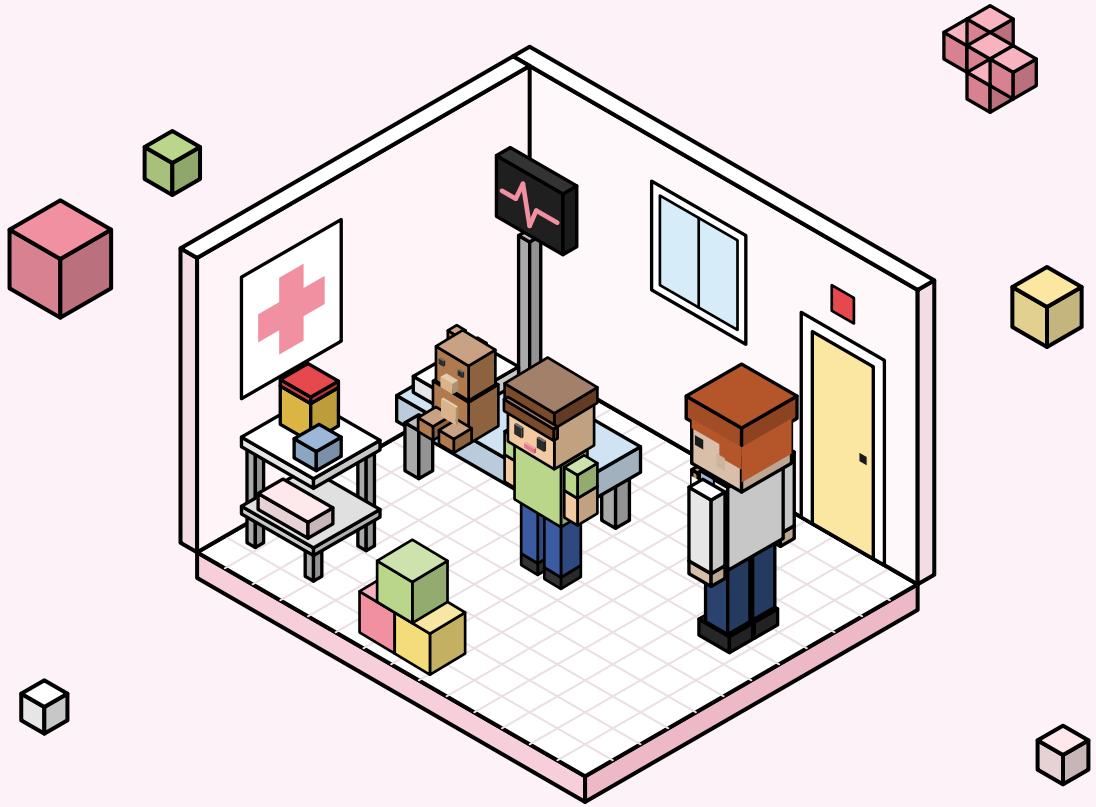
MLABuddy

MLAbuddy Clinical Series



Paediatric seizures

Not every shake is a seizure

For clinical years (Y3–Y5), OSCEs and licensing prep

Shuen Minn Cha, Queen's University Belfast

Sunday 1 November 2026 · 19:00 GMT · Online · Free

Today's session

- 01 **Febrile fits**
- 02 **A–E**
- 03 **Epilepsy**

Meet your tutor



Shuen Minn Cha

Final-year medical student

Queen’s University Belfast

MLAbuddy tutor

About me

- **Studying:** Final-year medicine, Queen’s University Belfast
- **Teaching:** Led UKMLA-focused teaching through QUB’s Internal Medicine and Paediatrics Societies, shortlisted for national awards
- **Role:** Clinical tutor at MLAbuddy

Clinical interests

- Paediatrics
- Internal medicine
- Medical education
- UKMLA preparation

Ask me about

- Febrile convulsions
- Status epilepticus
- The seizing child: A–E

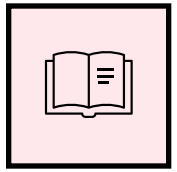
Disclaimer

This session is for educational purposes only.



The tutor's own view

Content reflects the tutor's clinical knowledge and experience, not the official position of MLAbuddy, the GMC or the Medical Schools Council.



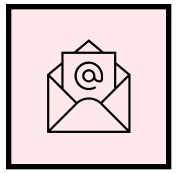
Guidance changes

Always check current national guidance (e.g. NICE, BNF) and your local policy before applying anything you learn here.



Not medical advice

Nothing in this session is advice about an individual patient. Use it to learn and revise, not to treat.



Spotted an error?

Tell us at hello@mlabuddy.co.uk and we will review and correct the slides.

Today’s agenda

1	**Topic 1: Febrile convulsion** Taking a collateral seizure history
2	**Topic 2: The actively seizing child** A–E and status epilepticus
3	**Topic 3: Epilepsy and red flags** Seizure types, hypoglycaemia, raised ICP, meningitis
4	**SBA questions** Clinical knowledge checkpoint
5	**OSCE example** Practice station

Core curriculum and high-yield blueprint



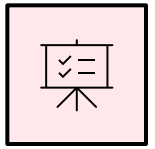
Clinical presentations

- Fits and seizures
- Fever
- Reduced consciousness
- Headache
- The sick child



Conditions covered

- Febrile convulsion
- Epilepsy
- Meningitis
- Hypoglycaemia
- Raised intracranial pressure



Core skills tested

- Collateral seizure history
- A–E of a seizing child
- Status epilepticus algorithm
- Building a differential
- Safety-netting parents

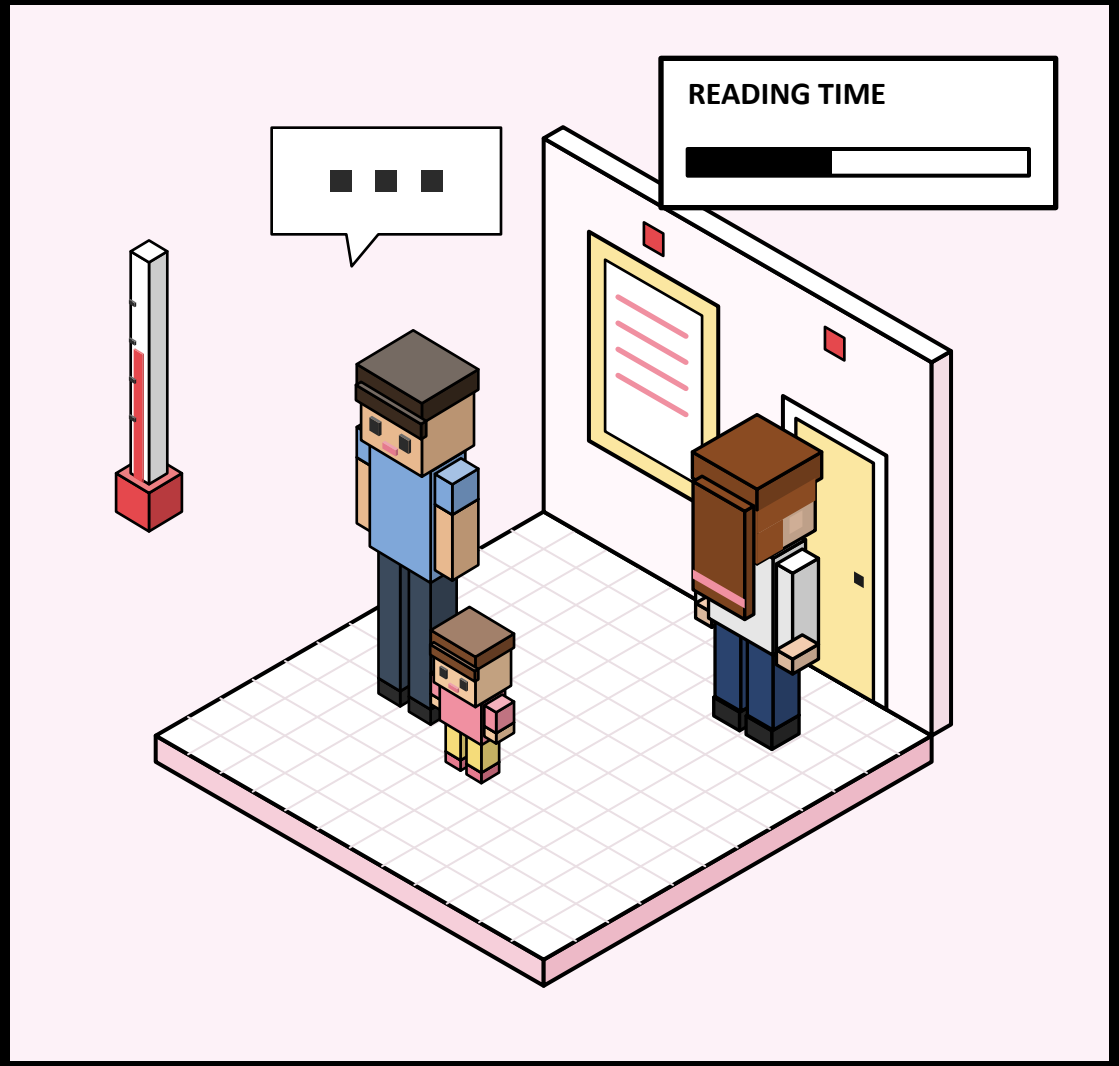
Why this matters: seizures are one of the commonest paediatric emergencies, and a favourite in AKT questions and OSCE history and A–E stations.

