

SLEEP WAVE FORMS

Dr. Tripat Deep Singh

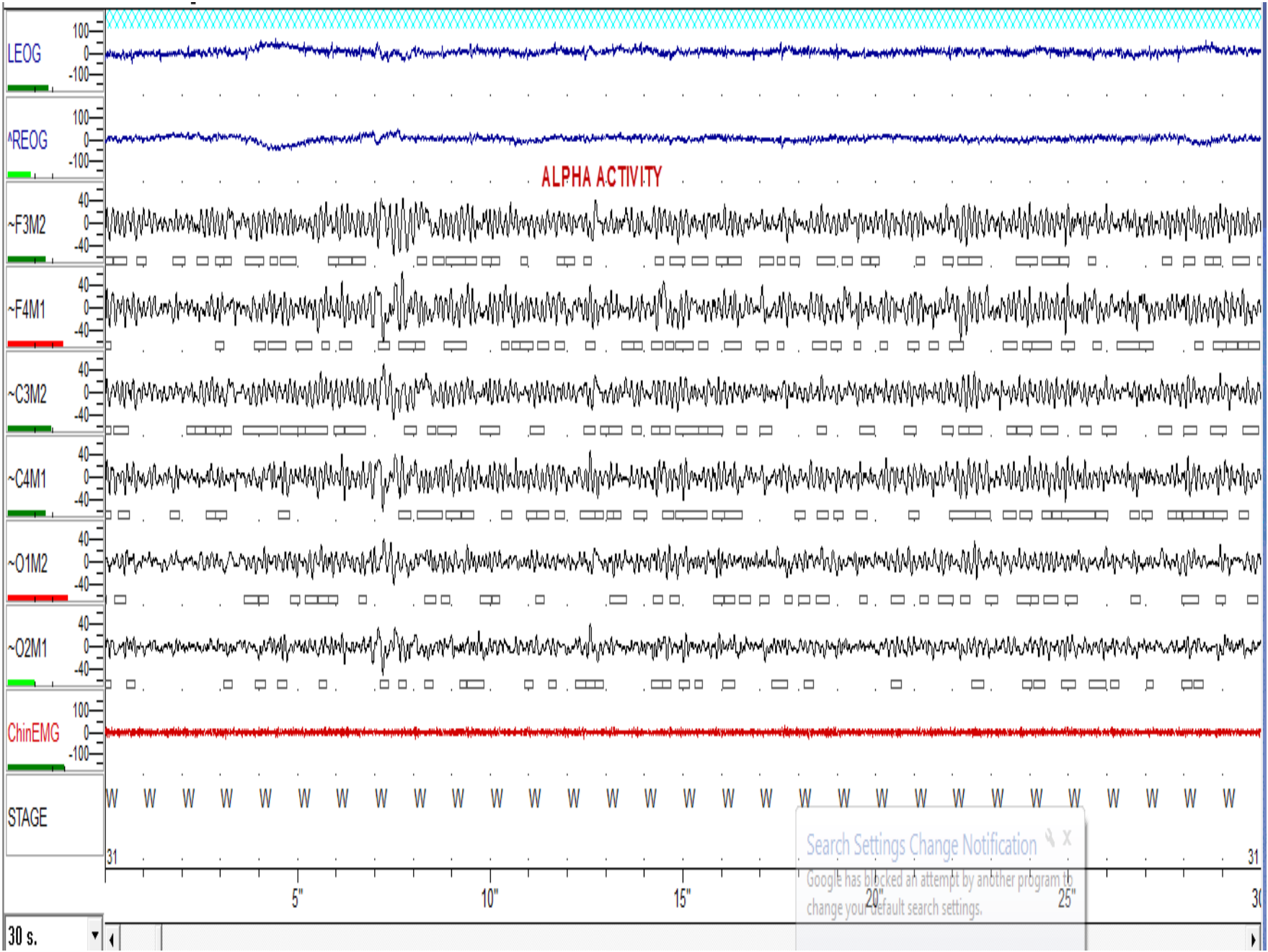
(MBBS, MD, RPSGT, RST)

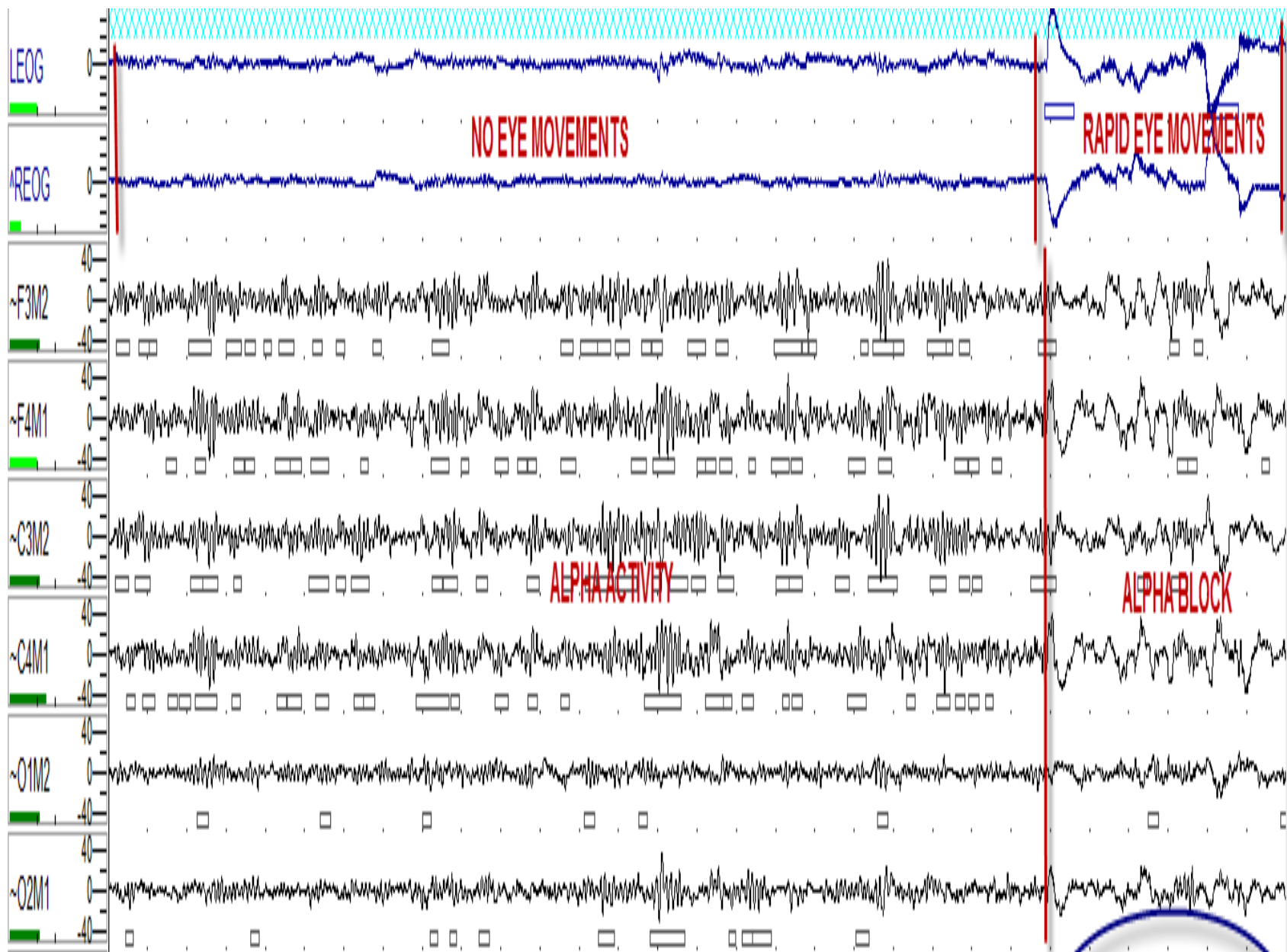
International Sleep Specialist

(World Sleep Federation program)

