**INTRODUCTION:**

- Status epilepticus is the primary acute neurological emergency presenting to the paediatric emergency department.
- Optimal management requires early identification and robust pharmacological intervention.
- cEEG can contribute to accurate seizure detection and optimal treatment and can help avoid inappropriate escalation of anti-convulsant therapy.
- cEEG can be possible in a busy emergency setting.
- The use of reduced electrodes can lead to shorter application times without compromising quality.
- CAPTURE- eegCap Application in Paediatrics with reduced GCS in Resus – Feasibility Study.

**RESEARCH QUESTION:**

Can EEG be successfully applied to paediatric patients with reduced or altered consciousness in the ED within twenty minutes of arrival AND Achieve continuous high quality neurophysiological monitoring suitable to guide clinical care?

**METHODS:**

- Children less than 16.
- GCS < 11 in an otherwise well child.
- Any reduction in baseline GCS (in the case of children with significant neurodisability at baseline).

**WHO?**

**RESULTS:**

**Study Flow:**

- Patients Approached (n=25)
- Patients Recruited (n=20)*
- Excluded (n=5)
  - Declined (n=3)
  - Did not meet inclusion criteria (n=2)

**Patients Recruited (n=20)*

*2 patients recruited twice

**EEG APPLICATION**

- 100% EEGs applied within 60 minutes
- 1 EEG applied within 20 minutes
- Mean Length of recording 93.1 minutes, SD 47.4 minutes
- Mean time to application 41.3mins SD 11.7

**EEG ARTEFACT**

- Artefact was annotated on left and right channels.
- Total artefact per recording was divided by entire EEG recording duration x 2 (accounting for both channels).

**Left & Right Artefact:**

- Mean EEG artefact in all recordings = 19.3 SD(15.9)
- 65% EEGs had < 25% artefact
- 80% EEGs had < 30% artefact

**OTHER FINDINGS:**

- EEG application was less successful during active airway management procedures.
- During active resuscitation, positioning EEG machines can be challenging given the limited space available.

**CONCLUSION:**

- Early EEG monitoring can be achieved in an ED setting within one hour of presentation.
- Improvements in portable EEG recording and artefact detection software will aid in the quality of EEG recordings.

**CONTACT DETAILS:**

Carol Stephens
carol.stephens@ucc.ie