low us to get more informative results, because a comparison of
dyspnea sensation with or without the treatment program in the
same subjects is more trustworthy than that in the different patient
groups. However, we basically agree with the authors that the dys-
pnea treatment program without comprehensive exercise training
do not always produce beneficial effects for COPD. Because the
small reduction of dyspnea in the subjects of this study did not
produce the improvement of exercise capacity as indexed by walk
distance, the dyspnea management program alone may not be suf-
ficient to contribute a better quality of life. However, the accom-
panying article7 in the Journal showed that the effectiveness of
pulmonary rehabilitation on exercise performance in COPD pa-
tients. The similar observation has also been reported by others.8
Taken together, there is a possibility that a combination of the dys-
pnea treatment program with the exercise training may be a more
powerful modality to produce a better quality of daily living in
COPD than the single treatment program, since an increased ex-
cise capacity and a reduced sensation of dyspnea may dependently
or independently contribute to improvement of some aspects of
quality of life.

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Fulminant Malignant Arrhythmia and Multiorgan Failure in Acute Arsenic
Poisoning

To the Editor:

We had the opportunity to care for a patient developing early and
fatal ventricular arrhythmias and multiorgan failure after the acci-
dental ingestion of arsenic. The patient, a healthy 21-year-old man,
accidentally ingested 21 g (300 mg/kg) of sodium arsenite. He
was admitted to our hospital 30 min after the ingestion. Initial exami-
nation revealed a confused patient in moderate respiratory distress,
complaining of abdominal tenderness and burning throat. On ad-
mission, blood pressure was 100/60 mm Hg, CVP 0 cm H2O, ca-
diac rhythm showed an atrial fibrillation at 110 bpm and anuria was
observed. Arterial blood gases on mask at 50% oxygen were P02 150,
P02 24 mm Hg, pH 7.27, HCO3 11 mM. Glucose was 148, BUN
23, creatinine 1.4 mg/dl, Na 145 and K 3.4 mM, CPK 150 and LDH
293 IU/L, Hb 17 g/dl, WBC 3,400 cells/mm3; other measurements
included normal coagulation studies. Serum arsenic level was (300
µg/L. Despite immediate management with supplemental oxygen,
aggressive volume expansion, correction of metabolic disturbances,
forced diuresis, gastric lavage, administration of activated charcoal,
and treatment with dimercaprol (250 mg IM), the patient developed
progressive hypotension and refractory ventricular fibrillation with

To the Editor:

We believe that the comments by Drs. Teramoto and Fukuchi
agree with the basic conclusions from our study on the treatment
dyspnea in COPD. They suggest that exercise training may be an
important component of pulmonary rehabilitation activities and that
dyspnea treatment strategies alone are not sufficient to produce
significant changes in symptoms or function for these patients.

With regard to our use of the Borg scale, we recognize that the
Borg scale was derived from psychophysic properties. Our use of
this scale in conjunction with exercise tests, such as the 6-min walk,
is consistent with commonly accepted practice and with recom-
ended use of the scale. In some applications the comparisons
within subjects over time may have reduced variability with use of
a standardized stimulus. However, a timed distance walk test like

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Communications to the Editor