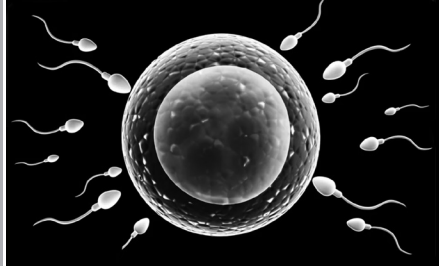

CHAPTER 14

GETTING INSIDE THE HEAD OF YOUR DOCTOR: TOP REPRODUCTIVE ENDOCRINOLOGISTS SPEAK

Over the past 20 years, I've had the privilege of helping thousands of women conceive. Although I wholeheartedly believe in the power of traditional oriental medicine (TOM) and the fertility-rejuvenation protocol outlined in this book, I also deeply value the role of Western medicine—especially when the two are combined. For many women, it's this integrative approach that makes all the difference. To give you the most well-rounded perspective, I've interviewed leading reproductive endocrinologists. In addition to the original 2015 interviews with Dr. Hugh Taylor and Dr. Janelle Luk, this updated edition includes new insights from June 2025 with Dr. Aimee Eyvazzadeh (The Egg Whisperer), embryologist Sean Lauber (The Embryoman), and another conversation with Dr. Luk.

2015 INTERVIEW

Dr. Hugh Taylor, a board-certified specialist in obstetrics and gynecology and in reproductive endocrinology, as well as the chair of the Department of Obstetrics, Gynecology, and Reproductive

Sciences at the Yale School of Medicine; the chief of Obstetrics and Gynecology at Yale-New Haven Hospital; and the director of the Yale Center for Reproductive Biology, spoke with me at length over such topics as epigenetics, autoimmune diseases, mind–body medicine, and egg freezing. Here's what he had to say:

Aimee Raupp (AR): How do you see epigenetics affecting fertility?

Dr. Hugh Taylor (HT): Epigenetics is a huge issue; it is not well understood. Clearly [epigenetics] is having an impact on fertility. Science shows that fetal exposures (meaning exposures that your mother had to environmental agents/endocrine-disrupting chemicals while she was pregnant with you) clearly impact women in their fertile years.

AR: Can exposure to environmental agents/endocrine-disrupting chemicals affect a women's fertility later in life?

HT: These influences can impact fertility; the earlier in development the exposure, the greater the risk. Environmental agents are clearly leading to infertility. When it comes to PCOS [polycystic ovarian syndrome] and endometriosis there is no clear genetic cause. You can inherit a propensity to develop PCOS or endometriosis; however, heredity alone is not enough. These diseases result from a complex interplay between genetic risk, developmental programming, and environmental cues.

AR: With nearly 30% of fertility issues being diagnosed as "idiopathic," do you think the majority of these idiopathic cases are actually misdiagnosed or are undiagnosed autoimmune conditions?

HT: Some idiopathic cases are autoimmune, but not all of them. When it comes to infertility there is so much more that we don't understand than we do. Impacts from autoimmune diseases, environmental triggers, damage from other diseases, all play a role in ovarian aging and infertility.

AR: Do you think age is our biggest fertility issue?

HT: Age is certainly not the biggest issue. It is a large issue and women need to be made aware of how their fertility changes with age.

AR: What are your thoughts on egg freezing? If you had a friend who was over 35 and single, would you recommend she freeze her eggs?

HT: Yes, I would.

AR: But isn't it true that frozen embryos are much more stable than frozen eggs when thawing?

HT: Yes. But egg freezing techniques are getting better and better. When freezing eggs for future use, you need more eggs than if you are using embryos; however, to create an embryo we need sperm. Some may not be at a point in life where they are ready to commit to use a partner's or donor's sperm.

AR: Say that same woman in a few years winds up needing to do an IVF. Would you use her frozen eggs or fresh eggs to do the IVF?

HT: I always prefer fresh over frozen. However, if aging has left her without strong eggs, the frozen eggs will solve the problem.

AR: What do you think about the difference between chronological age and physiological age? Do you ever think about that?

HT: Yes, you bring up a good point. There is so much variability as to when someone's ovaries start to fail. Yes, chronological age is a good estimate, but it doesn't really tell us what we want to know … when we start combining chronological age with AMH [anti-Müllerian hormone] or FSH [follicle-stimulating hormone] we can get a better idea. But we do need a better formula to come up with to determine a women's physiological age, as you put it, and that may be the key to not only how a woman will respond to an IVF treatment but also counseling women about planning for a family. Aging varies from person to person, and we know that there are environmental and genetic influences. Certainly smoking and all sorts of other environmental agents that we don't yet fully understand yet are limiting our reproductive life span.

AR: Is FSH a static number (meaning it stays the same)? And do you use FSH or AMH to determine ovarian reserve?

HT: FSH is not static. We look at AMH and FSH, but AMH is more stable. We want to see an AMH over 1.

AR: I know more and more fertility clinics are now recommending certain supplements to their patients to help improve egg quality. What are your thoughts on this?

HT: I don't necessarily advocate for the use of supplements, but I don't see them as harmful. As of yet, there isn't solid evidence saying they help improve egg quality … the notion that they can improve egg quality is interesting and promising, and I don't think there's any harm in it. I'm not against it.

AR: Do you recommend meditation or other stress-relieving techniques to your patients?

HT: Yes. It's important for the patient to be proactive, involved, and working to alleviate stress. Meditation or anything that reduces stress levels is going to help.

