The Departments of Physical and Occupational Therapy present

Rehabilitation Science Dissertation Defense

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Candidate for PhD in Rehabilitation Science
Final Dissertation Defense

PHYSIOLOGICAL AND NEUROIMMUNE EFFECTS OF MANUAL THERAPY

Manual therapy (MT) is widely used across healthcare professions for the management of musculoskeletal conditions. Emerging evidence indicates that MT may also influence broader physiological systems such as the nervous and immune systems. However, the mechanisms underlying these effects are still not well understood, and limited evidence exists regarding the neuroimmune effect of MT in neurologically impaired populations such as multiple sclerosis (MS). This dissertation investigates the physiological effects of MT through: two narrative reviews synthesizing evidence on autonomic, viscera-related, and neuromuscular responses to MT across multiple professions, a concise clinical evidence guide for rehabilitation physicians, and a pilot randomized controlled trial evaluating the effects of spinal manipulation (SM) on blood biomarkers and clinical/performance-based outcomes in people with MS. Findings from the reviews indicate that MT can elicit autonomic, viscera-related, and neuromuscular responses, but overall results are inconsistent due to methodological variability and small sample sizes. The pilot exploratory trial in MS showed that a subset of six cytokines/chemokines IL-8, IL-17A, GM-CSF, MIP-1β, IFNγ, and Fractalkine had moderate to large effect sizes at multiple time points post-SM, while neurodegeneration biomarkers and most clinical/performance-based outcomes exhibited small or negligible changes. This doctoral dissertation provides an integrated evaluation of the physiological effects of MT, advances mechanistic understanding across multiple physiological systems, and identifies key biomarkers to prioritize in future randomized controlled trials.

UAB The University of Alabama at Birmingham

School of Health Professions

EVENT DETAILS

Free to UAB students, faculty and clinicians.

DATE/TIME

Tuesday, November 4, 2025

12:00pm-1:00pm

LOCATION

Zoom
https://uab.zoom.us/j/89474220780

CONTACT

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For more information about the Rehabilitation Science Program, please check out our website: uab.edu/shp/rehabsci