tory response to CO_2 but rhythmic respiratory activity persisted. Procainization of chemosensitive areas in this preparation following systemic administration of chloralose caused apnea. Hemorrhage in the unanesthetized preparation also predisposed to apnea. Surface chemoreceptors are only a part of the overall central chemoreceptive mechanism in the regulation of respiration and become the sole central chemoreceptors only when the control mechanisms are depressed by anesthesia or compromised by poor tissue perfusion during hemorrhage. (*Cozine, R. A., and Ngai, S. H.: Medullary Surface Chemoreceptors and Regulation of Respiration in the Cat, J. Appl. Physiol. 22: 117 (Jan.) 1967.*)

FUNCTION OF MUCUS It is highly important that the function of mucus should be discovered, with some explanation of the increase in amount or in viscosity in certain disorders. It is obvious that excessive mucus in the nose is of great inconvenience and may lead to deranged drainage of sinuses with subsequent infection, while in the lungs increase in amount and alteration of viscosity may cause severe and prolonged disability of obstruction or may lead to death, as in severe chronic bronchitis and some complicated forms of asthma. (*Negus, V.: The Function of Mucus: A Hypothesis, Proc. Royal Soc. Med. 60: 75 (Jan.) 1967.*)

BRONCHIAL LAVAGE The relative benefits and hazards of bronchial lavage with 10 per cent acetylcysteine compared to sodium chloride solution were studied in 14 patients with cystic fibrosis. Lavage with acetylcysteine produced a significant increase in arterial carbon dioxide tension and a decrease in arterial oxygen tension immediately after lavage. Lavage with sodium chloride solution produced a decrease in Pa_{CO_2} and an increase in Pa_{O_2}. Regardless of lavage agent, pulmonary function was impaired for 48 to 72 hours after lavage, and three patients developed pneumonia within three days after lavage. The data strongly suggest that acetylcysteine increases significantly the hazards of this procedure. The increase in Pa_{CO_2} and decrease in Pa_{O_2} after acetylcysteine administration suggest impairment of gas distribution possibly secondary to bronchiolar spasm, as might be expected from the irritant properties of acetylcysteine. The specific hazards involved are those of general anesthesia in patients with some degree of respiratory failure, pneumonia after lavage, and decreased pulmonary function. (*Cezeaux, G., Jr., and others: Bronchial Lavage in Cystic Fibrosis: A Comparison of Agents, J.A.M.A. 199: 15 (Jan.) 1967.*)

RESPIRATION ON BYPASS Mechanics of breathing were measured in patients during total cardiopulmonary bypass. Measurements were made during normal (43.5 mm. of mercury) and low (3.8 mm. of mercury) end-tidal carbon dioxide partial pressures. Dynamic compliance was significantly lower and work of breathing significantly higher under conditions of airway hypocapnea. These changes in airway mechanics should be considered in pulmonary management during cardiac bypass. (*Patterson, R. W., and others: Effect of Airway Hypocapnia on Mechanics of Breathing during Cardiopulmonary Bypass, Circulation 35 (Suppl. 1): 212 (April) 1967.*)

COMPLIANCE Pre- and postoperative pulmonary function studies were compared in patients undergoing surgery and cardiopulmonary bypass (Group A), thoracic surgery without cardiopulmonary bypass (Group B), intra-abdominal surgery (Group C) and peripheral surgery (Group D). After surgery, total pulmonary compliance was significantly reduced in Group A and required 10 days to return to normal. Compliance was also reduced in Groups B and C but to a lesser degree. Tidal volume decreased proportionately to the decrease in compliance. Respiratory rate increased so that total alveolar ventilation remained normal or increased. Oxygen uptake increased in Group A while CO_2 output was unchanged resulting in a decreased respiratory exchange ratio. The post open heart surgery breathing pattern (rapid and shallow) is a compensatory adjustment to decreased compliance which in turn is one of the causes of the increased work of breathing and oxygen consumption after open heart surgery. (*Ellison, L. T., and others: Pulmonary Compliance Following Open Heart Surgery and Its Relationship to Ventilation and Gas Exchange, Circulation 35 (Suppl. 1): 217 (April) 1967.*)