some beneficial effect may be due to a reduction of blood viscosity, to an expansion of blood volume, or to a less well-defined action on hemostatic function. (*Foster, J., and others: Low Molecular Weight Dextran in Vascular Surgery: Prevention of Early Thrombosis following Arterial Reconstruction in 85 Cases, Ann. Surg. 163: 764 (May) 1966.*)

AMINOCAPROIC ACID The use of aminocaproic acid to control postoperative bleeding and its potential thromboembolic hazards were studied in a series of patients undergoing prostatectomies by various routes. Nine patients, given aminocaproic acid by intravenous infusion at the rate of 0.5 g. per hour for twelve hours starting at the time of the operation, were compared to nine controls using the statistical technique of sequential analysis. Blood loss was one-third as great in the treated group. Since it had been suggested earlier that aminocaproic acid might cause intravascular thrombosis, 315 patients were treated by intravenous infusion of 6 grams of aminocaproic acid for a 12 hour period or given a placebo infusion. These patients were equally divided between the aminocaproic acid and control groups. The incidence and location of thromboembolic complications was the same in both groups of patients. It was concluded that the drug was safe both therapeutically and prophylactically and published reports have not revealed convincing data to the contrary. (*Vinnicombe, J., and Shuttleworth, K. E. D.: Aminocaproic Acid in the Control of Hemorrhage After Prostatectomy, Lancet 1: 230 (Jan.) 1966.*)

ACID-BASE TERMINOLOGY In the Brønsted-Lowry system, which takes into account the central role of water in acid-base reactions, an acid is a proton donor and a base is a proton acceptor. Buffers are substances which by their presence in solution increase the amount of acid or alkali that must be added to cause a unit change in *p*H. Total carbon dioxide concentration is the carbon dioxide extractable from a biological fluid in the presence of a strong acid. Negative values of base excess can be denoted by the term "base deficit." Characterization of the metabolic component of acid-base balance can be made by using base excess or standard bicarbonate, both of which have advantages and disadvantages. (*Report of Ad Hoc Committee on Acid-Base Terminology, Ann. N. Y. Acad. Sci 133: 251 (April) 1966.*)

REVIEWER'S COMMENT: Other papers presented at this symposium of the New York Academy of Sciences on acid-base measurement also placed considerable emphasis on definitions to minimize semantic confusion.

ACIDOSIS There is a close relationship between metabolic acidosis and the susceptibility of the heart to ventricular fibrillation; as the base deficit increases, there is a corresponding decrease in the threshold for ventricular fibrillation. In contrast, metabolic alkalosis appears to protect the heart from ventricular fibrillation; as the base excess increases, there is a corresponding rise in fibrillation threshold. However, similar degrees of *p*H change resulting from a respiratory acidosis and alkalosis do not alter the ventricular fibrillation threshold. For example, when a metabolic acidosis develops, restoring *p*H toward normal by augmenting respiration alone does not protect the heart from the increased susceptibility to ventricular fibrillation which exists as long as a base deficit is present. (*Gerst, P. H., and others: A Quantitative Evaluation of the Effects of Acidosis and Alkalosis Upon the Ventricular Fibrillation Threshold, Surgery 59: 1050 (June) 1966.*)

VASODILATORS In low flow states, there is a progressive increase in lactic and pyruvic acidemia. Administration of vasodilators such as Peritrate will significantly decrease the formation of lactic and pyruvic acid and prevent a fall in blood *p*H. This study suggests that the irreversible factor in low flow states is the anaerobiosis which blocks enzyme systems which otherwise permit normal aerobic metabolism and energy component production. (*Schumer, W., and others: The Metabolic Effects of Vasodilators on Low Flow States in the Dog, Surgery 59: 825 (May) 1966.*)

