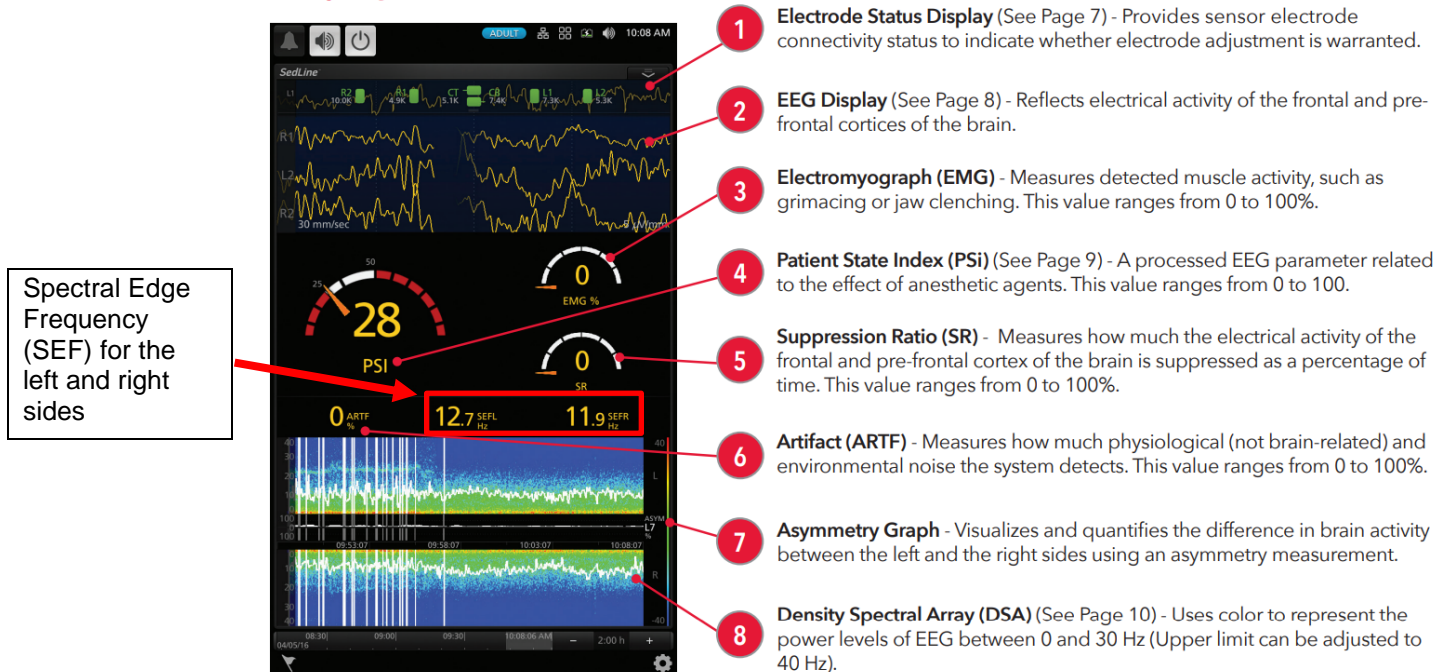


- 1) Swab the forehead twice with alcohol swabs to clean the skin prior to electrode placement.
- 2) Place the EEG and obtain a waveform prior to induction.
- 3) Monitor Setup:

a. The default monitor set up should display all of the parameters described below

Display Window



- b. **EEG alarms:** SEDLine alarm range is set to low/high limits of 25/50 for PSi (Patient State Index) by default.
- c. **Ensure that relevant parameters are being displayed:** The PSi (Patient State Index), ARTF (Artifact), SR (Suppression Ratio), EMG (Electromyographic Strength), SEF (Spectral Edge Frequency 95%) and DSA (Density Spectral Array).