AR: Do you recommend acupuncture to your patients?

HT: It is hard to determine (scientifically) the benefit of acupuncture, as it is hard to control in scientific experiments. I do think it is a good idea for the right woman who is open to it. Certainly, there are women who are invested in it and benefit from it.

AR: What are your thoughts on celiac disease (CD) and fertility?

HT: The science is there: There is a clear link between CD and infertility. It is something we rule out in all of our fertility patients.

My big takeaway from my interview with Dr. Taylor was his statement, "There is so much more about infertility we don't know than we do." Of course, there is plenty of data suggesting that advanced maternal age is playing a role in fertility, but as he said, "age is certainly not the biggest issue." Yes, age is a large issue and one that women need to be aware of; however, the conversation I had with Dr. Taylor focused much more on environmental influences, endocrine-disrupting chemicals, and epigenetics and how these factors are affecting our fertility. Dr. Taylor's current research mainly focuses upon environmental agents and how they are epigenetically affecting us reproductively. During our conversation, he also shared with me his curiosity about how genetically modified foods may also be affecting our reproductive capabilities. All in all, I was inspired by his passion for helping women to find the right solutions or help them get pregnant. And I felt I gained insight into the future of reproductive medical research: how our environment—our diet, our stress levels, the products we use on our bodies, and the chemicals we are exposed to throughout our entire lives—is affecting our fertility.

2015 INTERVIEW

Dr. Janelle Luk is a board-certified specialist in obstetrics and gynecology and in reproductive endocrinology, as well as the codirector of the Diminished Ovarian Reserve Program at New Hope Fertility Center in New York City. She is an innovator in her

field, employing a combination of conventional stimulation methods (meaning using pharmaceutical medications) and the natural cycle stimulation protocol (meaning no medications) to synthesize the most optimal stimulation method for each individual patient. Dr. Luk and I discussed topics from can a woman safely wait to her 40s to get pregnant to what type of dietary recommendations she thinks are best for fertility patients. Here is what she had to say:

AR: From your clinical perspective, do you believe a woman can safely wait until she's 40 to try to get pregnant?

Dr. Janelle Luk (JL): From my clinical perspective, I believe that a woman should not wait until 40 years old to try to get pregnant. First of all, everyone's biological clock is different. However, starting from a patient's earlier age, there is already a gradual decrease in ovarian reserve. But at the age of 35 and older, the decrease is more clinically significant. As a result, I would suggest that trying earlier than 40 years of age is better.

AR: From your clinical perspective, do you feel women should go to IVF (in vitro fertilization) over doing multiple IUIs (intrauterine inseminations)?

JL: That really depends on the patient's tubal patency (meaning how open their fallopian tubes are) and also the patient's age. I have told my patients that they are ultimately the ones who need to make that decision. However, I would provide them with utmost guidance in the hope that we could find a timetable that would fit their needs to reach their ultimate goal. For example, if a patient is older than 40 years old and had tried timed intercourse for 2 years with normal semen analysis, then I would have the patient try IUI, maybe for 2 months (only if insurance covers it) and then transition to IVF. I would not have a patient try IUI for too long.

AR: What's your take on natural IVFs? For what population do you think this approach would be best?

JL: My take on natural IVF is that the patient has to be well informed in what she is getting into and it has to be selective. Patients who have had a hypersensitivity with any ovulation induction medications, who have premature ovarian failure and extreme diminished ovarian reserve, will be ideal for natural IVF cycles.

AR: What is your take on preimplantation genetic diagnosis (PGD)? Are you at all concerned about how PGD can affect embryonic development?

JL: Our center is publishing our own PGD data in this coming year where we have found that PGD has significantly improved the implantation rate/pregnancy rate/live birth rate of embryos that have normal genetic make-up. I believe that PGD is the future of IVF. It has the highest success rate and is a very precise and accurate answer for some patients.

AR: Do you find acupuncture to be effective for your patients?

JL: Yes, but only when the patient finds a good match. I think that it is very important to find an acupuncturist who is compatible with the patient.

AR: Do you ever recommend meditation to your patients? Or any other forms of stress reduction? If so, which ones?

JL: Yes, I recommend that patients do exercise, talk to friends, and join forums to discuss their experience. It is a stressful process and sometimes can be a long journey. So it is crucial with alternative therapy to have a good support system.

AR: Do you believe FSH or AMH to be static numbers? Which (FSH or AMH) do you feel is a better indicator of ovarian reserve?

JL: FSH is not a static number. AMH is more of a static number. They are numbers that reflect the ovarian reserve. However, when one is treating a patient, one is not treating only the numbers. It is a good indicator, but you also have to take care of the patient as a whole. Factors such as a patient's menstrual cycle length, ovary sizes, and antral follicle count are all indicators of ovarian reserve.

AR: Do you ever make nutritional or lifestyle recommendations to your patients? If so, what are they?

JL: I love an antioxidant diet. I have patients who claim that it has worked for them (to improve egg quality). However, I also know that it has not been proven that there is a fertility diet that works for a specific person or population. So, this is really patient-dependent. In general, it is important to eat more vegetables than meat.

Dr. Luk offered me some additional insight, similarly to Dr. Taylor, into how uncertain Western medical science is in predicting fertility for women, regardless of their age. As Dr. Luk said, "When one is treating a patient, one is not only treating numbers … but you also have to take care of the patient as a whole." Again, age is big determinant in both Dr. Luk's and Dr. Taylor's treatment

of their patients—as is the case with most all Western medically trained fertility specialists—however, Dr. Luk and Dr. Taylor both do recognize that age is not the biggest issue and that ovarian aging is dependent upon many concomitant factors. What I also love about Dr. Luk's approach is that she recognizes the importance of antioxidants and diet in the health of her fertility patients.