Source: [12] GMC MLA content map.

TOPIC 01

Febrile convulsion: taking a seizure history

Case: Maya, 18 months, “she was shaking all over”



01 Febrile fits | 02 A–E | 03 Epilepsy | 04 SBAs | 05 Live OSCE

Topic 1 case: Maya

Case	
Setting	Paediatric ED
Patient	Maya, an 18-month-old girl, brought in by her Dad
Presenting complaint	“She was shaking all over and wouldn’t respond to me.” Now sleepy but rousable.
Your task	You are an F1. Your registrar asks you to take a history from Dad.

Discuss: was this definitely a seizure? What do you need to ask Dad?

Not every shake is a seizure

Mimic	Clues in the history
Rigors	Fever, shivering, conscious throughout and able to respond
Breath-holding spell	Crying or upset first, then goes blue or pale and limp; age 6 months–6 years
Reflex anoxic seizure	Minor bump or fright, goes pale, brief stiffening; fast recovery
Syncope	Standing, hot or upset; light-headed; brief jerks; quick recovery
Benign sleep myoclonus	Neonate, jerks only in sleep, stop on waking
Tics, daydreaming	Can be interrupted or suppressed; no post-ictal phase

Best history and investigation: an eyewitness account, or a video of the episode.

The seizure history: before, during, after

Before

- What was she doing?
- Fever or recent illness?
- Any warning or odd behaviour?
- Head injury, possible ingestion?

During

- Describe it: all limbs or one side?
- How long did it last?
- Colour change, eyes, breathing?
- Incontinence, tongue biting?

After

- How long until back to normal?
- Drowsy, confused, weak on one side?
- Any further episodes?

Other paediatric history: BINDS

- **B**irth and neonatal history
- **I**mmunisations
- **N**utrition and feeding
- **D**evelopmental history
- **S**ocial: education, safeguarding; check the Red Book

Then continue with the usual history:
past medical, family and drug history

Red flags

Any of these? **Escalate to a senior and think beyond a simple febrile convulsion.**

The seizure	Meningitis or sepsis	Other causes to rule out
! Lasting 5 minutes or longer	! Non-blanching rash	! Focal neurology after the fit
! Focal onset or one-sided	! Bulging fontanelle, neck stiffness	! Head injury or concern for NAI
! Not back to normal within 1 hour	! Pale, mottled, high-pitched cry	! Known diabetes or low glucose
! Recurrent (not the first episode)	! Under 3 months with temp ≥38 °C	! Possible ingestion

Sources: [1] NICE CKS Febrile seizure; [2] NICE NG143 Fever in under 5s (traffic light system).

Maya’s history from Dad



Before

- 2 days of runny nose and cough
- **39.2 °C** at home this morning
- Pulling at her **right ear**
- No head injury or access to medicines



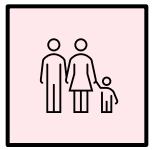
During

- Went stiff, then **all four limbs jerked**
- Eyes rolled up, **lips blue**
- Stopped by itself after **about 3 minutes**



After

- **Sleepy for about 20 minutes**
- Now alert and drinking
- Moving all four limbs normally
- No further episodes



Background

- Term, no neonatal problems
- Walking and saying a few words
- Immunisations up to date
- **Dad had “fits with temperatures”** as a toddler

Dad’s concerns and the examination

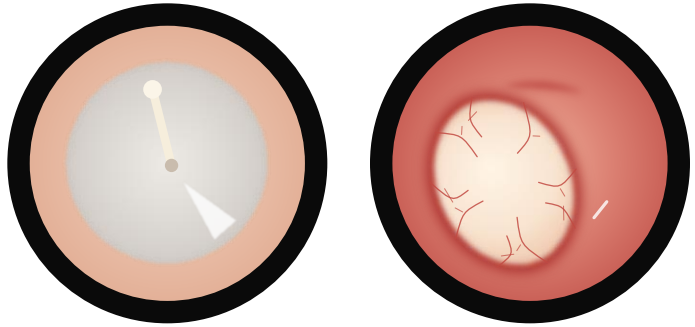
Ideas, concerns and expectations

- “I honestly thought she was dying.”
- Worried this has caused brain damage, and that it will happen again tonight
- Wants to know what to do if it happens again

On examination

- Temp 38.9 °C, HR 150, RR 32, CRT <2 s
- Alert, playful, normal tone; no rash, fontanelle not bulging
- **Red, bulging right tympanic membrane**
- Glucose 5.4 mmol/L

Otoscopy: right ear



Normal

- Pearly grey
- Cone of light
- Malleus visible

Maya: AOM

- **Red**, inflamed
- **Bulging** drum
- No light reflex
- Malleus hidden

Illustrative drawing, not a photograph.

Maya: differential diagnosis

1	**Simple febrile convulsion**	Right age, generalised, under 15 min, full recovery, clear source (otitis media), family history
2	**Meningitis or encephalitis**	Must exclude clinically; no rash, alert, no meningism
3	**Rigor**	Less likely: unresponsive and blue during the episode
4	**Epilepsy**	A first seizure triggered by fever; consider if afebrile fits follow
5	**Metabolic: hypoglycaemia, low sodium**	Glucose normal; check if not recovering

Febrile convulsion: overview

What is it?

A seizure with a fever, in a child aged 6 months to 5 years, without CNS infection or a previous afebrile seizure.

Epidemiology

Affects 2–5% of children; peak around 18 months. Usually viral illness, otitis media or tonsillitis.

Why it matters

About 1 in 3 recur. Frightening for parents, so explanation and safety-netting are the treatment.

Risk factors for recurrence

- First fit under 18 months
- Family history
- Lower temperature at the fit
- Short fever before the fit

Source: [1] NICE CKS Febrile seizure.