** EEG waveform reflects changes in patients' hypnotic state much more rapidly than processed EEG parameters **

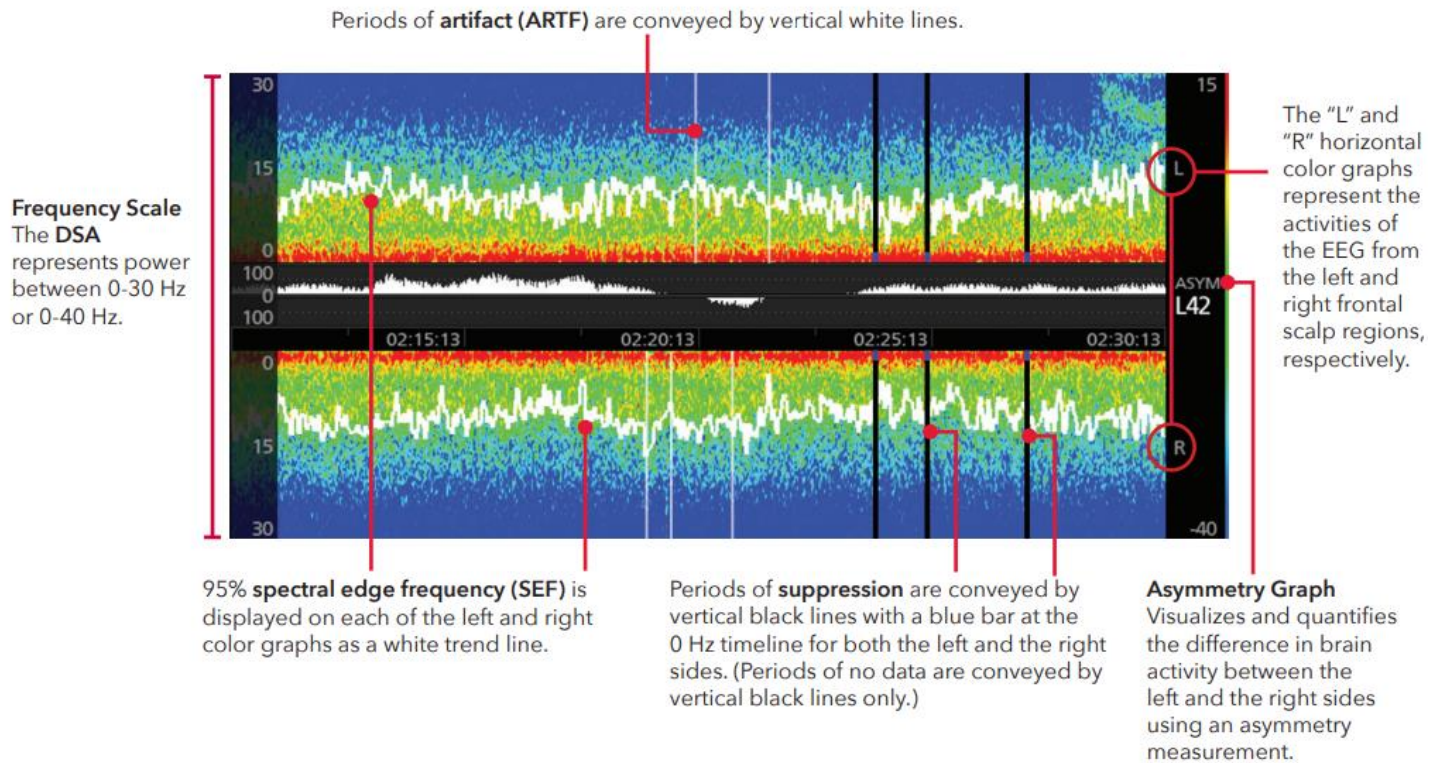
4) EEG waveform nomenclature and frequency ranges:

- **Delta:** 1 - 4 or 0 - 4 Hz; **Slow delta:** <1 Hz
- **Theta:** 4 - 8 Hz
- **Alpha:** 8 - 12 Hz (Mu)
- **Beta:** 12 - 30 Hz (or 14 - 30 Hz); **Low beta:** <20 Hz; **High beta:** 20 - 30 Hz
- **Gamma:** >30 Hz (to 100s Hz)
- **Sigma:** 12 - 14 Hz; frequency band for sleep spindles during physiological sleep

