was seen in less than 10 percent of the patients; the specific conditions causing the pulmonary arterial bleeding in this group are acute and chronic lung abscess and tuberculosis; such patients can be treated by either surgery and/or embolization of the pulmonary arterial branches.\textsuperscript{6}

Recurrence of hemoptysis following an initially successful BAE is more common. The most important causes are incomplete embolization, progression of the native disease, and recanalization of the embolized vessels. Probably all three factors operate in each patient, to a varying degree. The first two are clearly more important. Incomplete embolization is often due to inadequate evaluation of the nonbronchial systemic collateral circulation.\textsuperscript{7} These are most extensive in aspergillusosis and pleuropulmonary tuberculosis. The contribution of the collateral circulation may be underestimated as the angiographer frequently depends on indirect signs of pulmonary hemorrhage such as hypervascularity and systemic-pulmonary shunt. The extent to which the systemic collateral vessels exhibit these indirect signs is variable and the findings may be less than striking, particularly when the bronchial arteries are the primary source of the bleeding. Complete evaluation of all the collateral circulation can be very lengthy and in many cases has to be performed in stages. Recruitment of new collateral channels is an extremely variable event. I suspect that this is more frequent in the presence of active infection. Botenga\textsuperscript{a} has shown that in chronic inflammatory diseases, systemic-pulmonary shunts can appear in the presence of acute infection and disappear when the infection is treated. Presence of such shunts would be an additional factor in further collateral formation. The suggestion of combining regional antibiotic infusion with BAE in selected patients may have some merit.\textsuperscript{3} The choice of embolic material is also important. Some authors suggest that an absorbable gelatin sponge (Gelfoam) is adequate for long-term BAE. However, a more permanent occlusive material such as a polyvinyl sponge (Ivalon) may be preferable. In BAE it is equally important to occlude the bronchial arterial capillary bed as well as the more proximal segments since bleeding may also result from rupture of thin-walled, precapillary, radicles of the bronchial arteries in the walls of the segmental bronchi.\textsuperscript{3} Ivalon was thought to result in permanent vascular occlusion.\textsuperscript{9,10} Katoh et al have shown that arteries embolized with Ivalon and Gelfoam can also recanalize. Two factors may play a role. The commonly used Ivalon particles are between 150 and 250 \( \mu \)m in diameter. The macroscopic anastomoses between the bronchial and pulmonary artery branches can be larger than 200 \( \mu \)m even in normal lungs; these certainly hypertrophy to even larger size in diseased states. So, a variable number of these particles probably end up in the pulmonary circulation rather than in the bronchial capillary bed. Almost all angiographers use Gelfoam pieces to effect proximal occlusion. Ivalon plugs may be more permanent. A safe intravascular sclerosing agent, once found, may be more suitable to achieve the desired peripheral and proximal occlusion.

Finally, it must be realized, as pointed out by Katoh et al, that BAE is only a palliative procedure and does not cure the underlying disease that caused the hemoptysis in the first place. Though not perfect, BAE still achieves its goals of stopping massive hemoptysis, comparable to any other single treatment choice in this difficult to manage clinical complex.

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Needle Aspiration in Lung Cancer
Risk of Tumor Implantation Is Not Negligible

The recent unfortunate experience of chest wall recurrence of lung cancer at the site of previous fine needle aspiration biopsy seven months following
resection of a T1N0M0 tumor has prompted us to reconsider the indications for this procedure.

Transthoracic fine needle aspiration of lung tumors is a well-established and often useful diagnostic technique. In addition to the well-known but seldom serious complications of this procedure (pneumothorax, bleeding, infection), tumor cell implantation into the needle tract is recognized as a potential risk, but has rarely been reported. It was once thought that this complication only occurred when larger, or cutting, needles were used and was not seen following fine needle (22 = gauge or smaller) aspirations. However, reports in the literature document tumor seeding following fine needle aspiration of lung cancers.1,2

Over half the lung tumors in smokers over age 40 are malignant.3-5 The likelihood of malignancy is even greater when previous chest x-ray films were normal. In such patients invasive diagnostic procedures can only confirm the impression that the lesion is malignant. If bronchoscopy or needle aspiration does not reveal malignant cells, cancer has not been ruled out. Very seldom is a specific benign diagnosis made by needle aspiration of a solid lung tumor.6 Needle aspiration may be very useful for diagnosing cancer if the lesion is unresectable or inoperable or marginally operable because of the patient's age or compromised cardiac or pulmonary function.

Although rare, the potential for tumor implantation must be seriously considered when fine needle aspiration biopsy is recommended for diagnosis of lung tumors in patients who are good operative candidates and whose lesions are resectable for a potential cure.

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Perspectives on Older Smokers

Strategies for encouraging smoking cessation among elders may find helpful guidance from a survey of older smokers in this issue of Chest (see page 547). As background, Rimer and colleagues note the many impacts of smoking on the health of older Americans. These include the well-known risks for heart disease, chronic lung disease, and cancers, but also complications of diseases that are more prevalent in older than younger adults (eg, diabetes). Smoking may also interfere with pharmacotherapies, especially pertinent for older smokers. As with younger smokers, cardiovascular benefits of cessation are "almost immediate" and are followed by reversals in a number of pulmonary effects of continued smoking as well as improvements in the course of chronic lung disease. Thus, the case for encouraging smoking cessation among older adults is strong.

The central thrust of this report concerns characteristics of older smokers that may influence approaches to encouraging their cessation. The findings can be grouped into three broad categories that are recurrent in the study of aging: fatalism, isolation from care, and social isolation. Each will be reviewed in turn.

The old cliche about teaching new tricks to old dogs seems, unfortunately, widely accepted by many elders. Other research has indicated older adults view less optimistically their opportunities to improve their health status through risk reduction or active disease management. Herein, 47 percent of current smokers reported they did not believe that quitting could provide health benefits for them. Almost as many, 45 percent, did not believe continuing to smoke could harm them. This is despite the fact that more smokers in the present sample reported symptoms of lung disease (trouble breathing, coughing, fatigue). Additionally, smokers reported impacts on their own activity levels; fewer smokers than nonsmokers or exsmokers rated themselves as more active than their peers. Thus, as Rimer and colleagues note, it may be especially important to educate older smokers regarding the risks of continued smoking and benefits of quitting.

A common view is that information about health risks does not alter behavior. While messages centered on risks are not, themselves, sufficient for substantial behavior change, widespread ignorance regarding health risks should not be ignored. Additionally, many professionals may believe that most of their patients know that smoking is harmful. While this may be the case in some settings, it apparently is not well understood among older smokers. Beyond that, surveys indicate that, while most Americans believe smoking is harmful, they underestimate how much more dangerous it is than other harmful habits, such as being...