Simple or complex? And what to investigate

Feature	Simple	Complex
Type	Generalised	Focal features
Duration	Under 15 minutes	15 minutes or longer
Recurrence	Once in the illness	Again within 24 h or same illness
Recovery	Complete within 1 hour	Incomplete within 1 hour

What to investigate

- Glucose, urine dip, full set of obs, ENT exam
- Find the **fever source**, not the seizure cause
- No routine EEG or imaging for a simple febrile seizure
- LP if meningitis is suspected

Febrile status epilepticus: a febrile seizure lasting 30 minutes or more. Treat as status, and look hard for meningitis or encephalitis.

Febrile convulsion: management

1 Treat the cause

- Manage the source of fever (e.g. otitis media, infection)
- Paracetamol or ibuprofen for comfort

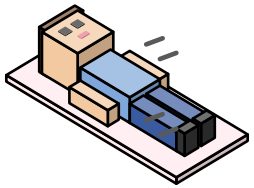
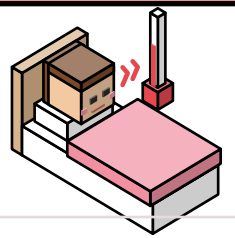
2 Admit or discharge?

- Paediatric assessment for a first seizure
- Admit if complex features, no clear source, signs of serious illness, or parents not able to cope

3 Safety-net parents

- Lie her on her side, time it, nothing in the mouth, keep the airway open, video it
- Call 999 if it lasts over 5 minutes
- No brain damage; small rise in later epilepsy risk

Exam trap: antipyretics do not prevent febrile seizures.

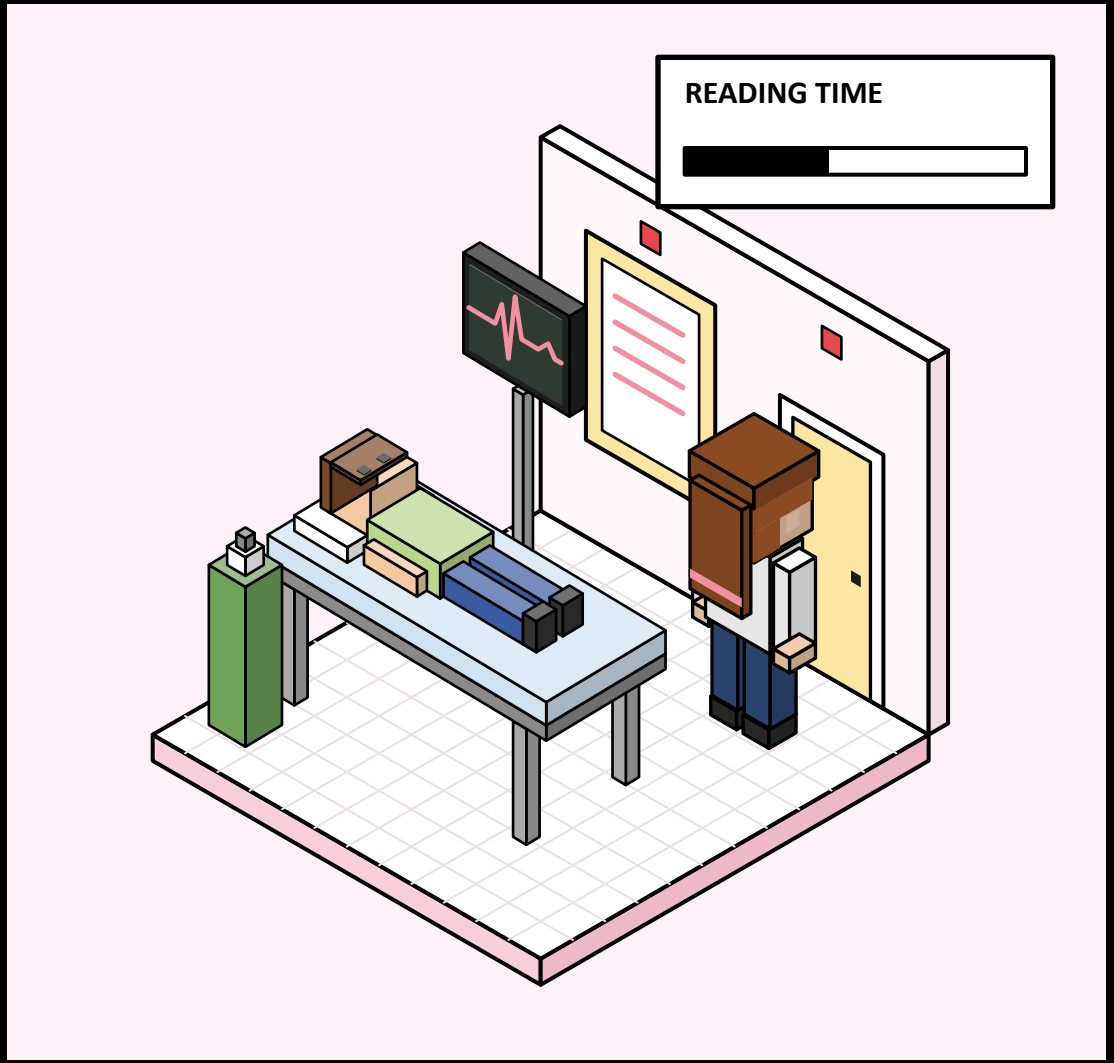
[1]	Simple	Complex
		
	Usually lasts **under 15 minutes**	Lasts **15 minutes or longer**
	Generalised: affects the whole body	**Focal** (one part of the body) or generalised
	Happens only **once in 24 hours**	Can occur **more than once** in 24 hours
	Child usually **recovers quickly**	May need **further assessment** by a doctor

Sources: [1] NICE CKS Febrile seizure (simple vs complex classification); [2] NICE NG143 Fever in under 5s.

TOPIC 02

The actively seizing child: the A–E approach

Case: Leo, 4, still seizing when he arrives in resus

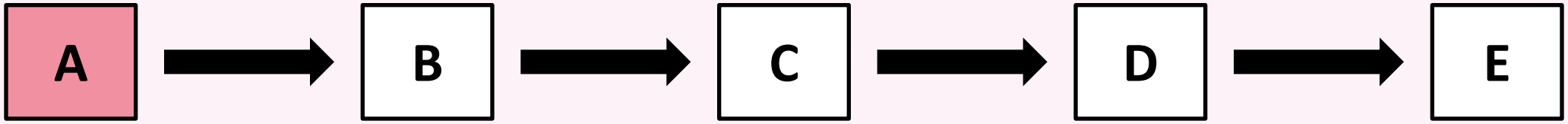


Topic 2 case: Leo

Case	
Setting	Paediatric resus, emergency department
Patient	Leo, a 4-year-old boy, brought in by ambulance with Mum
Presenting complaint	24 hours of fever and lethargy. Generalised tonic-clonic seizure started at home 10 minutes ago and has not stopped.
Background	Previously well. No drugs given before arrival. Estimated weight 16 kg.

Discuss: you are the F1 in resus. What do you do first?

A–E in a seizing child



Airway

Check: Noises, secretions

Do: Jaw thrust, suction, NPA (not OPA)

Breathing

Check: RR, SpO2, effort

Do: 15 L/min O2 via non-rebreather

Circulation

Check: HR, CRT, BP

Do: IV or IO access, bloods, cultures

Disability

Check: Glucose, pupils, AVPU

Do: Time the seizure, give anticonvulsant

Exposure

Check: Temp, rash, injuries

Do: Treat the cause

DEFG: Don’t Ever Forget Glucose. Reassess after every intervention.

Sources: [3] ALSG, Advanced Paediatric Life Support; [11] Resuscitation Council UK.

A: Airway

Leo's findings

Snoring noises, frothy secretions at the mouth, jaw clenched.

