

The EPCOT Rx

Readers Summary

1. What is EPCOT Rx?
2. How do might we consider Optimizing our guts?
3. What one specific thing underlies EPCOT Rx success long term?
4. How do we test for it?
5. Are you prepared folong-standingng beliefs to be challenged?

Today comes the blog post a few months after the Webinar that was done on gut optimization using the [EPCOTx protocol](#). Many people have heard of GAPS and the SCD diet for gut problems, but there is not a one size fits all approach. EPCOTx is designed to do a few things after one major thing is corrected (melatonin-eye) to get your gut working well once again. It limits inflammation while improving “gut leptin sensitivity” and once it is firmly entrenched it allow for better mitochondrial efficiency and protection of the intestinal barrier from free radicals, bad foods, and poor lifestyle choices tied to sunlight. These things are called epigenetic effects. [Watch this video to understand it more fully!](#)

The “leaky gut” is also tied to cellular oxidation, a lack in the ability to chemically reduce the cells at night, and as a result increases cellular aging to cause disease. This protocol will help you [rebuild your gut flora](#) create the healthiest gut (which will give you the healthiest brain/gut) possible.

The [EPCOTx Protocol](#) works because it helps lowers inflammation, reduces oxidation, and helps you stay in a chemically reduced, “pro-gestation” pathway of health.

This protocol is especially effective in helping reverse:

- Crohn’s
- SIBO
- Candida, GERD or Helicobacter infection
- Skin problems
- Eating Disorders
- Hormone imbalances
- Obesity
- Infertility
- Hashimoto’s

EPCOTx is an acronym that stands for some core principles:

1. **E** = [Epi-Paleo Rx](#) method of eating. The food you eat should be as low in inflammation as possible based upon HS CRP, mTOR, [Vitamin D](#), and your CoEnQ10 levels and optimizes your matrix.
2. **P** = top quartile progesterone levels on your hormone panel. For men, this one is relatively simple if you order the test. For ladies, it requires the

balance of Progesterone to Estradiol to be in decent balance to get optimal gut function. Our genes are not as important as our daily habits in determining our gut microbiome. Mitochondriac wisdom getting more proof that environment controls genes. I wonder when researchers will gain this insight?

[LINK](#)

3. **C=** Cortisol optimization and the potential use of cycloset/AM sunlight. The cortisol status can best be checked using an 4 panel salivary adrenal stress index (ASI) that includes a DHEA level. The flatter the curve the more disconnected you are from nature. Cortisol is a slow acting stress hormone that tells us many things. The most important thing it tells us is if our cortisol/DHEA/melatonin clock is not workign properly. In people with serious gut issues, the most common reason for Tx failure is a failure to reyoke the intestinal barriers circadian cellular clocks together for proper functioning.

A sunset over water with a large sun partially obscured by a circular frame. The sun is low on the horizon, and its light reflects on the water. The sky is a mix of orange, red, and blue. The text is overlaid on the image.

**THIS DEPLETES YOU OF DEUTERIUM AND IS
THE FOUNTAIN OF YOUTH.**

JACK KRUSE

Many people do not realize every organ in our gut has its own circadian clock that wires directly to the brain's pineal gland. All circadian signaling in the brain is controlled by alpha waves in the brain with a very specific wavelength for proper functioning. That wavelength is 7.83 hertz. We also call this the Schumann resonance frequency. The Schumann frequency is identical to the alpha frequencies found in the human brain. In fact, to date all life with a nervous system has the same identical frequency. This frequency in the brain is what controls the circadian cycles in life. The science is complex but it is mitigated through biologic magnetic cells called cryptochromes. Human cryptochromes are found in the eye wired directly to the suprachiasmatic nucleus of the brain. When the alpha waves are off in our brains our pineal gland does not sense the epigenetic signals of light and dark properly and melatonin levels are disrupted. When this happens the proper circadian signals in our gut are disconnected from our brains control. These signals are convey to the gut via the vagus nerve and the incretin gut hormone system we have spoken about in previous blogs. This control process for the gut is wired to light by evolution but is affected by two other modern factors most do not realize. Artificial light and EMF signaling also are major disruptors of alpha wave signaling and propagation. We spoke about artificial light in [Brain Gut 11](#).

For those who have serious chronic gut issues that have been recalcitrant to any therapy you must get a salivary melatonin level with this ASI. An altered salivary melatonin is one of the best way to assess what is really going on in the inner mitochondrial membrane of your intestinal cells. It also tells the clinician how altered your alpha wave signaling system is in the thalamus. It generally correlates 1 to 1 with the amount of damage inflicted. This is why so many people who have gut issue respond differently to protocols. They just are not aware of how badly their chemical clocks in their guts are off. We covered this briefly in [Cold Thermogenesis 7](#). This helps explain why GAPS and SCD often can not finish the job. In cases like these, when the labs support it, the clinician can use a medication called [Cycloset](#). Using AM sunlight is more wise. Cycloset was approved for type 2 diabetes in 2009, but it is rarely used for that. Most clinicians do not even know about the medication or how it works. How it works is quite important to a person with an altered gut that has bad circadian signaling. Cycloset's main action in the [EPCOTx protocol](#) is reset the gut's circadian cycle when modern epigenetics has altered the system for any reason at all. Consider it the reset button on your computer. With proper use it can dramatically affect a persons gut problem when used in proper context with the [EPCOTx protocol](#). We covered this recently in a [webinar](#) on the site for our members in detail. There was also a two hour Q & A session done after it as well answering many questions. I would suggest you consider listening to the webinar and Q & A if you have these problems.