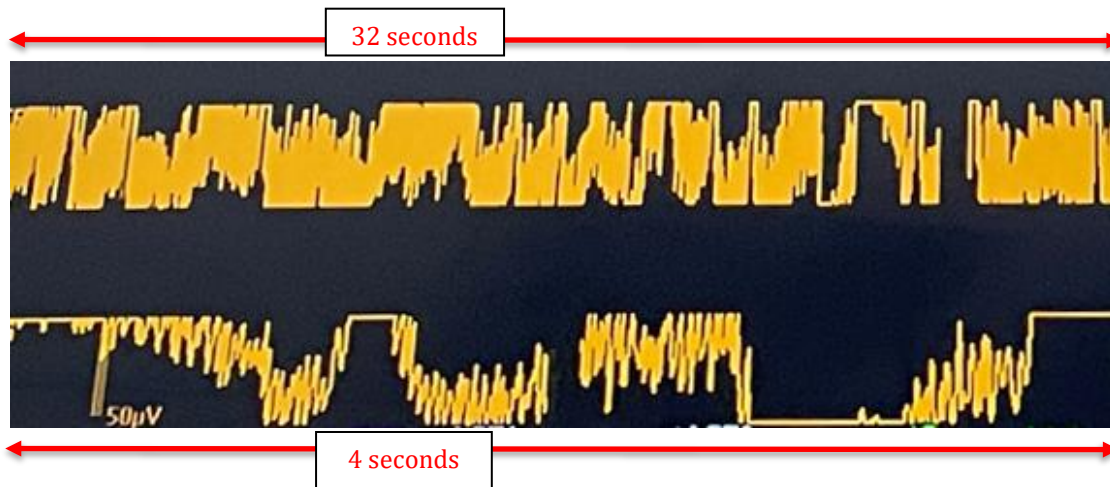
5) **Spectral Edge Frequency (SEF) interpretation:**

- SEF = frequency below which 95% of the total power of the patient's EEG is located
- SEF $\leq 12\text{Hz}$ is consistent with general anesthesia and low likelihood of awareness

6) **Density Spectral Array (DSA) interpretation:**

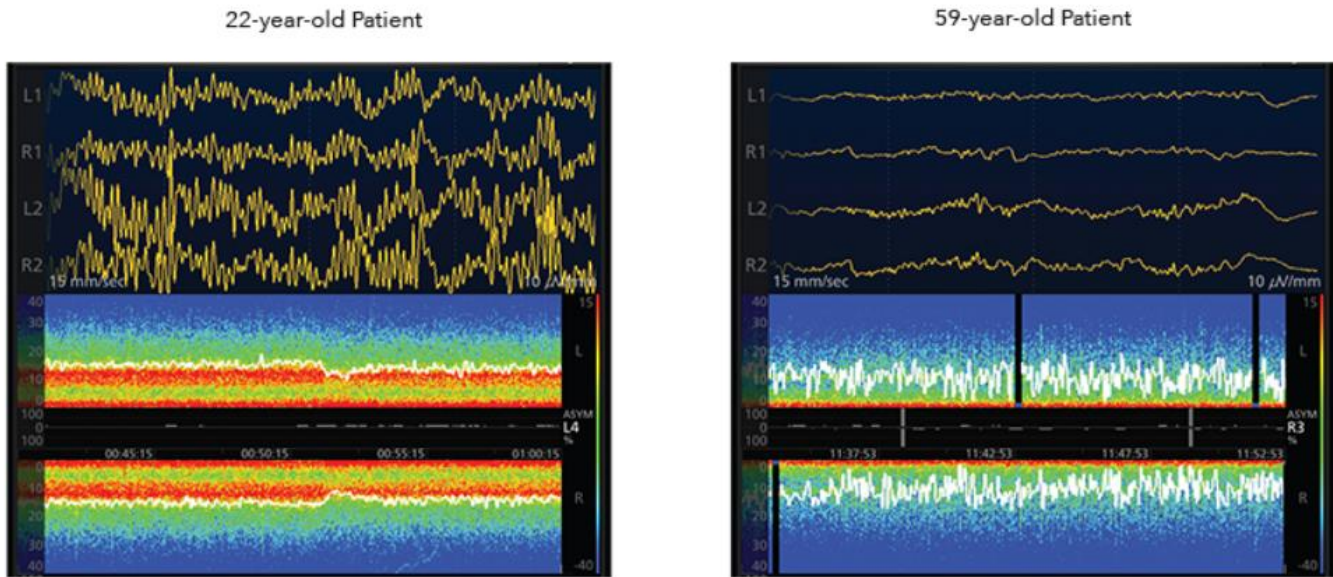


7) **EEG of the awake patient:** Dominated by high frequency (i.e., high beta and gamma) activity, usually of low amplitude, producing a fuzzy-appearing wave on the faster 25-50 mm/s tracing. High-frequency, high-amplitude activity (EMG) and periodic high-amplitude deviations (from blinking) may be observed.