Assessing the airway

- Look, listen, feel
- Added sounds: snoring, gurgling, stridor
- Secretions, vomit, a foreign body

Management

- Head tilt, chin lift or jaw thrust
- Gentle suction of secretions
- **Nasopharyngeal airway:** an OPA won't pass a clenched jaw
- Call for senior and anaesthetic help early

B: Breathing

Finding	Leo
Respiratory rate	34 /min, irregular
Oxygen saturations	90% on air
Chest expansion	Equal bilaterally
Auscultation	Clear, good air entry

Intervention
High-flow oxygen, 15 L/min via a non-rebreather mask. Bag-valve-mask support if breathing is inadequate.

Watch out
Benzodiazepines cause **respiratory depression**. Monitor breathing closely after each dose.

C: Circulation

Finding	Leo
Heart rate	172, regular
Central CRT	4 seconds
Blood pressure	88/50
Peripheries	Cool and mottled
IV access	Failed twice

Intervention
• **IO access** after two failed IV attempts • **Bloods:** glucose, VBG and lactate, FBC, CRP, U&Es, Ca, Mg, clotting, blood cultures, meningococcal PCR • **10 ml/kg crystalloid bolus** for shock, then reassess

Sources: [3] ALSG, Advanced Paediatric Life Support; [6] NICE NG51 Suspected sepsis.

D: Disability

Finding	Leo
Seizure	Ongoing, generalised
Time since onset	14 minutes
Glucose	5.8 mmol/L
Pupils	Equal, sluggish
AVPU	Unresponsive

What a doctor should take from this

- Seizing over 5 minutes, so this is **convulsive status epilepticus**
- Glucose is normal, so not hypoglycaemia (if under 3 mmol/L: 2 ml/kg of 10% glucose)

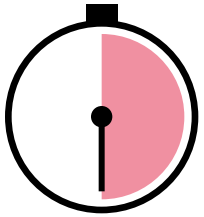
Next: start the status epilepticus algorithm

Status epilepticus: what, why and how

WHAT?

What is it?

- **Definition (APLS):** a generalised convulsion lasting **30 minutes or longer**, or repeated convulsions over 30 minutes with **no recovery of consciousness** in between.[3]
- *In practice, start treatment once a seizure has lasted **5 minutes** (see next slide).*
- The longer the seizure, the more likely **brain damage** becomes.
- There are many types of seizure, and **not all involve obvious convulsions**.



WHY?

Why does it happen?

- Epilepsy has **many causes**:
  - Inherited tendency
  - Structural brain change, e.g. head injury
  - Space-occupying lesions (SOLs)
  - Sometimes no cause is found
- Can start **at any age**; most often diagnosed **under 20 or over 65**.
- About **1 in 100** people have diagnosed epilepsy: **around 630,000 in the UK (Epilepsy Action).**
- A seizure is an **interruption of normal brain function**.
- Triggers vary: always look for a **concurrent illness** in a child in status.

HOW?

How do we manage it?

- **Diagnosis:** history and clinical examination.
- Usually still convulsing, or clustered seizures with little gap between.
- **Rapid A–E:** support airway and breathing; gain IV or IO access.
- **Main goal: stop the seizure.**
  1. First-line benzodiazepine (buccal, IV or IO)
  2. Two doses failed: second-line **phenytoin or levetiracetam**
  3. Still seizing: prepare for **RSI** (thiopentone)
  4. Is the child **shocked**?
- Treat concurrent illness: **fluids and antibiotic cover**. Consider imaging.
- Follow NICE and local guidance.[4]

Adapted from EM3 Lightning Learning: Status Epilepticus (Paeds), F. Hay, 2018. Sources: [3] ALSG, APLS (2015); [4] NICE NG217.

Convulsive status epilepticus: step by step

1	**Step 1 · seizing ≥5 min · Benzodiazepine 1** IV/IO lorazepam 0.1 mg/kg (max 4 mg). No access: buccal midazolam 0.3 mg/kg (max 10 mg) or rectal diazepam 0.5 mg/kg.
2	**Step 2 · +5 min · Benzodiazepine 2** IV/IO lorazepam 0.1 mg/kg. Maximum two doses, including any given before hospital.
3	**Step 3 · +5 min · Second line** Levetiracetam 40 mg/kg IV over 5 min (max 3 g), or phenytoin 20 mg/kg IV over 20 min (ECG monitoring).
4	**Step 4 · still seizing · Escalate** Give the other second-line drug. Rapid sequence induction by anaesthetics; PICU.

Leo, 16 kg: lorazepam 1.6 mg · levetiracetam 640 mg

E: Exposure

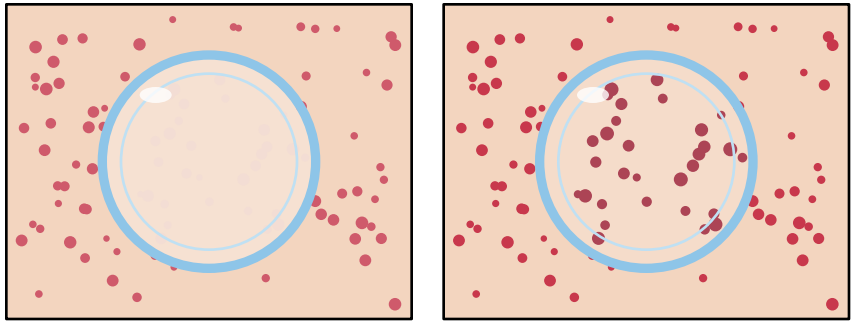
On exposure

- Temperature 39.6 °C
- **Non-blanching purpuric rash** on legs and trunk (glass test)
- No signs of injury

After the seizure stops

- **Neck stiffness** present
- GCS 9, no focal signs; pupils equal and reactive

The glass test



Blanching
Fades under the glass

Non-blanching
Stays visible: petechiae

Press a clear glass firmly on the rash and look through it.

Fever + seizure + non-blanching rash = meningococcal disease until proven otherwise. Give IV ceftriaxone immediately; don't wait for tests.

Leo: differential diagnosis

1	**Bacterial meningitis with meningococcal septicaemia**	Fever, shock, purpura, neck stiffness
2	**Encephalitis (HSV)**	Add IV aciclovir if altered behaviour, confusion or focal signs
3	**Complex febrile convulsion**	Diagnosis of exclusion; the rash and shock don’t fit
4	**Raised ICP from another cause**	Bleed, tumour, abscess (image to rule out)
5	**Non-accidental injury**	Bruising or petechiae with a seizure: consider subdural haemorrhage

Bacterial meningitis: overview

What is it?

Inflammation of the meninges from bacterial infection. Can occur with or without septicaemia.

Why it matters

Can kill within hours. Survivors risk hearing loss, epilepsy, learning difficulties and amputations.

Age	Common organisms
Under 3 months	Group B strep, E. coli, Listeria
Older children	N. meningitidis, S. pneumoniae
Unvaccinated	Haemophilus influenzae type b

Risk factors

- Age under 5, and adolescents
- Incomplete immunisations
- Crowding
- Hyposplenism
- CSF leak or cochlear implant
- Immunodeficiency

Source: [5] NICE NG240 Meningitis (bacterial) and meningococcal disease (2024).

Meningitis: presentation and investigations

Babies

- Non-specific: poor feeding, irritable, floppy
- Bulging fontanelle
- High-pitched cry
- Fever or hypothermia

Older children

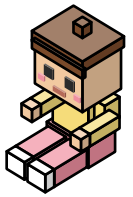
- Fever, headache, vomiting
- Neck stiffness, photophobia
- Kernig's and Brudzinski's signs
- Seizures, reduced GCS

Investigations

- Blood cultures, meningococcal PCR; FBC, CRP, glucose, VBG, clotting
- LP when safe: CSF microscopy, glucose, protein, PCR

Delay the LP if: signs of raised ICP, shock, spreading purpura, after seizures until stable, clotting problems, local skin infection, respiratory compromise

Meningitis: baby watch



Tense or bulging soft spot	High-pitched cry
High temperature	Vomiting or refusing feeds
Very sleepy, hard to wake	Irritable when picked up
Fast or difficult breathing	Blotchy skin: pale or blue
'Pin-prick' rash or purple bruises	Stiff and jerky, or floppy
Cold hands and feet	

Source: [5] NICE NG240 Meningitis (bacterial) and meningococcal disease (2024).