2025 INTERVIEW

Embryoman (Sean Lauber) is a former embryologist and the creator of www.Remembryo.com, an IVF science news site. After working in U.S. IVF labs, he returned to Canada and now focuses on making fertility research more accessible. He holds a master's in immunology and launched Remembryo in 2018 to help patients and professionals make sense of IVF research. Sean shares weekly study updates on Facebook, Instagram, Reddit, and TikTok regularly. He also answers questions on Reddit or in his private Facebook group.

AR: Based on the deep dive research you do in the field of reproductive medicine, what is your educated opinion on egg and the ability to impact or improve egg quality as a woman ages? Is it less about a woman's age and more about her mitochondrial health? Does the research show if a woman has a preparation period BEFORE beginning IVF, focused on nutrition and supplements and things like acupuncture, that she will have better outcomes?

Embryoman: It's tough, because the main driver of age-related egg quality decline is aneuploidy, an abnormal number of chromosomes in the egg. Aneuploidy is the leading cause of miscarriage and is overwhelmingly age-related. The root of this lies in how female eggs develop: Unlike sperm, which are produced continuously, eggs are formed before birth and remain paused in a stage of cell division (called prophase I of meiosis) for decades. Over this long period of time, the molecular machinery that ensures chromosomes are correctly aligned and separated, like the spindle apparatus, cohesin proteins, and kinetochores, begins to degrade. This increases the chance that chromosomes will separate improperly when the egg finally resumes division during ovulation, leading to chromosomal errors.

Declining mitochondrial function, which affects the energy supply needed for proper chromosome separation, can further increase the risk of aneuploidy. Egg cells are packed with

mitochondria, but as women age, these mitochondria often become damaged or less efficient due to accumulated DNA mutations, oxidative stress, and reduced ability to repair or replace faulty components. This drop in energy production can impair key steps in meiosis such as spindle formation, leading to chromosome separation errors.

Supplements like CoQ10 and melatonin may help support mitochondrial function and egg health by reducing oxidative stress, and some studies have reported improved pregnancy outcomes. However, most of these studies are small, poorly controlled, or inconsistent, and the overall quality of evidence is low. The supplement industry is also poorly regulated, with wide variation in product quality, dosage, and composition. While some patients may benefit, it's not clear who, why, or whether the benefit comes from the supplement itself or other lifestyle changes happening at the same time. Better studies are needed before strong conclusions can be drawn!

AR: As of right now, preimplantation genetic testing for aneuploidy (PGT-A) testing is the best we have in regards to checking embryo quality, but it definitely has its limitations. Based on the research you have seen, what would you say is the percentage of accuracy in PGT-A testing? Can abnormal embryos (aneuploids) actually be normal (euploid)?

Embryoman: PGT-A is the most widely used tool for screening embryos for chromosomal abnormalities, but it has important limitations. The test analyzes a small biopsy, typically 5 to 10 cells, from the embryo's outer layer (the trophectoderm), which becomes the placenta. It does not sample the inner cell mass, the part that becomes the fetus. Because blastocysts can have hundreds of cells, a small biopsy may not fully represent what is happening across the entire embryo. Some studies have shown that for embryos labeled as fully euploid or fully aneuploid, repeated PGT-A biopsies often produce similar results. But this level of agreement breaks down for embryos labeled as mosaic, segmental, or "chaotic" (those with multiple chromosomal abnormalities).

What's more, emerging research using single-cell DNA sequencing (where all the cells of an embryo are DNA sequenced instead of a bulk biopsy sample) shows that most embryos are mosaic to some extent. One 2024 study found that 82% of

blastocysts were mosaic when analyzed cell by cell (https://pubmed.ncbi.nlm.nih.gov/38175717/), and another found that 100% of embryos had at least some degree of mosaicism (https://pubmed.ncbi.nlm.nih.gov/39313513/). These mosaics may be missed by standard PGT-A because single-cell DNA sequencing analyzes all the cells of an embryo and not just a single biopsy of 5 to 10 cells; however, using single-cell sequencing on embryos that are meant for transfer isn't possible because the technique destroys the embryo. This data suggests that mosaicism could be a normal feature of early embryo development and that some embryos labeled as abnormal may actually be viable.

That said, embryos labeled as fully aneuploid are more likely to truly be aneuploid throughout. This is often due to errors in the egg itself, which can lead to uniform aneuploidy in all the embryo's cells. However, it's still possible that a biopsy labeled "aneuploid" could come from a mosaic embryo, especially if only a few abnormal cells were sampled. Fully aneuploid embryos have a high chance of failing to implant or miscarrying, though there are rare reports of healthy births following their transfer.

Ultimately, without analyzing the entire embryo, it's impossible to be completely certain about its chromosomal status. Even when an embryo is labeled euploid, smaller genetic mutations can go undetected by PGT-A, and factors unrelated to the embryo, such as uterine environment, can still cause implantation failure.

AR: How much of a role does the uterus play in fertility outcomes? Why do you think the uterine microbiome and the testing of it is not mainstream?

