

Hello Functional Medicine Discussion Group members:

Our next meeting will be **Thursday June 29 at 6:30** and we will be joined by **Dr. Que Collins** for a fascinating discussion on **Deuterium and Health**. This is a new chapter in the Functional Medicine book and Deuterium is a factor that can be measured and that when elevated, increases your risk of most chronic diseases, including cancer. We will meet in the MultiPurpose room (UPSTAIRS) at the Santa Monica library at 601 Santa Monica Blvd. with the parking lot entrance on 7th Street. **Please let me know as soon as possible if you will be able to attend** by sending me an email with **RSVP Deuterium** in the subject line. As usual, Metagenics will be providing some healthy food. If you have not done so already, please join the interesting discussions that we have been having on our closed Facebook page, **Functional Medicine Discussion Group of Santa Monica**.

Dr. Que Collins has a Ph.D. in Clinical Immunology and he is the co-founder and principal investigator of Cignature Health Metabolic Clinic, the first clinic in the world to use deuterium and tracer technologies to follow the status of patients with metabolic disorders such as cancer, diabetes, and autoimmune diseases. Dr. Anne Cooper, who is also a member of our Functional Medicine Discussion Group, is part of Cignature Health.

Dr. Collins and his co-researchers, Dr. Laszlo Boros and Dr. Gabor Somlyai, have published a series of papers on how having lower deuterium levels promotes health, both through eating a ketogenic diet and drinking low deuterium water. They explain that deuterium damages the nanomotors in mitochondria that make energy from the food you eat. Higher deuterium levels, which results from the standard American diet, clogs up and breaks these tiny motors, which prevents the body from producing cellular energy, leading to metabolic diseases like cancer, diabetes, and chronic fatigue. Research from Dr. Boros and colleagues details some of the mechanisms by which deuterium is related to cancer and how ketogenic diets and low deuterium water might reduce risk of cancer and other chronic diseases. <https://www.cignaturehealth.com/wp-content/uploads/2017/05/Med-Hyp-published.pdf> Here's a poster from a presentation by Dr. Boros, et al, on how deuterium depleted water may be a useful adjunctive treatment for patients being treated for cancer. https://www.cignaturehealth.com/wp-content/uploads/2017/05/AACR_2014_Poster_Somlyai-DDW_AACR.pdf

There are several papers that report cases of patients receiving deuterium depleted water in addition to conventional treatments, though none of them that I have seen have a control group, so these need to be seen as preliminary evidence for this treatment effect. One study provides evidence that lower deuterium levels delays the progression of prostate cancer: <https://www.cignaturehealth.com/wp-content/uploads/2017/05/JCT-2011.pdf> Another paper looks at the survival of rats with lower deuterium levels with lung cancer that is improved compared to typical survival rates for lung cancer. <https://www.cignaturehealth.com/wp-content/uploads/2017/05/Nutrition-and-Cancer-2013.pdf> Yet another retrospective look at patients with breast cancer who were also receiving low deuterium water did better than typical responses. <https://www.cignaturehealth.com/wp-content/uploads/2017/05/JCRT13-10006.pdf> I find this information quite interesting, esp. since it may provide an additional reason why some of the nutritional recommendations that many of us already makes, such as using a low carbohydrate or ketogenic diet for cancer or diabetic patients. And it may provide us with an additional modality, low deuterium water, that can be of benefit to our patients.

Cignature Health has also developed testing methods to determine deuterium levels, including breath, tears, saliva, urine, and serum tests. <https://www.cignaturehealth.com/product/breathy> Here is the

podcast interview I conducted with Dr. Q during which he described the breath test for deuterium levels: <https://youtu.be/GlqFBDVnawU> For those wishing to get your patients tested, the address and phone for Cignature Health is 2901 Wilshire Blvd., Suite #206, Santa Monica, CA 90403 310-828-6684. Join us on June 29 to get additional information about this fascinating topic!