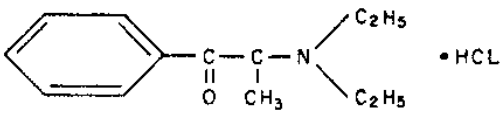
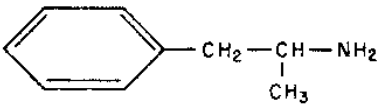


DIETHYLPROPION



d-AMPHETAMINE

Fig. 1. Structure of diethylpropion and *d*-amphetamine.

taneously; and diethylpropion 100, 200, and 400 mg administered orally.

The methods used in studying these drugs, with some modifications as described below, have been previously reported.[16]

Subjective effects and euphoria were measured with drug identifications and "liking scores" from the subject's and observer's single-dose opiate questionnaires[8] and scores on three scales administered as a subjective drug-effect questionnaire. These scales were the "Benzedrine Group" (BG), the "Morphine-Benzedrine Group" (MBG), and the "Amphetamine Scale." The MBG, containing euphoric items, and the BG, containing items relating to intellectual efficiency, were determined with factor-analytic techniques from items in the Addiction Research Center Inventory.[19] The "Amphetamine Scale" is an 11 item subset from the MBG and BG scales demonstrated by Martin and his colleagues[16] to show a significant regression of response against dose for subcutaneously administered *d*-amphetamine.

Physiologic effects measured were systolic and diastolic blood pressures, rectal temperature, pulse rate, and pupil size. Pupillary diameter was determined photographically with the eye 11 inches from a back-illuminated opal glass screen delivering 300 footlamberts of luminance.

The following protocol was followed each test day. At 7:00 and 7:30 A.M., control observations of systolic and diastolic blood pressure (obtained in duplicate), respiratory rate, pulse rate, and rectal temperature were recorded after subjects had been in a supine position for 10 minutes. Pupils were photographed after each set of observations. At 8:00 A.M., medications were administered both subcutaneously and orally to maintain double-blind conditions. Placebo condition consisted of "blanks" by both routes of administration. At 8:30, 9:00, 10:00, 11:00, and 12:00 A.M., and 1:00, 2:00, and 8:00 P.M., physiologic observations and subjective effects were measured.

Anorexic effects were measured by estimates of the caloric value of food consumed at the noon and evening meals of the test day. Except for noncaloric beverages, subjects fasted from midnight until the noon meal (11:00 A.M.) and then again until the evening meal (5:00 P.M.). At each meal the portion of food chosen was weighed; after eating, the residual food was weighed and this weight was subtracted from the weights of the food chosen. Caloric value was determined from standard charts. Total caloric intake was the sum of the caloric intake for the two meals.

On the morning following the test day, subjects were asked to estimate to the nearest half hour the amount of time they had slept the previous night. From 6:00 P.M. of the test day until 6:00 A.M. the morning following the test day, observers would observe the subject and judge if he was sleeping. For each observation of sleeping, a half hour of sleep time was awarded.

The hydrochloride of diethylpropion and the sulfate of *d*-amphetamine were used. For subcutaneous injection, drugs were dissolved in normal saline. For oral administration, drugs were added to 30 ml of cherry syrup. Normal saline was the subcutaneous blank and 30 ml of cherry syrup was the oral blank.

Results

The four drug conditions—subcutaneously administered diethylpropion, orally