with Intermittent Positive Pressure Breathing, Surg. Gynec. Obstet. 111: 517 (Oct.) 1960.)

POTASSIUM AND DIGITALIS Buffered isotonic potassium phosphate was administered to dogs before digitalization. An average of 16.6 mEq. of the cation was necessary to produce atrioventricular block. The same procedure was carried out after administration of toxic doses of digitoxin. In this group an average amount of only 7.2 mEq. was necessary to produce atrioventricular block, and sino-atrial block and arrest were frequent. Infusion of potassium into animals intoxicated with digitoxin produced atrioventricular block not only with less potassium but also at a lower plasma level. There was also a steeper rise of the plasma potassium level in this group of experiments. These studies suggest that potassium should be given with caution to digitalis-intoxicated patients in whom the intoxication is manifested by abnormalities of atrioventricular conduction. *(Fisch , C., Martz, B. L., and Friebe, F. H.: Enhancement of Potassium-Induced Atrioventricular Block by Toxic Doses of Digitalis Drugs, J. Clin. Invest. 39: 1885 (Dec.) 1960.)*

SYMPATHOADRENAL SUPPRESSION Cyclopropane or halothane produce a significant reduction in the degree of tachycardia and arterial hypertension caused by carbon dioxide inhalation in man. The degree of suppression was greater during halothane anesthesia. Cardiac arrhythmias seldom occurred in conscious persons during carbon dioxide inhalation. In anesthetized patients, they were found frequently and proved to be a more reliable guide as to the presence of respiratory acidosis than was any hemodynamic function. Halothane may reduce the sympathoadrenal response to hypercarbia through central autonomic action. Postcyclopropane hypotension may be marked because the sympathoadrenal response to hypercarbia is well preserved and possibly enhanced during cyclopropane administration. *(Price, H. L., and others; Modification by General Anesthetics (Cyclopropane and Halothane) of Circulatory and Sympathoadrenal Responses to Respiratory Acidosis, Ann. Surg. 152: 1071 (Dec.) 1960.)*

ADRENAL SUPPRESSION Alterations in the adrenocortical response after five weeks of prednisone therapy (20 mg. daily) were evaluated. A moderate reduction in response of the adrenal cortex was noted within 10 to 14 days after the onset of prednisone therapy. An additional three weeks of therapy produced a marked suppression of adrenal output of 17-hydroxycorticosteroids in response to either surgical stress or ACTH. The changes in adrenocortical function induced by prednisone were associated with only minimal evidence of adrenocortical atrophy pathologically. *(Marks, L. J., Chute, R., and Sallade, R. L.: Rapid Functional Suppression of Adrenal Cortex Due to Prednisone Therapy, New Engl. J. Med. 264: 10 (Jan. 5) 1961.)*

CARBOHYDRATE METABOLISM The administration of epinephrine during ether anesthesia in man produced a greater than normal rise in blood glucose and less than expected elevations in pyruvate, lactate and citrate levels. The administration of insulin during ether anesthesia failed to depress blood glucose and inorganic phosphorus levels. Increased sensitivity to insulin was observed in one patient during thiopental anesthesia. The data suggest that ether may alter the cellular transfer and phosphorylation of glucose in a manner not fully explained by the reflex release of endogenous epinephrine. The administration of tolbutamide during ether anesthesia depressed both blood glucose and serum inorganic phosphorus levels. This effect of tolbutamide suggests that it may have a glycostatic effect independent of its effect on insulin secretion. *(Henneman, D. H., and Vandam, L. D.: Effect of Epinephrine, Insulin, and Tolbutamide on Carbohydrate Metabolism During Ether Anesthesia, Clin. Pharmacol. Ther. 1: 694 (Nov.-Dec.) 1960.)*

