

## Why the Keto Diet is helpful to cancer patients? – Jess Kelley

1. There is no one diet that ever fed all people around the world. Elements of a therapeutic diet must be tailored based upon lab findings, genetics, location, health concerns and much more. A nutrient regime that is effective for one is not the same for another. Everyone is unique. We also can't underestimate the element in "belief", and power of the mind that a therapeutic diet is working for them. The placebo effect if you will.
2. On the genetic point, we've come very far in our understanding of nutrigenomics. There are a few key SNPs that we now suggest (in addition to micronutrient assessments and more) that everyone considering a vegan/plant based diet have assessed.
  - a. FADS-2 regulates the ability to convert plant based omega 6 fats (i.e. flax) into EPA and DHA - two essential fatty acids found in optimal amounts in marine oils
  - b. BCMO1 - regulated the ability to convert plant based beta carotene into vitamin A
3. There is substantial evidence in humans that the ketogenic diet is indeed highly indicated in cancer. There are currently 80 approved clinical trials that are assessing the ketogenic diet for cancer, but also in various other conditions including diabetes, which is a large contributor to cancer. [Here is the link to these trials just for your information.](#) At the moment, there are only 16 clinical trials recruiting for a vegan diet, of which only one pertains to cancer and includes fasting. [Here is the link for that.](#)
4. The ketogenic diet is a complimentary therapy, and should be viewed as a nutrition-based treatment much like chemotherapy or mistletoe. As cancer is so multifaceted, diet is only one player in the game of overcoming it. I know all of us have seen the most significant improvements in those who have made changes to diet, but also to lifestyle - in addition to other treatments. If there was just one diet that was a cure for cancer we'd be shouting it from the rooftops! But someone eating a therapeutic diet who is still getting exposed to large amounts of environmental or emotional toxins will still have a cancer-creating soup happening.
5. Indeed, there has been some evidence that a ketogenic diet reduces the population of gut microbes. Which is why probiotics, and high fiber, nutrient dense vegetables are the staples of properly educating clients around how to safely follow a ketogenic diet and why the need for properly trained Oncology Nutrition Consultants is paramount before anyone undertakes a new diet plan.
6. Lastly, the ketogenic is not a fad. Humans have been cycling in and out of ketosis for millions of years, it was not until our diets changes to high carbohydrates, diseases increased, that we realized its therapeutic effect in the neurological realm in the 1930s. One would argue, as our cells are genetically programmed to run on ketones, that indeed God did intend for humans to have an alternative fuel source other than carbohydrates. Ketones are indeed part of our biology, and are naturally created by our liver.

I have so many studies (and small teasers in our potential new book) that show the ketogenic diet, in humans, is one of the best frontline treatments for diabetes. Since [30% of all cancer have been shown to have a direct link to diabetes](#), we cannot ignore the role of a ketogenic diet. Here is a sample two paragraphs from our book proposal:

*The therapeutic potential of ketogenic diets has been proven in many pathological conditions, such as diabetes, polycystic ovary syndrome, acne, neurological diseases, cancer and the amelioration of respiratory and cardiovascular disease risk factors. There is robust evidence that restriction of dietary carbohydrate is a safe and effective way to achieve good glycemic control and weight loss, and reduce the need for medication in the management of type 2 diabetes. [1] A systematic review comparing low-carb diets to low-fat diets showed that the low-carb diets were superior for achieving*

glucose control, as well as for limiting cardiovascular risk factors in the short and long term for people with type 2 diabetes.<sup>[2]</sup>

Not only have studies found that high fat low carb diets can reverse heart disease and diabetes while exerting immune boosting, anti-inflammatory and neuro-protective effects, a study published in November 2019 in the journal *Science Immunology*, Yale researchers found that mice fed a ketogenic diet and infected with the influenza virus had a higher survival rate than mice on a high-carb “normal” diet. Specifically, the researchers found that the ketogenic diet triggered the release of gamma delta T cells, immune system cells that produce mucus in the cell linings of the lung — while the high-carbohydrate diet did not.<sup>[3]</sup>

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<sup>[1]</sup> McKenzie AL, Hallberg SJ, Creighton BC, et al. A novel intervention including individualized nutritional recommendations reduces hemoglobin A1c level, medication use, and weight in type 2 diabetes. *JMIR Diabetes* 2017;2:e5. doi:10.2196/diabetes.6981 pmid:<http://www.ncbi.nlm.nih.gov/pubmed/30291062>

<sup>[2]</sup> Feinman, Richard D., Wendy K. Pogozelski, Arne Astrup, Richard K. Bernstein, Eugene J. Fine, Eric C. Westman, Anthony Accurso, et al. “Dietary Carbohydrate Restriction as the First Approach in Diabetes Management: Critical Review and Evidence Base.” *Nutrition (Burbank, Los Angeles County, Calif.)* 31, no. 1 (January 2015): 1–13. <https://doi.org/10.1016/j.nut.2014.06.011>.

<sup>[3]</sup> Goldberg, Emily L., Ryan D. Molony, Eriko Kudo, Sviatoslav Sidorov, Yong Kong, Vishwa Deep Dixit, and Akiko Iwasaki. “Ketogenic Diet Activates Protective  $\Gamma\delta$  T Cell Responses against Influenza Virus Infection.” *Science Immunology* 4, no. 41 (November 15, 2019). <https://doi.org/10.1126/sciimmunol.aav2026>.