Embryoman: The uterine microbiome just isn't well understood yet. Studies disagree on which bacteria are even normal, and results can vary across labs and patient groups. The microbiome can also change over time, due to menstrual cycles and hormones, for example, so even a single sample might not tell the full story. Of the research that is available, some studies do suggest that certain bacterial profiles are linked to better IVF outcomes, but the evidence is inconsistent and often based on smaller studies that aren't standardized.

AR: What do you think so many specialists still doubt/don't subscribe to reproductive immunology and the role it is playing

in RPL [recurrent pregnancy loss] and RIF [recurrent implantation failure]? What does the research show on how the immune system impacts implantation? Pregnancy success?

Embryoman: The immune system plays a central role in implantation and pregnancy. It creates a proinflammatory environment during early implantation to help the embryo invade the uterine lining, followed by an antiinflammatory shift to support placental development. Key players like uterine NK [natural killer] cells, macrophages, and regulatory T cells help regulate this balance. When these cells are disrupted or in the presence of autoimmune conditions, the risk of implantation failure or miscarriage may increase.

Despite this, many doctors remain cautious about reproductive immunology because diagnostic tests are inconsistent and most immune-targeting treatments lack high-quality evidence. Major societies like ESHRE [European Society of Human Reproduction and Embryology] and ASRM [American Society of Reproductive Medicine] do not recommend routine immune testing or therapies like intralipids, IVIG [intravenous immunoglobulin], or prednisone due to concerns about risk, cost, and unclear benefit.

The biological rationale behind these treatments is also questionable, especially when it comes to NK cells, which are often central to the conversation. Peripheral blood NK cells are commonly tested, but they behave very differently from uterine NK cells, which have been shown to support implantation by promoting blood vessel growth and embryo invasion. Much of the evidence linking NK cells to recurrent implantation failure or pregnancy loss is based on correlation: Studies may find elevated NK cells in some patients, but this does not prove they cause the problem or that they are the right target for treatment. Most therapies suppress the immune system broadly, not just NK cells, so how they might help is still unclear. There is also no consensus on what level or type of NK cells are considered abnormal, which tests should be used to measure them, or when they should be measured—making results between studies very inconsistent!

That said, a subset of patients, possibly those with undiagnosed autoimmune conditions, may benefit from immune-based care. But because most studies are done in patients without confirmed immune disorders, we still don't know who these treatments help or when they should be used. Better designed studies are needed to answer that!

2025 INTERVIEW

Dr. Aimee Eyvazzadeh is a renowned fertility specialist based in the San Francisco Bay Area who has become a global voice of hope for those on the path to parenthood. A Harvard-trained OB-GYN with a fellowship in reproductive endocrinology and infertility, she also holds a master's in public health from the University of Michigan. Over the past two decades, Dr. Aimee has cultivated a deeply respected and results-driven practice, particularly known for helping women over 35, with nearly a third of her patients traveling from outside the area for her care. She is the creator and host of the top-rated *Egg Whisperer Show* podcast, with over 3 million downloads, and leads the popular Egg Whisperer School, where she brings clarity and compassion to complex topics like IVF and egg freezing. Medicine runs in her family—her grandfather and father were both OB-GYNs, and her grandmother a midwife—and Dr. Aimee knew from the age of 3 that she would carry on that legacy. Today, she is celebrated not only for her clinical expertise but for her approachable, hands-on style that blends cutting-edge science with heartfelt support.

AR: Hi, Dr. Aimee. I'm so happy you're here. Thank you. You've been in the field of reproductive endocrinology for how many years now?

Dr. Aimee Eyvazzadeh (AE): A long time! I started my fellowship in 2005—so over 20 years now, which feels insane. I still get messages from people I helped back in 2006 or 2007, sharing photos of their kids and thanking me. It's incredibly special to still be a part of their lives. Truly an honor.

AR: Did you begin your career at a traditional IVF clinic, or did you go straight into private practice?

AE: I went straight into private practice. I graduated from fellowship in 2008 and opened my own clinic right away.

AR: That's amazing. What inspired that decision instead of joining a larger IVF center?

AE: I've always been someone who deeply cares for people—I'm what you'd call a hyper-empath. I couldn't see myself working in an environment where empathy and patient care weren't the top priorities. I interviewed at several clinics, and while they offered things like limited on-call responsibilities and shared patient care, none of it aligned with how I wanted to treat my patients. If I were going through IVF, I wouldn't want a stranger

doing my egg retrieval or embryo transfer. I wanted continuity and personal connection, and that just wasn't possible in those models. So, I built the kind of clinic I'd want to go to.

AR: That must also give you a lot of freedom to personalize care.

AE: Absolutely. I don't need permission to offer something that might be off-label or considered innovative. For example, I was one of the first clinics in California to use HGH [human growth hormone] in 2008. Now it's more common, but back then it was new and experimental. That freedom means I can stay ahead and offer more options to my patients.

AR: Let's talk about some of those novel treatments. I know you're using ovarian platelet-rich plasma (PRP) and even rapamycin in select cases. What kind of outcomes are you seeing?

AE: Honestly, the results can be incredible. Some patients who had never made a blastocyst—or had never had a euploid blast—are now getting them. I've seen women in perimenopause, even menopause, start to ovulate and conceive. It's not a miracle cure, but it offers hope. Rather than being pressured into donor egg IVF—which happens a lot—patients deserve to know they have other options. Maybe it works, maybe it doesn't, but at least they tried everything available. I believe these approaches, like PRP and rapamycin, will be mainstream in 5 to 10 years, just like HGH is now.

AR: I often say about ovarian PRP that it seems to help about 50% of the women who try it, especially those with diminished ovarian reserve or perimenopause. Would you agree?