Alpha Rhythm

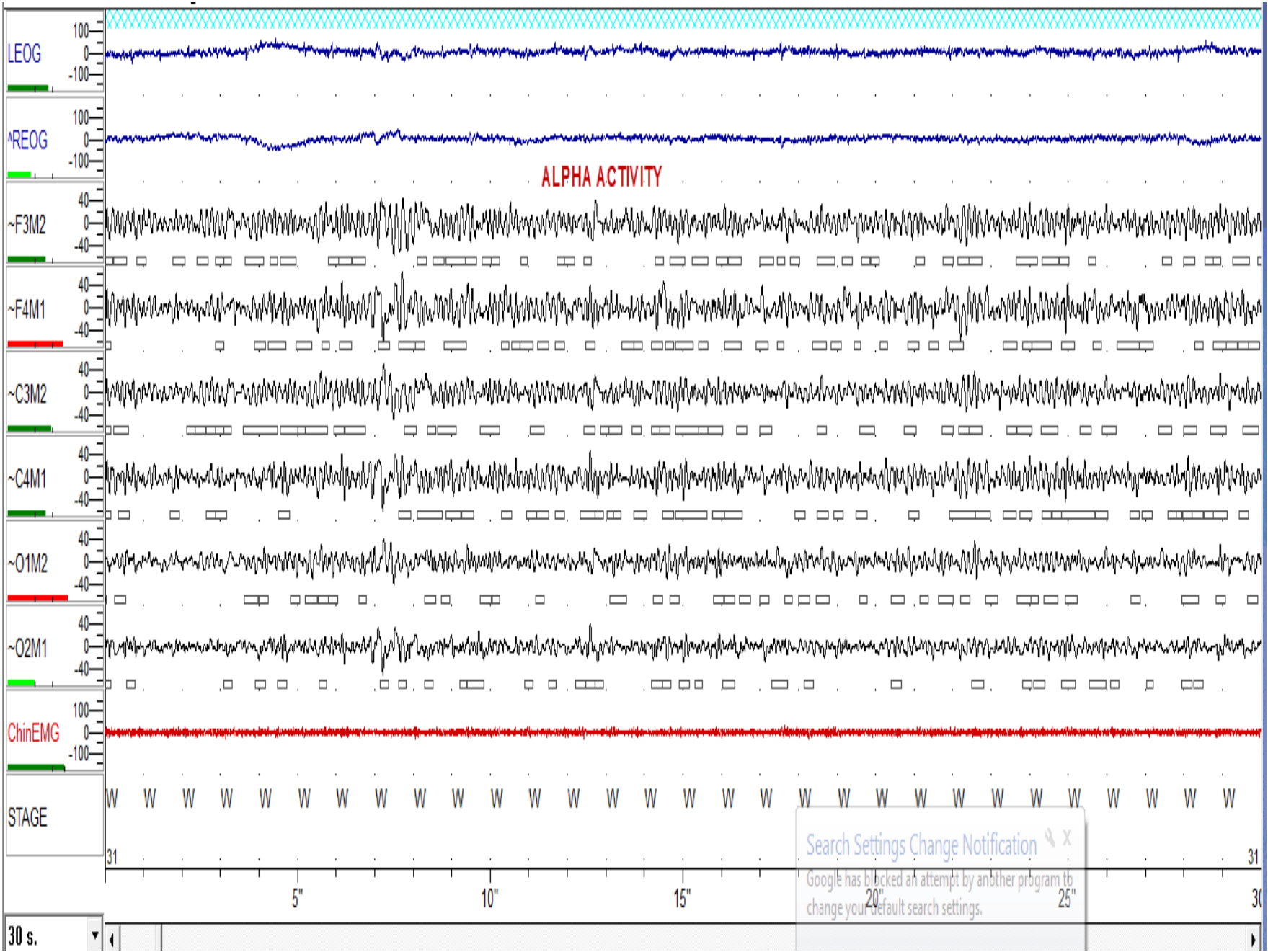
- The **Amplitude** of this alpha activity is about $40\mu\text{V}$ ($3\mu\text{V}/\text{horizontal line}$), but amplitude is not part of the definition of alpha rhythm.
- The **Frequency** of alpha activity is 8-13Hz (this sample is at 11Hz).
- The **Waveform** of alpha activity is regular and sinusoidal.
- The **Distribution** of alpha activity is mostly occipital





Low Amplitude, Mixed Frequency Activity (LAMF)

- Low amplitude mostly 4-7Hz activity
- Irregular, unremarkable background activity



ALPHA ACTIVITY

Search Settings Change Notification

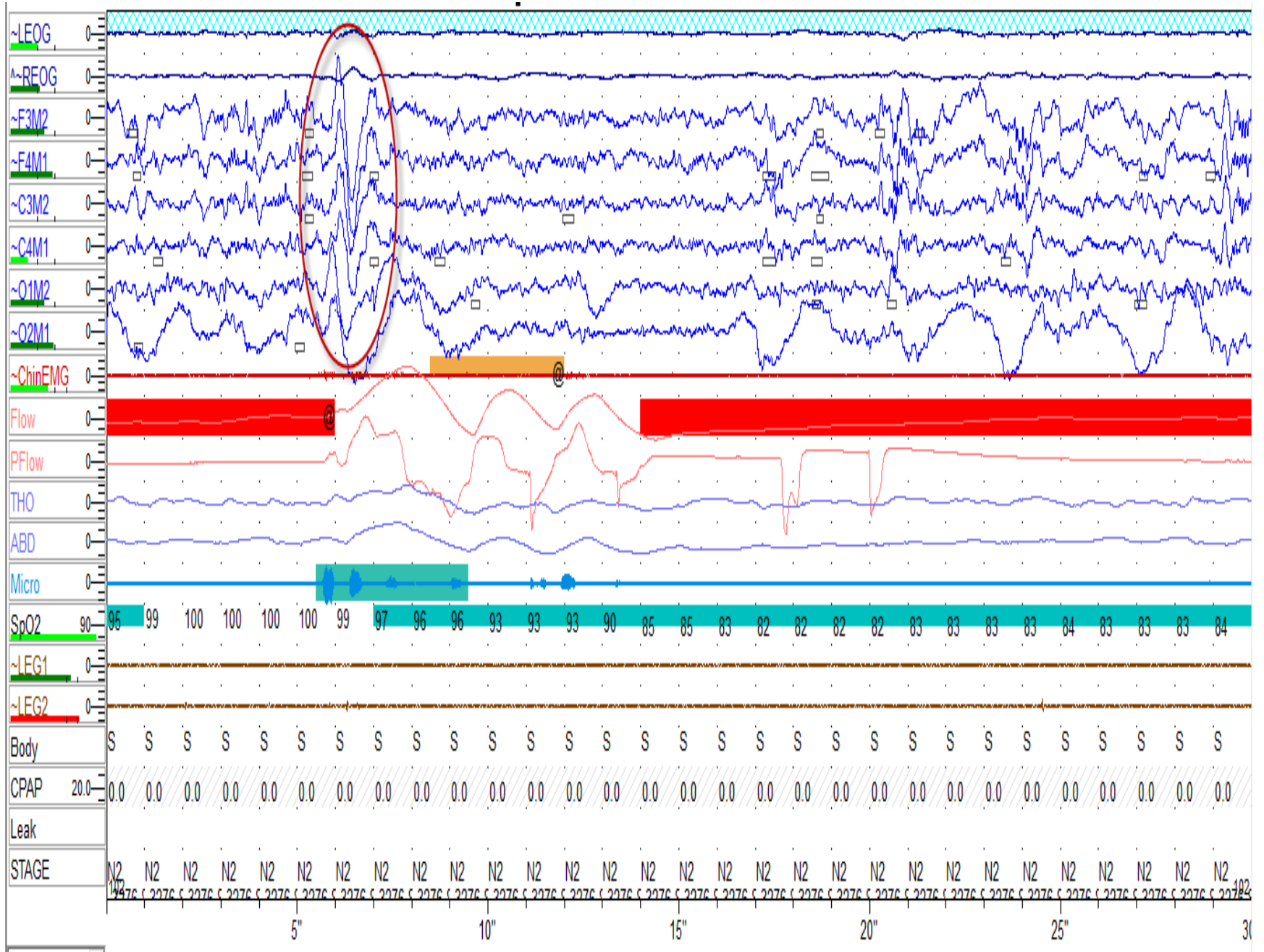
Google has blocked an attempt by another program to change your default search settings.

Vertex Sharp Wave

- Pointed waves that last <0.5 seconds (a frequency of $\geq 2\text{Hz}$) biggest in the central channel and large enough to stick out from the background.

