The Center For Modeling Optimal Outcomes® LLC

"The Think Tank for Creativity & Innovation"®

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Scientific Link to Autism Identified

Jackson, NJ, November 17, 2009 - When a group of business people decided to investigate the applications of neuroscience in business in early 2003, they had no idea what they would find.

Prior to his retirement in 1998 after selling his consulting firm to Johnson and Johnson, the Center's founder, William McFaul, had spent nearly 30 years focusing on expense and change management in the healthcare industry. Despite having pioneered numerous processes that reduced hospital operating expenses by billions of dollars annually, a methodology to create and maintain the inter-disciplinary dynamics necessary to create a willingness for organizations to seek collaborative solutions to execute change had eluded him.

By mid 2005, the group, The Center for Modeling Optimal Outcomes®, LLC had made substantial inroads into the design of a neuroscientifically-based model that would enable the creation of cultures of change acceptability.

When McFaul came upon a process involving the impact of brain chemicals in decision making, he reached out to Dr. Michael Miller, a Psychologist from Freehold, NJ. With Miller's guidance concerning how people think and how they problem solve, the staff of The Center was able to focus their investigative process into the realm of neurohormones, neurosteroids and amino acid neurotransmitters.

What started as research into brain chemicals (neurohormones) involved with logic and emotions led McFaul and his team to a process that identified the fact that the body's substances exist in pairs. Suddenly, The Center was challenged to create two separate paths; one for Business Processes to continue their work relative to neuroscience in business, the other focused on the broader application of Life Sciences.

Getting Closer to the Causal Path of Autism

By early 2009, the Life Sciences group of The Center was able to assemble their findings into an explicit, replicable model to explain the corollary, homeostatic relationship between the substances in the body. Grounded on a solid foundation of the laws of physics and chemistry, the Life Sciences group overlaid the model with numerous scientific studies. The results were amazing! The group then used the model to identify specific causal paths for certain illnesses and disease that result from disruptions in pairs of bodily substances. It became apparent that the model could provide the tools medical research scientists need to find the root causes of many chronic diseases.

De-mystifying Autism

After unraveling the complexities of neurohormone disruptions associated with several neurodevelopmental diseases, and encouraged by Dr. Miller and several of The Center's advisors, the Life Sciences group took on the challenge of researching the causes of autism.

Clues from renowned retired neurosurgeon and neuroscientist Russell Blaylock, M.D. regarding the "excitotoxic" nature of two amino acid neurotransmitters (aspartate and glutamate) prompted the group to look closely at these substances. Articles by neuroscientist Dr. Martha Herbert of Massachusetts General Hospital in Boston regarding the possibility that autism was a disorder of the body and not merely the mind offered another important clue.

In addition to analyzing hundreds of scientific studies regarding autism and all the disorders encompassed within Autism Spectrum Disorder, McFaul and his team revisited the work of Dr. Andrew Wakefield, the gastroenterologist from the UK at the center of controversy regarding MMR vaccines.

Applying The Center's model for homeostasis of the body's substances uncovered a few startling facts. First, several imbalances/disruptions in bodily processes appeared to be variables that contribute to autism. It became obvious that these variables have to occur concurrently for a "perfect storm" to cause the disorder. Simply, there was no one cause behind autism. Second, if excitotoxins exist, there must also be the opposite – "inhibitotoxins." Third, many of the studies Blaylock referred to in his 1997 book, Excitotoxins: The Taste That Kills (Health Press NA) and many of his subsequent articles identified glutamate as a substance associated with taste and flavor enhancement. This information lead the Life Sciences group to consider the possibility that glutamate's role in flavor and taste enhancement was attributed to cellular absorption.

Considerable confusion exists within different scientific disciplines with regard to the processes used by various types of cells to "uptake" substances. Most frequently, studies refer to a process whereby substances bind to a cell, a channel forms and it enables the substance to enter. When the substance is needed, a "port" forms and the substance is expelled for use. During research into the dynamics of cellular activity along with input and guidance from the group's biology advisor, it became apparent that various mechanisms are used by cells to receive substances. They include but are not limited to osmosis, diffusion, phagocytosis, pinocytosis, pumps and conventional absorption.

