**SIMULATION SCENARIO**

|  |  |
| --- | --- |
| **CASE TITLE:** | Status epilepticus  Apnea post-benzodiazepines  Seven month old with Status Epilepticus by Dr Keith Gregoire |

|  |  |
| --- | --- |
| **TARGET LEARNING GROUP:** | Pediatric Residents |

|  |  |  |
| --- | --- | --- |
| **LEARNING OBJECTIVES:** |  |  |
| ***Knowledge:***  1. Assessment and management of ABCs in seizing patient  2. Pharmacologic Treatment of Status Epilepticus  3. Potential complications of anti-epileptic medications | |  |
| ***Skills:***  1. Bag-mask ventilation | |  |
| ***Attitudes/Behaviours:***  1. Professionalism  2. Team work  3. Communication with parents | |  |

**SCENARIO ENVIRONMENT:**

|  |  |
| --- | --- |
| ***Location*** | * Small Community Emergency Department |
| ***Monitors*** | * Cardiac, Respiratory, O2 sat |
| ***Props/Equipment*** | * Infant mannequin (Seven months old) * Medications (lorazepam, diazepam, phenytoin, Phenobarbital) * Equipment for IV, IPPV |
| ***Make-Up/Moulage*** | * None |
| ***Multi-Media*** | * None |
| ***Personnel*** | * See page 6 |
| ***Potential Distractors*** | * Mother is present and worried |

**INITIAL SIMULATOR SETUP:**

|  |  |
| --- | --- |
| ***Mannikin Position*** | Lying supine, seizing |
| ***Pupils***  *Size:*  *Reactivity:*  *Blinking:* | **Seizing**  **Eyes rolled back or closed** |
| ***Breathing***  *Resp Rate:*  *Resp Pattern:*  *Chest Rise:*  *Breath Sounds:*  *Airway Sounds:*  *% Cyanosis:*  *Oxygen Saturation:* | **20**  **Erratic**  **Good**  **Gurgly**  **Transmitted upper airway noise**  **98% on 2 lpm O2** |
| ***Cardiovascular***  *Heart Rate:*  *Cardiac Rhythm:*  *Blood Pressure:* | **120**  **Regular**  **90/50** |
|  |  |
|  |  |

**SCENARIO PROGRESSION:**

***Case Introduction:*** *(initial information provided to participants)*

|  |
| --- |
| * Seven month old child brought by parents from home to ER seizing for the past five minutes. |

***Available Collateral Information:*** *(information given if requested)*

|  |
| --- |
| * Previously well child. Had runny nose today. Went down for nap this afternoon and parents heard him making funny noises, so checked on him and found him having generalized tonic-clonic convulsion. They live close to hospital, so his mother bundled him up and brought him to ER. |

***The Script:*** *(Scenario flow & management outcomes)*

|  |  |  |  |
| --- | --- | --- | --- |
| **Scenario Transitions**  **& Evolution** | **Effective Management** | **Ineffective Management** | **Notes** |
| 1. Arrival | Call for help. Attach to monitors. Ensure airway stable. Provide 100% O2. Assess circulation. | Failure to assess and manage ABCs |  |
| 2. Establish IV access requires 2 attempts and 60 to 90 seconds | Start treatment with rectal lorazepam, intranasal or sub-lingual benzodiazepine | Immediate IO insertion. Postponing treatment awaiting iv |  |
| 3. IV established, second dose benzo given. Continues to seize | Start infusion (phenytoin or phenobarbital). | Pushing either medication (rather than infusing). | If phenobarb pushed, go to 5.  If phenytoin pushed, either patient goes hypotensive and/or the scenario is stopped. |
| 4. Patient continues to seize | Third dose of benzodiazepine. Prepare alternative medication(s). |  | Seizure then stops |
| 5. Patient has apneic event with desaturations | Support with good airway positioning and effective IPPV | Ineffective bagging. Immediate intubation. Use of flumazenil. Failure to recognize patient needs ongoing monitoring. | After 30-60 seconds of bagging, patient resumes normal respirations; drowsy |

**INSTRUCTIONS FOR PERSONNEL:**

|  |  |
| --- | --- |
| ***Personnel A***  *(specify role)* | * **Triage Nurse**   **Initially receives the child at arrival** |
| ***Personnel B***  *(specify role)* | * **Emerg Physician**   **Present in ER** |
| ***Personnel C***  *(specify role)* | * **Emerg nurse(s) 1-3**   **Available to help with care if called** |
| ***Personnel D***  *(specify role)* | * **Parent (PLANT)**   **Brings child to triage, explains the situation. Asks “Why is he still seizing? Can’t you make it stop?” (et cetera) a few times.** |

**SUGGESTIONS FOR DEBRIEFING:** *(Link to Objectives)*

|  |
| --- |
| ***Knowledge:***  1. Assessment and management of ABCs in seizing patient  2. Pharmacologic Treatment of Status Epilepticus  3. Potential complications of anti-epileptic medications |
| ***Skills:***  1. Bag-mask ventilation |
| ***Attitudes/Behaviours:***  1. Professionalism  2. Team work  3. Communication with parents |
| ***Other:***  1. Duration of medication infusions |