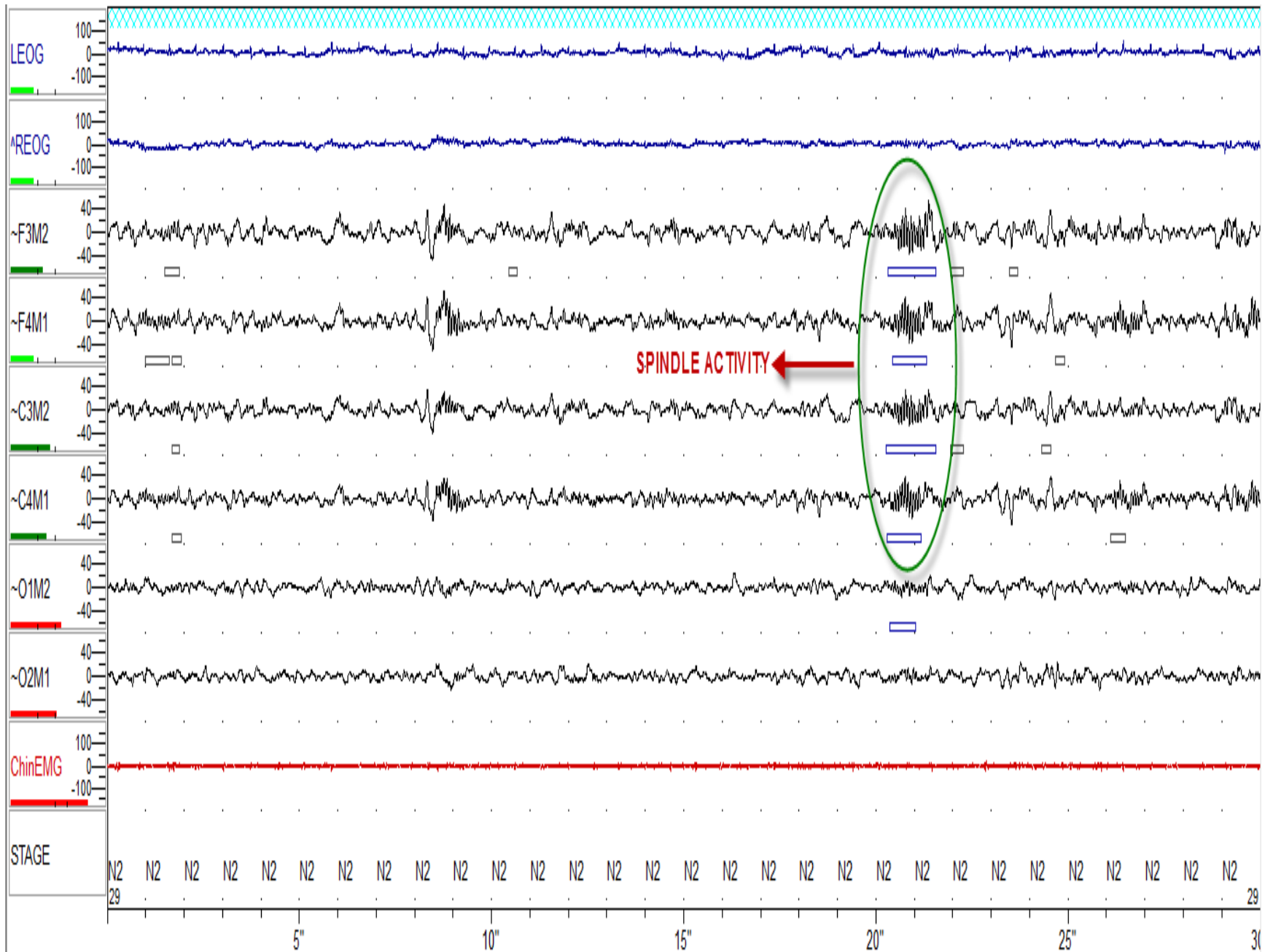
K-Complex

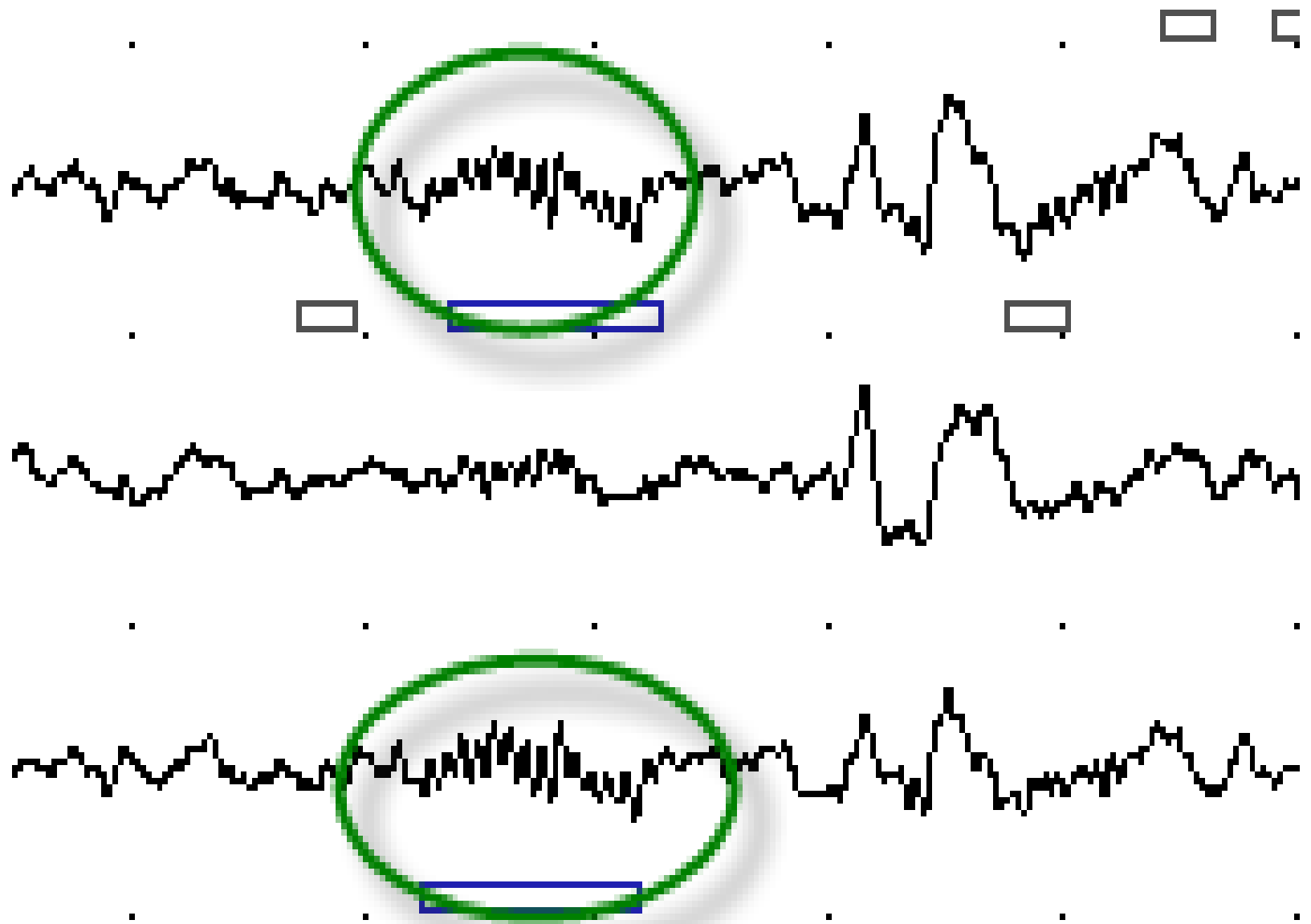
- A negative (upward) sharp wave followed by a positive wave sticking out from the background EEG that lasts ≥ 0.5 seconds, usually biggest in the frontal channel



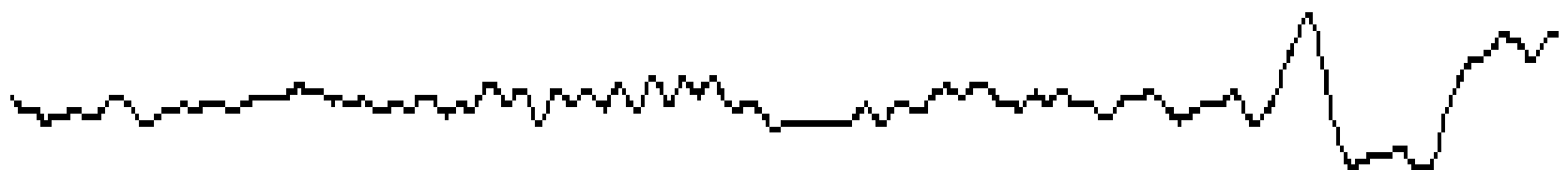
Sleep Spindle

- A series of waves at 11-16 Hz lasting ≥ 0.5 seconds biggest in the central channel.



