

PRESS RELEASE

Media Contact:

Robin Carr

Landis Communications Inc.

CNS@landispr.com

(415) 971-3991

www.landispr.com



Centre for Neuro Skills and University of Texas Medical Branch Study Indicates That Chronic Traumatic Brain Injury Patients Are Not Absorbing Needed Nutrients

Microbiome biomarkers may help identify long-term risks and treatments

Bakersfield, CA (April 21, 2021) – According to the [Centers for Disease Control & Prevention](#), more than 2.5 million Americans suffer traumatic brain injuries (TBI) each year.

A new and recent study, supported by the [Centre of Neuro Skills](#) in conjunction with the [University of Texas Medical Branch at Galveston](#), found abnormal reactions between the brain and gastrointestinal tract (gut-brain axis) in moderate to severe chronic TBI patients. The result is that these patients may not be absorbing nutrients properly and treatments need to be developed to address these issues.

The study was conducted at the University of Texas Medical Branch in the Department of Neurology in Galveston, Texas (under the supervision of Dr. Brent Masel) and the Centre of Neuro Skills in Bakersfield, California (under the supervision of Dr. Mark Ashley).

Study Summary:

- The controlled study followed 10 TBI patients in Galveston, where Dr. Masel is a clinical professor at the University of Texas Medical Branch in the Department of Neurology. Dr. Masel is also the vice president of Medical Services at the Centre for Neuro Skills. Researchers had the patients fast, get their blood drawn, eat a specific meal and get their blood drawn again.
- TBI patients had low baseline levels of essential amino acids. Even after eating a meal, their levels remained lower than the non-injured study participants. Researchers determined that TBI patients weren't absorbing essential amino acids.
- Dr. Masel and his colleagues made this determination and then wondered if it was simply the local diet or geographical location (lifestyle/exercise, stress, etc). He called Dr. Mark Ashley and suggested an identical study at the Centre for Neuro Skills in Bakersfield, California. The results were the same, so the conclusion was that this issue wasn't related to diet, location or lifestyle.
- Dr. Masel's observation: "The commonality is TBI. Essential amino acids are not being absorbed from the gut, and those molecules are critical to TBI recovery. This is amazing to me: maybe these patients are starving. I figured there must be a connection between the gut-brain axis."

- After administering the fasting/eating/blood draw protocol, they added stool sample analysis.
- The study then focused on the microbiome and its relation to bacteria in the gut. The gut can say “OK” to a healthy system and absorb essential amino acids or can “gobble up” the same molecules depriving the human of using these critical nutrition components. That’s what was found in the fecal matter. Essential amino acids were missing; the commonality in both the Texas and California groups was TBI.
- This may affect the ability of patients to fully recover. In CNS’ “whole person” approach, it could affect the quality of functionality/return to normalcy. Point of distinction here – with CNS’ dedicated research team, these discoveries/research/scientists and their publications can advance treatment and expand understanding of the depth of TBI’s damage.
- The study’s distinction is that the two groups, thousands of miles apart, produced the same outcome and the same deficit of non-absorption. The CNS patient study group was part of CNS’ Long Term Care program, so the organization will be able to study them now and in the future.

Observations:

“Clearly there are abnormalities in the microbiome of the gut in TBI patients,” commented Dr. Masel. “Maybe this is a piece of the puzzle that can solve the mystery of TBI. It’s one puzzle piece at a time. Presently, the majority of what we do is treat the symptoms of TBI, as opposed to the underlying causes of those symptoms, which would be far more effective. Perhaps by correcting the malabsorption of the essential amino acids, we can advance the recovery from TBIs. We will be studying how altering the diet in these individuals may change their amino acid absorption. Our hope is that this will assist in identifying long-term risks and treatments.”

Comments CNS’ Dr. Ashley, “It’s gratifying to be part of a study that in the end may help identify keys that allow us to better treat patients with TBI for the long haul. With CNS’ dedicated research team and these discoveries, we hopefully can advance treatment and expand our understanding of the depth of TBI’s damage. We look forward to the next steps.”

This study was funded by the Moody Endowment (funding M.S.M.) and conducted with the support of TideWay, part of the Transitional Learning Center (Galveston, TX) and the Centre for Neuro Skills (Bakersfield, CA). The study took place with 8 patients in Galveston and 12 patients in California. The link to the full study is [here](#).

About Centre for Neuro Skills

Centre for Neuro Skills is an experienced and respected world leader in providing intensive rehabilitation and medical programs for those recovering from all types of brain injury. CNS covers a full spectrum of advanced care from residential and assisted living to outpatient/day treatment. Founded by Dr. Mark Ashley in 1980, CNS has seven locations in California and Texas. For more information about Centre for Neuro Skills, visit: <https://www.neuroskills.com/>, [Facebook](#), [Twitter](#), [LinkedIn](#), [YouTube](#). For a video overview of CNS, visit: <https://youtu.be/Jwqve9gWtEw>

About University of Texas Medical Branch

The Department of Neurology at University of Texas Medical Branch (UTMB) was established in 1973. It has a long-standing history and tradition in the practice and advancement of Clinical Neurosciences by providing the most comprehensive care to patients with neurologic illnesses from Alzheimer’s disease and related dementias, epilepsy, neuromuscular disorders, brain tumors, Parkinson’s Disease and other movement

disorders, multiple sclerosis and other autoimmune disorders, stroke as well as other acute neurologic injuries. For more information, visit: <https://www.utmb.edu/neuro>.

Editors, please note: Photos, videos and interviews are available by contacting Robin Carr at (415) 971-3991 or CNS@landispr.com.

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