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Novel methods that restore balance in the endogenous opioid system reduce drug dependence and tolerance

Through more than three decades of preclinical and clinical research, our team has discovered that imbalances in the endogenous opioid system created by exposure to opioid and other drugs are responsible, at least in part, for the development of drug tolerance, dependence, and addiction. Specifically, even short-term use of these drugs can produce excessive excitatory opioid receptor signaling as well as diminished endorphin production, as initially revealed in our electrophysiological nerve tissue culture studies. Moreover, our research has led to the discovery of simple methods to restore balance to the endogenous opioid system, thereby reducing drug tolerance and dependence. We have extensive evidence that the addition of ultra-low-dose naltrexone (ULDN) dramatically reduces tolerance, withdrawal symptoms, and other noxious side effects of opioid drugs, including an FDA Phase III trial of 700+ lower-back pain patients. More recent research has found that specific nutraceuticals, such as n-acetyl cysteine, can reduce excessive excitatory opioid receptor signaling, which when combined with endorphin enhancers, such as caffeine, effectively reduce cravings for drugs and alcohol as well as food. In addition, these novel endorphinergic nutraceutical formulations provide remarkable relief from emotional and physical distress, including anxiety, obsessions, and compulsions. We also have had extensive experience with the challenges of the drug approval process in the U.S. including working with the FDA, NIDA, and pharmaceutical companies, as well as the potential advantages of translating pharmaceutical discoveries to nutraceutical formulations, which do not require FDA approval.

Biography

Steven Crain completed his Ph.D. in Clinical Psychology from Duke University in 1980. Since then he has treated thousands of patients with addictions, anxiety, and depression as Clinical Director of Penn State University's Center for Counseling and Psychological Services and at Therapeutic Alliance, a community-based mental health center he established in 1982. In 2009, Dr. Crain co-founded Pondera Pharmaceuticals, Inc. a company dedicated to the development and marketing of pharmaceuticals and nutraceuticals for the treatment of addictions, anxiety, and depression. Dr. Crain has co-authored several articles, which summarize their research and innovative treatments, and has been awarded several patents.

Matthew Crain is completing his honors thesis in Biology at Duke University on the "Impact of early life stress on neural network dysregulation and depression." He has been a research assistant at Pondera Pharmaceuticals, Inc. since 2009 where he has collaborated on research on innovative methods to treat anxiety, depression, and addictions. He is co-author of a 2013 JBBS paper on "Emotional and physical distress relief using a novel endorphinergic formulation."

Stanley M. Crain completed his Ph.D. in Biophysics from Columbia University in 1954. Dr. Crain is a world-renowned expert in opioid addiction with over 100 publications cited in PubMed and numerous honors and awards. Dr. Crain's 30+ years of preclinical electrophysiological nerve tissue culture studies led to his discovery of the imbalances in the endogenous opioid system created by exposure to opioid drugs, which are responsible for the development of tolerance and dependence. Dr. Crain's research also led to the discovery of simple methods to restore balance to the endogenous opioid system, thereby reducing tolerance and dependence. Dr. Crain has been awarded numerous patents. Pain Therapeutics, Inc. and Pondera Pharmaceuticals, Inc. were both founded to translate Dr. Crain's groundbreaking discoveries into safe and effective treatments for addictions and anxiety.

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