

Brainz EEG Monitoring – an introduction

Iain Carroll

Senior ICM trainee July 2016

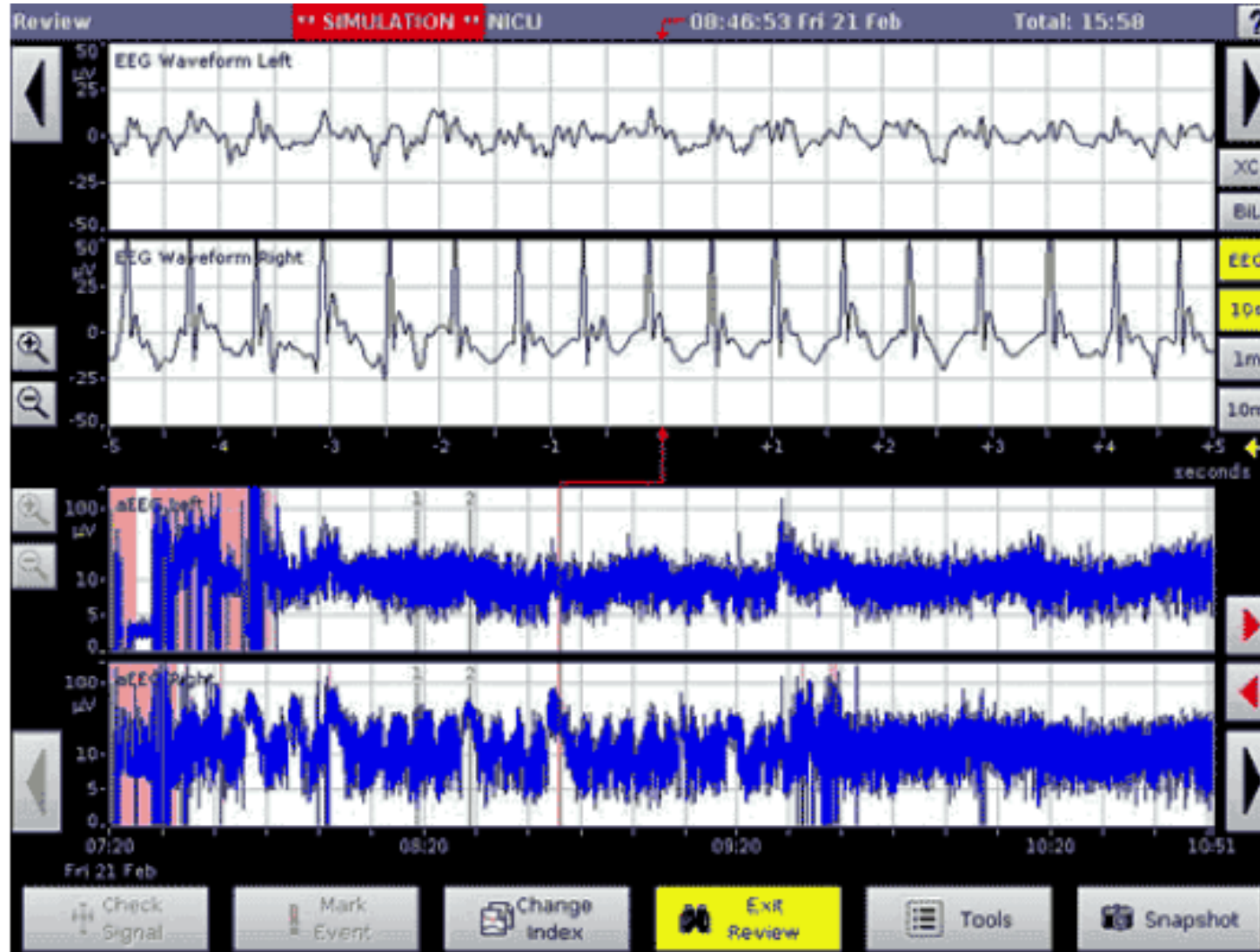
BRAINZ monitor displays two traces

Biparietal amplitude integrated EEG (aEEG).

