Blow, Joe **Age: 8 yr.**
Hospital # 12345 **Location: 3 West**
EEG No. 5432 **Handedness: right**
Date: 12/25/95 **Referring: Dr. Samuel Sawbones**

Method: The record was run with a digital EEG machine using 18 channels and standard electrode placements and montages. Subject was recorded during wakefulness and light sleep, induced by 500 mg of chloral hydrate sedation. Intermittent photic stimulation and hyperventilation were used as activation procedures.

Indication: Subject has had shaking episodes for 3 weeks. Study was done to rule out seizures. The patient is presently on Dilantin 300 mg/day.

Findings: The record is overall of normal voltage and good bilateral symmetry. There is a posterior 8–10/second alpha rhythm, medium voltage, that waxes and wanes throughout the recording. There is a moderate amount of diffuse low voltage 15–25/second activity. A small amount of mostly anterior low voltage 4–7/second activity is observed. During drowsiness, minor sharp runs, representing rhythmical theta bursts of drowsiness are seen as a normal variant. There is good occipital driving to intermittent photic stimulation. Hyperventilation produced mild slowing of the underlying frequencies but no other notable change. During drowsiness and stage I and II, the record shows frontocentral slowing, vertex waves, K complexes and bilateral 13–14/second sleep spindles.

Summary: Normal record, without EEG evidence for focality or epileptiform discharges.
Comment: A normal EEG does not rule out epilepsy, which is a clinical diagnosis.

Signature and title

Fig. 2.11. Example of an EEG report

including high doses of neuroleptics, sedatives, tricyclics, lithium, and a host of others.

Principle: Diffuse slowing is a nonspecific abnormal finding consistent with numerous processes causing a diffuse disturbance of cerebral function.

Figure 2.15 shows slowing that is in the form of frontal intermittent rhythmic delta activity, usually abbreviated as FIRDA. Despite its frontal predominance, FIRDA has the same significance as do the various types of diffuse slowing (Watemberg et al. 2002). The EEG should not be called slow if the slowing appears only in the drowsy state because this type of slowing is a normal transitional state.

Diffuse Voltage Changes

Figure 2.16 shows a flat EEG, technically called electrocerebral silence. The reader must rule out technical factors before determining that a record is consistent with electrocerebral silence (Anonymous 1994b). Amplification should be at least to a level of