Meningitis: management pathway

1 Before hospital

Suspected meningococcal disease with a non-blanching rash: **IM or IV benzylpenicillin** if it won't delay transfer.

2 In hospital

IV ceftriaxone. Under 3 months: add amoxicillin for Listeria (cefotaxime if ceftriaxone is contraindicated). Aciclovir if HSV possible.

3 Supportive

Dexamethasone 0.15 mg/kg QDS for 4 days in strongly suspected bacterial meningitis (3 months+). Fluids for shock; PICU.

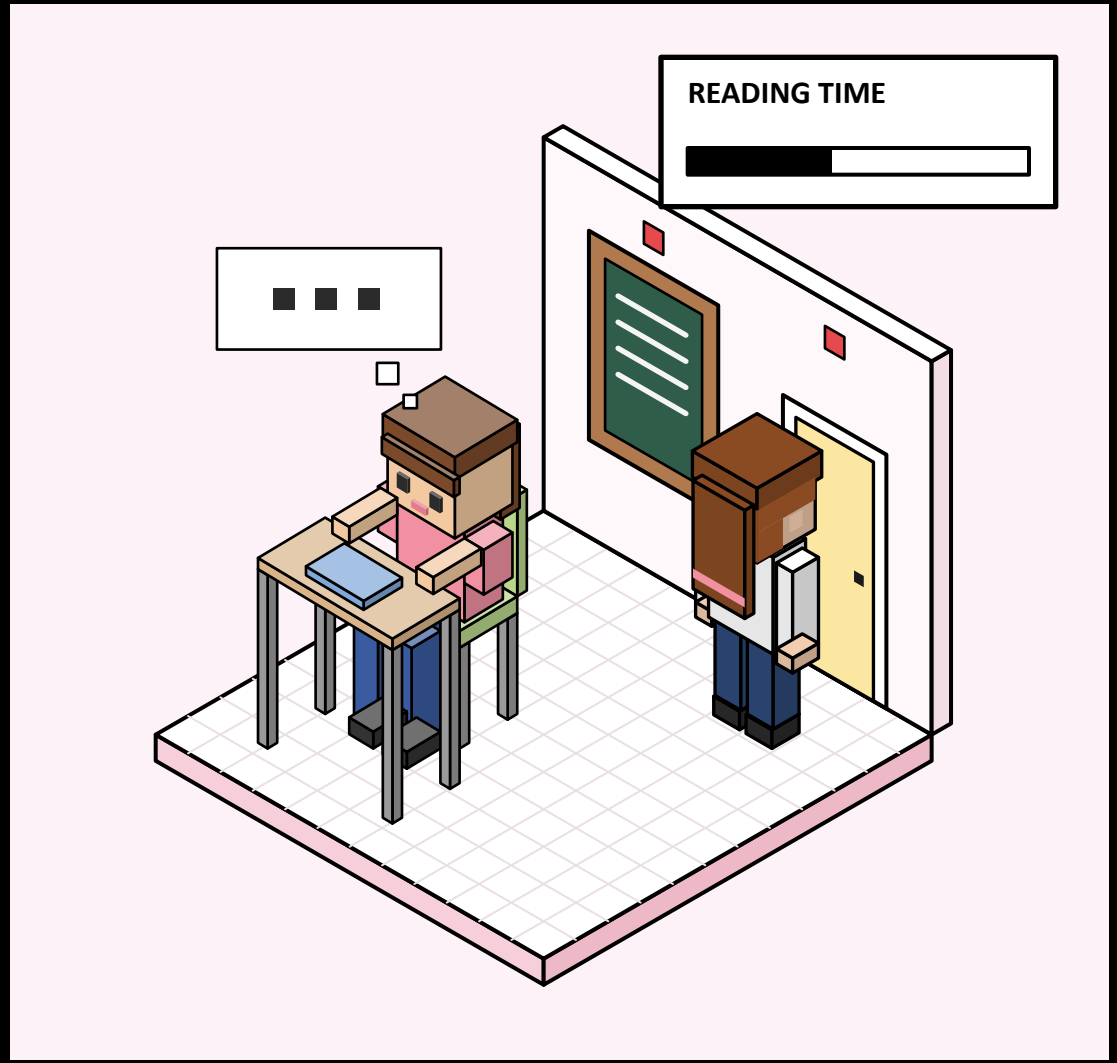
After the acute phase: notify UKHSA · antibiotic prophylaxis for close contacts (e.g. single-dose ciprofloxacin) · hearing test within 4 weeks · follow-up for complications.

Sources: [5] NICE NG240 (2024); [7] BNFc for doses. Check your local antimicrobial guideline.

TOPIC 03

Epilepsy and the can’t-miss causes

Case: Sophie, 7, “she keeps switching off in class”



Topic 3 case: Sophie

Case	
Setting	GP surgery, then paediatric first-seizure clinic
Patient	Sophie, a 7-year-old girl, with her Mum
Presenting complaint	Teacher reports she “switches off” many times a day. Her schoolwork has slipped this term.
Your task	Take a focused history and suggest a diagnosis and next steps.

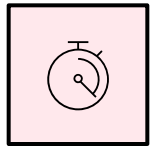
Discuss: daydreaming or seizures? What would help you tell?

Sophie’s history



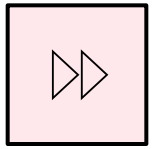
Before

- **No warning**
- Happens mid-sentence or mid-activity
- **Up to 20 times a day**



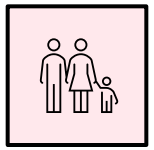
During

- **Stares blankly**, eyelids flicker
- Doesn’t respond to her name or a touch
- Lasts **about 10 seconds**



After

- Carries straight on as if nothing happened
- **No drowsiness or confusion**



Background

- Normal development
- No medical history
- In clinic: episode triggered by **blowing on a pinwheel for 3 minutes**

Sophie: differential diagnosis

1	**Childhood absence epilepsy**	Brief, frequent, unresponsive, no post-ictal phase, triggered by hyperventilation
2	**Focal impaired awareness seizures**	Longer, with automatisms (lip-smacking) and post-ictal confusion
3	**Daydreaming**	Situational, and she can be interrupted by a touch
4	**ADHD (inattentive type)**	Pervasive inattention without discrete episodes
5	**Hearing impairment**	Seems to ignore people; check hearing

Epilepsy: overview

What is it?

A tendency to recurrent unprovoked seizures: usually two or more unprovoked seizures more than 24 hours apart.

Epidemiology

One of the commonest chronic neurological conditions of childhood. Childhood absence epilepsy: onset 4–10 years, more common in girls.

Why it matters

Affects learning, safety and independence. Risk of status epilepticus and SUDEP (sudden unexpected death in epilepsy).

Causes and associations

- Mostly genetic or unknown
- Cerebral palsy, HIE
- Brain malformations
- Tuberous sclerosis
- Previous CNS infection

Source: [4] NICE NG217 Epilepsies in children, young people and adults (2022).

