

Quantum Biology 2: Quantum PCOS

Readers Summary

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4. How can she help you or the ladies in your life?
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Who is Gretchen? She is a woman I met at [Mark's Daily Apple monster thread](#) two years ago. When we first met she wanted no part of the idea that maybe she was missing more pieces of the puzzle than she knew. I told her back then, if she began to test herself she would learn more about herself than she could ever imagine and it would happen fast. If you read the thread here, you will see where she began her journey. This blog is where her journey has brought her in her battle to reclaim optimal. She is also featured in my [latest book on Amazon, The Epi-Paleo Prescription](#) and you can read her initial six months into this journey there with 3 other of my members. [Gretchen has a blog too.](#) She is a pretty amazing person with an amazing family and story.

Here is how her journey began as written and told by award-winning author [Colleen Coble](#) in my book:

Gretchen stared at the piece of paper in her hand. The word medically discharged wavered in her vision, and she wheezed through the airways constricted by asthma. Her head was pounding, and her heart rate fluttered even faster than the pulse of pain in her head. It was the end of her military career. Even though she'd known it was coming, seeing it in black and white made her want to sink to the floor and bury

her head in her head in her hands.

Now Gretchen two years later in her own words here:

The genesis of Quantum PCOS blog began with a question regarding [Dehydration](#) on the forum. However, for me, it's become a struggle to figure out how to address this issue as a woman who has PCOS. For those who don't know me, my story or anything about PCOS – trip on over to my blog where I dig into PCOS here: [Zeroing in on the Underlying Causes](#) and what my PCP with the help of Dr. Kruse and Dr. Dzugan is doing to help me get to optimal.

A quick refresher PCOS is a form of Estrogen Dominance (E-Dominance) and here are some examples of what Estrogen Dominance Symptoms:

- Decreased Sex drive
- Irregular or otherwise abnormal menstrual cycles
- Bloating
- Fibrocystic breasts
- Headaches/migraines
- Mood swings – irritability and depression
- Weight gain in the abdomen and hips
- Cold hands/feet – which is also a symptom of thyroid dysfunction
- Hair loss
- Thyroid Dysfunction
- Sluggish metabolism
- Brain Fog, memory loss
- Fatigue
- Trouble sleeping/insomnia
- PMS

Additionally, E-Dominance has been linked to allergies, autoimmune disorders, breast cancer, uterine cancer, infertility, ovarian cysts, and increased blood clotting, and is also associated with acceleration of the aging process.

[\[i\]](#) Many of you reading this may suddenly have that AHA moment, as you may recognize many of these symptoms. Let's also not forget that E-Dominance is the reversal of the Progesterone: Estradiol (Pg: E2) ratio. Now that everyone has a reference point for PCOS and E-Dominance, let's get back to dehydration. Hold on, because this is going to make your brain hurt!

Sub-optimal water levels due to dehydration at the cellular level within the mitochondria occur because they're functioning on ATP via the least effective ATP Generation: Krebs cycle and CP system (we learned about these in [EMF 4](#)), instead of the PPP, which increases leakiness at cytochrome 1 in our mitochondria. PCOS and Diabetes are diseases that directly impact cytochrome 1 because they are the result of inefficient mitochondria that they're running on ATP and incorrect insulin production instead of accessing [PPP](#). This is why mitochondria are only 39% efficient when running on ATP, where they are 100% efficient when using coherent water, the PPP, and ATP to unfold the proteins to access water and leverage it like a superconductor for unlimited energy. So, reversing PCOS and Diabetes require the PPP to be activated to access 100% mitochondria efficiency, however, for PCOS you can't do that while Pg: E2 ratio is still upside down. So using cold and ketosis you can activate the PPP if you increase Progesterone to the point you're not dehydrated.

So I've noticed over the last 5 days of my cycle and the first 5 days of my cycle when Progesterone drops, dehydration increases (regardless of water consumption – I'm drinking upwards of 196oz of water/day) and I get a migraine. This tells me during those 10 days (based on the journal articles I've read over the past 8 months about how cytochrome 1

functions) that leakiness increases at cytochrome 1. Which means I'm relying on ATP, instead of the PPP – thus I'm operating at 39{a7b724a0454d92c70890dedf5ec22a026af4df067c7b55aa6009b4d34d5da3c6} or less efficiency at the mitochondria for that time period, where the remainder of my cycle my body is doing its best to get into the PPP and get above the 39{a7b724a0454d92c70890dedf5ec22a026af4df067c7b55aa6009b4d34d5da3c6} – but I'm not yet to 100{a7b724a0454d92c70890dedf5ec22a026af4df067c7b55aa6009b4d34d5da3c6} efficiency – b/c if I was, I wouldn't become dehydrated, have migraine at our around cycle day 23/24 and waiting on one to pop again around cycle day 2/3, or brain fog during that time period.