Semilogarithmic vertical scale

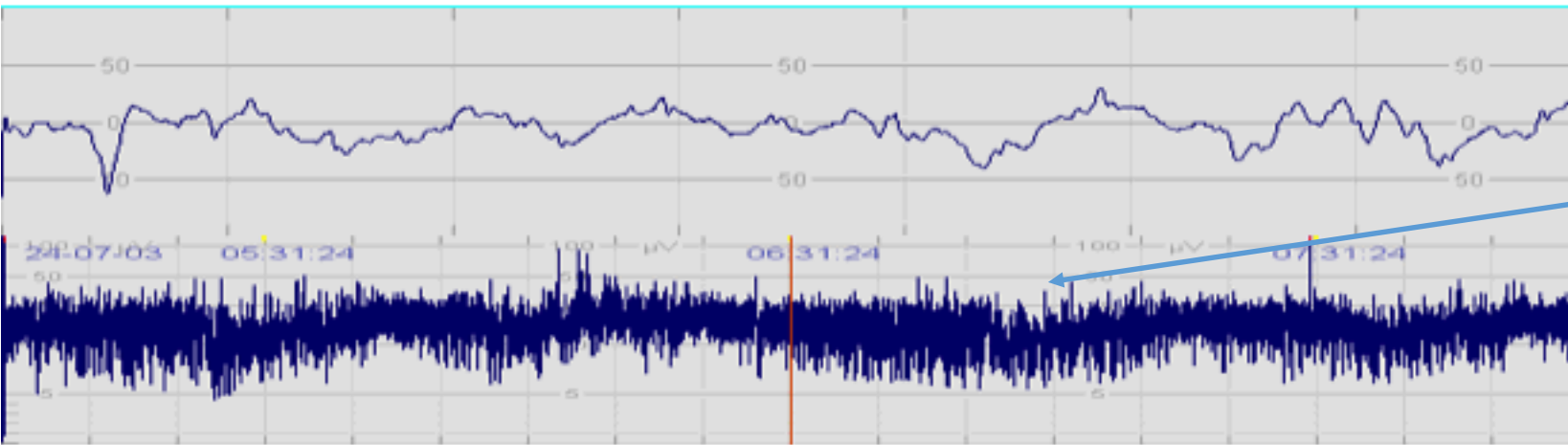
CFM
Compressed filtered aEEG
Enables evaluation of EEG over prolonged period and recognition of abnormal patterns.

Touch screen buttons for
Event markers
Review of aEEG
Saving screenshots for export