AE: Absolutely. I've seen firsthand how PRP has helped women who would otherwise never have ovulated or gotten pregnant—especially those in menopause. For those doctors who say it doesn't work and shame others for trying, I honestly feel sorry for their patients.

AR: Or they're just so locked into a system. I've been in the field for 20 years now too, and when I think about clinics like yours—what I call "boutique clinics"—you're really running your own show. That gives you the ability to bring in these newer, experimental treatments. But how else do we learn unless we're doing clinical observation and building that anecdotal evidence? Isn't that what leads to larger trials? So, you're using rapamycin and ovarian PRP. For rapamycin, you're targeting mitochondrial function—are you seeing improvements in egg quality?

AE: Yes, that's the goal with rapamycin—to improve mitochondrial function, which can lead to better egg quality and higher blastocyst formation rates. It doesn't work for everyone, but I'm seeing increases in AMH for most patients after about 60 days. It's another option to try, though not a guarantee.

AR: Right—just like IVF isn't a guarantee either. But I completely agree—why not try these other approaches? So, tell me more about how you personalize IVF protocols. What's your take on mini versus traditional high-dose stim cycles?

AE: I tell patients: Less is more if you have less. But if you have more, then more is more. There's this belief that less medication equals better-quality eggs, but I don't agree with that when there are lots of follicles. I've had patients with 15 follicles choose mini-IVF, and then they only get one or two eggs—and it's heartbreaking when that doesn't work. I remind them, that was the expected outcome based on the chosen approach.

AR: Right. And that idea that the lead follicle is always the best quality—do people still believe that?

AE: That's the whole premise behind natural and mini-IVF cycles—that the lead follicle is somehow superior. But biologically, that's just not how it works. The follicle that ovulates naturally isn't necessarily better than the others. So, telling patients that isn't accurate.

AR: I think the idea that lower-dose stim works better for women in their 40s or with low ovarian reserve is often true, but that's because there are fewer eggs to recruit in the first place—not because it somehow improves egg quality.

AE: Exactly. It's not helpful to give someone with one follicle 900 IU of Gonal-F. That's just wasteful—financially and emotionally. If you have five or fewer follicles, a mini stim makes sense. I dose based on the number of follicles we want to recruit—not to only grow one or two. The goal is always to grow as many as we can from what's available.

AR: And you're monitoring closely throughout, adjusting as needed. That's what sets you apart. In traditional clinics, I feel like that level of individualized care is often missing.

AE: Right. I do all my own baseline ultrasounds. I've seen other clinics assign doses and calendars before even seeing the patient. No baseline ultrasound, no day-3 labs—just start meds and check in on day 6. That's not my approach. I'm not saying

their way is wrong, but when patients are investing so much—financially, emotionally, and physically—they deserve more hands-on care. A lot of patients don't even realize there's another way until things don't work. That's when they find me.

AR: Exactly. Traditional IVF can work for certain patients at certain times, and that's great. But for those who have had multiple failed cycles and are told their only option is donor eggs—it's so important for them to know there are other options. That's part of why I'm doing these interviews—to spread the word that care can and should be personalized.

AE: I completely agree.

AR: What do you think is the leading cause of fertility challenges right now?

AE: It's largely age-related, but more specifically, it's mitochondrial age. Mitochondrial health is key—and that's where we really need to focus our efforts.

AR: I remember you used to say, "You can't Botox your eggs.

AE: That's right! You can't Botox your eggs. Or your ovaries. You just can't.

AR: Well, do you see PRP as a kind of Botox for the eggs?

AE: In a way, yes. But just like Botox, the effects only last about 3 months. The difference is, not many people want to do ovarian PRP every 3 months—it's expensive, and it adds up.

AR: Exactly, and I wonder if there's any concern about too many PRPs potentially causing scar tissue or damage to the ovaries?

AE: I really don't think so. I've had patients come in for multiple rounds of PRP. For example, we'll do PRP, and they'll have a successful cycle with blastocyst formation. Then, in a subsequent cycle, their follicle count might go back down. We'll do PRP again and see improvement. I haven't seen any issues with scar tissue.

AR: That's good to hear. And what else do you focus on for improving mitochondrial health?

AE: All the foundational lifestyle pieces: eating healthy, working with a fertility nutritionist like you, optimizing sleep and sleep hygiene, reducing stress, meditating, regular exercise. And then, of course, using mitochondrial-supportive supplements like CoQ10 and NAD+. Those are the pillars I focus on with my patients.

AR: And what about endocrine-disrupting chemicals?

AE: Absolutely. Environmental toxins can have a big impact on fertility. It's something I talk about with every patient.

AR: I know you also routinely screen for endometritis—uterine lining infections—before embryo transfers. Is that standard for you?

AE: Yes, I offer every patient implantation testing before transfer.

AR: Can you describe what that entails?

AE: Sure. It typically involves a mock cycle—preparing the uterine lining as if we're going to transfer an embryo, but instead of a transfer, we do a gentle endometrial biopsy. We send that tissue out for multiple tests: checking for inflammation due to silent endometriosis, looking at the uterine microbiome, identifying pathogens, and assessing if the endometrial environment is optimal. I'll often include the ERA [endometrial receptivity analysis] test, too. I'm not sure how clinically valuable it is, but if we're already doing the biopsy, it's just one more data point. It helps us confirm whether the timing of the embryo transfer—the implantation window—is accurate.