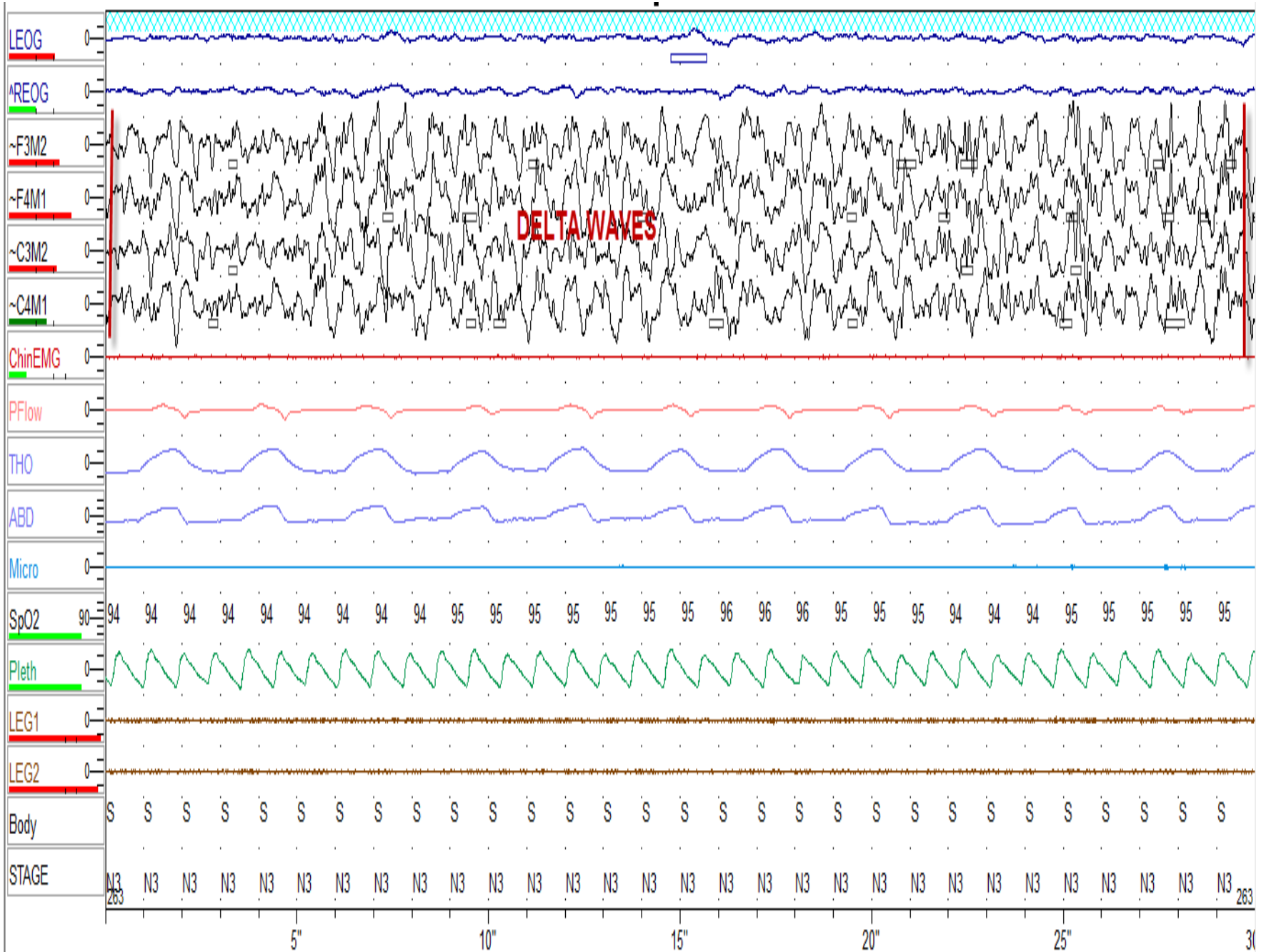


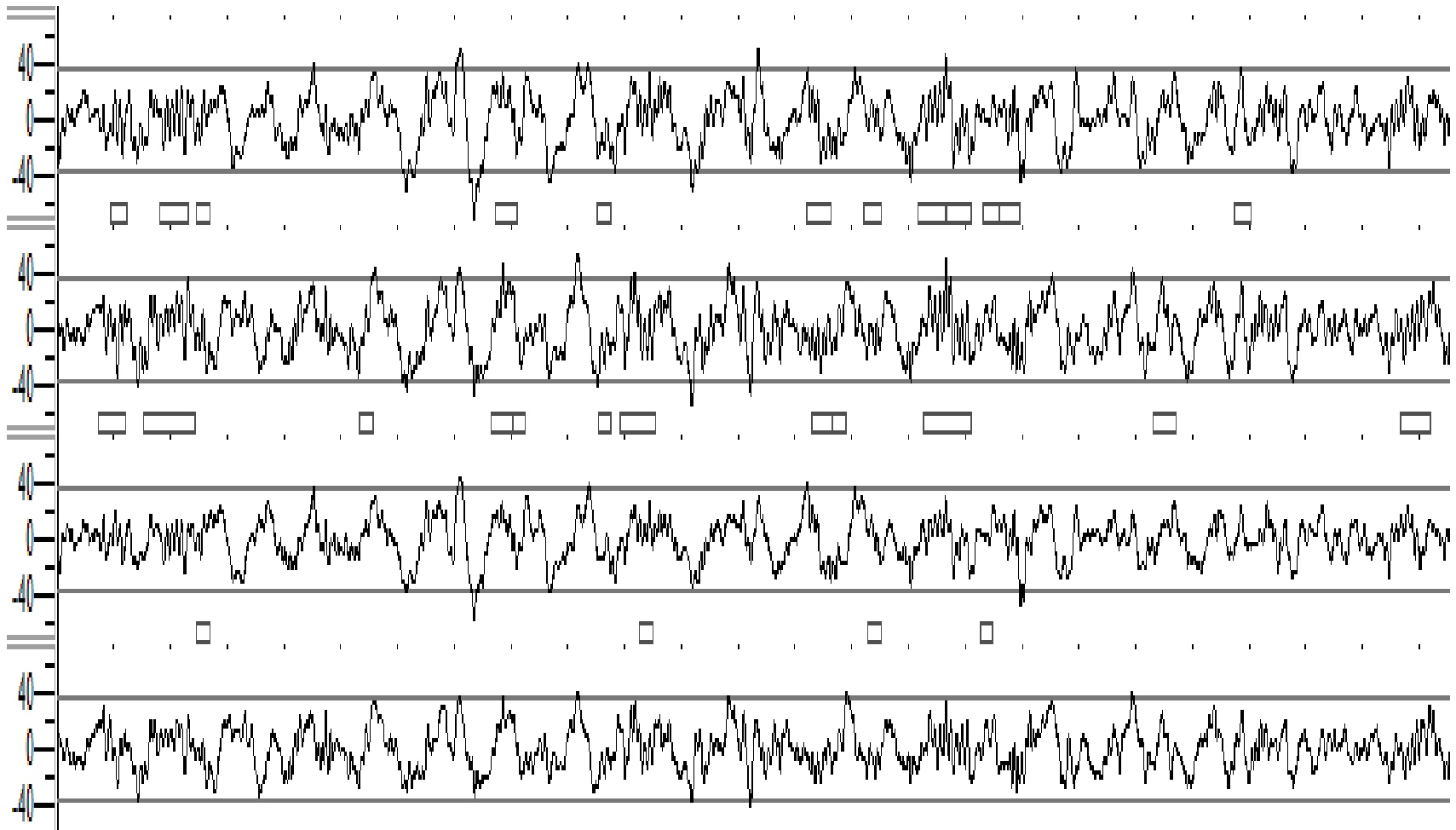
1 2 3 4 5 6 7 8 9 10 11 12



Delta Waves

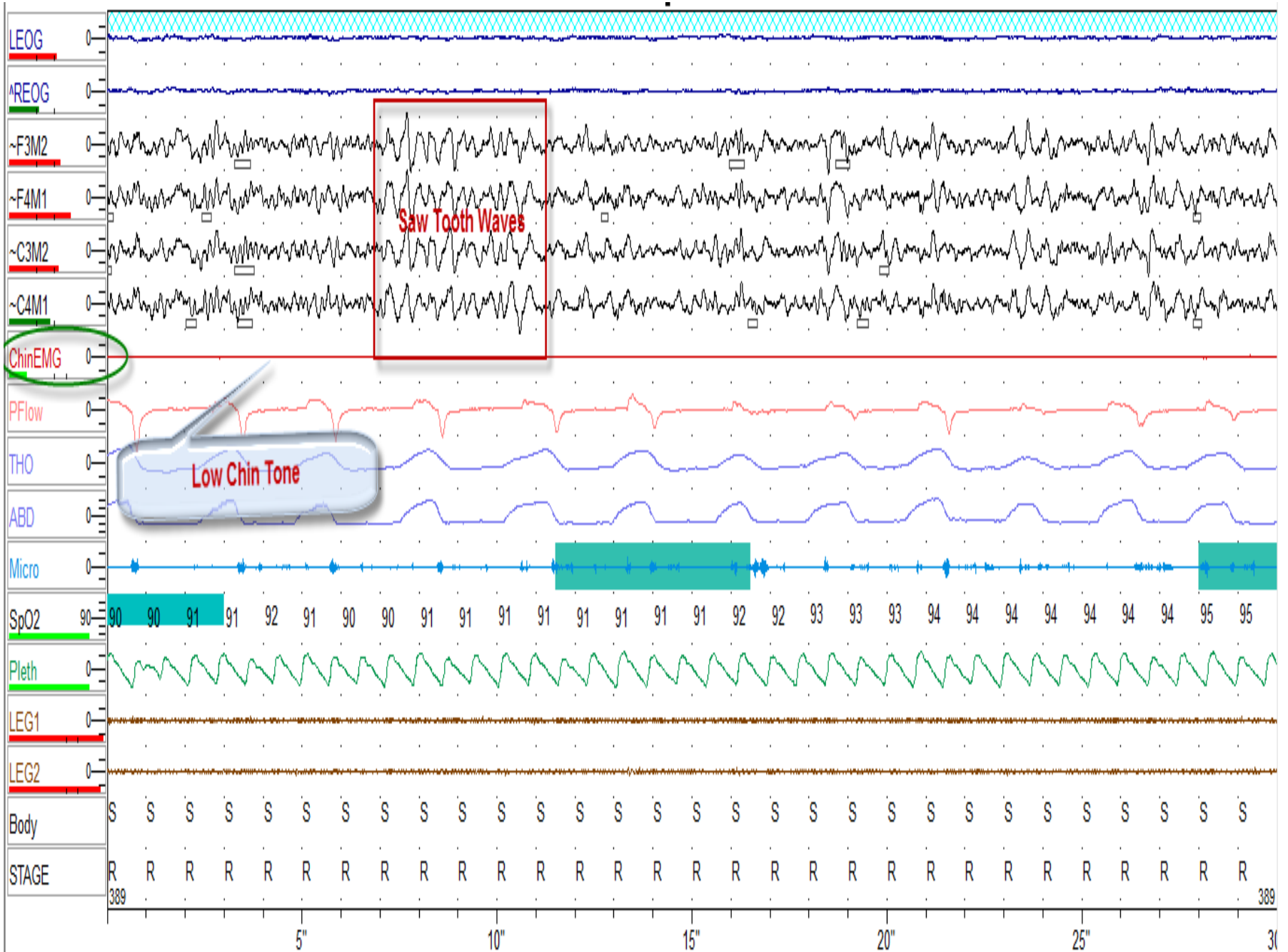
- slow wave (0.5-2 Hz and $> 75 \mu\text{V}$) EEG activity over the frontal regions