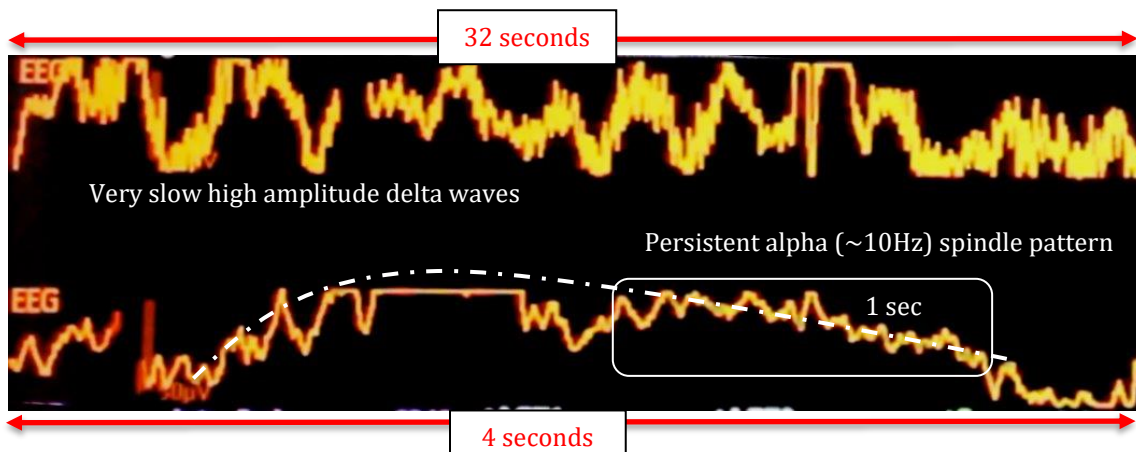
8) **EEG during general anesthesia:** A pattern of slow delta waves (<1 Hz) coupled with alpha spindles (8-12 Hz) is often desired. There should be an absence of high beta (20-30 Hz) waves and absence of any periods of burst suppression.

- Waves in the alpha (8-12 Hz), theta (4-8 Hz) or low beta (12-20 Hz) frequency ranges, often termed spindles, may not be prominent in older patients with cognitive impairment

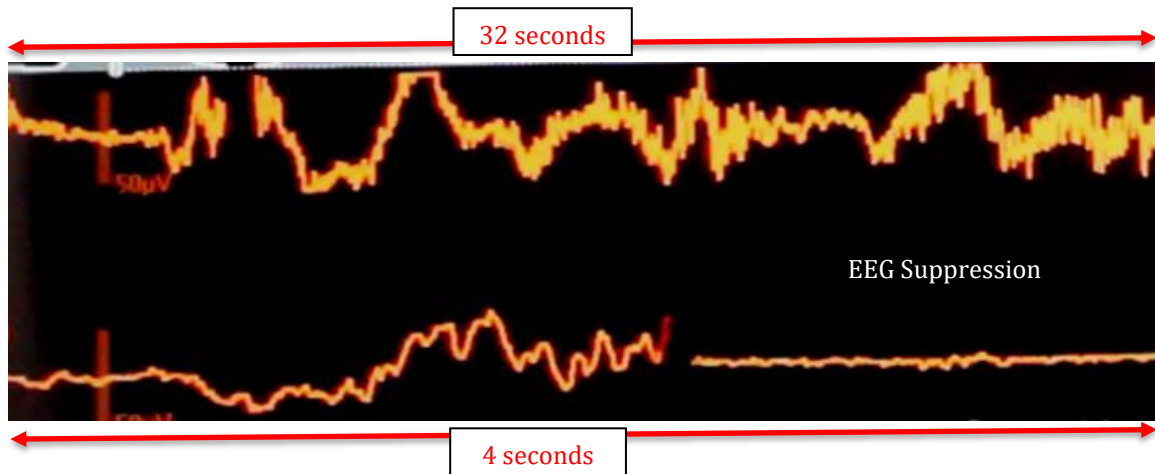


The subjects above were administered Propofol and were in a comparable anaesthetic state.⁵

- Zoomed in EEG waveform demonstrating slow waves in the delta range (~1 Hz) and spindle pattern consistent with general anesthesia, the dotted white trace demonstrates waves in the slow delta range:



- 9) **EEG suppression:** Any flattened interval on the EEG tracing (EEG suppression) indicates excessive anesthetic depth or suggests the presence of other suppressive stimuli (e.g., cerebral ischemia).



- 10) **Do not throw away the cables**, only the patient sticker is disposable. If this is a THRIVE study patient, please page the study coordinator at: 30227 to pick up the SEDLine monitor.