AR: So, you'll do the EMMA, ALICE, and Receptiva tests as well?

AE: Yes, I offer all of them—EMMA, ALICE, Receptiva, and ERA. Patients can decline any of the tests, of course, but I believe in offering them up-front. If it were me, I wouldn't want to learn after a failed transfer that there were additional tests I could've done beforehand. That's frustrating and disempowering.

AR: How often are you finding endometritis or other uterine issues?

AE: Endometritis shows up maybe 10% to 20% of the time. But more commonly, we see an imbalance in the microbiome—often a lack of Lactobacillus, which is essential for implantation. If a patient doesn't want to do a biopsy, I recommend they at least take a vaginal probiotic.

AR: Is there a noninvasive way to assess for those issues?

AE: Yes! There's a test called the MicroGenDX Women's Key, which is a vaginal swab that can be done at home. It's around $250 and very comprehensive—it screens for over 58,000 uterine pathogens and also tells us about beneficial bacteria like Lactobacillus. For patients who don't want a biopsy, it's a great alternative.

AR: All of that from just a vaginal swab?

AE: Exactly. And it's fast—results come back in under 7 days, which is much quicker than other at-home tests that can take over 2 weeks.

AR: Is the vaginal swab truly reflective of what's happening in the uterus? Is the environment the same?

AE: It's probably pretty similar, and it's the best noninvasive option we have. The biopsy is still the gold standard for evaluating the uterine cavity, but for patients who don't want to do that, the vaginal swab is a perfectly reasonable alternative.

AR: Right, we know swabs aren't 100% accurate, but they can be informative. If someone comes back with a high BCL6 on the ReceptivaDx, what's your next step?

AE: That result definitely prompts a deeper conversation. I'll review whether they've been assessed for hydrosalpinx since inflammation from a dilated fallopian tube can elevate BCL6. If it's been more than a year since their last hysterosalpingogram (HSG), I'll recommend repeating it. I also revisit their symptoms—they may not have identified with endometriosis symptoms before, but seeing the result often sparks a new awareness. From there, we'll explore next steps: consultation with an endometriosis specialist, considering laparoscopy, or medical suppression. Some patients still choose to move forward with a transfer despite the findings, and I respect that—it's about giving them all the options.

AR: When you do recommend suppression, are you leaning more toward Lupron [leuprolide] or Orlissa [elagolix]?

AE: I usually recommend Orlissa because it's short-acting. If someone experiences side effects, it leaves the system quickly. Plus, we can tailor the dosage—some patients do well with just once daily instead of twice. Others prefer Lupron because it's a one-and-done injection, and they're okay with the side effects. I send all patients a "survival guide" so they understand what to expect. That way, if they feel off, they realize it's a side effect—not that something is wrong with them. That said, I won't prescribe Lupron to anyone with a history of mental health issues like anxiety or depression. It's just not worth the risk.

AR: What's your take on reproductive immunology?

AE: I think the biggest issue is that we don't have perfect tests to identify immune dysfunction. But if a patient is interested

in exploring it, I fully support that. I offer the PREGMUNE panel—it's one of the most comprehensive out there, and they do a great job explaining the results. Based on those results, I can help guide next steps.

AR: If someone comes to you after three failed transfers with PGT-A euploid embryos, are you thinking immune issues or uterine factors?

AE: Both. I'd want to rule out inflammation in the fallopian tubes, run implantation tests, and order a PREGMUNE panel. Then we regroup with all the data and make a plan.

AR: Why do you think there's so much resistance to reproductive immunology in the mainstream IVF world?

AE: Honestly? A lot of doctors just want to take the path of least resistance. Technology has made us less curious. Some doctors don't want to be challenged or asked questions by patients who've done research—or used ChatGPT! It's easier to say, "I don't believe in that," or "There's no evidence that helps," than to have an informed, nuanced conversation. But the truth is, there is evidence. Immune dysfunction is absolutely a factor in implantation failure. To gaslight patients—especially those with endometriosis—by saying it doesn't impact fertility? That's just wrong. The literature clearly shows otherwise.

AR: Yes—especially when there's visible or diagnosed endometriosis or adenomyosis.

AE: Exactly. And some of the resistance comes from not having the tools. Many doctors don't know how to use medications like Neupogen [filgrastim] or prescribe intralipid infusions, so instead of admitting that, they discourage patients from exploring those paths. They'll say things like, "That's a rabbit hole," which just makes patients feel ashamed or dismissed.

AR: Right. I wish more doctors would just say, "That's not my area of expertise, but let me refer you to someone who specializes in that."

AE: Exactly! There are some great reproductive immunologists out there. Patients deserve to be heard, validated, and referred appropriately.

AR: Yes—so many more doctors are exploring these avenues now. It's really grown over the last decade. It's amazing. Since you mentioned adenomyosis earlier, would you use suppression for that?

AE: Yes, absolutely. It depends on the severity, which determines how long I recommend suppression. I'll do a baseline ultrasound to assess uterine volume, then repeat it 2 months later. I always let patients know: We might need to extend suppression by another month or 2, depending on what we see. But typically, 2 months is enough—I usually see a really positive change in the uterine volume by then.

AR: Why do you think adenomyosis is so underdiagnosed?

AE: Because most people just aren't looking for it. It's often there, but it's missed. I'll have patients come to me after multiple failed transfers and I'll spot signs of adenomyosis on ultrasound, and they'll say, "How come no one else saw this?" It's not that they didn't care—it's that their eyes weren't trained to see it.