So if you're E-dominant, which a PCOS Woman is, then you're also dehydrated! You can check this with your BUN/creatinine ratio, low CO2 level, or a high LDL cholesterol level. Add that together with Low Progesterone you can't enter the PPP! However, when you CT it helps neutralize the E-dominance by activating and increasing Progesterone. So ladies, when you're adverse to getting into the CT tank your progesterone is being dominated by Estradiol (E2) and your thyroid symptoms of being cold and craving heat goes up. When in reality you really need the cold to ramp up the Progesterone and bring down the E2.

Here's the kicker – If you have an MTHFR (specifically COMT) +/- or +/+ SNPs – it can be harder for you to clear E2, which is one of the reasons you might be E-dominant, but not impossible when you access the PPP. Accessing the PPP allows you to bypass some of the MTHFR Detox pathways. I haven't figured out which ones – but this is why Jack has said that after [EMF 7](#) we'd understand why MTHFR defects aren't as much of a challenge if you know how to block EMF and get into the PPP.

This tells me that Progesterone is an indicator of whether you

can access the PPP and water for energy efficiency across your entire cycle as a woman. However, when Progesterone drops at the end of the cycle into the beginning of the next cycle – and you have any of the following: migraines, symptoms of dehydration (thirst, excessive need to urinate at night) or brain fog, you can't access PPP during that time when your Pg decreases.

So given you need Progesterone to access the PPP it is possible for some E-dominant women to access the PPP during the portion of their cycle when Progesterone is dominant with the assistance of BHRT supplementation. But the goal should be to access the PPP throughout the cycle, so that means Progesterone should actually be higher in the first phase of our cycle than currently accepted. Still, Progesterone would increase as it currently does, but it shouldn't flat line, and Estrogen will rise but never become the dominant hormone across the entire cycle.

Ideally – a woman should be able to access the PPP when Pg drops – however, due to estrogen dominance – a PCOS woman can't – as estrogen won't allow the access to the PPP b/c it's a function of heat (which is why I'm adverse to cold during the beginning of my cycle and I don't want to CT); where Progesterone is a function of cold – and a key hormone needed to access the PPP.

Think of bears that hibernate while pregnant – they're living off the PPP and pregnant and Pg is how they access the pathway! The difference between a human and a bear is that humans should be able to access this during sleep, whereas bears access it during hibernation. So this tells me, that the more progesterone I have across the cycle, even if I don't cycle the dose, will support decreased leakiness at cytochrome 1, increase mitochondria efficiency, while also reducing or eliminating migraines across the cycle.

Pregnancy is the reason for life, part of the cycle.

Progesterone is the key hormone for entering the PPP when coupled with a ketogenic diet and cold. Both sexes make Progesterone. Intuitively, I would expect that in an "optimal" male you would see Progesterone rise as you move into winter, thus both men and women can access the PPP. I wonder if Jack's labs show an increase in Progesterone in winter? But here's the key, Jack said in the [mitochondrial RX webinar](#) that women pass the environmental queues to their progeny during pregnancy. So if you don't enter the PPP when pregnant you're telling baby its summer year round and you're setting up the baby to a mismatched circadian cycle.

I've got two questions does pregnancy, which is HGH and astronomically HIGH Progesterone levels automatically = the PPP? Intuitively, survival for any eutherian mammal I think the answer is yes. My second question, does artificial light and EMF overrides that for us? I'm thinking the answer is yes as well. So, when you're pregnant and not using the PPP because your circadian cycles are effed up, you're running on the Krebs and cp systems for ATP. This means your body is robbing you of ATP to ensure the survival of the baby. This stolen ATP is why women have "pregnancy brain", cavities in their teeth after subsequent pregnancies, bone loss and heart attacks after giving birth. *OH SNAP* Mother Nature just b!tched slapped us for being stupid, but ensured the survival of the species even if it isn't optimal anymore.

