But sometimes I also we're all really busy and What I do is I write lists of questions down for my patients for the next time they're seeing their reproductive endocrinologists. That's what I do. I check with the schedule. I make sure that what I'm doing is not going to interfere. When I can't use herbs, I make sure that I implement those lifestyle skills, so that they can act in place of the herbs I would have used, and diet and sleep and different things can actually do that.

Maren Shapiro: I think one little thing I'll that you just sparked in my brain is I also think it's really important to share with your doctor what herbs you're taking and what supplements you're taking. A lot of times I'll ask about medicines and people say, I'm not on any meds, and then I ask about supplements. They're like, wait, I am on a huge list. These supplements are active. They work because they have active ingredients, but that also means that they can interfere with things that we're doing, put you at higher risk for bleeding at the time of egg retrieval treatments. They're

important things to share. I may not be an expert in them, and I may not be able to tell you how to best titrate them and manage them. But I also want to know about them too.

Jeannette C. Lager: Makes sense.

Judith Cuneo: Thank you. We talked a little bit about timing of intercourse in the fertile window. I just wanted to ask you, Dr. Shapiro, how you might counsel same sex couples about the same when penetrative intercourse is not how they're conceiving. Are there differences, and what's that usual conversation?

Maren Shapiro: Yeah. That's a great question. That should have been on my list of people who need to see a doctor or see a provider earlier. If you need an egg, sperm, and a uterus to have a baby, and if you're missing any of those parts, you're going to need a little bit of extra help, and you should see someone sooner. Fortunately, we used to say that the definition of infertility was trying to conceive for a year, but ASRM has actually expanded that definition to include people who are unable to conceive with intercourse alone. That's wonderful. The hope is that most insurance companies have caught up on that and if and will include coverage, although some may be lagging behind. I think see a provider sooner so we can talk about what the options are. If you're a same sex female couple, and there are lots of different ways that we can make a baby and expand a family, but the least invasive would be donor sperm insemination with intrauterine insemination. We talk about that. Some couples choose to do reciprocal IVF, where you can actually take an egg from one partner and put it into the uterus of another partner using donor sperm. If you're a same sex male couple, you do need to use an egg donor and a gestational carrier or a surrogate that provides the uterus and carries the pregnancy. It's really there's a lot of different ways, but the short answer is come and talk to us, and we'll help you figure it out.

Jeannette C. Lager: Do you know the role of skeletal muscle in optimizing fertility? Do you have any recommendations for strength training versus cardio and optimizing overall health prior to pregnancy?

Maren Shapiro: That's a great question. I don't know that I know of specific studies on skeletal muscle mass and balance. But again, I think it's about balance. I think we do know that muscle mass is important for bone health. BMI is not, like, the only parameter. I'd say it's about balance. I think weight training is important. Weight training is really good for your overall health. Anything that's good for your overall health is going to be good for your fertility. Usually, when I talk about over exercising and not being bad for fertility, usually it's excess cardio that leads to the energy imbalances, the calorie burning versus calorie intake imbalances that then lead to hypothalamic amenorrhea, which is the losing of your period because you are overextending. I don't see that as much in people who are weightlifting a lot. It's simply the marathon runners, the people who run a lot who are seeing that. Maybe a little bit less on the cardio, but it doesn't mean that cardio is bad. It's just more of the extremes that are bad.

Jennifer Ashby: I couldn't agree with that more. The one thing that I do add is don't start what you think you should be doing when you're trying to get pregnant.

Maren Shapiro: I love that.

Jennifer Ashby: That's just to not throw your body into some other level of shock where you might not be eating appropriately for the amount of energy output that you're giving. But if you're building up to something or if there's something you've already been doing outside of overcardioing yourself, Chinese medicine believes, East Asian medicine believes in that as well. I think that everything else is fine.

Judith Cuneo: Let's see. We have a question about minoxidil and its impact in fertility in females.

Would either of you like to take that?

Maren Shapiro: Yeah. Not safe in pregnancy. I pretty much, unfortunately, tell my patients they have to stop it before trying to conceive just because I don't want you getting pregnant and being on the monoxidil. I know it's a really effective medicine.

