study. Because the significant regression analysis between the VO$_2$ and dyspnea ratings was obtained in every patient, the x-intercept of the regression line, the slope of the regression line, and the maximum Borg score are more reproducible and better than middle level intensity of dyspnea ratings in prescription of the exercise treatment in COPD patients.

There is no doubt that the application of the physiologic-perceptual relationship is very useful for prescribing exercise intensity in COPD patients in clinical settings. Further studies about the comparison of the methods for standardized dyspnea score using VO$_2$, ventilation (Ve), and walk distance may be interesting.

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To the Editor:

We appreciate Dr. Teramoto’s interest in our study describing the use of dyspnea ratings to prescribe training for different modes of exercise in patients with COPD (January 1998). As demonstrated by the physicians investigatory, the physiologic-perceptual relationship between work (or VO$_2$ or Ve) and dyspnea ratings during an incremental exercise test can best be described by linear regression analysis. We agree with Dr. Teramoto that the relationship may be exponential rather than linear in an occasional patient.

Nevertheless, our experience, as well as that of others, indicates that dyspnea ratings (based on the linear relationship between VO$_2$, dyspnea ratings) can be used for prescribing/monitoring exercise training in COPD patients with reasonable accuracy and reliability. Although statistical accuracy was better at a higher (75-80% of peak VO$_2$) compared with a lower (50% of peak VO$_2$) intensity, for clinical purposes the 50% of peak VO$_2$ dyspnea target can also provide an exercise training intensity that achieves acceptable accuracy for many individuals. It is likely that a feedback or practice session will enhance the ability of patients to produce a desired exercise level using a dyspnea target. Additional studies should expand the clinical applications of using dyspnea ratings for prescribing/monitoring exercise training in patients with respiratory disease.

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MIDCAB vs Conventional Surgery
Is It Worth the Risk?

To the Editor:

The article by Coulson and colleagues (February 1998) provides very encouraging results for minimally invasive direct coronary artery bypass (MIDCAB) surgery. The conclusion that their intraluminal coronary artery cannula has proved efficacious is overshadowed by the technically poor results of their left internal mammary artery (LIMA) bypass grafts. They reported a 40% complication rate for LIMA in their 10 elective cases, only 13 months after MIDCAB surgery. Half of these problems were occlusion of the LIMA with subsequent loss of the graft. As is heard all too often the authors state that they were able to avoid cardiopulmonary bypass when employing their coronary artery catheter during the MIDCAB procedures. Is this achievement worth the inferior results with their LIMA bypasses?

The importance of LIMA to left anterior descending coronary artery anastomosis is unquestioned when evaluating relief of ischemic symptoms and patient survival. The short-term achievement of the avoidance of cardiopulmonary bypass and a sternotomy incision is a high price to pay for compromise of LIMA to left anterior descending anastomosis. Four patients who had elective coronary revascularization have now either lost or have significant compromise of the LIMA graft, which places them at risk for future interventional procedures. I wonder if these patients truly understood the long-term ramifications of their choice when they selected MIDCAB over conventional surgery.

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