Seizure types and first-line treatment

Seizure type	What you see	First line (NICE NG217)
Generalised tonic-clonic	Stiffening then jerking, LOC, post-ictal drowsiness	Lamotrigine or levetiracetam
Absence	Brief staring, eyelid flicker, no post-ictal phase	Ethosuximide
Myoclonic	Sudden jerks, often in the morning	Valproate*; else levetiracetam
Focal	Starts in one area; awareness may be impaired	Lamotrigine or levetiracetam
Infantile spasms	Clusters of flexion spasms; developmental regression	Prednisolone or vigabatrin

Exam trap: carbamazepine can worsen absence and myoclonic seizures.

*Valproate: avoid unless all other options have been tried. Sources: [4] NICE NG217 (2022); [8] MHRA valproate safety measures.

After a first seizure: referral and investigations

Refer: every child with a suspected first seizure should be seen by a specialist, ideally within 2 weeks.

Bedside

12-lead ECG (rule out cardiac causes), glucose, video of the episodes.

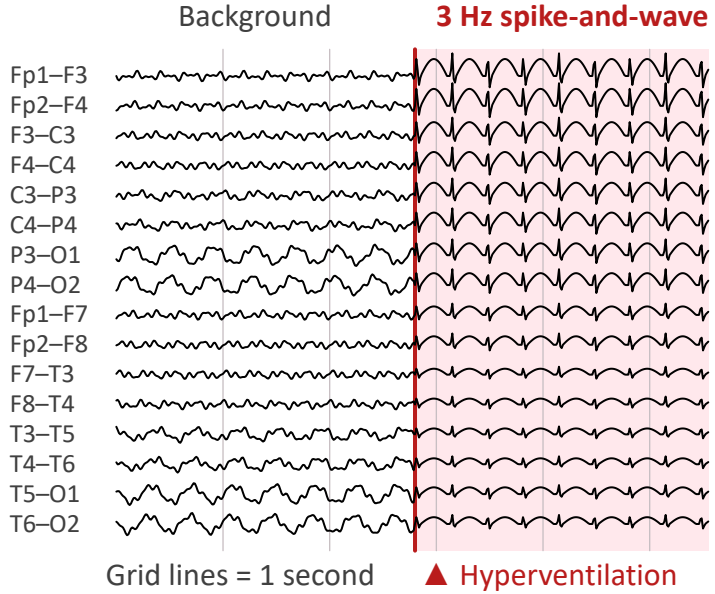
EEG

Supports the diagnosis and syndrome. **Sophie:** 3 Hz generalised spike-and-wave on hyperventilation.

MRI brain

If focal seizures, under 2 years, or not responding to first-line treatment.

Sophie's EEG



Generalised and symmetrical, largest frontally, abrupt onset

Illustrative drawing. Source: [4] NICE NG217.

A normal EEG doesn't rule out epilepsy, and an abnormal one doesn't prove it.

Epilepsy: management pathway

1 Medication

Started by a specialist, matched to seizure type. One drug at a time. **Sophie: ethosuximide.**

2 Rescue plan

For prolonged or cluster seizures: **buccal midazolam** with a written care plan for home and school.

3 Living with it

Epilepsy specialist nurse, school plan, discuss SUDEP, review regularly.

Safety advice for families: showers, not baths; supervised swimming; care with heights; helmet for cycling.

Source: [4] NICE NG217 Epilepsies in children, young people and adults (2022).

Emergency causes: never miss

In every fitting child, **look for a cause you can treat now.**

Meningitis

- ! Fever, non-blanching rash
- ! Neck stiffness, bulging fontanelle
- ! Not waking up

Act: Cultures, IV ceftriaxone

Hypoglycaemia

- ! Known diabetes, missed meals
- ! Sweaty and pale
- ! Possible ingestion (e.g. alcohol, insulin)

Act: Check glucose in every fit

Raised ICP

- ! Morning headache and vomiting
- ! Papilloedema, focal signs
- ! Falling GCS

Act: Urgent imaging, no LP

Also think of: head injury or NAI, hyponatraemia, poisoning, encephalitis

Hypoglycaemia: recognise and treat

Causes

- **Type 1 diabetes:** too much insulin, missed meal, exercise
- Sepsis, prolonged fasting
- **Ingestion:** alcohol, insulin, sulfonylureas
- **Rarer:** adrenal insufficiency, metabolic disease

Treat based on consciousness

Alert
Fast-acting oral sugar; recheck in 15 min

Drowsy or fitting, IV/IO access
2 ml/kg of 10% glucose

No access
IM glucagon: 0.5 mg if under 25 kg; 1 mg if 25 kg or more

No diabetes? Take a “hypoglycaemia screen” of blood and urine during the hypo, before giving glucose if it won’t delay treatment.

Treat below 4 mmol/L in diabetes, below 3 mmol/L otherwise. Sources: [3] ALSG APLS; [7] BNFc glucagon; [9] ISPAD guidelines.

Raised intracranial pressure

Causes

- Brain tumour (often posterior fossa)
- Hydrocephalus, blocked shunt
- Bleed, incl. subdural from NAI
- Meningitis, encephalitis, abscess
- DKA cerebral oedema

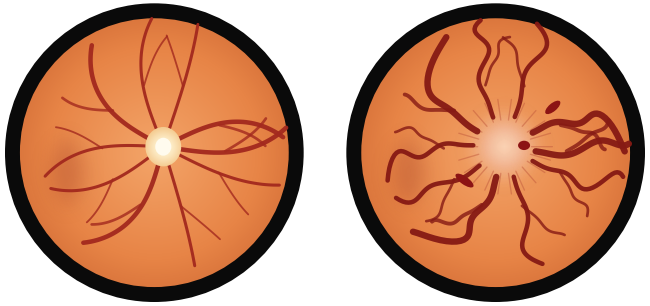
Features

- Headache worse lying down or on waking
- Early-morning vomiting
- Papilloedema ± VI nerve palsy
- Infants: bulging fontanelle, growing head, “sunsetting” eyes

Management

- A–E; **urgent CT/MRI; no LP**
- 3% saline 3 ml/kg or mannitol
- **Refer** to neurosurgery and PICU

Fundoscopy: the optic disc



Normal

- Sharp margin
- Visible cup
- Normal veins

Papilloedema

- **Swollen**, blurred disc
- Cup lost
- **Engorged** veins
- Haemorrhages

Illustrative drawing, not a photograph.

Sources: [3] ALSG APLS; [10] HeadSmart: Be Brain Tumour Aware.

