value, before bronchodilation, the same expressed as the percentage predicted, the measured values after bronchodilator, 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.

S. J. Jennings, B. Sc.; and G. M. Cochrane, B. Sc., Department of Thoracic Medicine, Guy's Hospital, London, England

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.

Joseph J. Cottrell, M.D., Assistant Professor of Medicine, University of Illinois College of Medicine at Chicago; and Bernard E. Pennock, Ph.D., Associate Professor of Medicine, University of Pittsburgh

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.
Other practical uses for this device allow ambulation after strokes, back, hip, or lower extremity surgery including hip and knee replacement when only limited weight bearing is allowed. Of course, early ambulation after leg amputation and later with prostheses will be greatly facilitated. It is also of great value in intensive rehabilitation situations such as spinal cord-injured patients and severe bilateral lower leg injuries.

These applications have the following benefits:

For Patients:
1) Protection from thromboembolic episodes.
2) Improved muscle function and ventilation.
3) A feeling of security and comfort when up plus actual safety from falls.
4) Resultant improved physical, mental and psycho-social well-being.

For Staff:
1) Improved efficiency in walking or transporting patients.
2) Safety from often serious back injury and patient falls.

For Administration:
1) Improved rehabilitative technique allowing patients to recover with shorter length of hospital stay.
2) Reduce staff and patient injuries commonly discussed in patient care, safety, quality assurance and risk-management committee meetings.
3) Increase revenues when "doctors' orders" to walk patients may be fulfilled in spite of periodic personnel shortages.

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Coronary Bypass in Dextrocardia

To the Editor:

To our knowledge, there is only one report on coronary bypass surgery on a patient with dextrocardia.1 We recently operated upon a 76-year-old man with dextrocardia and situs inversus who had postinfarction angina pectoris.

Preoperative stress electrocardiogram with thallium imaging showed a fixed perfusion defect in the inferior wall and a reversible perfusion defect in the lateral wall. Coronary angiography revealed significant triple vessel disease. His history was otherwise unremarkable except for the known diagnosis of dextrocardia and situs inversus.

Triple coronary bypass grafting was carried out on April 20, 1981. The operative technique was entirely similar to a routine coronary bypass operation except for the mirror image reversal of venous cannulation and the unusual placement of the saphenous vein grafts (Fig 1). His postoperative recovery was entirely uneventful.

Ricardo J. Moreno-Cabral, M.D., FCCP, Honolulu, Hawaii
and
Pat O. Daily, M.D., FCCP, San Diego, California

REFERENCE
1 Irvin RG, Ballenger JF. Coronary artery bypass in a patient with situs inversus. Chest 1982; 31:380-81

To the Editor:

Drs. Moreno-Cabral and Daily report another patient with dextrocardia who underwent successful coronary bypass surgery. As in our initial report, the procedure was described as routine except for the mirror image reversal of the anatomy.

Since the publication of our article, I have become aware of four additional similar cases which were reported while our manuscript was in press. Grey and Cooley2 reported three cases from the Texas Heart Institute, and Aris and colleagues3 described a similar case from Barcelona, Spain.

Patients with situs inversus and mirror image dextrocardia are felt to have normal longevity, and presumably have an incidence of atherosclerotic coronary artery disease similar to the general population. These case reports indicate that, except for the anatomic reversal, the clinical presentation, diagnostic procedures and surgical approach are the same as for other patients with coronary disease.

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REFERENCES

Clinically-derived Mycobacterial Classifications

To the Editor:

"Form follows function" was one of the maxims of the Bauhaus school of architecture early in this century. Bailey, in his article, "Treatment of Atypical Mycobacterial Disease," (Chest, 1983; 84:625-29) suggests a reclassification for the atypical mycobacteria in which the form of the classification follows the functional aspect of these organisms. He appropriately notes that among the many different species of mycobacteria recovered in diagnostic laboratories across the country there is a logical grouping according to whether the organisms are likely to be producing disease and, if so, what may be the expected response to therapy. While his article did not prominently note titles for the groupings, the following designations were suggested: group O (non-pathogenic), group 1 (easily

![Figure 1](image-url)