

the optimum time for premedication with meprobamate to extend the duration of the side position induced by these barbiturates was between 30 to 60 minutes. Premedication with meprobamate 24 hours prior to ED₁₀₀ barbiturates tended to shorten the side position time. Meprobamate appeared to have little effect on either probarbital or barbital. Thus, it appears that meprobamate is most effective when used in conjunction with the shorter acting barbiturates, such as hexobarbital, thiopental and pentobarbital. (7753)

Reversal of the effects of central nervous system depressants on EST by hypophysectomy. SALVATORE DE SALVA AND R. A. EVANS (introduced by N. ERCOLI). *Armour Labs., Kankakee, Ill.* Studying the effect of hypophysectomy upon the sensitivity of minimal electroshock, we found that the pharmacological action of a number of CNS drugs is also affected by hypophysectomy. In the non-operated group, LSD produced excitement and sweating, followed by depression, while the operated rats exhibited sham rage, without sweating. Serotonin in the non-hypophysectomized rats induced only a questionable excitement followed by depression, while in the hypophysectomized animal there was a definite initial excitement followed by depression. Interestingly, ephedrine behaved as serotonin. Atropine and benadryl produced no measurable effect in the normal rats, whereas in the hypophysectomized ones they induced pronounced excitement. Dilantin in the intact rat raised the threshold 20%, but had only a questionable effect on the hypophysectomized animals. Reserpine, mescaline (5 mgm./kgm.), benactyzine and phenyltoloxamine in the normal rats raised the EST, which was lowered in the hypophysectomized animals. Chlorpromazine gave a different pattern: in the intact animal it raised the threshold, but in the hypophysectomized rats, after an initial increase of EST, the reverse action took place. Phenobarbital and the muscular relaxants (meprobamate, phenaglycadol, mephenesin and zoxazolamine) gave, in both normal and hypophysectomized rats, an increase of threshold. Our study shows that hypophysectomy diminishes the depressive and in-

creases the excitatory response to LSD serotonin, ephedrine, atropine, benadryl, phenyltoloxamine, mescaline and reserpine, it blocks the action of dilantin and diminishes that of phenobarbital, but has no influence on the muscular relaxants. Undoubtedly, hypophysectomy removes, directly or indirectly, some mechanism responsible for the depressive action of CNS drugs, most likely at the supraspinal level, since this phenomenon did not appear with the muscular relaxant drugs. (7754)

Heart lesions in mice caused by treatment with dicumarol. F. I. DESSAU, S. KLEIN, L. LIPCHUCK, J. O'GRADY AND J. TSALIKIS (introduced by J. T. LITCHFIELD, JR.) *Dept. of Experimental Pathology, American Cyanamid Company, Pearl River, N. Y.* Heart muscle lesions were found in mice treated with high levels of bishydroxycoumarin in the diet (0.02%). Vitamin K, given to mice at twice, and menadione at about eight times the dose of bishydroxycoumarin prevented these lesions from occurring. Vitamin E (α -tocopherol acetate) at levels up to 2,000 mgm./kgm. of purified diet failed to show any influence. Adding 2 gm. of vitamin E to a diet containing 400 mgm. of menadione/kgm. failed to give protection from the effect of bishydroxycoumarin. There was no suggestion of a vitamin K-sparing effect of vitamin E. Similar heart lesions, characterized by hemorrhage, necrosis, and leukocytic infiltration had previously been observed in mice kept on sulfaguanidine-supplemented purified diets deficient in vitamins K and E in experiments by Dessau, Klein and Lipchuck: *Proc. Soc. Exp. Biol. & Med.*, **87**: 522, 1954. (7755)

Effect of *d*-amphetamine on an item of operant behavior in humans. P. B. DEWS. *Dept. of Pharmacology, Harvard Med. School, Boston, Mass.* Subjects operated a telegraph key for nickels. They were required to press the key, wait a specified period, press, wait, and so on. Each time a predetermined total (but not necessarily consecutive) number of properly spaced responses had been made, four nickels were delivered. Two values of required waiting period were studied: 2.5 and 25 seconds. The corresponding numbers