Simulation Framework

• Run “in situ” in collaboration with ED Nurse Education Leadership
  ▪ Scheduled to engage each shift
  ▪ RN Education “credit”
• When the ED is at low volume
  ▪ Initiated by calling a “Mock Seizure Alert”
  ▪ “Vocera” call to all staff on-duty (physicians, nurses, medics, pharmacists and others) to a specific room in the ED
Simulation Framework

- We work in real time, using the trauma clock as a marker:
  - High fidelity mannequin
  - Brief, real-life, varied scenarios
  - Synergy with clinical training and SE QI
- Interactive Q&A / debriefing
- Follow-up summary and thank you email
Simulation Numbers

• 11 simulations (10/12/2015 – Present)
• 82 attendees, including:
  - 31 RNs
  - 15 Researcher Team Members
  - 12 Physicians
  - 11 Other*
  - 10 Pharmacists
  - 3 Respiratory Therapists

*Includes medics, patient transportation, unit clerks, etc.
Impact

• Increases research visibility in the ED
• Reviews knowledge of ESETT inclusion/exclusion as well as best practices
• Allows for questions to be answered in real time
  ▪ This has helped us tailor our training and processes
• Provider awareness of the ESETT study
  ▪ Those attending simulations are more likely to call the research team if a seizing patient presents in the ED
Lesson Learned

• Outstanding team building
• Excellent synergy
• Sims feel like “geologic time” ~awkward?
• Not all that time consuming
• Thus far, not traction for seizure alerts…
• Metrics may be useful
Amazing Team

- Melanie Martin, RN, MS
- ED Trauma Nurse Leaders
- EM Attendings/Fellows
- Jill Blind, PharmD, RPh
- Nicole McLeod, PharmD, RPh
- Matthew Sapko, PharmD, MS
- Andrew McClain, RPh
- Kim Shipp, PharmD, BCPS, BCPPS
- Jenny Mason, PharmD, BCPPS

- EM Research Team
- Cindy Lin, BS
- Patricia Capone, BS
- Amber Kihm, BS
- Kelsey Ryan, BS
- Jessica Saunders, BA, MACPR
- Erin Fisher Kenny, BFA
Questions?
ESETT Nurse Checklist

• Start timer on the wall as soon as actively seizing patient arrives to the room
• Verify that patient is between 2 and 17 years
• Check for an opt-out bracelet. Verify opt-out in ‘ESETT box’ or in chart on Epic:
  o Snapshot→Specialty Comments
• Call pharmacy to the room: Ask pharmacist to bring the ‘ESETT box’ for a seizing patient
  o If pharmacist is not present, get the ‘ESETT box’ from the Green Med Room refrigerator.
• Verify Inclusion/Exclusion criteria
• Med administration:
  o Confirm the study drug number printed on the label of the vial
  o If pharmacist is not present, calculate weight-based infusion rate from dose administration chart
  o Give medication via syringe using a med infusion pump over 10 minutes. Depending on the size of the dose, drug may be split equally between 2 syringes and both must be given. The infusion pump will need to be self-programmed: Program for volume over time
  o If pharmacist is not present, start ESETT iPod as soon as medication is administered
  o Document ‘study med’ in the MAR
  o After the 10 minutes of infusion, discontinue drug
  o Monitor patient for 10 more minutes prior to using alternate therapy
• Chart in Epic

ESETT Patient/Questions: Please Vocera “ED Research Coordinator” or call a site investigator.

ESETT HOTLINE: 1-855-ESETT-PI (373-8874) for un-blinding emergencies (if iPod is unavailable/malfunctions)
ESETT Note

"ID" who was enrolled in ESETT for established status epilepticus. Adequate benzodiazepines were given. The patient did not have an opt-out bracelet and was not on the opt-out lists. The patient met inclusion/exclusion criteria.

At 20 minutes post start of study drug:
1. There **were/were not** any clinically apparent seizures.
2. The patient **was/was not** responsive to verbal or noxious stimuli

At 60 minutes post start of study drug:
1. There **were/were not** any clinically apparent seizures.
2. The patient **was/was not** responsive to verbal or noxious stimuli

Richmond Agitation-Sedation Scale at 60 minutes: **X**
RASS: <<<4, +3, +2, +1, 0, -1, -2, -3, -4, -5>>. (See below for scale)

ESETT Study Medication:
Estimated weight at time of infusion: >>> kg
Start Time of ESETT Medication: ***
End Time of ESETT Medication: ***
The total infusion volume was >>> ml.
The study drug infusion rate was >>> ml/hr.

Additional anti-epileptic drugs **were/were not** received before study completion at 60 minutes. See MAR for further details.

Safety Monitoring:
Intubation required during enrollment: [Y/N 17494]
Anaphylaxis experienced during enrollment: [Y/N 17494]
Hypotension experienced during enrollment: [Y/N 17494]

RASS Scale:

<table>
<thead>
<tr>
<th>Score</th>
<th>Term</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>+4</td>
<td>Combative</td>
<td>Overly combative, violent, immediate danger to staff</td>
</tr>
<tr>
<td>+3</td>
<td>Very agitated</td>
<td>Pulls or removes tube(s) or catheter(s); aggressive</td>
</tr>
<tr>
<td>+1</td>
<td>Agitated</td>
<td>Frequent non-purposeful movement, fights ventilator</td>
</tr>
<tr>
<td></td>
<td>Restless</td>
<td>Anxious but movements not aggressive, vigorous</td>
</tr>
<tr>
<td>0</td>
<td>Alert and calm</td>
<td></td>
</tr>
<tr>
<td>-1</td>
<td>Drowsy</td>
<td>Not fully alert, but has sustained awakening (eye-opening/eye contact to voice (&gt;10 seconds))</td>
</tr>
<tr>
<td>-2</td>
<td>Light sedation</td>
<td>Briefly awakens with eye contact to voice (10 seconds)</td>
</tr>
<tr>
<td>-3</td>
<td>Moderate sedation</td>
<td>Movement or eye opening to voice (but no eye contact)</td>
</tr>
<tr>
<td>-4</td>
<td>Deep sedation</td>
<td>No response to voice, but movement or eye opening to physical stimulation</td>
</tr>
<tr>
<td>-5</td>
<td>Unarousable</td>
<td>No response to voice or physical stimulation</td>
</tr>
</tbody>
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