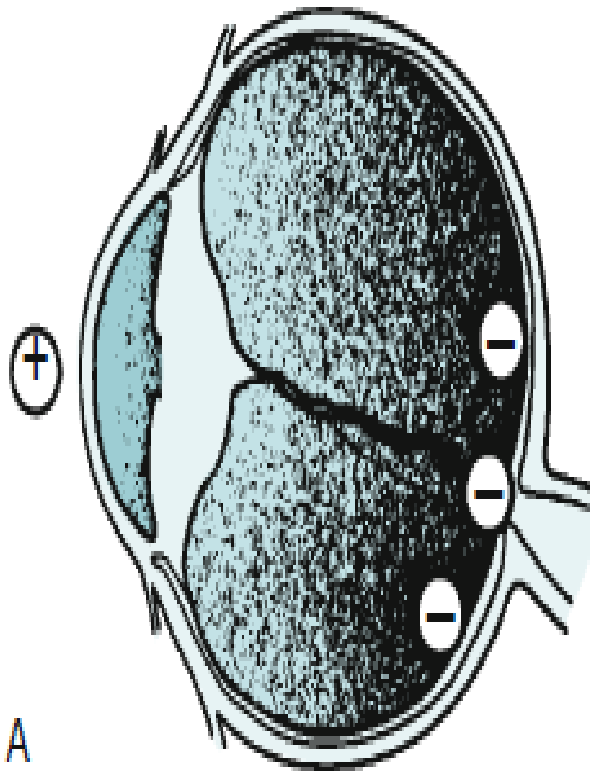


Saw Tooth Waves

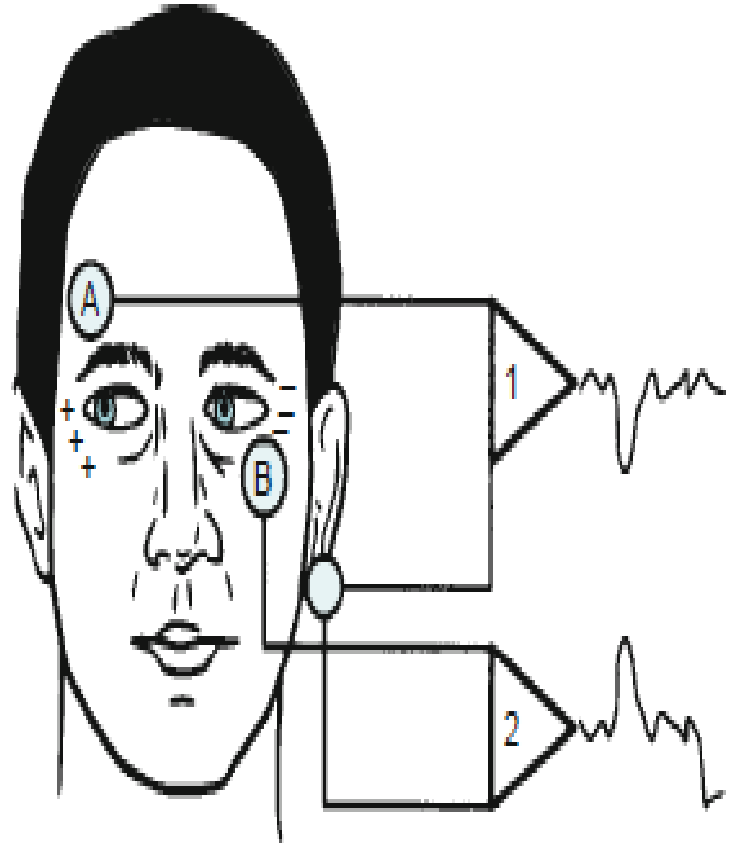
- Waves that look like the teeth of a handsaw, 2-6 Hz, biggest in the central channel. They are often seen just before a burst of rapid eye movements



EYE MOVEMENTS

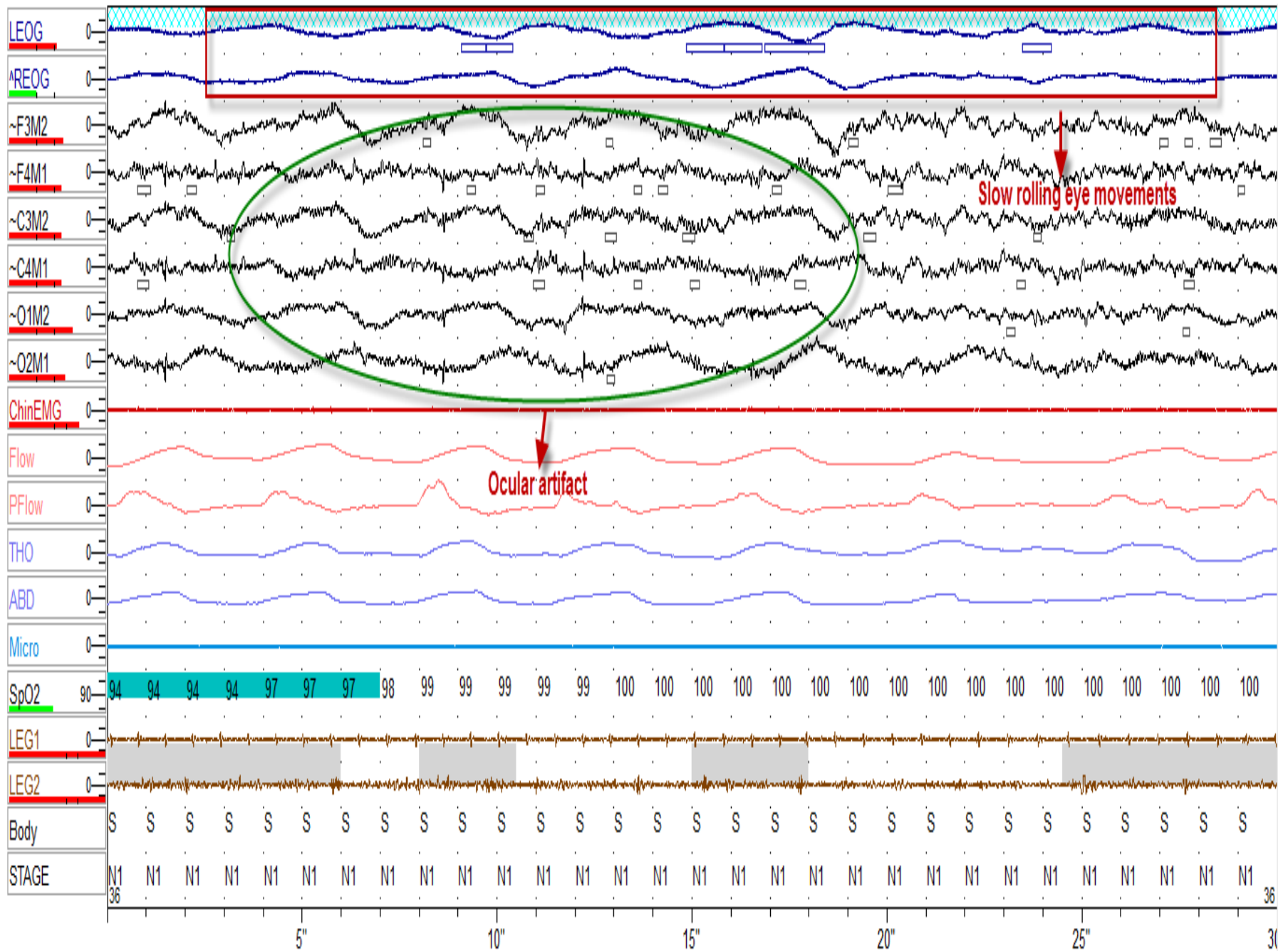


A



B

- Slow Eye Movements (SEM) - Conjugate, reasonably regular, sinusoidal eye movements with an initial deflection usually lasting >500 msec.

