SIMulatED

Royal Darwin Hospital Emergency Department

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# Scenario Run Sheet: Paediatric febrile convulsion

## Scenario Overview

**Estimated Scenario Run Time:**  12-15 mins

**Estimated Guided Reflection Time:** 25-30 mins

**Target Group:** ED Registrars and Nurses, SACU and Paediatric registrars

**Brief Summary:** 14 month old boy, BIBA with generalised tonic clonic seizure on the background of febrile illness and irritability. Given one dose intranasal midazolam en route. Requires management of convulsive status epilepticus and broad spectrum antibiotics to cover CNS sepsis.

## Learning Objectives

**General**

Trauma team work, managing distressed parents

**Scenario Specific**

Structured approach to primary and secondary assessment in actively convulsing small child

Age/weight-specific interventions to resuscitation

Vascular access

Knowledge of active seizure algorithm and empirical Rx of meningitis with suspected OM source

Collaborative approach with Paeds team

## Equipment Checklist

**Equipment**

Broselow trolley, syringe driver + infusion pump, NG tube, paediatric IDC, EZIO and limb

**Medications and Fluids**

Giving set, 0.9% saline, phenytoin, phenobarbitone, 10 % dextrose

**Documents and Forms**

ED nursing chart, intubation checklist

**Diagnostics Available**

CXR – NAD

VBG – lactic acidosis, glucose 2.5mmol/L, normal electrolytes

## Scenario Preparation/Later Parameters

**Initial : Later**

GCS convulsing RR - P 170 BP 85/50 GCS **E2V2MT** RR 12 HR 160 CR 2secs

Sats 85% RA T 39.5 BSL 2.5 CR 4 secs SaO2 98% O2 BP 90/60 T 38.2

Pupils 6mm Pupils 3mm

**Mannequin Features**

Small child mannequin **Estimated weight: 11kg**

## Participants

**Staff Actors**

ED Registrars x3 Mother /Father Radiographer

Nurses x3ED, ED Consultant available by phone

Paeds registrar Paeds registrar

**Instructor Roles**

- Provide the team with clinical signs, VBG, CXR, UA result

## Candidate Instructions/Triage Information

It is 4am. You go to resus to prepare for a Cat1 paediatric patient en route via SJA. 14month old boy actively fitting, given intranasal midazolam en route. Recent fever and vomiting. No PH seizures

## Patient Instructions

Mannequin voice – nil

**Medical History from parents**: IVF conception, preterm at 36 weeks, not had 6 or 12 month vax due to fever after 2 and 4 month vaccinations. NKDA, no meds, no FHx

**Social:** lives with parents.

**HPC:** feverish, irritable cry and refusing feeds past 24hours, vomited several times throughout the day. Normal bowel actions, no rash. No trauma witnessed. Had appointment with GP today. Had been given ibuprofen 6 hours prior. Woken up 30mins prior to arrival in ED by child fitting in bed.

**SJA:** on scene 30mins prior to ED arrival – child actively fitting, given 5mg intranasal midazolam – seizure stopped after 10 mins but restarted on driving in to ED 3 minutes ago. No IV access attempted. T 38.9, HR 140, RR 40, SaO2 88% on wafting O2 but poor trace

## Proposed Scenario Progression

* Team prepares for arrival with role delineation, calculations and equipment. Later confirms with Broselow tape.
* Receives handover from SJA while monitoring and primary survey commenced– actively convulsing and febrile. Pupils 6mm bilaterally, deviated to Right, low sats with slow CR and fever
* Allocates specific support person for parents and provides continues updates and reassurance
* Delivers high flow O2 and airway opening manoeuvres
* Establishes IV access after several attempts and draws bloods including glucose, VBG, septic screen (BC and urine catheter specimen for MCS and pneumococcal ag)
* Delivers iv midazolam (2nd dose) 0.15mg/kg and 10% dextrose 2ml/kg + rechecks BSL
* Performs focussed clinical examination for causes of convulsion while parents interviewed (no external source of trauma or skin stigmata of sepsis). No signs aspiration. UA leuk and prot. Right tymp red and bulging with fluid level
* No response to 2nd dose BZD prompts loading with phenytoin, which terminates seizure
* Airway managed during post ictal phase with oral or NP airway and Left lateral position
* Recognises partial vaccination status. Delivers dexamethasone 0.15mg/kg (Hib and pneumococcal benefit) followed by ceftriaxone 100mg/kg IV daily or cefotaxime 50mg/kg QID **PLUS** vancomycin 30mg/kg IV BD (suspected otitis media). Delivers antipyretic. Delivers 2/3 maintenance fluids only
* Provides handover to paediatric registrar
* Provides explanation, education and reassurance to parents (including vaccination status)

## Debriefing/Guided Reflection Overview

**General Opening Questions**

* How was the scenario? What happened?
* **Scenario Specific Questions**
* What did you think was the cause of the seizures? What treatment did you give? What would you have done next if the child continued to fit?
* What investigations did you wish to avoid? Why?
* How did the parent’s behaviour affect your team?
* **General Wrap-Up Questions**
* What did you find most beneficial about this scenario?
* What was the most challenging aspect?
* What would you do differently next time?