

Chief, Technical Branch

23 February 1953

Encephalographic Apparatus

Justifications for use of an encephalographic apparatus, frequently to check the effects of narcotics:

1. To determine the duration of the narcotic's effect.

After the administration of esters DFP and TPP:

When the clinical symptoms had cleared in a few days, the EEG tracings still remained abnormal (in voltage, frequency and regularity) for many (42 days after administration, in one case).

After GB, when symptoms cleared in two days, EEG was abnormal for four days. Certain small doses that produced no clinical symptoms, did produce EEG effects.

2. To assist toward a theory of the narcotic's action.

The protracted recuperation shown by EEG, suggested that there was an irreversible inactivation of central nervous system cholinesterase, followed by the latter's gradual regeneration.

3. To bring out useful analogies with known diseases.

Intermittent high slow waves in the EEG after DFP, resembled those seen in petit mal epilepsy. Waves after G substances, resembled those seen in grand mal epilepsy.