AR: Right. And it's frustrating for patients who've had so many ultrasounds and no one caught it. But if you're not looking for it—and you don't have the tools or treatments to address it—maybe you're not motivated to see it.

AE: Exactly. And treating it takes time. Many doctors just want to put in embryos and hope it works. And sometimes it does. But if it doesn't, we have to stop and ask what else could be going on.

AR: Agreed. So, in that vein, what do you think is the most important test a woman should do if she's struggling to get pregnant?

AE: AMH and a fallopian tube test—those are the most essential. And, of course, a semen analysis.

AR: What about hysteroscopy, if you want to look at the uterine cavity?

AE: If they've already had a tubal test—like an HSG—we usually get a good enough view of the cavity from that. So, I don't always add hysteroscopy unless there's something concerning.

AR: Got it. And do you run DNA fragmentation on every male partner, or just in certain cases?

AE: I offer it as standard if the male partner is over 50. Otherwise, if the semen quality is low—regardless of age—I recommend doing the DNA fragmentation test.

AR: What's the oldest client you've helped get pregnant with her own eggs?

AE: Technically 47. She gives me credit, even though she did it all on her own. I just supported her. But yes—47 was the oldest with a healthy pregnancy using her own eggs. Then I've had others at 46, 45, 44, and 43. The oldest woman I've helped get pregnant was 50—it was a biochemical pregnancy, and she miscarried early. My oldest IVF pregnancy was also around 50, maybe 51, but again, biochemical. That embryo wasn't genetically tested.

AR: Do you encourage genetic testing even if they're only retrieving a few eggs?

AE: No, not at all. I do a lot of day 3 freezes—most clinics don't—and I don't push for genetic testing. I just explain that PGT-A is the best tool we have, even though it has limitations. I use the results for prioritization, not disqualification. Depending on the abnormality, I'll still consider transferring. I give every embryo a chance.

AR: I love that. I've seen you collaborate with Meaghan Doyle, aka DNAide, too.

AE: Yes, I love Meaghan—she's the best.

AR: She really is. I send everyone to her. I tell them: "Get your reports. Don't throw out your embryos. Talk to Meaghan first." Okay, one more question. How many abnormal embryos have you transferred that turned into healthy children?

AE: Surprisingly, more than you'd think. I probably have at least two or three ongoing healthy pregnancies from abnormal embryo transfers right now. Statistically, it should be close to zero—or less than 2%—but I'd estimate 10% to 15% of those embryos turn into healthy pregnancies.

AR: Wow—amazing. And I love how you frame PGT-A: It's the best tool we have right now, but it's not perfect. Not every embryo makes it to day 5 for biopsy, and not every embryo that's tested "normal" will implant or result in a live birth.

AE: Exactly. For patients who really want to experience a transfer and give every embryo a chance—don't test. Why put yourself through that?

AR: Right? I always say: If you're willing to try naturally at home, you're already taking that risk—why not take the same chance with a transfer?

AE: Exactly.

AR: Day 3 freeze or transfer. Give them a shot.

AE: Exactly. And we've all seen genetically normal embryos fail to implant or end in miscarriage. So even that isn't a guarantee.

AR: Exactly. You're my soul sister, Aimee. We may have had different mothers, but we are absolutely like-minded.

AE: I appreciate you so much. Thank you!

2025 INTERVIEW

AR: So, since I had the honor of interviewing you for the first edition of this book, TEN YEARS AGO … I guess I'd love to hear if your answer has changed over the last 10 years. The question I started our interview with back then was: From your clinical perspective, do you believe a woman can safely wait until 40 to try to get pregnant?

Dr. Janelle Luk: Absolutely not all women can safely wait until 40 to get pregnant. There may be some women who can, but that's what makes this part of science so frustrating. So many women now want to control the clock—whether it's around life, career, or having children. What's fascinating is that when I met you a decade ago, we were pre-COVID. During COVID, I assumed people would stop wanting to get pregnant—I thought humanity felt doomed. But actually, patients didn't want to die—they were optimistic. They hoped it would pass. Now, many of those who "survived" the pandemic, physically or emotionally, want to preserve their fertility. They understand the body's limits. They want control. And this brings me to a concept I didn't clearly articulate in the past, but I will now: **Egg quality deterioration is asymptomatic**. You have no idea if your egg quality is good or bad until you try to conceive or freeze eggs.

AR: Right. We don't get symptoms of poor egg quality from a Western medical perspective, but in TOM [traditional oriental medicine] we may say otherwise. …

JL: Exactly. Even during an egg retrieval, I can't say, "Wow, these eggs are beautiful—guaranteed baby." You just don't know. Even when they're outside the body, we still can't predict the outcome. We all know the fertility decline graphs, and now—10 years later—empowerment is more common. But access to information doesn't mean understanding. Some patients just Google or use ChatGPT, and what they absorb isn't always accurate.

AR: I really love your point about how the decline in egg quality is asymptomatic. Besides age, what else do you think impacts egg quality?

JL: Stress and genetics. Genetics is also asymptomatic—think BRCA—you don't feel anything. Some women have poor egg quality even in their 20s. I've had 24-, 25-, and 26-year-olds with declining egg reserve. If they came to me at 37, they'd already be in menopause. Luckily, they came early and accelerated their family planning.

AR: What about the environment, autoimmunity, or underlying health issues?

