Telehealth pulmonary rehabilitation reduces 30-day readmissions

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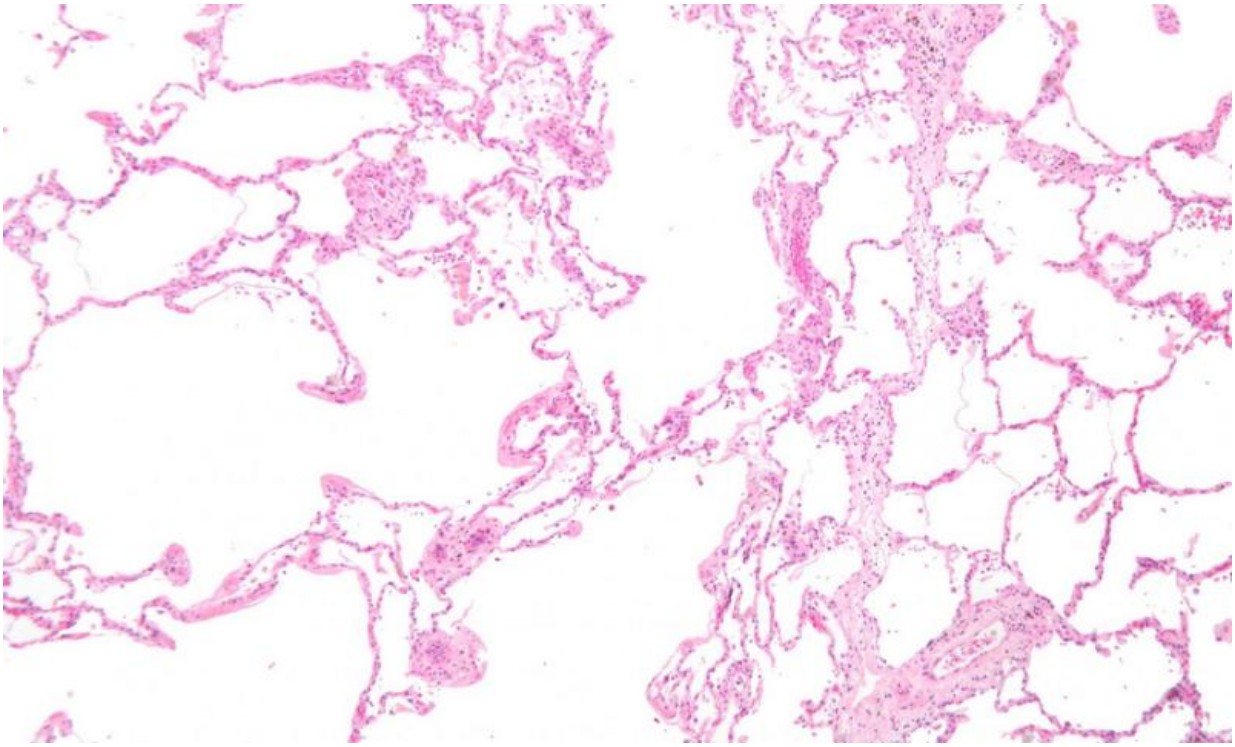

Micrograph showing emphysema (left – large empty spaces) and lung tissue with relative preservation of the alveoli (right). Credit: Wikipedia, CC-BY-SA 3.0

New research published in the *American Journal of Respiratory and Critical Care Medicine* from the University of Alabama at Birmingham shows that video telehealth pulmonary rehabilitation interventions reduce 30-day all-cause readmission rates following hospitalization for

chronic obstructive pulmonary disease exacerbation.

COPD includes a group of diseases, like emphysema and chronic bronchitis, that cause airflow obstruction and breathing-related problems. COPD makes breathing difficult for the 16 million Americans who have this disease. According to the CDC, Alabama has one of the highest prevalence rates of COPD for adults age 18 or older.

Exacerbations of COPD, especially those severe enough to result in hospitalization, are associated with prolonged effects on quality of life and accelerate lung function decline.

"Participating in an exercise program soon after hospitalization for an acute exacerbation of COPD is associated with a substantially lower readmission rate within 30 days of discharge," said Surya P. Bhatt, M.D., associate professor in the Division of Pulmonary, Allergy and Critical Care Medicine. "The video telehealth pulmonary rehabilitation program, by overcoming many barriers to early initiation of pulmonary rehabilitation, can expand access to pulmonary rehabilitation, especially for patients who live in rural areas."

Bhatt says the majority of COPD-related health care costs—approximately two-thirds—are associated with hospitalization.

"By reducing COPD readmissions, this intervention has the potential to substantially reduce health care costs," he said.

Researchers enrolled patients hospitalized for an acute exacerbation of COPD in a video telehealth PR intervention at a single highly specialized academic hospital beginning in March 2015. Potential participants were identified using a daily hospital census, and patients were approached for enrollment regardless of disease severity except those with unstable arrhythmias, congestive heart failure with left ventricular ejection

fraction less than 25 percent, oxygen use of 5 liters or more per minute at rest, or other comorbidities that precluded participation in exercise, including orthopedic conditions and severe dementia.

The real-time videoconferencing intervention consisted of a standardized regimen of 36 exercise sessions for 12 weeks, per traditional pulmonary rehabilitation guidelines. Exercise prescription was made by an exercise physiologist after an initial outpatient exercise assessment and tailored per baseline functional level as well as impairment prior to the exacerbation.

The exercise regimen included a combination of initial stretching and breathing exercises, followed by 20 minutes of aerobic exercises using a portable foot peddler provided as part of the study. The goal was to achieve heart rates between 60 and 80 percent of the maximum recorded on the baseline six-minute walk test.

Compared with COPD patients who did not participate in this intervention, the 30-day all-cause readmission rate decreased significantly from 18.1 percent to 6.2 percent. Hospitalizations for acute exacerbation of COPD result in significant respiratory morbidity. With these new results, Bhatt says that trend could change.

Bhatt and his colleagues say this service is now offered to stable outpatients in clinic who have COPD, but do not have access to pulmonary rehabilitation closer to home.

"This intervention is easily applicable to patients with other chronic lung diseases," he said. "However, these results need confirmation in a randomized clinical trial."

More information: Surya P Bhatt et al. Video Telehealth Pulmonary Rehabilitation Intervention In COPD Reduces 30-day Readmissions,

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