CARDIOVERSION A significantly greater number of patients in whom the precardio-

version ECG reflects digitalis overdosage will manifest postcardioversion ventricular arrhythmias. The proposed mechanism for the above is that the electrical shock affects myocardial membranes resulting in a loss of intracellular potassium. When a critical loss has occurred, toxic effects of the cardiac bound glycoside ensue. To decrease the risk attending cardioversion, it is recommended that: (a) digoxin be discontinued for 24 hours prior to cardioversion; (b) longer acting drugs be discontinued for 2 days; (c) cardioversion be postponed if the precardioversion ECG shows signs of digitalis toxicity or if hypokalemia is present; (d) the least energy needed for cardioversion be employed by starting with 25–50 watt seconds. If serious ectopic ventricular beats are encountered, they may be abolished by intravenous lidocaine 50 mg., procaine amide 100 mg., diphenyl hydantoin 100 mg., or propanolol 5 mg. (*Kleiger, R., and others: Cardioversion and Digitalis, Circulation 33: 878 (June) 1966.*)

CILIARY FUNCTION Using precise methods it was shown that mice inhaling standardized doses of aerosolized bacteria cleared these bacteria at a predictable rate by means of mucociliary transport and alveolar macrophage mobilization and phagocytosis. These mechanisms were most depressed by alcohol injection and cigarette smoke and less so by hypoxia and barbiturates. Mucus flow velocity was reduced to one-third of control by alcohol. (*Laurenzi, G. A., and others: A Study of the Mechanisms of Pulmonary Resistance of Infection: The Relationship of Bacterial Clearance to Ciliary and Alveolar Macrophage Function, Amer. Rev. Resp. Dis. 93: 134 (March) 1966.*)

DRUGS AND CILIA Mucociliary transport is slowed by dehydration which causes a greater viscosity of mucus and by local anesthetics which reduce ciliary function, except hexylcaine which causes extensive mucosal sloughing. Of the local anesthetic agents tetracaine, lidocaine and mepivacaine had much less effect on ciliary activity than cocaine and hexylcaine. Cocaine increased the susceptibility of the mucosa to viral infection by 10 to 50 times. (*Bang, F. B., and others: Responses of Upper Respiratory Mucosa to Drugs and Viral Infections, Amer. Rev. Resp. Dis. 93: 142 (March) 1966.*)

SMOKING Among males 14 to 19, all types of respiratory illnesses were more frequent among regular smokers, especially among heavy smokers. Severe lower respiratory tract infections were nine times more common among smokers and severe upper respiratory infections were three times more frequent. Even light smokers in both categories were more susceptible to infections. Chronic bronchitis was not found. (*Haynes, W. F., and others: Smoking Habit and Incidence of Respiratory Tract Infections in a Group of Adolescent Males, Amer. Rev. Resp. Dis. 93: 730 (May) 1966.*)

BRONCHIAL PRESSURES Pressure was measured in a segmental bronchus and compared to simultaneous intra-esophageal pressure. Pressure changes during respiration ranged from 6 cm. of water in patients with no disease to over 80 cm. of water in patients with severe asthma, patients having the greatest clinical evidence of bronchospasm having the highest pressure excursions. The ratios of bronchial pressure to esophageal pressure ranged from 0.3 in normals to 2.83 in severe asthmatics with the greatest rise in the ratio in severe asthmatics. This change in ratio suggests that active contraction of bronchial muscle is an important factor in airway obstruction in asthma. (*Douglas, A., and others: The Measurement of Endomural Bronchial (or "Squeeze") Pressures in Bronchitis and Asthma, Amer. Rev. Resp. Dis. 93: 693 (May) 1966.*)

LUPUS ERYTHEMATOSUS Twenty patients with systemic lupus were found to have various pulmonary abnormalities including airway obstruction, pulmonary restriction and pulmonary vascular obstruction. Out of 17 patients studied, 16 had decreased pulmonary diffusing capacity for carbon monoxide. (*Gold, W. M., and others: Pulmonary Function in Patients with Systemic Lupus Erythematosus, Amer. Rev. Resp. Dis. 93: 557 (April) 1966.*)