Jennifer Ashby: Pretty much same just because I know that it's not safe, not because East Asian medicine has a lot to say about it specifically.

Jeannette C. Lager: What do you think about eating primrose oil or seed cycling for regulating menstrual cycles?

Jennifer Ashby: I think that there's better things than eating primrose oil. The way that I approach patients is that I need you to partner with me. I can't carry the load for you. I can't change anything for you. If I am working to create a certain balance and your lifestyle is adding to the burden on your body, I have no magic. There's nothing I do. It's all about you and your participation. I always first try to start with literally those eight lifestyle components that I competencies that I said. Then after that, once we've been doing those for 3-6 months for a younger individual trying on their fertility journey, then we can understand if we know that their vitamin D is low, we could up their vitamin D. But in terms of using evening primrose oil to balance hormones, I think lifestyle first. Then I think there's other herbs that are available to help with hormonal balance that are better than eating primrose personally.

Maren Shapiro: I think what I would say about menstrual cycle regulation is that if your cycle is not regular, there's so many different reasons why that could be that I really want you to see a doctor first to do the testing to figure out what it is and target that because it's not a one-size-fits-all.

Judith Cuneo: Dr. Ashby, I have a question. East Asian medicine, Chinese medicine can be a barrier to care because of cost and patient resources. Not everywhere, but I wonder if you might have some suggestions or models that might be more accessible for people. Also maybe some tips for people about how to find a reputable provider.

Jennifer Ashby: I think it's important to know that in the State of California, we are all pre-med before we start our master's in acupuncture school. Everybody in the State of California is licensed and regulated by the California Board of Acupuncture, and so everybody here has a very good, safe and basic knowledge of the medicine. To that, I would add, greater accessibility really comes in the form of one, many insurances cover acupuncture. They don't cover it for fertility, but they do cover it for back pain, which most women have when they're painful menstrual cycles or the headaches that they have pre-menstrually. There are ways to not lie, but work within the system that we're given, and community style acupuncture is the most affordable form of just if you have to pay out of pocket. It is usually sliding scale. Some of them go down to like $30, $35, $40 a session. Although you might not have that same private room one on one experience, you can call community acupuncture wherever you are and find out if somebody that practices there focuses on fertility and women's health. There's usually somebody in every practice that does. But to know that within the State of California, you're getting competent people. Talk to them first, because you always know who you with. It's a relationship, and so you have to like the way that you communicate together.

Maren Shapiro: I've seen patients that have better insurance coverage for acupuncture than they do for infertility treatments.

Jennifer Ashby: That is so true.

Judith Cuneo: Can you paint a picture of what community acupuncture looks like?

Jennifer Ashby: Yeah, absolutely.

Judith Cuneo: How it's different.

Jennifer Ashby: We like to call it group medical visits here at UCSF, but it started many, many, many years ago, actually in the '60s. Group medical visits are a room with multiple chairs or tables where multiple people are being treated at once. You're not on top of each other, but you're not alone in a room. Some people actually prefer it because just like centering in pregnancy, people get a benefit from a shared communal healing experience. I have group medical visit one clinic a week here for my women's health and oncology patients. At first, my patients were very reluctant because they're so used to having me alone in a room. But they get up there and it's so sweet. It's usually a very comfortable space that is very conducive to healing and relaxing. It's foreign or invasive, as one would picture. It's just multiple beds in a room and nobody's talking loud. Nobody's hearing what you're saying. There's music playing, so it's actually nice.

Jeannette C. Lager: That sounds great. From the perspective of reproductive endocrinology and thinking about access as well, what are recommendations to do before? How do you think about accessing reproductive endocrinology and thinking about the treatment options?