JL: Sure, all of those matter. The CDC [Centers for Disease Control and Prevention] shows so many factors driving down fertility, which is why you're so busy, Aimee. Stress, environment, career—they're all interconnected. We also have to acknowledge the social shift. I was just giving a talk to Asian American professionals and explained that in 1966, Yale admitted its first female med student. Now it's 2025. That's just three generations. So women are climbing in their careers but still delaying motherhood. We're prioritizing everything else before babies.

AR: Do you think interventions like ovarian PRP can improve egg quality?

JL: Honestly, I don't think we can significantly improve egg quality. PRP might help with follicle count, but I tell patients not to count on it. The best "intervention" is to try earlier. Convincing women in their 20s is hard. They say, "Don't bother me." They think they have time. But yes, I still treat women in their 40s and those with POI [premature ovarian insufficiency]—and my focus is always quality over quantity.

AR: And how are you optimizing that quality?

JL: We individualize stimulation—mild stim, dual-phase protocols. We use embryoscopes with AI to monitor embryos without removing them from the incubator. And we use sperm selection techniques like PICSI [physiological intracytoplasmic sperm injection] and ZyMot to give things a boost.

AR: What's your view on high-dose IVF meds and egg quality?

JL: It's case-by-case, but most low-reserve patients don't respond well to high stim. They come to me in tears after failed cycles elsewhere. High stim can shut the ovaries down. You have to read the ovaries, just like you would adjust your exercise

based on your fitness. We have to work with the body's wisdom.

AR: What about the uterine environment?

JL: Huge priority. The uterus is the garden for the seed. A saline sonogram is like flying over a lawn—you need to get on the ground and feel the soil. That's why I recommend hysteroscopy. We're also doing tests like EMMA, ALICE, and Receptiva. Some are controversial, so we have heart-to-heart conversations with patients. It's not easy.

AR: And reproductive immunology? That wasn't even on your radar 10 years ago.

JL: True. But we're now planning to launch an immunology department this fall. We're still doing research, but I believe in it. I've had too many patients with multiple normal embryos and no implantation. There's something we're missing.

AR: Yes—and so many doctors just blame the patient or the embryo. But we know it's not always that simple.

JL: Exactly. Some doctors dismiss immunology as illegitimate. But I refuse to do that. We have to stay curious.

AR: And when the patients we cotreat ask about protocols like antihistamines or prednisone, I tell them to talk to you because I know you're open.

JL: Yes, I am. But always with discussion and the "do no harm" principle. Prednisone can be misunderstood. But so can flying in a plane. It's about weighing risk and benefit.

AR: What about DNA fragmentation testing?

JL: We do send out for that. It's an important part of the puzzle.

AR: How do you approach PGT-A?

JL: I see it like college—not every embryo is meant to go through that process. It's helpful, but not perfect. I've had twins from untested day-3 embryos that were initially deemed "low potential." So yes, I'm open to not testing.

AR: What's the oldest patient you've helped conceive with her own eggs?

JL: 47. I think she was your patient actually.

AR: Yes, she gave birth at 47. Got pregnant naturally after closing the door at 46.

JL: See? Miracles happen.

AR: They do. And while we're not trying to overpromise, I think it's important to share hope.

JL: Absolutely.

AR: Are you still a believer in egg freezing?

JL: Yes. But I've also evolved in how I prepare for IVF. I do more precycle prep now—supplements, acupuncture, diet. I'm much more into supporting the body holistically before starting a cycle.

AR: What do you see from that kind of preparation?

JL: Improved outcomes in 70% to 80% of cases. It doesn't help everyone, but for most, it's meaningful.

AR: And nothing we recommend—antiinflammatory diets, wheatgrass, CoQ10—hurts. Especially if there's inflammation like endo, it could help egg quality and response.

JL: Yes. I'm more holistic now than ever. I use less Menopur [menotropin] in women over 40—especially if their luteinizing hormone is high. It's about matching meds to the body.

AR: That makes so much sense. And when clinics say a follicle was "empty"—do you think that's a timing issue or egg quality?

JL: Both. Some eggs just don't respond well. They don't detach. That's why I still believe in flushing the follicles. Not everyone does. But I've retrieved good eggs that way.

AR: I love that you're holistic, innovative, and also a fierce advocate for your patients. You're honest, competitive—in a good way—and you give women a real shot.

JL: Thank you, Aimee. That means so much.

These interviews helped me gauge where the current fertility research is focused and how multifactorial this whole fertility "epidemic" truly is. Fertility is not solely dependent on a woman's age, nor is it defined by her FSH or AMH levels. Rather, it's a complex interplay of many factors—lifestyle, diet, stress, mental-emotional well-being, environmental toxins, underlying or concurrent health conditions, and the support systems we have in place. What I learned from these esteemed experts—including Dr. Hugh Taylor, Dr. Janelle Luk, Dr. Aimee Eyvazzadeh, and embryologist Sean Lauber—is that a comprehensive and individualized approach is

essential. Whether it's improving egg quality, optimizing the uterine environment, or supporting sperm health, every aspect matters. The fertility-rejuvenation plan outlined in this book is designed to support all of these factors and will undoubtedly enhance your fertility and overall health. Whether you conceive naturally or with the support of brilliant Western practitioners like those featured in these pages, following the Yes, You Can Get Pregnant protocol—and entering pregnancy in an optimal state of physical and emotional health—is one of the greatest gifts you can give your future child.

DIGITAL-ONLY CONTENT

ABSTRACT

This chapter features insights and advice from fertility specialists.

KEYWORDS

fertility specialists, reproductive endocrinology, medical insight