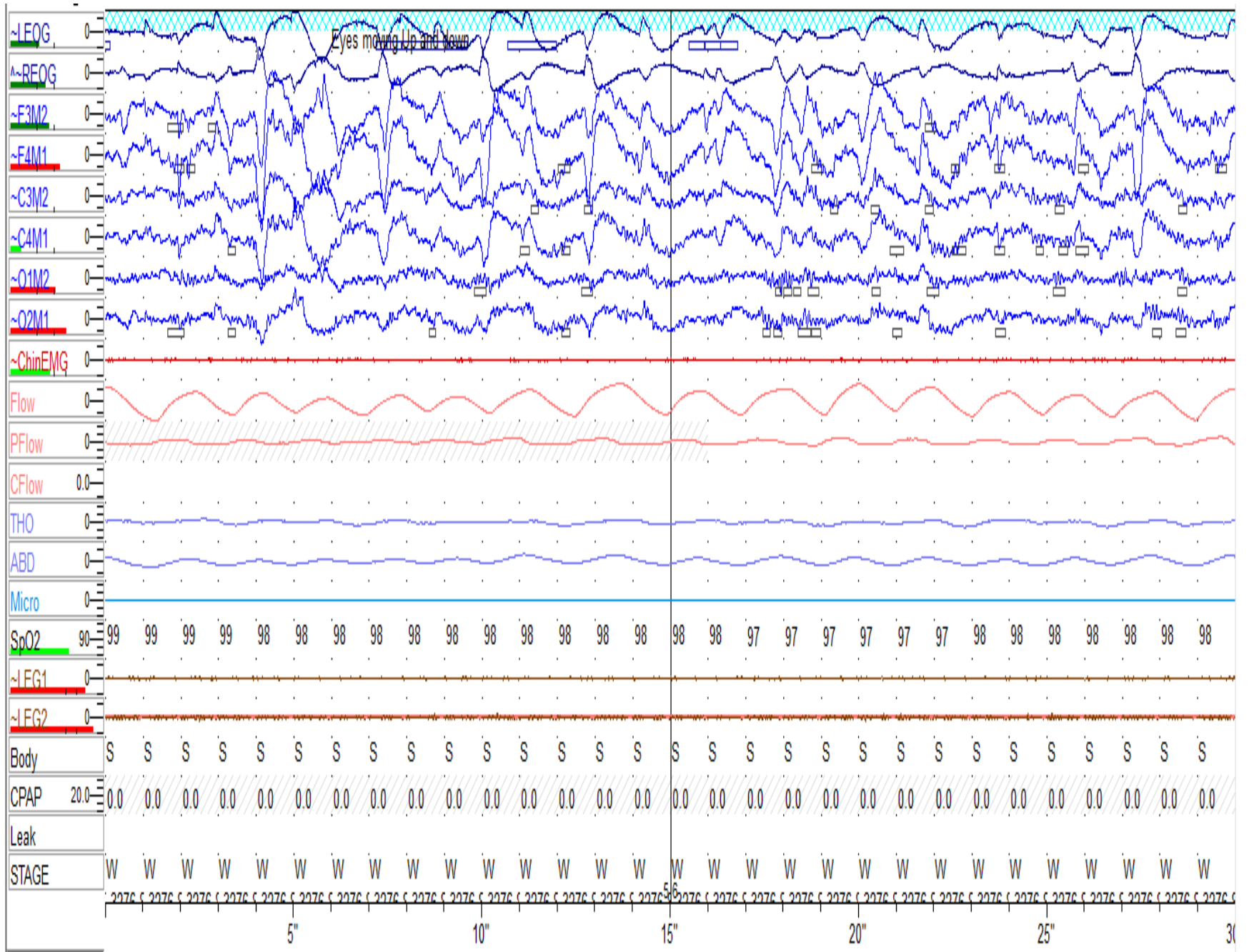


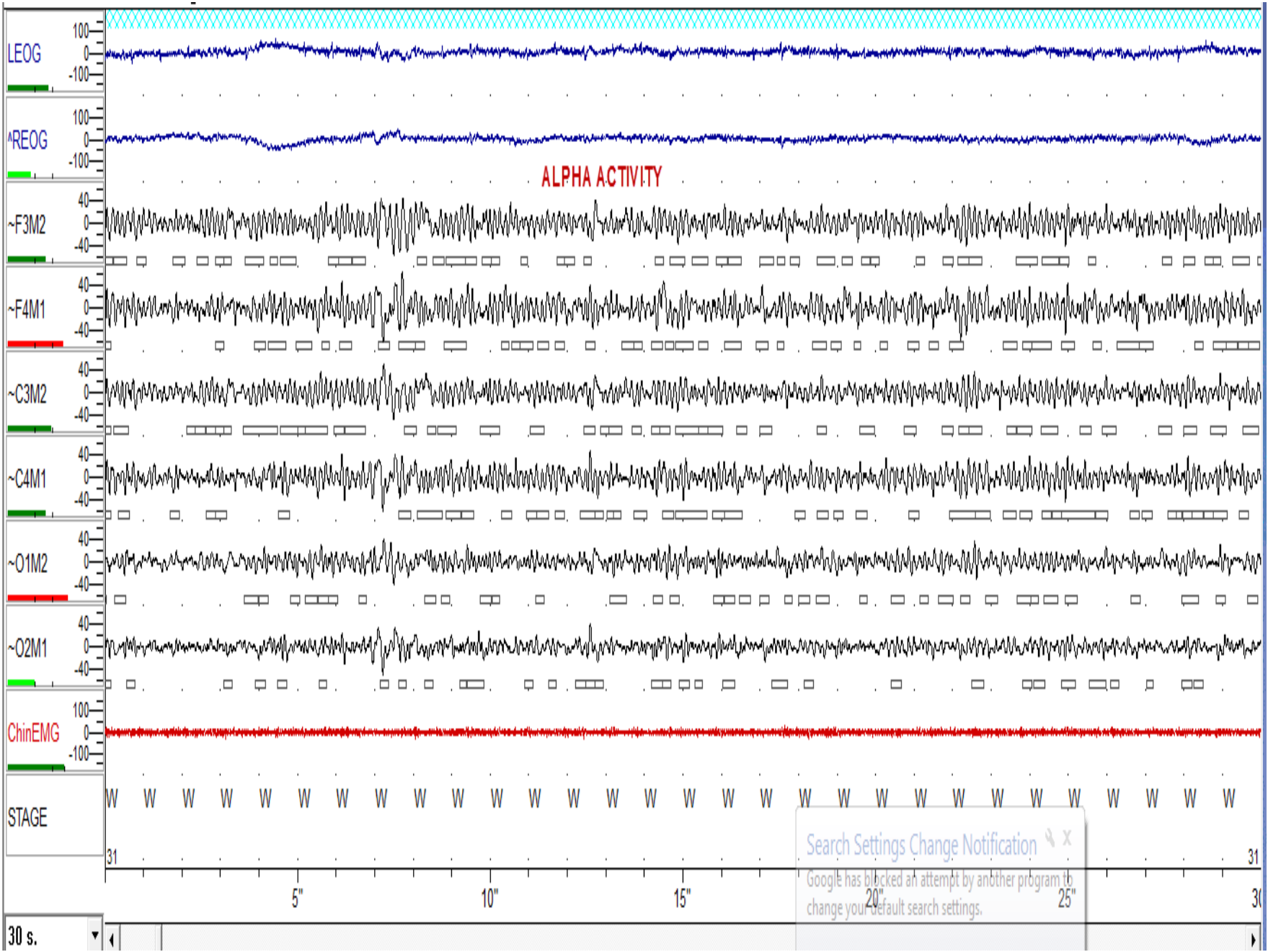
Reading Eye Movements –

- Trains of conjugate eye movements consisting of a slow phase followed by a rapid phase in the opposite direction as the subject reads

Rapid Eye Movements (REM) –

- Conjugate irregular, sharply peaked eye movements with an initial deflection usually lasting <500 msec. while rapid eye movements are characteristic of stage R sleep, they may also be seen in wakefulness with eyes open when subjects scan the environment.





