

- man measured by thermodilution, *J. Clin. Invest.* 43: 1203, 1964.
19. Holt, J. P.: Estimation of the residual volume of the ventricle of the dog's heart by two indicator dilution techniques, *Circ. Res.* 4: 187, 1956.
 20. Eshbach, O. W.: Simpson's rule for approximate integration, in *Handbook of Engineering Fundamentals*, second edition. New York, John Wiley and Sons, 1963, pp. 2-114.
 21. Bader, H. S.: Contractile tension in the myocardium, *Amer. Heart J.* 66: 432, 1963.
 22. Sonnenblick, E. H.: Series elastic and contractile elements in heart muscle: Changes in muscle length, *Amer. J. Physiol.* 207: 1330, 1964.
 23. Forward, S. A., McIntyre, K. M., Lipana, J. G., and Levine, H. J.: Active stiffness of the intact canine left ventricle: With observations on the effect of acute and chronic myocardial infarction, *Circ. Res.* 19: 970, 1966.
 24. Sugai, N., Shimamoto, S., and Etsten, B. E.: Effect of methoxyflurane upon myocardial mechanics, *ANESTHESIOLOGY* 29: 215, 1968.
 25. Sarnoff, S. J., Brockman, S. K., Gilmore, J. P., Linden, R. J., and Mitchell, J. H.: Regulation of ventricular contraction: Influence of cardiac sympathetic and vagal nerve stimulation on atrial and ventricular dynamics, *Circ. Res.* 8: 1108, 1960.
 26. Osadjan, C. E., and Randall, W. C.: Effects of left stellate ganglion stimulation on left ventricular synchrony in dogs, *Amer. J. Physiol.* 207: 181, 1964.
 27. Glick, C., and Braunwald, E.: Relative role of the sympathetic and parasympathetic nervous systems in the reflex control of heart rate, *Circ. Res.* 16: 363, 1965.
 28. Price, H. L.: Circulatory actions of general anesthetic agents and the homeostatic roles of epinephrine and norepinephrine in man, *Clin. Pharmacol. Ther.* 2: 163, 1961.
 29. Etsten, B. E., and Li, T. H.: Effects of anesthesia upon the heart, *Amer. J. Cardiol.* 6: 706, 1960.
 30. Etsten, B. E., and Li, T. H.: Current concepts of myocardial function during anesthesia, *Brit. J. Anaesth.* 34: 884, 1962.
 31. Millar, R. A., and Morris, M. E.: A study of methoxyflurane anaesthesia, *Canad. Anaes. Soc. J.* 8: 210, 1960.
 32. Podolsky, R. J.: The mechanism of muscular contraction, *Amer. J. Med.* 39: 708, 1961.
 33. Braunwald, E., Ross, J., Jr., and Sonnenblick, E. H.: Mechanisms of contraction of the normal and failing heart, *New Eng. J. Med.* 277: 853, 1967.

Drugs

HEXOBARBITAL METABOLISM Slices of rat hepatoma failed to metabolize hexobarbital (Evipal) *in vitro*; slices of non-tumorous liver from host rats metabolized it at a lower rate than liver slices from normal animals. A corresponding *in vivo* difference was a prolonged hexobarbital sleeping time in tumor-bearing rats. The prolongation began only when the hepatoma became large enough to show areas of necrosis or ulceration. Surgical removal of the tumor restored sleeping time to normal. Since the tumor was implanted subcutaneously and did not invade the liver, it was suggested that a diffusible product of the tumor was responsible for the impairment of hexobarbital metabolism in the host liver. (Hickie, R. A., and Kalant, H.: *Modification of Hexobarbital Metabolism by Morris Hepatoma*, *Canad. J. Physiol.* 45: 975 (Nov.) 1967.)

MEPROBAMATE OVERDOSAGE Meprobamate intoxication is encountered frequently but is seldom a treatment problem. The relatively short duration of coma and the low mortality result from rapid endogenous metabolism of the drug. In most cases only supportive therapy is needed. However, when intoxication is severe or is complicated by intercurrent illness or other drugs, treatment with forced diuresis or hemodialysis should be considered. In the authors' experience, the best criteria of profound intoxication were the clinical state of the patient and a plasma meprobamate concentration approaching 20 mg./100 ml. (Maddock, R. K., Jr., and Bloomer, H. A.: *Meprobamate Overdosage: Evaluation of Its Severity and Methods of Treatment*, *J.A.M.A.* 201: 999 (Sept.) 1967.)