hemorrhage in the Third World. Other causes of hemoptysis include (in descending order of frequency) bronchiectasis of non-tuberculous origin, chronic bronchitis, lung abscess, pulmonary fungal infections, mitral stenosis, and lung cancer. Hemoptysis in the Third World also tends to present in young patients, which possibly explains why lung cancer and chronic bronchitis are reported to be rare causes of hemoptysis in this part of the world.

In pulmonary tuberculosis, hemoptysis is more severe in patients with new active and radiologically extensive disease, PTB relapse, and old inactive PTB with secondary pulmonary infection. It is more common in female patients and more severe and recurrent in elderly patients.

Routinely, all patients presenting with hemoptysis undergo sputum examination with Ziehl-Neelsen stain for Mycobacterium tuberculosis and a posteroanterior chest radiograph, which is usually diagnostic of a pulmonary condition.

Fiberoptic bronchoscopy is mainly reserved for patients who present with massive hemoptysis (more than 1,000 ml during a period of 24 h) and in those with recurrent pulmonary hemorrhage. Cold saline lavage may be attempted at the same time as bronchoscopy in order to arrest the bleeding.

Bronchography is still done in some centers, but chest computed tomography, radionuclide scanning, and bronchial and pulmonary angiography are performed only in a few specialized centers.

Most patients receive conservative medical management with strict bed rest, nothing by mouth, placement of a large-bore intravenous line, a 7-day course of a broad-spectrum antibiotic or a standard antituberculous chemotherapy regimen, and H2-blockade with cimetidine. Fortunately, many of our patients respond to this conservative treatment.

Only a few patients undergo surgical resection of the bleeding segment or lobe; this is because of the radiologically extensive nature of the disease, poor pulmonary reserve, and anesthetic risks in the majority of the patients. Surgical resection of untreated tuberculosis residual is well known to be associated with a high morbidity and mortality.

Specialized treatment techniques, such as bronchial artery embolization, thrombin infusion, and fibrinogen-thrombin infusion via a fiberoptic bronchoscope, which are becoming popularly used in Europe, North America, and Japan, are seldom employed in the Third World due to lack of elaborate equipment and skills. Bronchial artery embolization may not be successful in 10 to 25 percent of patients, especially in those in whom the bleeding is from the pulmonary arterial system or the intercostal arteries; it can occasionally cause serious complications, such as spinal injuries.

Nightingale Syabhalo, M.B., Ch.B., Ph.D., F.C.C.P., Umtata Chest Hospital, Umtata, Transkei, South Africa

REFERENCES
1 Haponik EF, Chin R. Hemoptysis: clinicians' perspectives. Chest 1990; 97:469-75
3 Muthuswamy PP, Akhab F, Franklin C, Spigos D, Barker W. Management of massive or major hemoptysis in acute pulmonary tuberculosis by bronchial arterial embolization. Chest 1987; 92:77-82
4 Syabhalo NC. Medical management of hemoptysis. Chest 1989; 96:1441

The Effects of Heterologous Platelet Transfusion on Pulmonary Function during ARDS

To the Editor:

I read with interest the recent article by Eichacker et al (Chest 1990; 97:923-26), on the effects of heterologous platelet transfusion on pulmonary function during ARDS. This article adds important new information to the ongoing investigation of the role of the platelet in the pathogenesis of this syndrome.

I have one criticism of this article, which relates to their use of the term "heterologous platelet transfusion." I take the authors to mean by this that the transfused platelets were not autologous platelets. However, the correct term for this situation is "allologeneic platelet transfusion." In transfusion medicine, the term "heterologous" is used for the transfusion of blood products from one species to another. The use of this term to signify a nonautologous platelet transfusion creates confusion.

As is usual in clinical practice, the authors did not control for the length of time that the platelets were stored. It would be of interest to know what the average time of storage was. Changes in the biochemical constituents of platelets and the membrane properties of platelets may occur with storage, and it is possible that these changes could have influenced the outcome of the study. It would be of interest to compare the authors' findings with those in a group of patients who received transfusions of platelets that had been drawn in 4 h of collection, for example. Another piece of information that would be of interest would be the response to the platelet transfusion. Were 1-h platelet increments obtained? If the platelets did not circulate for immunologic or other reasons, it could be that this might explain the absence of any effect on ARDS.

James P. Crowley, M.D.
Division of Clinical Hematology, Rhode Island Hospital, Providence, Rhode Island

Psychological Characteristics of Adults with Cystic Fibrosis

To the Editor:

I read with interest the report by Shepherd et al (Chest 1990; 97:1310-16), which demonstrated adequate social functioning among the adult population with cystic fibrosis (CF), but I feel that the psychological characteristics need further investigation.

The authors' findings of good functioning in terms of employment, education, and so forth are consistent with those of other studies.