Scenario: Status Epilepticus in a Child

Set-up:	In ED RESUS
Lines/access:	2x 22G peripheral cannulas
Infusions:	Phenytoin infusion prepared by bedside (not connected)
Airway:	Own, NRB on
Ventilator:	Not required initially, Oxylog available by bedside
Other:	Paediatric airway trolley and equipment CATS guidelines, intubation checklist and infusion calculator available on request (printed out)

Clinical Setting:

I: You are the ICU registrar. The ED registrar bleeps you with a referral
S: There is a child in resus who has been admitted with tonic-clonic seizures
B: 6M with known epilepsy admitted following a tonic-clonic seizure at home (20 min ago). Further tonic-clonic seizure observed in resus by the registrar. He received diazepam with LAS and 1 dose IV lorazepam in ED
A: Drowsy, maintaining own airway but concerns given multiple seizures
R: 2 doses of benzodiazepine given so need additional support

Potential Clinical Course:

- Initially **A** own, **B** SpO_2 100% on 15L O2, chest clear, **C** HR102 bpm, BP 98/54, **D** E1V2M5
- Shortly after arrival patient has further seizure (3rd since admission) - appropriately starts phenytoin infusion/considers Keppra/status algorithm
- Opens/supports airway/suctions
- Gas provided when asked for:
  pH 7.30, pO2 35.3, pCO2 4.5, Na 143, K 4.5, Lac 9, BE – 7.1
- Asks for glucose (5.7)
- Asks for temperature (37.9)
- Gives fluid bolus +/- asks for antibiotics
- Patient remains drowsy throughout scenario with no improvement in GCS. If prolonged deliberation can have further seizures

DECISION TO INTUBATE

- Calculates WETFLAG for patient
  - (Estimated weight should be 20kg) – if using age +4 x2
  - (Accept weight 25kg) – if using (age x3) +7
- Calculates appropriate ETT size and distance, appropriate MAC blade
- Calculates appropriate drug doses & plan for intubation

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- Ensures appropriate equipment available (ventilator, pumps, infusions)
- Liaises with paediatric team/CATS & contacts ODP
- Explains what is about to happen to family and informs senior
- Considers organising septic screen/CXR/CT head
- CATS call at the end of scenario asking for an update: please hand over

End of scenario (Scenario can also be terminated after calculations and explanations prior to proceeding to drug assisted intubation)

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The Faculty of Intensive Care Medicine

Info Sheet for Faculty:

- Initial settings: SpO_2 100% on 15L O2
  RR 24/min
  Bilateral breath sounds, no added sounds
  HR 110
  BP 92/54
  Groans when stimulated. Eyes closed, M5

- Progress to: Seizure activity
  Dilated pupils
  Movement artefact on spO2 / HR

- On seizure termination: SpO_2 100% pn 15L 02
  RR 20/min
  HR 98
  BP 89/49
  No verbal response, eyes closed, M4

Further observations depend upon actions.

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The Faculty of Intensive Care Medicine

Faculty Roles:

ED nurse:

- You are a senior ED nurse
- The ED reg is busy with other patients and asked you to stay with this patient
- This is a 6M with tonic clonic seizures (he has had 1 at home and 1 in resus) and has been given 2 doses of benzodiazepines (1 with LAS).
- You are worried that this patient has continued to seize despite treatment
- You sent initial blood tests to the lab when you cannulated (FBC, U&Es and CRP)
- His parent is incredibly anxious, and you want the ICU doctor to reassure them
- You take direction well, and can perform tasks asked if you in a timely fashion, you just lack impetus
- If the candidate asks for the on-call ODP say that you've called, and they are on the way but that you can help them get any equipment needed

Parent:

- You are worried about your son, his epilepsy is usually very well-controlled.
- You want to know what is going on and when he can go home.
- You are worried this is your fault because he's not been himself these last few days and you just thought he had a cold.
- You are not disruptive but refuse to leave your sons bedside and hold his hand throughout. When he has a seizure, you get very upset and distressed.
- If you hear the doctor discussing intubation you get very worried. He has never been intubated/been to ICU before, and you don't know what this means. You just want an explanation and if you get one you are amenable.

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