4. **0** = Onions/Garlic/Oxytocin The onions and garlic have huge local effects on endogenous gut health that we cover in detail in the webinar. This is linked to sulfation of proteins to make them water soluble in the blood. Oxytocin is another brain hormone that is a major sump for excess electrons that come from epigenetic damage. It is the third most important intracranial antioxidant. Melatonin and DHEA are the others. Melatonin controls mtDNA.

Oxytocin has been epigenetically changed more than any other hormone in the mammalian clade but it can be used to help heal a bad gut if one understand how it directly impacts the cortisol/DHEA/melatonin cycles. Oxytocin is released during many different behaviors and activities but it plays a massive role in organizing the brains response in control of the chemical clocks of all the different organs in the gut. DHEA is another major protector of gut health and we have done a separate blog on its gut effects in [Hormone #1: DHEA](#). Consider re-reading that one at some point.

5. **Tx** = Tumeric, Metformin, DHEA, melatonin. The remainder of the protocol incorporates a variety of these substances if they are needed based upon ones history or lab findings. In the [webinar](#), we delve into the nuances.

If we eat foods designed for quick digestion, like processed foods, and we eat too often in meal timing we make our cellular clocks run faster. If we eat low-quality foods, live a sedentary lifestyle of video game playing, use our iPad or iPhone too long, do not get enough or efficient sleep, we are setting ourselves up for chronic leaky gut that could end up in a GI cancer (matrix slows). Any excessive energy or lack of energy efficiency at our inner mitochondrial membrane leads to excessive insulin levels and altered melatonin levels. This in turn, alters our growth hormone levels, measured by a serum IGF-1 level that alters the activation and balance in the **PI3K pathway**.

This activation leads to further downstream effects which cause activation of AKT. When this occurs, abnormal activation of the mTOR pathway occurs and this opens the door to chronic inflammation. When these things occur chronically in the gut we are activating simultaneously the anti-apoptotic and pro growth or the proliferative mechanisms in our organs. This may help you understand Steve Jobs death in a new light. Tumeric, DHEA, metformin block these steps sequentially. Resveratrol and other polyphenols, like ECGG, also play a role here in the allosteric balance of these pathways as well.

A high BUN/creatinine ratio, a low CO2 level, and a low magnesium level (constipation and loose stools the result; Bristol stool chart 1 or 7) are results of the combined affect of poor mitochondrial function (matrix spin issue) , and this can lead to many of the gut disease modern man faces today. We also spoke about a few of these recently in the [Power Squat blog post](#). When there is imbalance between mTOR and the [AMPK pathway](#) it cause massive problems in cellular signaling. This is transmitted via alpha waves directly in our DNA via Schumann resonance, and it is codified in our melatonin response from the pineal gland. The substrate of that melatonin comes directly from the serotonin stores found in the intestines.

You may now begin to see why so many epithelial cancers are tied to an abnormal melatonin cycle in humans. Low melatonin circadian signaling is seen with an upside down Progesterone/estradiol ratio, a low DHEA level and a low AM cortisol and poor mitochondrial efficiency. This might signify to the clinician or the patient a serious pro-inflammatory state is present in your gut through activation of NF-kappa Beta, [COX-2 systems](#), IL-6, TNF alpha, expression, and activation. When circadian cycling is thrown off long enough it directly affects the cell cycle as I mention [here](#) and leads to down-

regulation of tumor suppressor gene P53. The p53 gene is called the protector of the genome. This is how it happens. Sleep is ushered into the human brain by high melatonin levels and it directly wires into the cell cycle. [Here is a blog providing those links](#). The [EPCOTx protocol](#) is designed to **reverse engineer** this process to help you reset your circadian clocks and reverse your gut issues slowly over time.

You will also find on our forums many discussions that were stimulated from this protocol when we released to our members 3 months ago. Feel free to read the forums and ask questions about them there. I still answer questions here on the blog comments one as long as they are not looking for specific medical advice. This site is designed to give you education to help you and your doctor to begin to look under rocks when conventional advice is just not helping you resolve your problems.

Summary

I was asked by several members to post a thumb nail sketch of the [EPCOTx protocol](#) so they could refer back to it. Well here is your outline. If you want more detail on this protocol I would consider listening to the webinar and searching the forums. We have many members who are quite knowledgeable to help you on your journey to Optimal. If I can help you in any way please do not hesitate to drop a line below.

[Leave a Comment](#)

More Support: Webinars by Dr. Kruse

- [EPCOTx Protocol](#) (September 2012)

Your Shopping List for this Post

- [View The Epi-Paleo Store](#)

Additional Resources

- [Brain Gut 6: Epi-Paleo Rx](#)
- [Brain Gut 9: What Really Killed Michael Jackson](#)
- [Brain Gut 11: Is Technology an Achilles Heel?](#)
- [Brain Gut 17: The Power Squat](#)
- [Vitamin D: The Sunshine of Your Life?](#)
- [Cold Thermogenesis 7](#)
- [Hormone #1: DHEA](#)
- [Intermittent Fasting and Leptin](#)
- [Sleep Ya Big Dummy](#)
- [Why Do We Sleep](#)

Cites

- <http://www.ncbi.nlm.nih.gov/pubmed/19297423>

- The remainder of them are included in all the links highlighted.