value, before bronchidilation, the same expressed as the percentage predicted, the measured values after bronchidilator, and the percentage change. Although this is a large amount of data, we think that the form we have chosen is clear and easy to interpret (Fig 1). Two graphs showing flow/volume loops are given on the report. The first depicts the predicted loop, plotted at predicted lung volumes, with, superimposed, the pre-bronchodilator loop, plotted at the measured long volume. The latter is replotted on the second graph for comparison with the post-bronchodilator loop, again plotted at the measured post-bronchodilator lung volume. Any test not required for a particular patient is left blank. The full report, as shown, is printed by a dot matrix printer in less than 2 minutes using data stored on a floppy disk.

We think that our format, which presents the full range of standard pulmonary function tests, demonstrates that a combined numerical and graphic form can be used to provide a report which is easy to interpret.

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REFERENCES
1 Martin RJ. Complex pulmonary function data. The lack of communication. Chest 1983; 84:121.

To the Editor:

It is gratifying to see that other investigators are seeking solutions to the problems of pulmonary function test reporting. Certainly Jennings et al have presented the flow volume loop, plotted at absolute lung volumes, as suggested by Dr. Martin. Although this is of significant research interest, it is not applicable to large numbers of patients who neither require, nor have, lung volume determinations.

Their letter also raises the broader issue of the value of the flow volume loop. We can think of no presentation that inspires greater passion, both positive and negative, among pulmonary specialists. We believe that the flow volume loop adds very little information to that already contained in the usual tables of FVC, FEV1, . . . . In fact, since the standards for normal flow volume loops are not as well defined as those of the standard "predicted" parameters, the absolute importance of flow volume loops is in question. There are some findings on flow volume loops, including "saw toothing" and "concavity" which may be important. However, at the present time their significance remains unknown. For the nonspecialist, we suspect that flow volume loops may represent an easier way to assimilate FFT results, although this suspicion remains to be proved.

Therefore, we feel confident in suggesting that an optimal FFT report might combine our "simplified" form with the flow loops of Jennings.

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Ambulator Mobilization Against Thromboembolism

To the Editor:

It is an axiom that active people, even suffering from serious illness or handicap, develop thromboembolism only under rare circumstances. I would like to share information about a valuable new device for use in mobilization and rehabilitation of difficult to impossible cases.

The American Ambulator (Fig 1) is battery powered, weighs 129 pounds, has a stainless steel frame and ball screw lift. It is fully adjustable for body build and height. It includes seat, sling or crutch software to raise patients from 4'11" to 6'6" and up to 400 pounds. It is fully powered to allow one small attendant to safely lift a patient from a bed or wheel chair for transport, ambulation, exercise, shower or other desired activities. It is tip-proof and hence of great value for use in patients who are ataxic, prone to syncope or fearful of falling. An alert patient with only minimal hand dexterity can lift himself safely. This is of obvious help when staff personnel is limited, and makes home use possible.

The Ambulator allows early mobilization of postoperative patients, even though morbidly obese. When in bed, these patients often suffer from impaired respiration, hypoxia and peripheral vascular stasis.

Figure 1. American Ambulator being used by youth recovering from paraplegia.