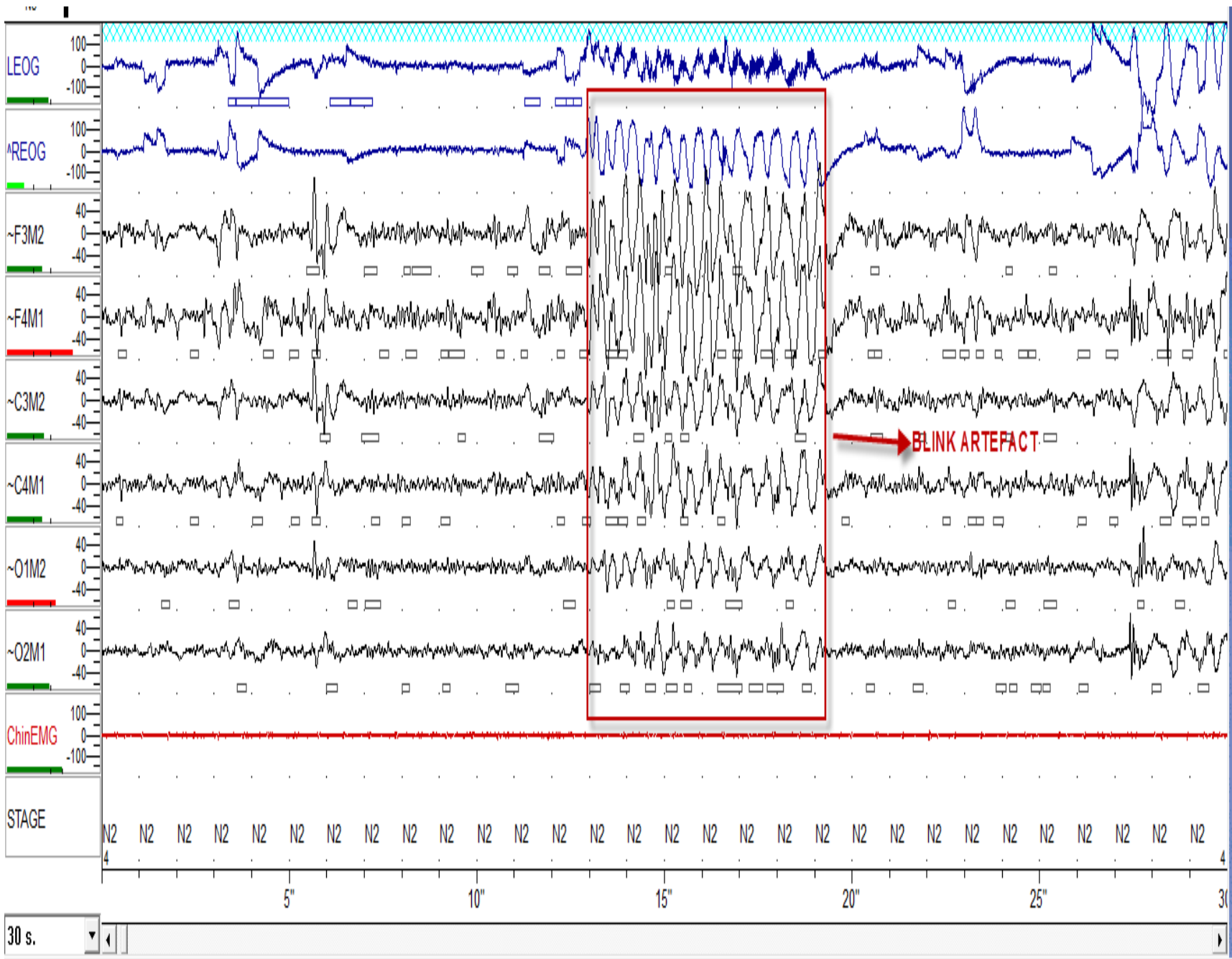
ALPHA ACTIVITY

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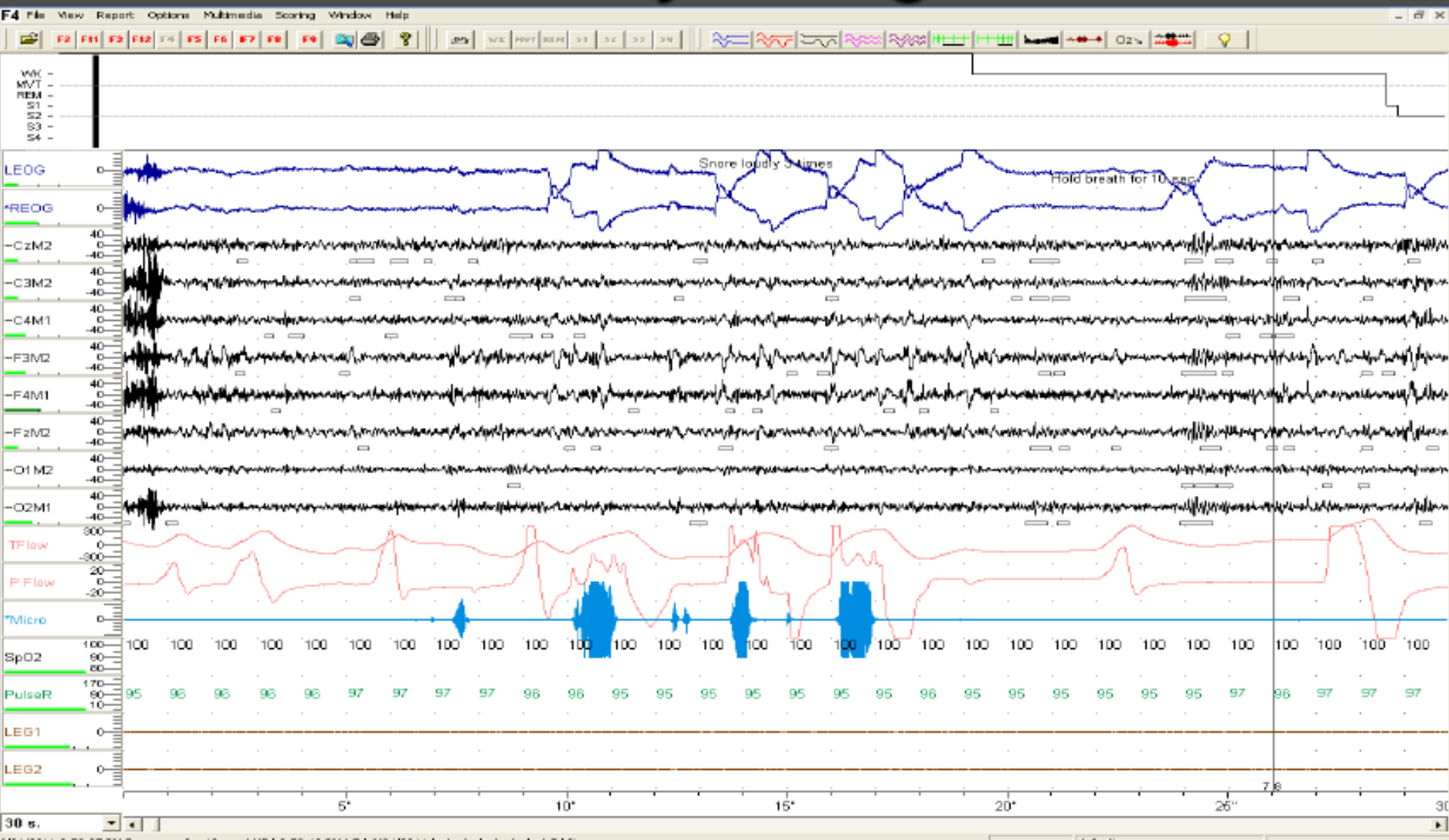
Eye Blinks –

- Conjugate vertical eye movements at a frequency of 0.5-2 Hz present in wakefulness with the eyes open or closed.

