man Lungs, J. Clin. Invest. 48: 421 (March) 1969.)

CHRONIC RESPIRATORY CARE A comprehensive-care program for patients with chronic airway obstruction (emphysema and chronic bronchitis) uses existing hospital facilities, organized outpatient care and home care, with relatively few personnel. Effectiveness depends on patient education, bronchial hygiene using simple home equipment, breathing retraining, and physical reconditioning. Portable oxygen equipment allows the participation of otherwise-very-disabled hypoxemic individuals. An intensive care unit is used for episodes of acute respiratory failure. The program has resulted in marked subjective improvement in the majority of patients and a highly significant increase in exercise tolerance. Modest but significant objective pulmonary function improvement was observed in patients after as much as a year of follow-up. *(Petty, T. L., and others: A Comprehensive Care Program for Chronic Airway Obstruction: Methods and Preliminary Evaluation of Symptomatic and Functional Improvement. Ann. Intern. Med. 70: 1109 (June) 1969.)*

EXPERIMENTAL EMPHYSEMA Inhalation or instillation of the enzyme papain into the lungs of hamsters produces pulmonary emphysema with little involvement of the conducting air passages. This experimentally-produced emphysema differs from clinical emphysema in man, which is almost always complicated by some degree of chronic bronchitis. Compliance of the lungs from emphysematous hamsters was greater than that of lungs of control animals, except near the upper limits of inflation. Pulmonary resistances in the two groups were comparable. The moderate flow limitation observed in emphysematous lungs was considered largely a result of the reduced lung recoil force. *(Park, S. S., and others: Mechanical Properties of the Lung in Experimental Pulmonary Emphysema, J. Appl. Physiol. 26: 738 (June) 1969.)*

ANESTHETICS AND PULMONARY SURFACTANT Lungs excised from dogs ventilated with halothane in air had significantly greater retractive forces at corresponding lung volumes than lungs ventilated with air or 80 per cent nitrous oxide. Chloroform gave qualitatively similar results, but the changes were not significant statistically. Increases in retroactive forces produced by both halothane and chloroform varied with inhaled concentration. These changes did not result from alterations in tissue elasticity, and were attributed to alterations in pulmonary surfactant activity caused by the presence of volatile anesthetic agents during cyclic ventilation of the lungs. Possible mechanisms include depression of surfactant synthesis, interference with replacement of surfactant, or acceleration of surfactant breakdown. *(Woo, S. W., Berlin, D., and Hedley-Whyte, J.: Surfactant Function and Anesthetic Agents, J. Appl. Physiol. 26: 571 (May) 1969.)*

POSITIVE-PRESSURE BREATHING A model of the respiratory distress syndrome in adult humans was created in dogs by injection of oleic acid into the venous circulation. Animals not receiving subsequent respiratory support developed marked hyperpnea and progressive anoxemia and died within five hours in respiratory failure. Eight of ten dogs subsequently subjected to intermittent positive-pressure breathing (subject-triggered ventilation with atmospheric pressure during exhalation) and nine of ten dogs subjected to continuous positive-pressure breathing (controlled ventilation with 10 cm H_2O end-expiratory pressure) survived the experimental period. CPPB animals had better oxygenation, lower oxygen consumption and more pulmonary compliance at lower total minute ventilation than IPPB animals. Cardiac output and oxygen transport were reduced to a greater extent with CPPB than with IPPB, but no adverse effects of the lower cardiac output were apparent. *(Uzawa, T., and Ashbaugh, D. G.: Continuous Positive-pressure Breathing in Acute Hemorrhagic Pulmonary Edema, J. Appl. Physiol. 26: 427 (April) 1969.)*