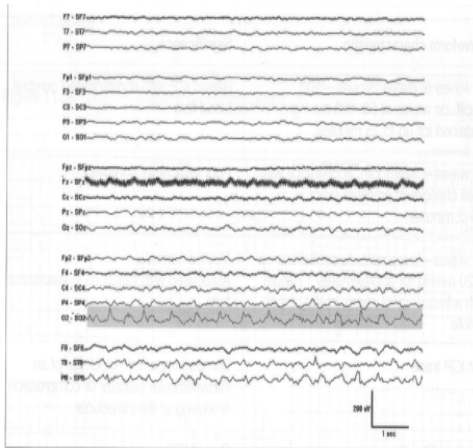
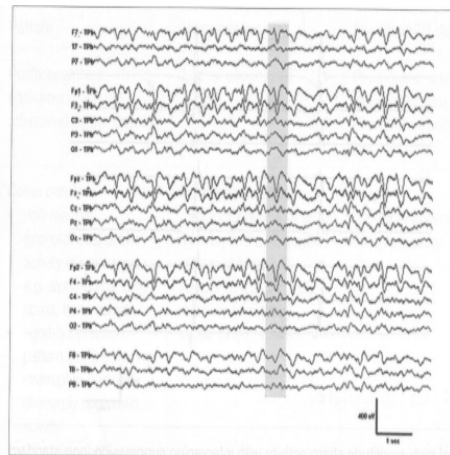


Bursts of high-amplitude sharp activity with intervening suppression (non-standard montage, channels not labelled).



These are most clearly seen in channel O2-SO2 (highlighted). Periodic sharply contoured waveforms occur at 1-1.5 Hz.



The periodic complexes seen here occur at 1-2 Hz—one such complex is highlighted, illustrating the three phases.

burst suppression

periodic lateralised epileptiform discharges

triphasic wave pattern

EEG

important EEG patterns

Pattern	Interpretation	Possible ICU diagnoses
Posterior alpha (8-13 Hz) background activity, attenuated by eye opening	Normal awake adult	Psychogenic seizures (pseudoseizures) Psychogenic coma (pseudocoma)

Pattern	Interpretation	Possible ICU diagnoses
Coma patterns: • non-reactive (monotonous) diffuse activity (several types: e.g. alpha coma, beta coma, theta coma) • burst-suppression pattern (flat-line tracing interrupted by bursts of sharply contoured activity)	Poor prognosis for meaningful neurological recovery (in the absence of reversible factors) Assess clinical and EEG reactivity to auditory, tactile, photic stimuli	Drugs Hypoxic-ischaemic encephalopathy

Pattern	Interpretation	Possible ICU diagnoses
Electrocerebral inactivity/silence (ECI/ECS): flat-line tracing	Absence of synchronised neuronal activity	Drugs Hypothermia Brain death

Pattern	Interpretation	Possible ICU diagnoses
Generalised slowing: theta (4-7 Hz) and/or delta (<4 Hz) frequency	Diffuse cerebral dysfunction	Diffuse encephalopathy

Pattern	Interpretation	Possible ICU diagnoses
Focal slowing: theta or delta frequency	Focal cerebral dysfunction	Tumour Stroke

Pattern	Interpretation	Possible ICU diagnoses
Asymmetry: lateralised difference in amplitude of background activity	Increase: skull defect Decrease: focal injury or extra-axial collection	Post-craniotomy Subdural haematoma

Pattern	Interpretation	Possible ICU diagnoses
Triphasic waves, occurring periodically	Diffuse encephalopathy, usually metabolic	Hepatic encephalopathy Uraemic encephalopathy

Pattern	Interpretation	Possible ICU diagnoses
Periodic lateralised epileptiform discharges (PLEDs): sharp-wave complexes occurring periodically	Acute focal cerebral injury	Stroke Herpes simplex encephalitis