OPTIMIZING CHRONIC PAIN TREATMENT WITH ENHANCED NEUROPLASTIC RESPONSIVENESS (OPTIMIZE)

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RESEARCH PROJECT DESCRIPTION:

Background
Chronic pain is associated with functional and structural changes in the brain. Recent advances indicate promising opportunities to “re-open” and enhance neuroplastic responsiveness with non-pharmacological and non-invasive strategies. Strategies to maximize neuroplastic responsiveness to chronic pain treatment could enhance treatment gains by increasing neuroplasticity, learning, and positive adaptation. The intentions underlying the proposed study are to identify strategies to optimize the neurobiological environment to respond to clinical treatment interventions and override the maladaptive neuroplastic changes associated with chronic osteoarthritis pain.

Aims
1) Determine whether food restriction and/or glucose administration will enhance neuroplastic responsiveness and improve learning retention thereby improving the effectiveness of guided imagery intervention in chronic pain patients;
2) Identify neurobiological and biological mechanisms underlying the proposed interventions.

Methods
Adults with chronic knee osteoarthritis pain are randomized into one of three groups (intermittent fasting, glucose administration, control) and participate in 4 sessions over a 2-3 week period.

Medical Student Role
Assist with study sessions, data collection, and interpretation of findings.

Funding
American Pain Society and the Sharon S. Keller Chronic Pain Research Grant and UF CTSI Patient Oriented Pilot Award

Relevant Publications