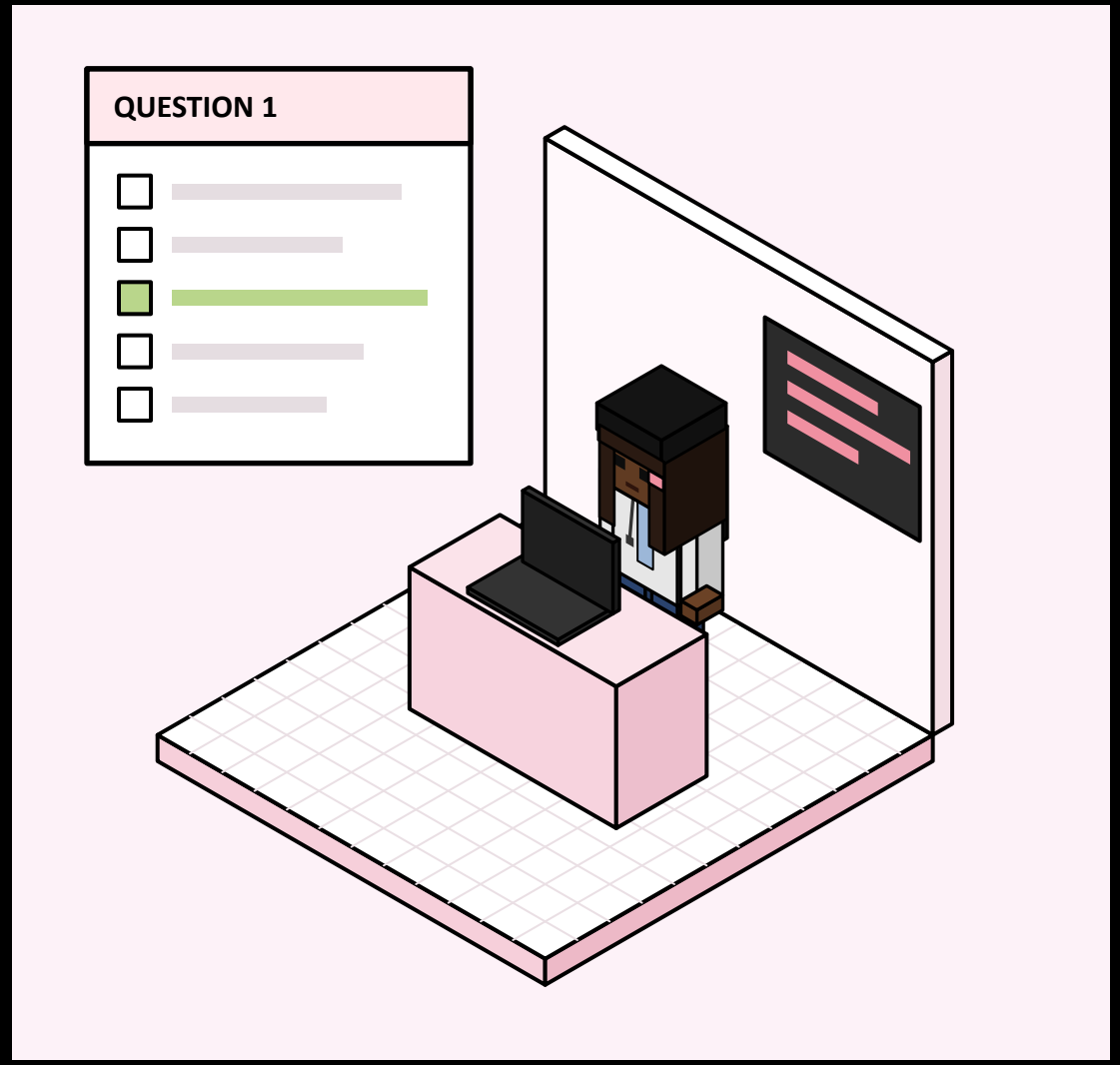
Key takeaways

1	**Not every shake is a seizure** The witness history (and a video) is everything
2	**Simple febrile convulsions are benign** Antipyretics don’t prevent them
3	**Seizing 5 minutes** Benzodiazepine, then one more, then levetiracetam or phenytoin
4	**Don’t ever forget glucose** And never miss meningitis or raised ICP
5	**Match the epilepsy drug to the seizure type** Ethosuximide for absence; lamotrigine or levetiracetam for most others

SBAs

Clinical knowledge checkpoint

3 questions. Post your answers in the chat.



SBA 1: Twitching with a fever

Clinical vignette

A 14-month-old girl has a fever of 39.4 °C and a runny nose. Mum saw her right arm and face twitching for 4 minutes, and she did not respond during it. Within 30 minutes she is back to normal, with no weakness. This is her first seizure.

Which best describes this episode?

A	Simple febrile seizure
B	Complex febrile seizure
C	Febrile status epilepticus
D	Focal epilepsy
E	Rigor

Source: [1] NICE CKS Febrile seizure.

SBA 1: answer

Explanation

Answer B: complex febrile seizure

Focal features make a febrile seizure complex, even if it is short.

- **Other complex features:** lasting 15 minutes or more, recurring within 24 hours, incomplete recovery within 1 hour
- **Focal epilepsy:** needs unprovoked seizures
- **Febrile status epilepticus:** lasts 30 minutes or more

Which best describes this episode?

A	Simple febrile seizure
B	**Complex febrile seizure**
C	Febrile status epilepticus
D	Focal epilepsy
E	Rigor

Source: [1] NICE CKS Febrile seizure.

SBA 2: A 4-month-old with a seizure

Clinical vignette

A 4-month-old boy has a seizure at home. He has been irritable and vomiting for a day. Temp 36.8 °C. His fontanelle is bulging, and his head circumference has crossed two centiles upwards. Fundoscopy shows bilateral retinal haemorrhages. There is a small bruise behind his ear.

What is the most likely diagnosis?

A	Bacterial meningitis
B	Subdural haemorrhage from abusive head trauma
C	Hydrocephalus from a brain tumour
D	Infantile spasms
E	Hypoglycaemia

SBA 2: answer

Explanation

Answer B: subdural haemorrhage from abusive head trauma

Raised ICP with retinal haemorrhages and bruising in a non-mobile baby: suspect abusive head trauma.

- **Next:** CT head, skeletal survey and a same-day safeguarding referral
- **Red flag:** any bruise in a baby who isn't yet mobile

What is the most likely diagnosis?

A	Bacterial meningitis
B	**Subdural haemorrhage from abusive head trauma**
C	Hydrocephalus from a brain tumour
D	Infantile spasms
E	Hypoglycaemia

SBA 3: Reading the lumbar puncture

Clinical vignette

A 10-year-old girl comes to the emergency department after 18 hours of fever, severe headache and vomiting. She finds the lights in the room uncomfortable and has neck stiffness. She is given IV ceftriaxone, and once she is stable a lumbar puncture is done.

CSF results

- **Appearance:** cloudy
- **White cell count:** 1,200 $\times 10^6$/L (mostly neutrophils)
- **Protein:** 2.1 g/L
- **CSF to blood glucose ratio:** 0.2

Which diagnosis best fits these results?

A	Viral meningitis
B	Tuberculous meningitis
C	Bacterial meningitis
D	Herpes simplex encephalitis
E	Subarachnoid haemorrhage

Source: [5] NICE NG240 Meningitis (bacterial) and meningococcal disease (2024).

SBA 3: answer

Explanation

Answer C: bacterial meningitis

Cloudy CSF, very high neutrophils, raised protein and a low glucose ratio point to bacterial infection.

- **Viral meningitis:** mostly lymphocytes, normal glucose
- **TB meningitis:** lymphocytes, very high protein, low glucose; slower onset over weeks
- **HSV encephalitis:** confusion, behaviour change or focal seizures; lymphocytic CSF
- **Subarachnoid haemorrhage:** sudden “thunderclap” headache; red cells or xanthochromia, not pus

Which diagnosis best fits these results?

