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## A simple method for the preparation of injectables of tetrahydrocannabinols and cannabis extracts

Because of the increased use of tetrahydrocannabinols and cannabis extracts in the experimental laboratory, an inexpensive method that requires minimum effort and equipment is needed to produce a reliable aqueous suspension of these highly water-insoluble drugs. Such a method was developed in our laboratory while studying the electro-encephalographic effects of synthetic 1-*trans*- $\Delta^9$ -tetrahydrocannabinol ( $\Delta^9$ -THC), 1-*trans*- $\Delta^8$ -tetrahydrocannabinol ( $\Delta^8$ -THC) and marihuana extract distillate (MED) (Moreton, unpublished doctoral dissertation).

Resinous  $\Delta^9$ -THC and  $\Delta^8$ -THC (95% pure) and liquid MED (17.1%  $\Delta^9$ -THC) were supplied by the National Institute of Mental Health. They were kept frozen at  $-20^\circ$  before preparation of injections.

Frozen  $\Delta^9$ -THC or  $\Delta^8$ -THC or liquid MED was mixed in a glass mortar and pestle with a quantity of Arlacel-20 equal to 2% (w/v) of the intended final volume until all material was dissolved. An equal amount of Tween-65 was then added and thoroughly mixed. One ml of physiological saline was added and mixed to form a creamy suspension. This was repeated several times and then the suspension made up to produce suspensions containing 20 mg/ml of the drug.

The drugs were rapidly released from the suspension as indicated by behavioural and eeg measurements, while the control vehicle was found to be inactive.

In contrast to the polyvinylpyrrolidone suspension described by Fenimore & Loy (1971), the Arlacel-Tween suspension is especially suitable when concentrations greater than a few mg per ml are desired.

The surfactants were obtained from the Surfactant Supply Division, Emulsion Engineering Inc., Elk Grove Village, Illinois.

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