BRONCHIAL DIMENSIONS When the airless, intact dog lung was progressively inflated, 86 per cent of the maximum bronchial diameter was attained by the time the volume of gas in the lung equaled the functional residual capacity. Further inflation of the lung caused little increase in bronchial diameter. Bronchial lengths increased throughout inflation. At identical pressures bronchial diameter was larger in the intact lung than in the isolated bronchus, indicating that lung parenchyma exerts traction on the bronchial wall. (*Marshall, R.: Effect of Lung Inflation on Bronchial Dimensions in the Dog, J. Appl. Physiol. 17: 596 (July) 1962.*)

PULMONARY EVALUATION Several tests to evaluate pulmonary function were carried out in patients without previous history of surgical disease. Measurements of the maximal expiratory flow rate (MEFR) was the most useful single test, since it gives a predictive measurement of the ability to produce an adequate cough. The average flow rate during cough is 4 to 6 liters per second, values similar to the MEFR in normal young people. An abnormally high alveolar carbon dioxide tension at rest was of great significance, indicating failure of pulmonary function. Carbon dioxide retention should contraindicate all but life-saving operations. The location of the operative site contributed to the development of postoperative respiratory complications, these being less frequent the farther the incision from the upper abdomen and chest wall. Pulmonary function tests may indicate that certain patients have an optimal time when operation should be performed. Thus, patients with obstructive disease of the airway may fare better late in the morning, after nocturnal accumulation of secretions has been removed. (*Stein, M., and others: Pulmonary Evaluation of Surgical Patients, J. A. M. A. 181: 765 (Sept. 1) 1962.*)

AEROSOL-INDUCED SPUTUM In a significant number of patients in whom a diagnostic examination of the exfoliated cells in the sputum is desired, a deep cough is not obtainable. A DeVilbiss Number 40 nebulizer filled with 6 ml. of 40 per cent solution of propylene glycol in isotonic saline solution was placed in a deep fryer pot containing water heated to 185° F. Compressed air or oxygen was then flowed through the nebulizer and produced a supersaturated aerosol mist which reached the face mask at a temperature of 115 to 124° F. The mask was held approximately 6 inches from the patient's face and slightly below the level of the chin. An initial cough was usually obtained during this phase, but subsided as the patient became acclimatized to the procedure. The mask was then moved close to the face for direct and full inhalation of the aerosol. Productive coughing usually began within five minutes after beginning direct inhalation. The duration of individual exposure to the aerosol inhalation averaged seven minutes. This method ultimately was able to stimulate a cough from all patients and nearly all the patients produced 5 to 50 ml. of sputum within a five-minute period after exposure. (*Johnson, J. R., and others: Aerosol-Induced Sputum, Dis. Chest 42: 251 (Sept.) 1962.*)

EMPHYSEMA Oxygen was given to three groups of patients with chronic obstructive emphysema who showed hypoxemia and respiratory acidosis. Administration of oxygen and hence lessening the hypoxic drive to respiration whether by mask or nasal catheter with 1 to 2 liters per minute flow resulted in improved oxygenation but this was accompanied by increased carbon dioxide tensions which persisted after the increased oxygen tension had fallen to baseline levels or lower. Continuous oxygen therapy at one to two liters per minute by nasal catheter resulted in improved oxygenation, but also in increased respiratory acidosis in some patients and alarming falls in *p*H in a few. It was demonstrated that changes in oxygen tensions occur much more quickly than changes in carbon dioxide tensions. Probably oxygen should not be given to emphysematous subjects without mechanical assistance to ventilation to prevent acidosis. (*Massaro, D. J., Katz, S., and Luchsinger, P. C.: Effect of Various Modes of Oxygen Administration on the Arterial Gas Values in Patients with Respiratory Acidosis, Brit. Med. J. 2: 627 (Sept.) 1962.*)