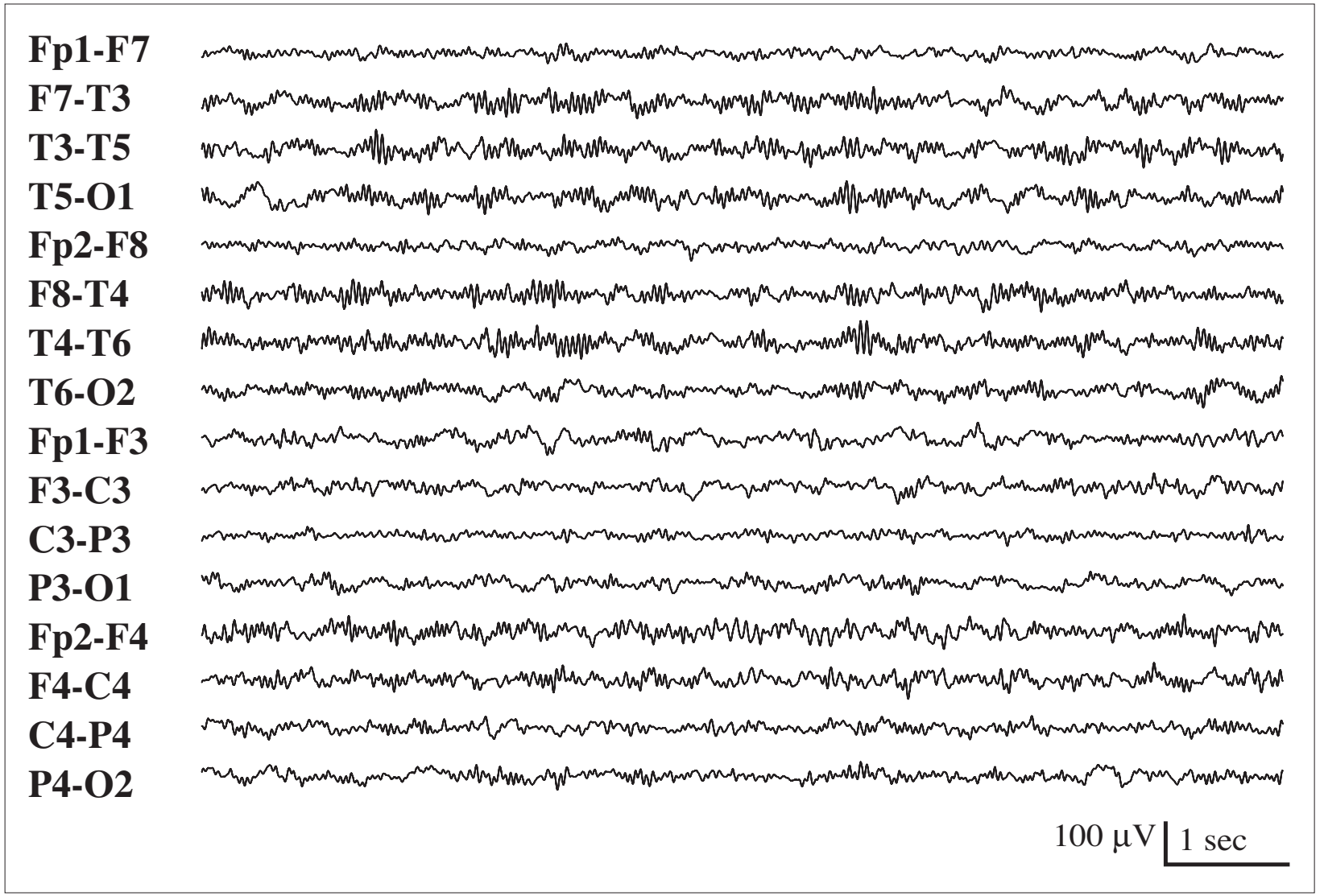
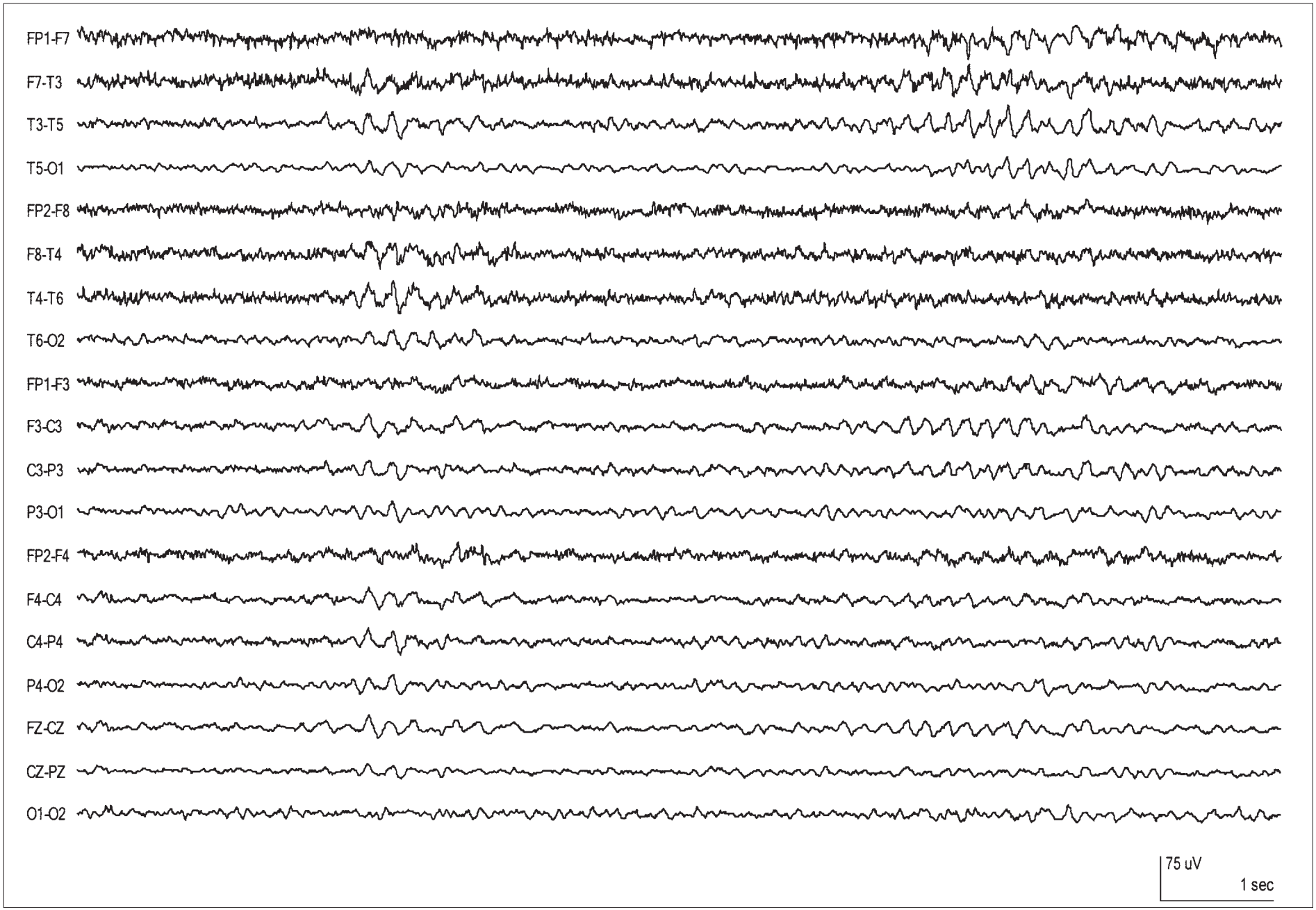


Fig. 2.12. Excess beta (fast) activity



RMTD or possibly wicket rhythm

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Patient's History 56-year-old woman with a history of diabetes, dystonia, hypothyroidism, and dementia. Medications are insulin, thyroid, phenytoin, lansoprazole, enalapril, and diazepam.

EEG Findings The left temporal region displays frequent runs of rhythmical sharp activity, with phase reversals in the T3 or F7 electrodes. This is a normal variant pattern that has some similarities to both wicket spikes or wicket rhythm and RMTD.

Features of This Pattern Isolated wicket rhythms are often difficult to distinguish from epileptiform activity (sharp waves and spikes). Unlike sharp waves and spikes, wicket rhythms have an arciform morphology and do not disrupt the underlying rhythm or have a clear aftergoing slow wave. Wicket rhythms occur in a range of 6 to 11 cps over the posterior temporal lobes during drowsiness and do not have epileptiform potential and therefore may be faster than RMTD. Most patients with isolated wicket discharges that might be mistaken for sharp waves also have longer trains of wicket activity that help identify this pattern.

Clinical Relevance This pattern can be difficult to distinguish from rhythmical temporal theta bursts of drowsiness.

Similar Waveforms

1. sharp waves
2. breach rhythm
3. sharp transients
4. mu rhythm

Clinically Related Patterns

1. rhythmic midtemporal theta of drowsiness (RMTD)
2. normal drowsiness
3. minor sharp and slow pattern
4. psychomotor variant (see RMTD)