The Departments of Physical and Occupational Therapy present

Rehabilitation Science Dissertation Defense

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Final Dissertation Defense

Exercise Testing and Training for Individuals with Cystic Fibrosis

Cystic fibrosis (CF) is a progressive genetic disease that impacts the respiratory, gastrointestinal, and musculoskeletal systems. Hence, routine cardiopulmonary exercise testing (CPET) is recommended to track the physical performance of people with CF (pwCF). Exercise testing (CPET) is essential for pwCF as it can monitor the disease progression and predict mortality. Besides the benefits of exercise testing, exercise training is also beneficial for long-term wellness. The CF guidelines recommend that pwCF engage in at least 30–60 minutes of aerobic exercise 4 days a week. However, despite the significance of exercise testing and training for pwCF, it was reported that CPET and exercise training are underutilized in CF centers. According to the literature, the majority of international CF centers use field-based exercise tests, such as the 1-minute sit-to-stand test (1MSTS), to assess muscle strength and functional status. 1MSTS is one of the exercise tests suggested for pwCF, as the test is cheap and can be conducted in a limited time and space. To the best of our knowledge, there is a gap in the literature regarding using a validated survey to assess the utilization of exercise testing and training in U.S. CF centers. Also, incorporating verbal encouragement into the 1MSTS protocol has not been investigated, which can be used to enhance exercise performance, as the test is a self-paced test and may underestimate the actual physical performance of individuals. Therefore, we aimed to establish the content validity of an exercise testing and training survey and use it to capture the use of exercise testing and training programs in the U.S. CF. We also aimed to test whether the encouraged 1MSTS can provoke higher exercise intensity as compared to the standard 1MSTS. Overall, the feedback we received in the Delphi study improved the overall quality and content validity of the survey. Also, the results of the validated survey showed that, as opposed to the field-based exercise tests (e.g., 1MSTS), CPET is underutilized in U.S. CF care centers. Additionally, the encouraged 1MSTS resulted in higher exercise performance as compared to the standard 1MST; therefore, the encouraged 1MSTS can be used to assess and enhance exercise response in pwCF when CPET is not available.

UAB The University of Alabama at Birmingham

School of Health Professions

EVENT DETAILS

Free to UAB students, faculty and clinicians.

DATE/TIME

Monday, October 20, 2025

11:00am-12:00pm

LOCATION

SHPB 224 and
Zoom
https://uab.zoom.us/j/83724645453

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