to tubocurarine as measured by an "affinity constant." The constant was little affected by changes in temperature or by a four-fold increase in the potassium concentration. Values determined in the presence of calcium and magnesium were smaller by about 30 and 40 per cent respectively. (*Jenkinson, D. H.: Antagonism Between Tubocurarine and Substances Which Depolarize the Motor End-Plate, J. Physiol. 152: 309 (July) 1960.*)

SUCCINYLCHOLINE APNEA If the Hering-Breuer reflex is active, intermittent positive pressure breathing (5 to 25 centimeters of water) causes longer apnea following administration of succinylcholine than positive-negative pressure breathing. In deep ether anesthesia, when the Hering-Breuer reflex is depressed, no difference is seen. (*Koerner, M.: Investigations Concerning Duration of Apnea After Succinylcholine with Intermittent Positive Pressure and Positive-Negative Pressure with Consideration of Hering-Breuer Reflexes, Der Anaesthesist 9: 225 (July) 1960.*)

NEOMYCIN APNEA A 47 year old man was anesthetized with thiopental, nitrous oxide, ether and a minimal amount of succinylcholine. The peritoneal cavity was irrigated with 500 cc. of 1 per cent neomycin. Fifteen minutes later the patient became apneic; there was no circulatory disturbance. One hour later 1 mg. of neostigmine was given intravenously in divided doses, without effect. A mechanical respirator was used for 14 hours. Respiratory movements began in the fifteenth hour, and improved for 6 hours. The patient then aspirated coffee-ground vomitus and died. The lessons to be learned: When intraperitoneal neomycin is needed, place catheters in the abdomen, and delay giving the drug until the patient recovers from anesthesia; use 0.5 mg. every 6 hours if renal function is adequate. Pretreatment with neostigmine may be valuable. (*Kownacki, V. P., and Serlin, O.: Intraperitoneal Neomycin as a Cause of Apnea, A. M. A. Arch. Surg. 81: 838 (Nov.) 1960.*) (*Abstractor's Note:* A more safe alternative would be to use an antibiotic, such as bacitracin, which does not have potent neuromuscular blocking properties.)

INTRAPERITONEAL NEOMYCIN The Bennett ventilation meter was used to measure respiration of patients during and after laparotomy. Two grams of neomycin were placed in the peritoneal cavities of adults. One half of these patients developed respiratory depression in 1 to 20 minutes. One third of the patients had severe depression or apnea, and required respiratory assistance for as long as 10 hours. The mode of action of neomycin is thought to be neuromuscular blockade. Various anesthetic and relaxant drugs were used; ether is believed to contribute definitely to the neomycin depression. It is pointed out that a similar effect may be caused by streptomycin, dihydrostreptomycin, polymyxin B, and kanamycin. (*Mann, L. S., and Levin, M. J.: Respiratory Depression with Intraperitoneal Neomycin, A. M. A. Arch. Surg. 81: 690 (Nov.) 1960.*)

NARCOTIC ANTAGONISTS Morphine injected into rabbits, dogs, and man produces an electroencephalographic pattern resembling that observed in sleep or light anesthesia. Nalorphine, injected alone, produces the same effect, with a smaller dose, but only after a delay of fifteen to thirty minutes. If nalorphine is injected at the peak of action of morphine, an immediate waking reaction occurs. What is the mechanism of action of these two drugs? Does nalorphine change into morphine in the body? Electroencephalographic studies were made in adult male albino rabbits, with the electrodes embedded in the skull. Injection of drugs was intravenously. From these studies it was determined that morphine and nalorphine when administered separately produce changes in the EEG similar to those produced by barbiturates. No data could be obtained to suggest that nalorphine was slowly transformed in the body to morphine. The mechanism of interaction between morphine and nalorphine is conceived to be an extremely complex one. (*Goldstein, L., and Aldunate, J.: Quantitative Electroencephalographic Studies on Effects of Morphine and Nalorphine on Rabbit Brain, J. Pharmacol. Exp. Ther. 130: 204 (Oct.) 1960.*)

CEREBROSPINAL BARRIER The importance of lipid-solubility in the dissociation