

Novel Continuous Method to Monitor and Predict Dyspnea

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BACKGROUND

Dyspnea is the subjective sensation of breathing discomfort. This symptom is commonly experienced in hospitalized patients, including those receiving mechanical ventilation. In severe cases, dyspnea has been linked to increased mortality in patients with chronic lung disease as well as poorer clinical outcomes in ICU patients. Current methods for assessing dyspnea, such as the traditional Respiratory Distress Observation Scale (RDOS), have significant limitations. Moreover, continuously monitoring dyspnea in patients is challenging for healthcare staff. Currently there are no tools that can continuously monitor dyspnea severity using objective, non-invasive biomarkers.

BRIEF DESCRIPTION

Professor Erica Heinrich and their team from the University of California, Riverside have developed a novel clinical tool that can be used for the continuous, objective prediction and monitoring of dyspnea in hospitalized and ICU patients. This tool works by using machine learning models to continuous monitor and predict bouts of dyspnea, even when patient monitoring is difficult due to sedation or other medical conditions. This technology has been tested in healthy individuals and is advantageous because it leverages non-invasive biomarkers and it is designed to overcome the subjectivity and low resolution of current methods.

APPLICATION

- This new monitoring method may continuously monitor dyspnea and alert medical providers to a patient’s sense of breathlessness.

PATENT STATUS

Patent Pending

RELATED MATERIALS

- Mkrtchyan, K., Lohn, B., Qazi, A., Ma, S., & Heinrich, E. (2024). Addressing disparities between physician rated and self-reported dyspnea using machine learning. Physiology, 39(S1). <https://doi.org/10.1152/physiol.2024.39.s1.2192> - 05/01/2024

OTHER INFORMATION

CATEGORIZED AS

- **Medical**
 - Devices
 - Diagnostics
 - Disease: Respiratory and Pulmonary System

RELATED CASES

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