Maren Shapiro: Fortunately, in California, there was recently passed an infertility bill, and so insurance coverage is expanding, which is really wonderful. Hopefully, that won't be as much of a problem. There are restrictions above a certain size based in California, they have to offer some form of infertility coverage, and there are restrictions on what that has to be. More people are getting coverage, which is great. Talk to your employer, talk to HR, look at your insurance, figure out what you have. There's a lot that a general OB-GYN can do in terms of infertility workup. They should be able to do most of it. A lot of it again, not lying, but just testing within what's indicated. A lot of it can be covered by general medical insurance. If you're having abnormal bleeding, you can get a saline sonogram and even fallopian tube testing covered sometimes. There are things that we can do within. That's I just I would talk to your general OB-GYN and start the process there with them.

Judith Cuneo: For someone with endometriosis who is using birth control pills, for example, to suppress ovulation, to reduce symptoms, are there any concerns for preparing to get pregnant? I'd like to expand that question to both of you. Are there particular approaches that you take for a patient or could you elaborate on a particular approaches that you take for patients who have endometriosis? What are the fertility concerns?

Maren Shapiro: Your first question about birth control pills, practically, I see that it can be variable. Birth control pills work by suppressing ovulation. Stabilizing hormonal levels suppressing ovulation. Practically, it can be variable how soon after stopping birth control pills people start ovulating. Some people ovulate right away. You need to assume that if you come off, you could get pregnant right away. I've seen some people the people who have been on birth control pills for 15, 20 years. It can take a couple of months for their ovaries to wake up again and lose that suppression. No more than three months, I would say, but sometimes it can take that time for it to restart again. I think coming off birth control pills a couple months in advance so that you can figure out what your cycles look like. The other thing that's important to know is that your cycles on birth control pills are not what your body is doing on its own. They are manufactured by the birth control pill. If you have 28- day cycles on a birth control pill, it doesn't mean you have 28-day cycles when you're off of it. Getting to know your body a little bit is probably helpful in planning knowing that you could get pregnant right away. If you don't want to be pregnant, you should use condoms or some other sort of contraception. I don't think that there's any problem with long term birth control use or any negative fertility impact of long term birth control use. It's just that allowing the ovaries to wake up again. The other things with people with endometriosis. I think your second part of the question was, what do I think about in terms of infertility with endometriosis?

Judith Cuneo: Just maybe you could explain why it happens.

Maren Shapiro: Why it causes infertility?

Judith Cuneo: Yes.

Maren Shapiro: It's pretty multifactorial. There are direct ways, and then there are more indirect ways. The direct ways are endometriosis causes scar tissue in the belly and scar tissue can block the fallopian tubes. If your fallopian tubes are blocked, egg and sperm can't meet. You can't get pregnant with intercourse or you may have trouble getting pregnant. Other ways are a little bit less easy to test for and don't impact everyone with endometriosis, but we do think the inflammatory environment of endometriosis can impact implantation and impact potentially egg quality, although that's a bit more controversial. It also leads to a progesterone resistant state, so it can impact things on the implantation standpoint. But that doesn't mean all people with endometriosis will have infertility related to that. It's just a subset, and it's hard to figure out who's there. I think take home is if you have endometriosis, you should just see a doctor sooner because we might want to test and intervene sooner.

Jennifer Ashby: Not sure I have a whole lot to add to that, but briefly, I think in East Asian medicine, when we are shutting down the ovaries, that is part of that Jing chi. Because it's so precious and delicate, the waking it up process, we always want people to give 3-6 months. Length of time and that precious Jing energy sometimes from a Chinese medicine perspective, it depends on how much it can actually be woken up. But usually can to some degree. Then in terms of endometriosis, most of what we do with endometriosis is to minimize the symptoms that come with it, the painful periods. By the nature of doing what we do, hopefully, prior to trying to get pregnant with endometriosis is going to reduce the inflammatory process, improve circulatory issues, and will aid in fertility when you're trying to get pregnant. But it's definitely a tougher haul for us. Yeah.

Jeannette C. Lager: Thank you so much. Those are such valuable answers to the questions. I wish we could cover them all, but I also have to be mindful of the time. Thank you all and good night. Thank you, Dr. Shapiro and Dr. Ashby.

Judith Cuneo: Thank you.

Jennifer Ashby: Thank you for having me.

Maren Shapiro: Thank you for having us.

Jennifer Ashby: Thank you.