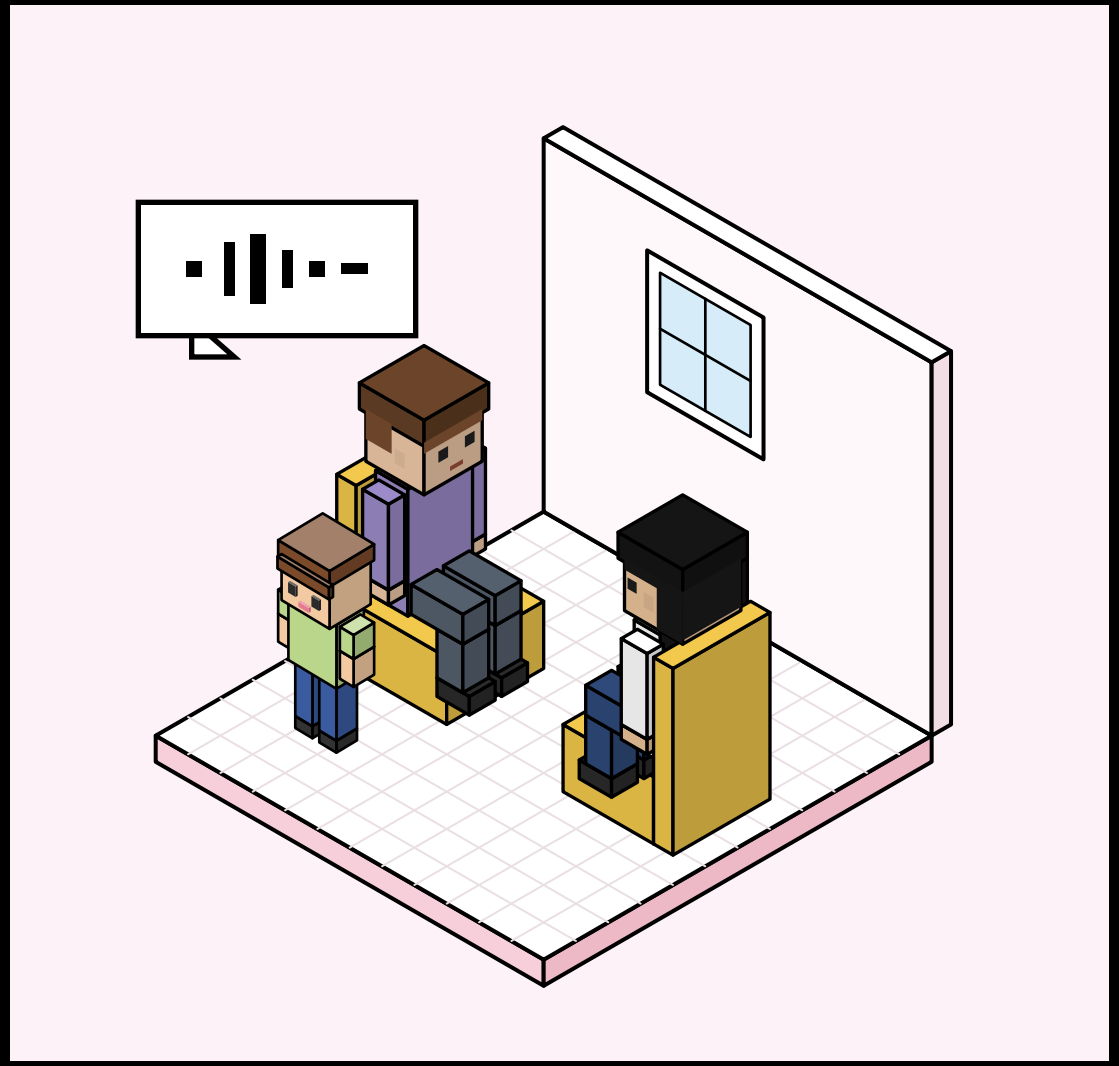
A	Viral meningitis
B	Tuberculous meningitis
C	**Bacterial meningitis**
D	Herpes simplex encephalitis
E	Subarachnoid haemorrhage

Source: [5] NICE NG240 Meningitis (bacterial) and meningococcal disease (2024).

LIVE

Paediatric seizures: live OSCE practice

Live simulation powered by MLAbuddy



01 Febrile fits | 02 A–E | 03 Epilepsy | 04 SBAs | **05 Live OSCE**

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Paediatric Seizures

Practise what Shuen taught today

1 station · 8 min · marked instantly

Take the challenge →

Apply what you learned

- ✓ **Seizure history:** before, during, after
- ✓ **Red flags:** meningitis, focal features, prolonged seizure
- ✓ **Mum's ICE:** ideas, concerns and expectations
- ✓ **Safety-netting:** when to call 999

Station door prompt (8 minutes)

Candidate instructions	
Setting	Paediatric emergency department
Patient	Priya, mother of Jamie (2 years)
Presenting complaint	Jamie had a “fit” at home an hour ago with a high temperature. He is now back to normal.
Your task	Take a collateral history from Mum, explain the likely diagnosis and give safety-netting advice.

08:00

minutes in the station

Sources: [1] NICE CKS Febrile seizure; [2] NICE NG143 Fever in under 5s.

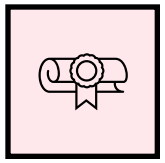
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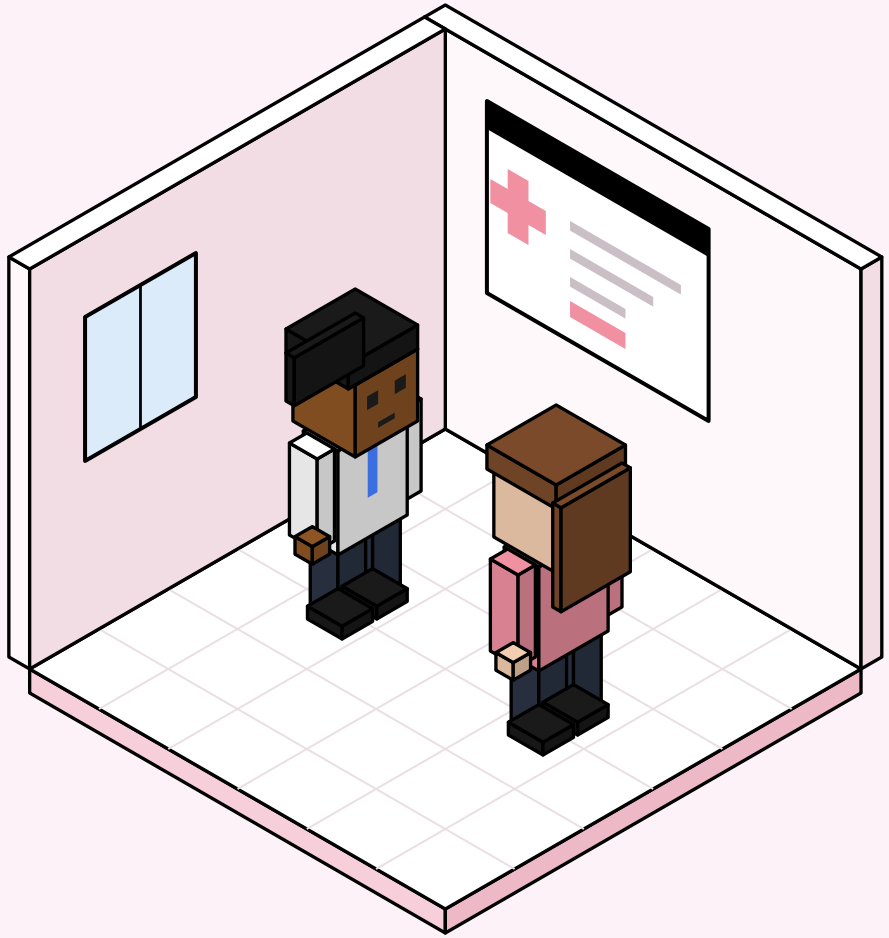
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References

Clinical guidelines used in this session

1. **NICE CKS.** Febrile seizure.
2. **NICE NG143.** Fever in under 5s: assessment and initial management.
3. **Advanced Life Support Group.** Advanced Paediatric Life Support: status epilepticus algorithm (current edition).
4. **NICE NG217 (2022).** Epilepsies in children, young people and adults.
5. **NICE NG240 (2024).** Meningitis (bacterial) and meningococcal disease: recognition, diagnosis and management.
6. **NICE NG51.** Suspected sepsis: recognition, diagnosis and early management.
7. **BNF for Children.** Lorazepam, midazolam, levetiracetam, phenytoin, ceftriaxone, glucagon.
8. **MHRA.** Valproate: safety measures and pregnancy prevention.
9. **ISPAD.** Clinical Practice Consensus Guidelines: hypoglycaemia.
10. **HeadSmart.** Be Brain Tumour Aware. headsmart.org.uk
11. **Resuscitation Council UK.** Paediatric advanced life support guidelines.
12. **General Medical Council.** MLA content map.