5 MINUTE FRIDAY
Artifacts and Annotations – Part 1
June 20, 2014

Sources of EEG Artifacts

**Physiologic**
- *Biologic signals or activities within* the body that affect the EEG but do not originate within the cerebral cortex
- Examples:
  - ECG
  - Respirations
  - Movements
  - others

**Non-Physiologic**
- *Non-biologic signals from outside* the body that affect the EEG.
- Examples:
  - Patting the baby
  - Chest PT
  - Electrode pops
  - Mechanical ventilators
  - ECMO
  - others
History

- Former 28 week infant, now 36 weeks
- Frequent A's and B's? Reflux? Seizures
- aEEG Requested
- Infant feeding around 2:30, 5:30, 8:30

Are you suspicious for seizures?

- Former 28 week infant, now 36 weeks
- Frequent A's and B's? Reflux? Seizures
- aEEG Requested
- Infant feeding around 2:30, 5:30, 8:30
Are you MORE suspicious now?
What is happening??

- ? Seizure or ? Artifact

- How can you figure it out??
  - Look for marked events on aEEG = none
  - Look at nursing documentation = feedings documented
  - Ask the bedside nurse
  - Observe the infant at bedside
  - Look at the bedside for potential sources of artifact

- Get a full EEG and Neuro consult to confirm your suspicions

What happened to this baby??

- pH probe and sleep study was done in the PICN – showed severe reflux and some apnea on pH study

- Re-admission to NICU after transfer to the PICN for vEEG to rule out seizures

- Overnight video EEG identified “patting” artifact

- Delayed discharge by 24 hours
What can we do different?

• MD’s and NNP’s:
  • Review the aEEG a few times a day and get real-time clarification from nursing staff on potential artifacts.
    • Consider feeding times, mode of ventilation, change in position
  • Order full video EEG for any infant with suspicious aEEG

What can we do different?

• Nurses:
  • Add annotation to the aEEG – (mark “events”, add “comments”) for cares that create rhythmic artifacts, such as:
    • Chest PT
    • Patting
    • Burping
    • Rocking
    • Infant’s sitting in a swing
  • Choose the Moberg device for aEEG – there is video to help us determine artifact vs seizures
Event Marker #17 = Patting = no EEG ordered