

Lipid Analysis of Pediatric Epileptic Patients on the Ketogenic Therapy

The Ketogenic Therapy is a high fat, low carbohydrate, and moderate protein diet administered to patients with epilepsy. This forces them to fall into ketosis, a state of “starvation,” without actually starving them. Although the mechanism is still unknown and currently being investigated, the ketogenic diet has been proven to reduce or completely eliminate seizures. This has been seen to be most effective on pediatric patients; however, many side effects can arise due to the high fat content of their nutrition. My project has been developed to determine whether “healthier” fats, such as omega-3 and omega-6 fatty acids, can be given to the patients to decrease the risk of coronary disease while still allowing for the same reduction in seizures as they would experience had they been fed predominantly saturated and trans-fatty acids. Since I am at the beginning stages of my project, I am currently focusing on researching the different fats, and comparing the recommended percentage of fats to total caloric intake for healthy persons to those of the patients under the ketogenic diet. I also collaborate with members of the KetoGator team to collect and audit diet recalls sent in from patients who attend the CRC at Shands Hospital. I will be running preliminary fatty acid analyses on particular patients’ diet recalls; specifically, one who is orally fed, one who is tube fed, and one who is fed by both means, with a daily consumption of KetoCal, a medical food composed of the 4:1 ratio of fat to carbohydrate and protein. KetoCal is predominantly made of hydrogenated soybean oil (meaning trans-fatty acids). Eventually, this will be developed into a concept map for further studies and a manuscript. Look back to this webpage for updates.