The issue of cellular absorption had been one of interest to The Center as part of its investigation into the application of neuroscience in business. In lay terms, scientific literature supports the fact that certain cells in the brain emit signals that are received by other cells; a process critical to the formation of memory and the analysis of factors in order to make decisions. Logic dictated that these signals emitted by cells could not be binding to other cells waiting for a channel to form that would enable "uptake." It was at that point in their investigation that several "dots" were connected; i.e. the receiving cells essential for logic and memory had to be involved in a process of absorption. Furthermore, because the firing rate of the signals would be variable during times of stress, anger, deep thought, etc. the rate of absorption by those cells would also vary. If cellular absorption was variable, what substances were responsible for determining this rate? Dr. Blaylock's work and the studies referenced in the scientific literature supported the possibility that glutamate was involved with cellular absorption.

The Center's Life Sciences group was faced with a major challenge – overcoming the beliefs of nearly the entire scientific community regarding cellular absorption.

When the group identified glycine and glutamate as a homeostatic pair, things began to fall into place. The scientific community had already identified glycine as being an inhibitory amino acid

neurotransmitter. Because medical science has been able to only identify the existence of four amino acid neurotransmitters, aligning them into functional roles was a relatively easy task.

The Center's research staff identified the class of G-Protein Coupled Receptors as being at least one major class of cells for which the conventional "binding" process seemed impossible because the substances associated with them would necessitate an instantaneous mechanism. Furthermore, the fact that transdermal patches and medication such as nitroglycerine placed under one's tongue work so well provided further support for the hypothesis that some cells use absorption. Finally, the knowledge that variable signal firing rates and variable absorption rates were essential to maintain homeostasis (balance), all of the pieces of information were falling into place as being a biological necessity.

Based on the use of its model, when glutamate and glycine were identified as a pair that functioned to control the rate of cellular absorption, the group still had a few challenges; i.e. prove that some classes of cells absorb and find out what impact an excessive level of glycine might have on cells.

Finding the Culprit

Based on Wakefield's hypothesis involving the MMR vaccine as a possible factor in the cause of today's iteration of autism (but not all of the disorders with ASD), McFaul decided to look carefully at the MMR vaccine as well as others. The results were beyond his expectations.

Since 1979 the MMR vaccine has contained hydrolyzed gelatin as a stabilizer. This fact may seem unrelated to the problem of autism unless the process of hydrolyzation is understood (i.e. concentration) and the fact that gelatin is a substance high in levels of glycine (approximately 21%).

Is the addition of gelatin to the MMR vaccine in 1979 (US patent 4,147,722 of April 3, 1979) merely coincidental with the increase in the rate of autism soon thereafter? Has the addition of hydrolyzed gelatin to some chicken pox vaccines compounded the problem?

The challenges for the medical research community are now clear! Do certain classes of cells absorb substances? If so, the entire science of toxicology will change. If the homeostasis of certain classes of cells associated with bodily functions are disrupted, could the outcome be autism; i.e. the inability of some cells to absorb the critical substances necessary for the brain and body to function normally? Can a substantial imbalance between glutamate - gelatin/glycine cause autism by slowing or stopping the ability of certain cells to absorb substances in the brain and elsewhere in the body?

According to William McFaul, The Center's founder, "We are not opposed to vaccines. Science has irrefutably proven their value. We are merely asking the medical research community to evaluate our model for homeostasis in order to ensure the ingredients in vaccines are not disrupting the body's processes. We are also seeking cancer research centers willing to spend the time to allow us to explain how the model for assessing homeostasis between substances will enable their scientists to identify causal paths for numerous forms of cancer."

For more information about The Center, visit their website www.TheCenterNJ.com or contact their Life Sciences spokesperson Linda Oliver-Perrier at loliverperrier@TheCenterNJ.com.