


ThinkAskLearn
Health Professional Education

**Managing the Collapsed
/Convulsing Child**

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Time for a coffee break

- So you just was able to make your 1st coffee after the morning rush
- You get a call from the teacher in the classroom that is literally the furthest away
- They have just discovered a student that has collapsed and seems to be having a seizure
- What is your approach?



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Common Causes of Collapse

- Seizure
- Trauma
 - Subdural, extradural, Intracranial, Diffuse Axonal Injury
- Cardiac
 - Arrest, Myocardial Infarction, Arrhythmia- SVT, Wolfe-Parkinson White
- Sepsis
 - Meningitis, other source



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Common Causes of Collapse

- Hypoxia
- Toxicology/Toxinology
- Hypoglycaemia
- Hypovolaemia
- CVA
 - Embolic, Vascular – AVM
- Electrolyte disturbance



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Structured Approach

- Assess using ABCD
- Resuscitate if required
- Simple set of observations

– BP	– Resp Rate
– Heart Rate	– Oxygen Saturation
– Temperature	– BSL
– ECG	
- History



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A simple set of observations

- Seizure
- Trauma
- ~~Cardiac~~
- ~~Sepsis~~
- ~~Hypoxia~~
- Toxicology/Toxinology
- ~~Hypoglycaemia~~
- ~~Hypovolaemia~~
- CVA
- Electrolyte disturbance
- BP
- Heart Rate
- ECG
- Resp Rate
- Oxygen Saturation
- Temperature
- BSL
- **History**



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Seizure, Convulsion & Fits

- Seizure
 - Abnormal electrical discharge of brain neurons
- Convulsion
 - Excessive and abnormal motor function
- Fit
 - Avoid term, useful with public,
- Seizures can be caused without convulsions, convulsions can be caused by other conditions



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Rates of Seizure

- 10% of population will have at least one seizure
- 1-3% will develop epilepsy
- Severe head trauma increase incidence of post traumatic epilepsy (4%)



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The convulsing child

Status epilepticus – definitions

- Continuous and generalised convulsions for more than 30 minutes
- Repeated convulsions without full recovery between seizures



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The typical seizure!

- Most seizure last for less than 5 mins (commonly <2mins)
- Longer the seizure last the longer to stop
- If seizure is lasting more than 5 mins, appropriate to use drugs
- Prolonged seizures can cause neuronal damage



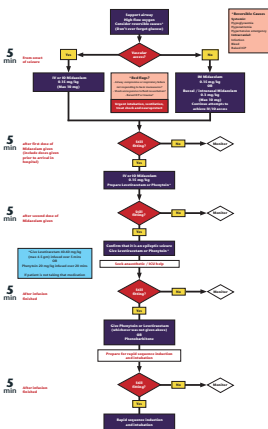
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Don't Ever Forget Glucose

- Check blood glucose level



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Status epilepticus algorithm



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Choose your weapon



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Insertion of an Airway



Size

- Centre of mouth to angle of jaw



Insertion

- Depress the tongue rather than rotate the airway



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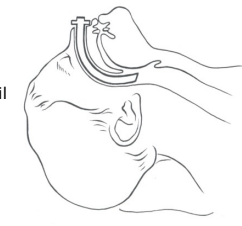
Insertion of a NPA

Size

- Length – lateral edge of the nostril to tragus of ear
- Diameter – little finger or nostril

Insertion

- Lubricate
- Direct posteriorly (rather than upwards)
- Rotate gently



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Airways are easy!!!!



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Bag Valve Mask



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After the fit has stopped

- Monitor ABC
- Monitor further seizure activity
- Call for assistance - Ambulance or as directed by treatment plan



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Pseudoseizures

- Now called Psychogenic non-epileptic seizures (PNES)
- Difficult to interpret
- Common in
 - 70% Female
 - Age female – late teens – early 20's
 - Rare in patients over 50yrs
- Associated with conversion disorder, malingering, Munchausen syndrome



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Pseudoseizures

- Typically last more than 5 mins
 - Neurogenic last 1-2 mins
 - 70% female – late teens – early 20's
- EEG monitoring confirms
- Brief or Lack of post ictal period
- Patient may recall the event
- Extremity movement out of phase
- Forward Pelvic thrusting
- Head from side to side



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Identification of Pseudoseizures

- EEG monitoring
- Arm drop test
- Eyes turning away from moving examiner
- Occlusion of mouth and nostrils****
- Painful stimulus response
- Lack of severe tongue biting, incontinence
- Simple verbal suggestions and reassurance

Cameron et al 2020



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The Fainting Child

- Syncope is a brief and sudden loss of consciousness associated with loss of postural tone with spontaneous recovery
- Paediatric syncope is common,
 - 15% of children experiencing an episode
- Most is benign and is vasovagal or orthostatic
- Syncope is less commonly caused by life-threatening cardiac conditions such as structural abnormalities and arrhythmia
- Neurological conditions such as seizure and migraine may mimic syncope



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Causes and Differential diagnoses

Autonomic

Vasovagal syncope (also called neurocardiogenic)
Orthostatic hypotension
Postural orthostatic tachycardia syndrome
Breath-holding spells


Cardiac

Brady/tachyarrhythmia
Long QT syndrome
Brugada syndrome
Wolff-Parkinson-White syndrome
Structural abnormalities (eg aortic stenosis, hypertrophic cardiomyopathy)

Other

Functional disorder
Hypoglycaemia
Seizure
Migraine
Anaemia
Narcolepsy
Toxic exposure (eg carbon monoxide, clonidine)


RCH Syncope Guideline 2018



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Seizures - Summary

- Airway
- Breathing
- Circulation
- Check glucose
- Stop seizures
- Identify and treat underlying causes



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