



Therapeutic ketosis and the broad field of applications for the ketogenic diet: Ketone ester applications & clinical updates

Raffaele Pilla

St. John of God Hospital – Fatebenefratelli, Benevento, Italy

Abstract:

It has been recently shown that nutritional ketosis is effective against seizure disorders and various acute/chronic neurological disorders. Physiologically, glucose is the primary metabolic fuel for cells. However, many neurodegenerative disorders have been associated with impaired glucose transport/metabolism and with mitochondrial dysfunction, such as Alzheimer's/Parkinson's disease, general seizure disorders, and traumatic brain injury. Ketone bodies and tricarboxylic acid cycle intermediates represent alternative fuels for the brain and can bypass the rate-limiting steps associated with impaired neuronal glucose metabolism. Therefore, therapeutic ketosis can be considered as a metabolic therapy by providing alternative energy substrates. It has been estimated that the brain derives over 60% of its total energy from ketones when glucose availability is limited. In fact, after prolonged periods of fasting or ketogenic diet (KD), the body utilizes energy obtained from free fatty acids (FFAs) released from adipose tissue.

Biography:

Raffaele Pilla, Pharm.D., Ph.D., Doctor Europaeus, received his Master's degree in Pharmacy at G. D'Annunzio University in Chieti-Pescara, Italy in 2005, where he also served internships at the Cell Physiology Laboratory and Molecular Biology Laboratory. Prior, he was an Erasmus Student at Faculté de Pharmacie de Reims in Reims, France. He received his Doctor Europaeus in 2010 from Pitié-Salpêtrière Institute in Paris, France. Also in 2010, he received his Ph.D. in Biochemistry, Physiology, and Pathology of Muscle at G. D'Annunzio University in Chi-



eti-Pescara, Italy. He was hired as a Postdoctoral Scholar in the Department of Pharmacology and Physiology at the University of South Florida in Tampa, on two research grants funded by the Office of Naval Research (US Navy) and Divers' Alert Network. He has written and lectured widely worldwide. He has been involved in on-going research at the University of South Florida with the use of ketone esters.

Recent Publications:

- Raffaele Pilla, Seizure. 2016
- Raffaele Pilla, Brain Res. 2015
- Raffaele Pilla, Physiol Rep. 2014
- Raffaele Pilla, Am J Physiol Regul Integr Comp Physiol. 2013
- Raffaele Pilla, PloS One. 2010

[Webinar on Plastic surgery | October 9, 2020 |](#)

Citation: Raffaele Pilla, Therapeutic ketosis and the broad field of applications for the ketogenic diet: Ketone ester applications & clinical updates, webinar on Plastic surgery, October 9, 2020.