Acute Exacerbations of COPD

Will On-Call Physiotherapy Allow for Early Rehabilitation?

To the Editor:

Pulmonary rehabilitation has gained prominence and support from a growing body of evidence over the last 15 years. Goldstein et al.1 elucidated in CHEST (September 2012) the benefits of pulmonary rehabilitation and highlighted the available literature. They wonderfully synthesized the available evidence and also elaborated on key areas that require further research.

Acute exacerbations of COPD cause severe functional limitations and greatly affect the functional state of the patient. The use of early mobilization and chest physiotherapy interventions were earlier considered absolute contraindications. However, in the last 2 years, research has begun to focus on the benefits of early mobilization and exercises during an acute exacerbation. Despite this interest, only limited studies have focused on exercise interventions and chest physiotherapy during the acute exacerbation.2

A recent clinical trial by Tang et al.2 evaluated the use of 15-min bid exercise sessions (aerobic and resistance) at low and moderate to high intensities along with chest physiotherapy from the second day of admission until discharge. Improvements in 3-min walk test results favored the low-intensity exercise group even though both intensities produced changes in distances between 21 and 31 m ($P < .05$).

The evaluation of physiotherapy interventions (ie, bronchial hygiene therapy and positioning) through on-call services was evaluated in a small study from a rural center in India from the time of admission until discharge.3 Gradual mobilization and walking was initiated once the patient was in the ward. The study found greater improvements in 6-min walk distance at discharge among those who received on-call physiotherapy services and early mobilization ($387.89 \pm 110.1$ m) compared with those who received only regular physiotherapy services ($295.73 \pm 103.2$ m) ($P < .05$).

On-call physiotherapy began gaining popularity in the 1980s and is defined as “the provision of respiratory/cardiorespiratory/cardiothoracic or combinations of respiratory and orthopaedic physiotherapy, out of working hours.”4 On-call physiotherapy services require physiotherapists trained in emergency respiratory care, along with administrative support to provide around-the-clock services for patients with respiratory problems. Whether this will promote a faster initiation of pulmonary rehabilitation programs leading to improved outcomes remains to be seen. Current literature suggests benefits with chest physiotherapy and early mobilization during acute exacerbations of COPD. The clinical benefits vs the administrative requirements and training for on-call physiotherapy services will need to be weighed against the clinical benefits for patients with acute exacerbations of COPD.

Abraham Samuel Babu, MPT
Karnataka, India

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Affiliations: From the Department of Physiotherapy, Manipal College of Allied Health Sciences, Manipal University.
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Correspondence to: Abraham Samuel Babu, MPT, Department of Physiotherapy, Manipal College of Allied Health Sciences, Manipal University, Manipal, 576104, Karnataka, India; e-mail: abrahambabu@gmail.com

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Correspondence to: Kathryn L. Tucker, JD, Legal Affairs, Compassion & Choices, PO Box 101810, Denver, CO 80250; e-mail: ktucker@compassionandchoices.org

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Response

To the Editor:

We thank Mr Babu for his interest in our work. Mr Babu highlights data to support the role of rehabilitation for people hospitalized with an acute exacerbation of COPD (AECOPD) and questions whether earlier access to physiotherapy via an “on-call” service would lead to improved outcomes at discharge. He refers to the results of a randomized controlled trial (RCT) conducted by his group in which patients who were hospitalized with an AECOPD were allocated to a group that received either (1) physiotherapy during normal working hours as well as out of hours via an on-call service (intervention) or (2) physiotherapy during normal working hours only (control). At the time of discharge from hospital, between-group differences in favor of the intervention group were demonstrated in measures of peak expiratory flow. Unfortunately, these differences did not translate to a decrease in the length of hospital stay. Although the intervention group had a greater 6-min walk distance at discharge, this is unlikely to be attributed to the on-call service, which focused exclusively on airway clearance techniques and strategies to ameliorate acute dyspnea rather than the implementation of additional supervised exercise training.

Offering an on-call service would only be cost effective if the provision of additional out-of-hours physiotherapy was able to reduce health-care use. Currently, there are no robust data to suggest that airway clearance techniques or approaches that aim to ameliorate acute dyspnea confer reductions in health-care use. Although the meta-analysis of RCTs that explored the effects of exercise training initiated during or shortly following hospitalization for AECOPD demonstrated a reduction in readmissions in the group that received early rehabilitation, none of the RCTs offered out-of-hours physiotherapy services. This suggests that such gains are conferred without access to an on-call physiotherapy service. The one service that on-call physiotherapy is likely to be appropriate for is the early implementation of non-invasive ventilation (NIV) for those admitted with hypercapnic respiratory failure. In this population, NIV reduces hospital length of stay in an ICU. Therefore, for those jurisdictions in which the implementation of NIV falls within the scope of physiotherapy practice, the provision an on-call physiotherapy service is justified.

Kylie Hill, PhD
Perth, WA, Australia
Roger S. Goldstein, MBChB, FCCP
Toronto, ON, Canada

Affiliations: From the School of Physiotherapy and Curtin Health Innovation Research Institute, Curtin University; the Lung Institute of Western Australia and Centre for Asthma, Allergy and Respiratory Research (Dr Hill), University of Western Australia; the Department of Respiratory Medicine (Dr Goldstein), West Park Healthcare Centre; and the Department of Physical Therapy and Medicine (Dr Goldstein), University of Toronto.
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Endobronchial Ultrasound Needle Biopsy With and Without Aspiration

The “Core” Issue

To the Editor:

We read with keen interest the article by Casal et al in a recent issue of CHEST (September 2012). The authors reported on the use of endobronchial ultrasound (EBUS)-guided transbronchial needle capillary sampling, a technique that has not been previously evaluated for EBUS-guided transbronchial needle aspiration.

The authors reported no benefit derived from the practice of applying suction to EBUS-guided biopsies. However, a very important issue not highlighted in the article is that of a differential yield due to severe acute exacerbations of asthma. We read with keen interest the article by Casal et al in a recent issue of CHEST (September 2012). The authors reported on the use of endobronchial ultrasound (EBUS)-guided transbronchial needle capillary sampling, a technique that has not been previously evaluated for EBUS-guided transbronchial needle aspiration.

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