CATECHOLAMINES Many types of drugs alter the rate of metabolism of the catecholamines. A study has been made of the effect of certain sympathomimetic amines on the rate of disappearance of epinephrine and norepinephrine in the intact mouse. The drugs tested included ephedrine, amphetamine, tyramine, paredrine and synephrine. The findings indicated that these amines do in-

crease the rate of metabolism of the catacholamines. Epinephrine and norepinephrine disappear from the animal in two phases; the first a period of rapid metabolism primarily by oxygen methylation; and the second phase a slower one, when part of the catecholamines are bound to tissue constituents and then released and metabolized slowly. The findings in mice suggest that the sympathomimetic amines may increase the rate of metabolism of epinephrine and norepinephrine in part by preventing the protective binding of the catecholamines to tissue constituents. (*Axelrod, J., and Tomchick, R.: Increased Rate of Metabolism of Epinephrine and Norepinephrine by Sympathomimetic Amines, J. Pharmacol. Exp. Ther. 130: 367 (Dec.) 1960.*)

ANALEPTICS The consideration of analeptics is limited to those drugs which stimulate the central nervous system as their primary action. Emphasis is placed on the effects of the analeptics in the presence of barbiturates and other anesthetic depressants of the central nervous system. Despite the existence of controversy in the treatment of barbiturate intoxication, considerable data and supportive evidence are provided to show that analeptics should not be rejected in the overall management of barbiturate poisoning. (*Hahn, F.: Analeptics, Pharmacol. Rev. 12: 447 (Dec.) 1960.*)

BARBITURATE POISONING Fourteen patients with severe acute barbiturate intoxication have been treated by a regimen of forced diuresis produced by infusion of a 15 per cent solution of urea and alkalinization of the urine. In most cases 100 ml. of the 15 per cent urea solution were given hourly. Minor adjustments of the urea load were necessary to keep the diuresis at 500 to 800 ml. per hour. As the diuresis increased, additional fluid without urea was given intravenously. The additional fluid was composed of potassium chloride 12 mEq. per liter, sodium lactate 40 mEq. per liter, and glucose 200 mEq. per liter. Four of these same patients had previously been observed in the same department for intoxication with the same barbiturate for which they were later given diuretic treatment. These patients acted as their own controls. The over-all elimination rate of barbiturate from the body was increased in all 14 cases over that of comparable control cases. The treatment was not equally effective in poisoning produced by all types of barbiturates. The period of unconsciousness was generally reduced to one half or a third. One patient suffered transient pulmonary edema and another severe dehydration. (*Lassen, N. A.: Treatment of Severe Acute Barbiturate Poisoning by Forced Diuresis and Alkalinization of Urine, Lancet 2: 338 (Aug. 13) 1960.*)

THIOPENTAL WITH MEGIMIDE It has been claimed that if megimide and thiopental are mixed together on a 1 to 3 ratio, the anesthetic potency of thiopental is not decreased but there is less respiratory depression. The potency ratio of thiopental and a 3 to 1 mixture of thiopental and megimide has been determined in 7 dogs by a servo-controlled, cross-over experiment employing the electroencephalogram as an index of drug action. Thiopental was found to be 1.51 times as potent as thiopental plus megimide. (*Bellville, J. W., Murphy, T., and Howland, W. S.: Potency of Thiopental Plus β,β-Ethylmethylglutarimide, J. Pharmacol. Exp. Ther. 130. 364 (Nov.) 1960.*)

TRIMETHOBENZAMIDE A hitherto unrecognized property of the antimetic drug trimethobenzamide (Tigan) is its action in suppressing the reflexes of the pharynx and larnyx, a desirable factor in many surgical procedures. This drug has a swift and effective action in restoring normal functioning of these mechanisms permitting anesthesia and surgery to proceed without incident. (*Sheiner, B.: Use of Trimethobenzamide (Tigan) in Anesthesia, Canad. Med. Ass. J. 83: 1377 (Dec. 24) 1960.*)

ANTIEMETICS The antiemetic properties of 4 commonly used phenothiazine preparations has been tested in dogs by the use of apomorphine, digitalis, nicotine, and nitrogen mustard-induced vomiting. The depressant properties of these drugs was also tested to determine whether or not the antiemetic effect was on the basis of central sedation. Fluphenazine