Indications

1. Suspected seizure activity
2. Monitoring seizure activity
3. Effect of antiepileptic / sedation drugs



Normal EEG and CFM Trace

Gentle Wave

Upper and lower margins flow in parallel

Lower margin above 5uV

Upper margin above 10uV

Regular widening and narrowing indicates sleep – wake cycling

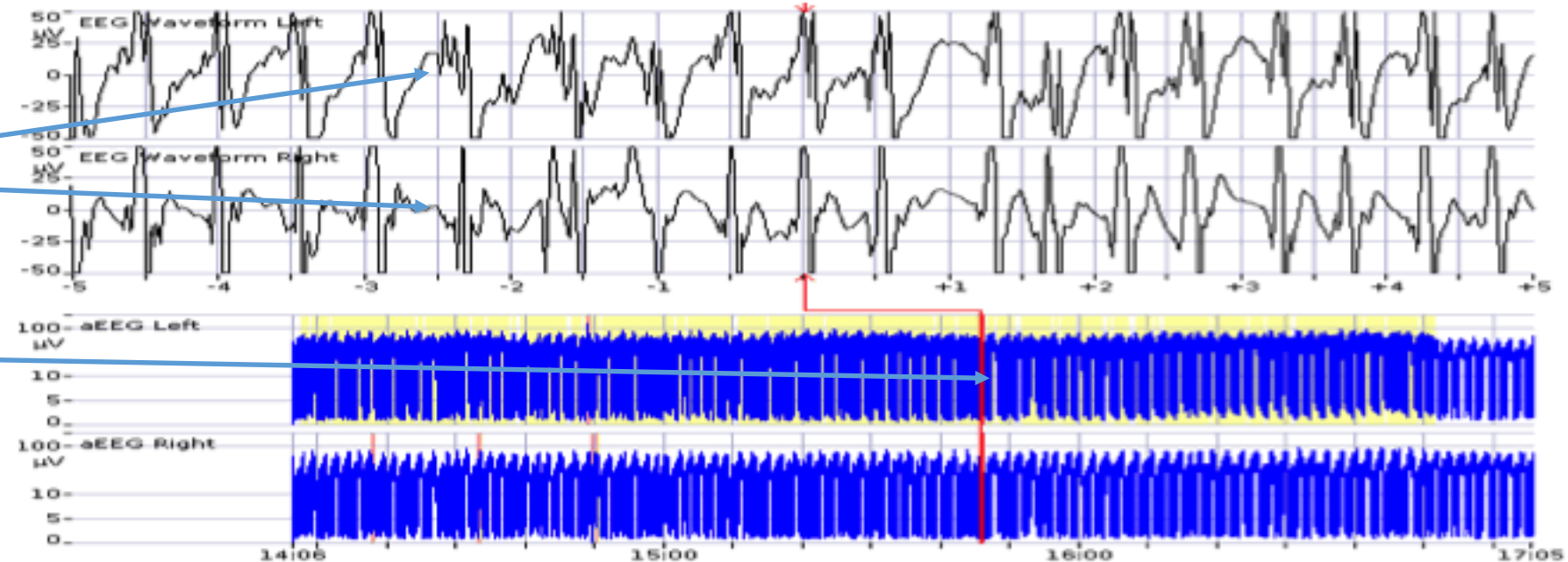
Seizure activity

Regular organised activity seen in EEG (at point of red review mark)

Abrupt rising in minimum amplitude and simultaneous rising in maximum amplitude

Repetitive pattern

Seizures less than 2-3 minutes can be missed



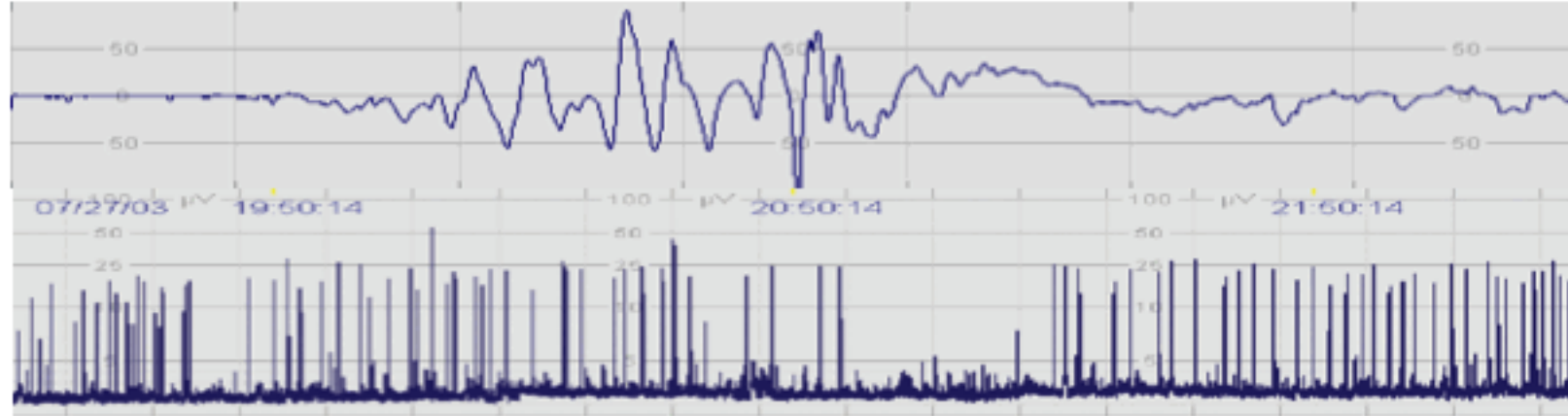
Burst suppression pattern

Upper and lower margin voltages < 10 and $< 5\text{mV}$.

Intermittent burst activity appearing as single spikes

Seen in severe encephalopathy and deep sedation

“Comb like pattern”



Isoelectric EEG

indicates absence of electrical activity

Both margins $< 5\text{mV}$.

Spikes likely due to patient movement or EEG artefact.

