Researchers at the University of South Florida have discovered a novel method to improve neural cell regeneration with ketones.

Over 1.5 million traumatic brain injuries and over 20 million central and peripheral nervous system injuries occur every year which come from a variety of incidences such as motor vehicle accidents, sports injuries, and diseases. Central nervous system injuries limit the amount of glucose available for use as fuel for the brain. CNS and PNS injuries and diseases are difficult to treat because the nervous system also has a limited capacity to repair itself. Furthermore, neural cells themselves have limited mobility and do not regenerate readily on their own. There is a need for improved methods to increase regeneration and migration in neural cells, in turn providing better treatment for CNS and PNS injuries and diseases.

USF researchers have invented a method of improving neural cell regeneration and migration with the use of ketones. The brain utilizes ketones as fuel when sufficient glucose is not available. Studies performed show that with the use of ketones, neural cells have higher migration to damaged areas and a higher concentration of cell coverage in the damaged area than those without ketones. This method has great potential to treat neuroregeneration for a multitude of injuries and diseases.

ADVANTAGES:
- Faster neural cell regeneration
- Increased cell migration
- Applicable a wide variety of neural injuries and diseases

**Improvement of Neuronal Cell Regeneration and Migration Within Culture with the use of Ketone to Treat Neural Cell Injuries and Diseases and Improve Neuroregeneration**

**Number of nuclei**

Increased Number of Nuclei Observed at 20x and 10x Magnifications Between Control Group (green) and Group Treated (brown) with 2 mM Ketone

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