airway resistance increase resulting from frequent involuntary "dry" swallowing. (*Josenhans, W. T., Melville, G. N., and Ulmer, W. T.: Effect of Facial Cold Stimulation on Airway Conductance in Healthy Man, Canad. J. Physiol. Pharmacol 47: 453 (May) 1969.*)

BRONCHOSCOPY Bronchoscopy was performed in 45 patients under general anesthesia using thiopental injections and a continuous infusion of 0.2 per cent succinylcholine. Procedures varied in duration from ten to 70 minutes. Four methods of artificial ventilation were tried: manual ventilation (ten patients) through the side arm of the bronchoscope; the Safar ventilating bronchoscope (11 patients); insufflation through the side arm (ten patents); the Sanders injector method (14 patients). Pure oxygen was inhaled throughout. Pa_{O_2} decreased with all methods (especially with the Sanders injector method) after the bronchoscope was introduced, although the values remained higher than the preoperative figures. Pa_{CO_2} increased except with the Sanders injector method, with which it remained within the normal range. The Sanders injector method provided the most adequate ventilation during bronchoscopy, allowed endoscopy to proceed without interruption to ventilate the patient, and obviated the necessity for occluding the proximal end of bronchoscope to improve ventilation. (*Morales, G. A., and others: Ventilation during General Anesthesia for Bronchoscopy, Evaluation of a New Technique, J. Thorac. Cardiov. Surg. 57: 873 (June) 1969.*)

SURFACTANT CHANGES Isolated lungs from 16 dogs were perfused at 38 C in circuit with a bubble gas exchanger and a heat exchanger for 80 to 100 minutes. Prior to perfusion, and at ten-minute intervals thereafter, pulmonary vascular resistance and effective compliance were determined. Immediately following each series of measurements, samples of lung tissue were taken for assessment of extract surface activity and for histologic studies. Control samples of all lungs were histologically normal and had a mean minimal surface tension of 5.6 dynes/cm. The earliest histologic changes (periarterial hemorrhage) occurred after 20 to 30 minutes of perfusion. At that time, extract surface activity was 5.9 dynes/cm (not significantly different from control), while pulmonary vascular resistance had increased significantly and compliance remained unchanged. After 50 to 70 minutes of perfusion, vascular resistance and morphology were considerably altered. Only then did surface tension (12.0 dynes/cm) and effective compliance change significantly. After 80 to 100 minutes of perfusion, mean surface tension was 21.9 dynes/cm. This was associated with severe pulmonary parenchymal damage, great decreases in effective compliance, and increases in pulmonary vascular resistance. Altered surfactant is not a primary factor in the pathogenesis of lung damage associated with pump-oxygenation procedures. (*Panossian, A., and others: Secondary Nature of Surfactant Changes in Postperfusion Pulmonary Damage, J. Thorac. Cardiov. Surg. 57: 628 (May) 1969.*)

MECHANICAL VENTILATION Diseased lung contains many combinations of ventilation–perfusion relationships ($\dot{V}_A/\dot{Q}_c$) that can be changed almost instantaneously by altering the pattern of ventilation. Single arterial oxygen tension determinations, while of importance to that instant, cannot be used to predict what will happen from moment to moment, or with changing ventilatory patterns. Continuous long-term Pa_{O_2} monitoring, when feasible, should allow the physician to select the ventilatory pattern producing the optimal $\dot{V}_A/\dot{Q}_c$. (*Modell, J. H.: Ventilation/Perfusion Changes during Mechanical Ventilation, Dis. Chest. 55: 447 (June) 1969.*)