

THE CANCER REVOLUTION

Additional Material for Chapter 5

Daphne Lambert

Ketogenic diet

The ketogenic diet involves almost zero carbohydrate consumption, especially no refined carbohydrates, glucose and high glycemic index foods. Instead the diet focuses on 'good fats' like extra virgin olive oil, flaxseed oil, coconut oil and the oils in raw nuts and seeds, avocado and eggs, with the addition of good quality natural, fresh protein sources (pulses, fish, chicken). The ketogenic diet forces a physiological shift from glucose to fatty acids and ketone bodies for the cells' energy. Normal healthy cells readily adapt to using ketone bodies for fuel, but cancer cells lack this metabolic flexibility thus limiting their survival.

Professor Thomas Seyfried and his co-workers have researched neurological disease management using lipid biochemistry and principles of metabolic control theory. In particular they have explored the association between diet and cancer. Thomas Seyfried has used the restricted calorie ketogenic diet with malignant brain cancer patients with positive results. According to Professor Seyfried, cancer is a mitochondrial disease and diseased mitochondria prefer glucose and glutamine for fuel. Healthy cells with healthy mitochondria are flexible and can adapt to just about any fuel source, but not cancer cells. Cancer cells are bad at burning fat, because fat burning requires respiration, which requires healthy mitochondria.

Dominic D'Agostino PhD, from the University of Florida Medical School has researched the effects of combining the ketogenic diet with hyperbaric oxygen therapy. Solid tumours have areas of low oxygen, which promotes tumour growth and metastatic spread. The combined treatments have significantly improved the outcome of patients with advanced metastatic cancer.

People following a strict ketogenic diet to manage cancer need to weigh and measure everything they eat, and monitor their blood sugar and blood ketones daily. I would recommend that a knowledgeable nutritionist or doctor be involved as much as possible in the implementation of any form of ketogenic diet for cancer.