3 Causes of aEEG Asymmetry

5 Minute Friday
April 24, 2014

One pair of sensors = One channel of aEEG

Created from the LEFT & RIGHT hemispheres

More than one pair = More than one channel

aEEG Pattern Symmetry

Can only see with 2-channels
aEEG Pattern Asymmetry

The Causes of asymmetry can be:
• Extra-Cerebral – Artifacts
• Mechanical/Technical Issues
• Focal Cerebral Injury

Can only see with 2-channels

EMG Artifact (Muscle) – Fast and Fuzzy (Seen during Crying, Shivering, Sucking)

High Frequency Ventilation (Artifact)
HFV artifact can be isolated to one side

Transient unilateral low voltage

Electrical Short (Touching Electrodes)

Electrical Short (Hydration)

aEEG- activity resolved to normal after correction of the electrodes position
Fluid Accumulation (i.e. Edema)

Visible on a 2-Channel aEEG tracing

Not visible on a 1-Channel aEEG tracing

Neonatal-Perinatal Stroke

- Up to 1:3,000 live births
- Greatest lifetime risk is the first week of life
- 2nd most common cause of seizures in the neonate (after HIE) but often overlooked
  - Some are not identified for months
- 30% develop CP and/or developmental delay
- 40-50% of strokes are unilateral (or focal)
- Seizures are a very common symptom (95%) of focal infarction; especially in an otherwise well newborn

Asymmetry of Electrical Activity
Secondary to Unilateral Cerebral Insult

Visible on a 2-Channel aEEG tracing