ting time proves to be a simple, rapid test for monitoring the therapeutic response. (*Bruster, H., Glassner, K., and Riech, C. R.: Antihemophilic Cryoprecipitate from Fresh Plasma and its Use in Hemophilia, German Med. Monthly 13: 129 (March) 1968.*)

PARENTERAL FLUID THERAPY In response to various stimuli associated with injury and operation, antidiuretic hormone and aldosterone are released into the circulation. Through their effect on the renal tubule, there is water and sodium retention. With continued injury there is translocation of extracellular fluid, chiefly an obligatory movement into the area of the injury. With loss of functional extracellular fluid volume, transcapillary filling is less effective and diminished blood volume leads to entry into the blood stream of more antidiuretic hormone and aldosterone. Prompt repletion of the intravascular and extracellular fluid volumes can lessen this hormonal response, whereas continuing deficiency can increase the intensity of the response. (*Crandell, W. B.: Parenteral Fluid Therapy, Surg. Clin. N. Amer. 48: 707 (Aug.) 1968.*)

POTASSIUM AND CALCIUM LEVELS Serum calcium and potassium measured in 40 patients before and after induction of anesthesia with thiopental or halothane, decreased significantly after reaching plane I of the third stage. Administration of succinylcholine did not cause significant changes in calcium levels but did cause significant increases in serum potassium. A fluid shift in the extracellular space or respiratory or metabolic blood–gas changes are not believed to be responsible for the electrolyte changes. (*List, W. F.: Changes of the Serum Levels of Calcium and Potassium during Induction of Anesthesia, Der Anaesthesist 17: 221 (July) 1968.*)

Respiration

PULMONARY STRUCTURE AND FUNCTION A cast of a normal human lung was made with a thermosetting resin. This preparation provided sufficient detail for a study of patterns of branching of the respiratory system as well as for measurement of the dimensions of the various generations of bronchi and bronchioles. The pattern of branching in the human respiratory tract was asymmetrical, so that lengths of pathways and transit times to different pulmonary lobules varied. A system of designating subdivisions of the bronchial tree was proposed. Properties of the respiratory tract inferred from study of the case were used to explain respiratory phenomena such as the alveolar plateau. (*Horsfield, K., and Cumming, G.: Morphology of the Bronchial Tree in Man, J. Appl. Physiol. 24: 373 (March) 1968 and Functional Consequences of Airway Morphology, J. Appl. Physiol. 24: 384 (March) 1968.*)

AIRWAY RESISTANCE Disease of small airways may be common to various chronic obstructive lung diseases. Using a retrograde catheter technique for partitioning airway resistance, central (R_c) and peripheral (R_p) airway resistance were measured in five exercised normal lungs and the results compared with values in lungs from patients with emphysema, bronchiectasis or bronchiolitis. In the normal lungs, R_p accounted for only 25 per cent of the total airway resistance (averaging 0.18 cm water/liter/sec). In seven patients with emphysema, R_p was increased from four to 40 times. R_p was also increased in one patient with bronchiectasis and another with bronchiolitis. In all, R_c was scattered about the normal value. These observations support the conclusion that because R_p is normally so small, there may be considerable obstruction in peripheral airways, affecting ventilation, distribution and gas exchange with little effect on function tests designed to reveal obstruction. Elevation of airway resistance to a clinically detectable level by disease in the small airways may result in obstruction that is more severe than is generally recognized. (*Hogg, J. C., Macklem, P. T., and Thurlbeck, W. M.: Site and Nature of Airway Obstruction in Chronic Obstructive Lung Disease, New Eng. J. Med. 278: 1355 (June) 1968.*)