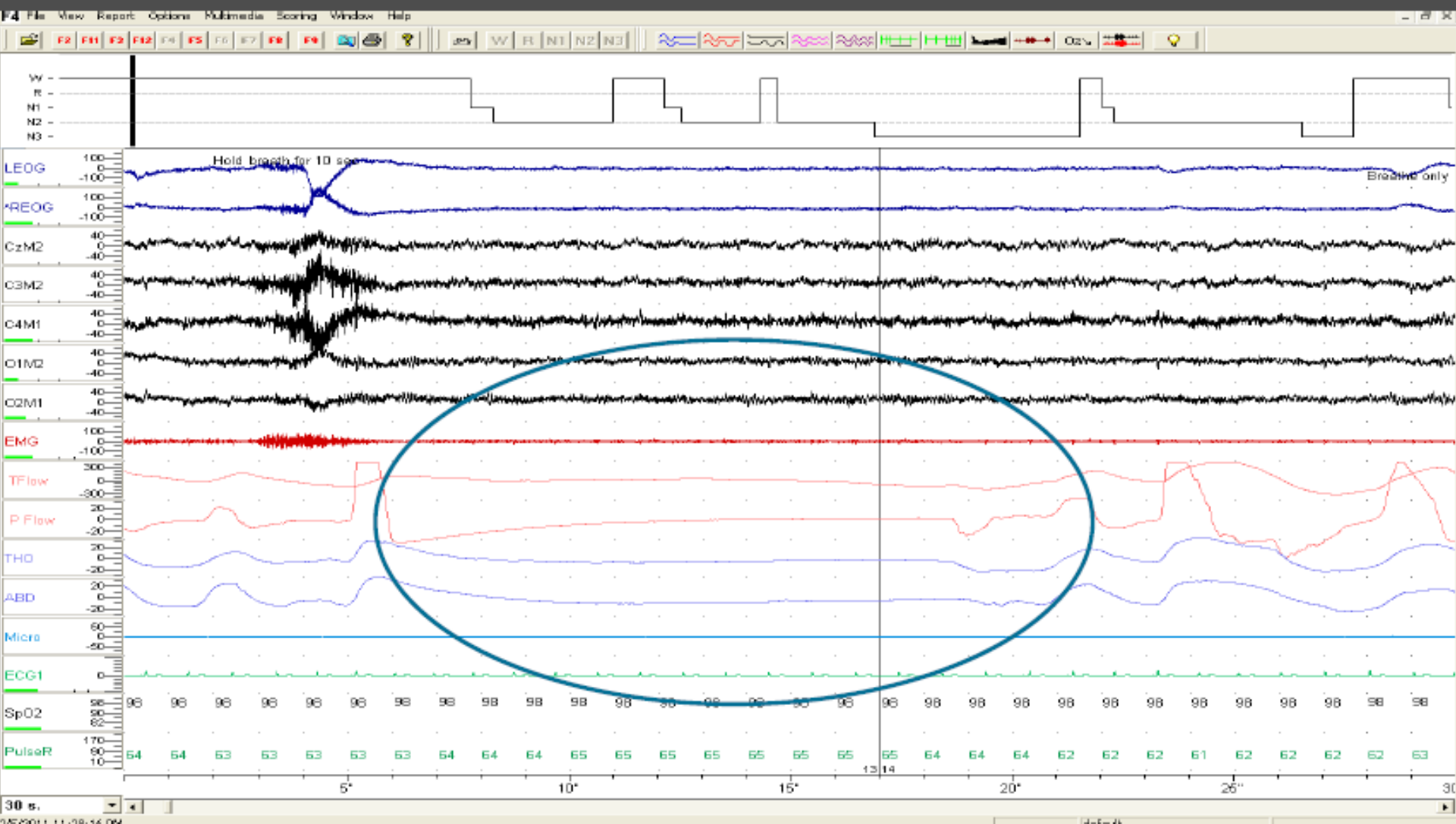


BIO-CALIBRATIONS

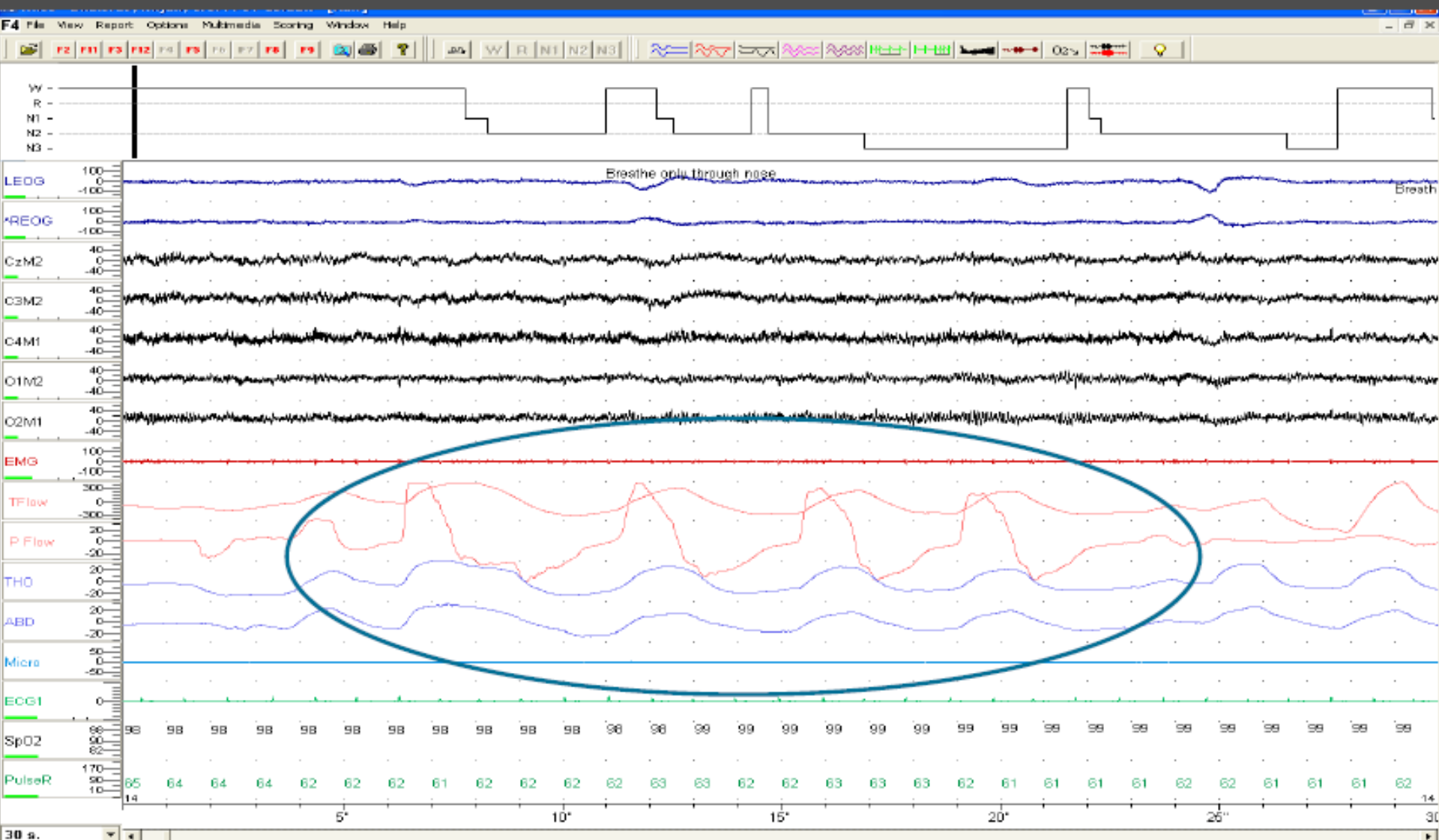
Snore loudly 3 times/Say 1,2,3 loudly/Cough



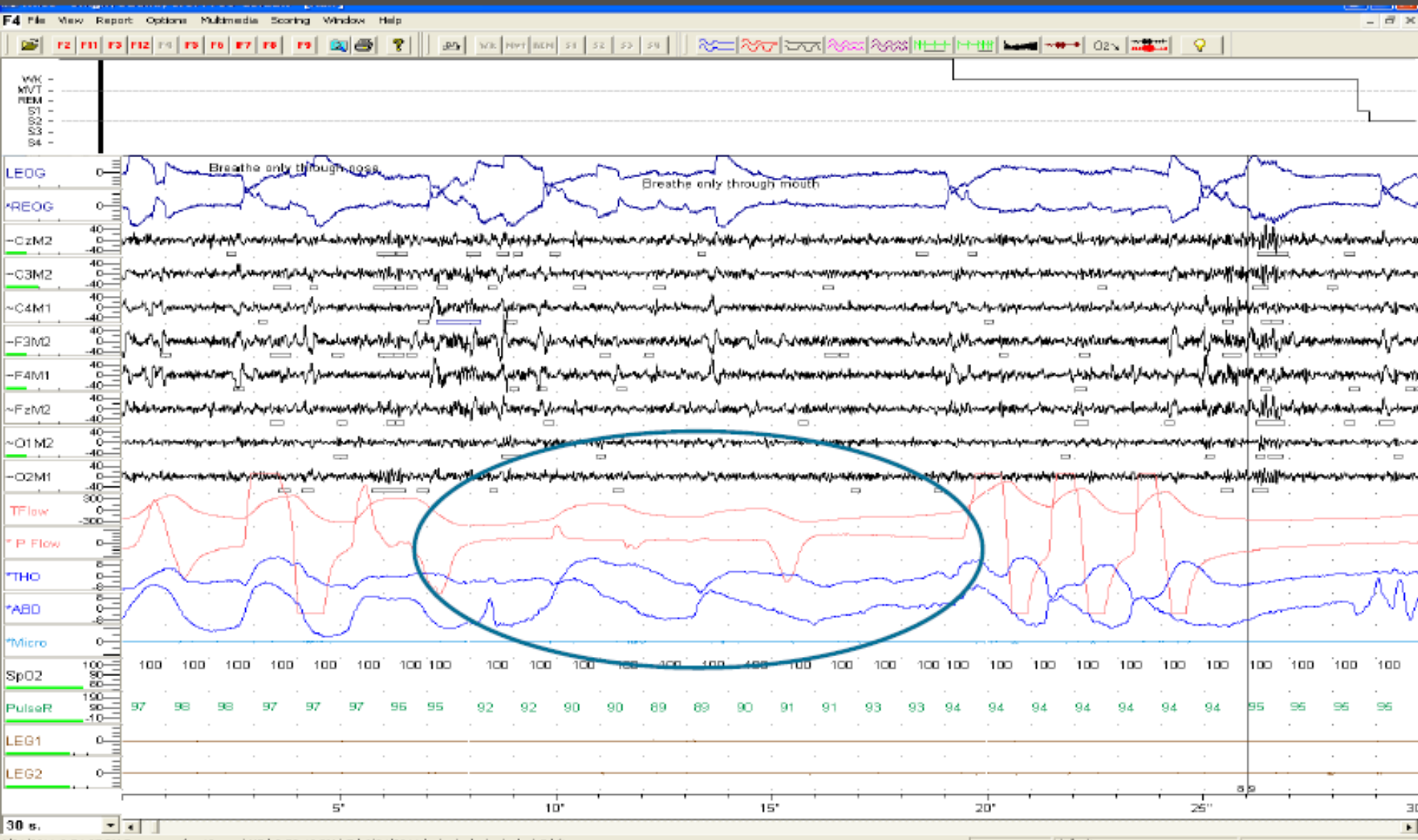
Kindly hold your breath for 10 seconds.



Kindly just breath through your nose



Kindly breath through your mouth.



Hold your breath and push your stomach in and out.