CT allows you to access the PPP and PPP uses fat to make ATP. You have to have enough cellular water, cold and Progesterone to turn on the PPP continuously. It's easier for men to access because they have a steady state of Progesterone, whereas women have the fluctuation of Progesterone across the cycle. But the flux is far too wide these days to access the PPP regularly. I think this is one of the reasons men drop weight like mad when they go paleo! The constant supply men have of Progesterone supports their Testosterone, which allows them to enter the PPP easier, especially when they embrace

cold. Jack has said CT increases both Progesterone and Testosterone!

Now go back and re-read [Cold Thermogenesis 7](#), Why? It's a great refresher for how the hormones cascade. T3 is the key when coupled with vitamin A that unlocks LDL so it can convert to Pregnenolone. Your state of stress determines if the Pregnenolone is turned into Progesterone or Cortisol.

Here's the cascade if everything is working properly:

- Pregnenolone > Progesterone > remaining steroid (sex) hormones and Vitamin D.

Here's the cascade if you're stressed:

- Pregnenolone > Cortisol > Liver, which makes more LDL because you're not making steroid hormones (wash, rinse, repeat).

The Hypothalamus-Pituitary Axis (HPA) controls the entire hormone cascade. Why is this important? If you're in the stress pathway – you can't make Progesterone. If you're not making Progesterone, you can't enter the PPP, regardless of diet or cold! Whoa, Nellie! It all comes back to how we make hormones.

I've come to the conclusion that when I'm CTing during the midpoint of my cycle I'm able to hit the PPP. Why? I need less food. Lunch is non-existent during this phase of my cycle and some days I can't even make myself eat breakfast. [Coffee](#) is all that I want. My Progesterone is increasing and sleep is effing awesome during this phase as well. I've also noticed over the past cycle and this current one that I'm now HOT all morning. I'm even hotter after I eat. I can't cool down – this is no hot flash! I'm tapping into something else. I'm able to do this even living in the EMF soup I'm struggling with. I think grounding in combination with everything else is helping me get into the PPP faster, even if

I don't stay there. This is why I'm suddenly fitting into my pre-pregnancy clothes of 6 years ago!

This leads me to the conclusion that [Progesterone](#) should naturally be HIGHER across the entire cycle for all women.

In my experience, Progesterone should be greater than or equal to estrogen with the exception of during ovulation. So instead of the big bulge of progesterone, it should be a continuous slope that tracks estrogen, but peaks after estrogen do and maintain that increase if pregnant or gently drops back to the beginning of the cycle. My intuition tells me that on the Progesterone chart the level of Pg at the start and end of the cycle should be at a minimum 10ng/ml or higher, and the peak after ovulation should be higher as well. And estrogen spikes for 2-5 days around ovulation, but not to the point it dominates Progesterone. I'd bet good money that if you looked at other eutherian mammals, such as bears, which have pregnancies during winter – you'd see this as well.

I'm pushing hard on [Progesterone supplementation](#) with BHRT because I want to stop my migraines, and fix the underlying cause of mitochondrial in-efficiency. I've been drinking from the fire hose that Jack turned on back at the end of May 2010. I started my journey towards fixing my self-close to 13 years ago. I'm finally seeing progress. When I started there's no way I could have figured this all out, but now that I understand how I work, I'm able to figure out where I need to go next health wise. I've gotten to the point I'm actively seeking out journal articles to read to figure out how to fix myself. My PCP is great. She's supporting my efforts and is willing to discuss the articles I dig up. She's also allowing me to follow my intuition regarding what's going to work on getting me well. I'm pretty sure there are times she thinks I'm a PITA, but she's working with me. At some point, I anticipate that I'll be off all medication except BHRT. I'm not giving up my Progesterone – it's the KEY TO ALL LIFE and how life accesses the quantum engine it was designed to run

on.

[\[i\]](#)

http://www.drnorthrup.com/womenshealth/healthcenter/topic_details.php?topic_id=118

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More Support: Webinars by Dr. Kruse

- [PPP: Fat Burning Pathway](#) (April 2013)
- [Mitochondria Energy Rx](#) (January 2013)

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Additional Resources

- [Dehydration Forum](#)
- [EMF 4: Why Might You Need Carbs for Performance?](#)
- [EMF 7: Quantum Prometheus](#)
- [Cold Thermogenesis 7](#)