Non-pharmacological management

Ketogenic diet *(continued)*

✓ A ketogenic diet should be tried for at least 3 months to assess efficacy, with consideration of continuation based on risk and benefits at each visit and after 2 years of continuous use.

In children with glucose transporter 1 deficiency syndrome or pyruvate dehydrogenase complex deficiency the diet should be continued into adulthood (lifelong treatment).

Surgery

R **Children with drug-resistant epilepsy who fulfil referral criteria for assessment for surgery should be identified early.**

Vagus nerve stimulation

R **Vagus nerve stimulation could be considered as an adjunctive treatment for children with drug-resistant epilepsy who are not candidates for surgery, under the specialist guidance of a consultant paediatric neurologist.**

Cognitive, developmental and psychiatric comorbidities

✓ Where there is evidence of severe and persistent impairments in cognitive functioning or where difficulties are less well understood, healthcare professionals should refer for specialist neuropsychological assessment.

R **Healthcare professionals should routinely enquire about depression and anxiety symptoms in all children and young people with epilepsy.**

R **Cognitive behavioural therapy focusing on depression could be considered in children and adolescents with epilepsy and comorbid depression.**

R **Treatment with selective serotonin reuptake inhibitors could be considered in children and adolescents with epilepsy and comorbid depression.**

Transition

R **Paediatric services providing care to children and young people should consider the use of a planned, structured, educational approach directed at both patients and carers, to help prepare young people with epilepsy for the move to adult healthcare services.**

Mortality

R **At or around the time of diagnosis healthcare professionals caring for children and young people with epilepsy should:**

- **have a face-to-face discussion about SUDEP with families/carers and young people**
- **provide written information to reinforce information provided face-to-face.**

Sources of useful information

Epilepsy Scotland

Helpline: 0808 800 2200

www.epilepsyscotland.org.uk
Email: contact@epilepsyscotland.org.uk

Epilepsy Connections

Tel: 0141 248 4125

www.epilepsyconnections.org.uk
Email: info@epilepsyconnections.org.uk

Matthew's Friends

Tel: 01342 836571

www.matthewsfriends.org
Email: enq@matthewsfriends.org

SUDEP Action

www.sudep.org
Email: info@sudep.org

Young Epilepsy

www.youngepilepsy.org.uk

Healthcare Improvement Scotland | SIGN

SIGN 159

Epilepsies in children and young people: Investigative procedures and management

Quick reference guide

First published May 2021
Revised June 2026

This guideline provides recommendations based on current evidence for best practice in the investigative procedures and management of epilepsies in children and young people.

This Quick Reference Guide provides a summary of the main recommendations in **SIGN 159 Epilepsies in children and young people: Investigative procedures and management**.

Recommendations **R** are worded to indicate the strength of the supporting evidence. Good practice points ✓ are provided where the guideline development group wishes to highlight specific aspects of accepted clinical practice.

Details of the evidence supporting these recommendations can be found in the full guideline, available on the SIGN website: **www.sign.ac.uk**.

Investigative procedures

✓ In any child being evaluated for paroxysmal events of uncertain nature a typical event should be captured on on video, when safe to do so, for review by a clinician with expertise in epilepsy.

Electroencephalogram

R **If a clinical diagnosis of epilepsy has been made, EEG is recommended for further classification of epilepsy. If standard EEG is normal, a second-line EEG that captures sleep should be carried out. This could be an ambulatory, sleep-deprived or melatonin-induced sleep EEG.**

Magnetic resonance imaging

R **In children with drug-resistant focal epilepsy, 3-T MRI should be considered if 1.5-T MRI does not detect and define a lesion.**

Genetic testing

✓ Genetic testing should be considered, discussed and offered to the families of all children and young people presenting with epilepsy for whom aetiology cannot be fully explained through history taking, examination, targeted metabolic tests or neuroimaging. Families should be counselled by an experienced professional before genetic testing is undertaken.

Non-pharmacological management

Ketogenic diet

R **A ketogenic diet should be offered as a treatment option in children with drug-resistant epilepsy.**

R **A ketogenic diet is recommended in children with glucose transporter 1 deficiency syndrome and should be started as soon as possible after diagnosis.**

R **A ketogenic diet should be considered for children:**

- **who have not responded to two antiepileptic drugs**
- **with pyruvate dehydrogenase complex deficiency, ideally as part of a clinical trial with monitoring**
- **with drug-resistant myoclonic-atonic epilepsy**
- **and infants with infantile spasms who have not responded to standard treatment**
- **with drug-resistant Dravet syndrome.**

(Continued overleaf)

Recommendations for pharmacological management

Seizure type	First-line therapy	Adjunctive therapy
Focal	Carbamazepine, lamotrigine or levetiracetam could be considered. Oxcarbazine or zonisamide could be considered if first-line therapes are unsuccessful or not suitable. Consider lacosamide if first- and second-line therapies are unsuccessful or not suitable.	Carbamazepine, lacosamide, lamotrigine, levetiracetam, oxcarbazepine, topiramate or zonisamide (over 6 years of age) could be considered. Brivaracetam, cenobamate, eslicarbazepine acetate, perampanel (over 12 years of age) or pregabalin can be considered if first-line adjunctive therapies are unsuccessful. Phenobarbitol, phenytoin, sodium valproate, tiagabine or vigabatrin can be considered as third-line adjunctive therapies if second-line adjunctive therapies are unsuccessful.
Absence	Ethosuximide should be considered as first-line monotherapy for the treatment of patients with childhood absence epilepsy. Lamotrigine, levetiracetam or sodium valproate could be considered for patients with childhood absence epilepsy if ethosuximide is ineffective, not suitable or not tolerated.	Lamotrigine, levetiracetam or sodium valproate could be considered for patients with childhood absence epilepsy.
Lennox–Gastaut syndrome	Sodium valproate could be considered. Lamotrigine (2 years and older) could be considered as second-line treatment.	Lamotrigine (2 years and older) could be considered. Clobazam (2 years and older), cannabidiol with clobazam (2 years and above), rufinamide (4 years and older), topiramate (2 years and older) or fenfluramine (2 years and older) could be considered as options if second-line therapy with lamotrigine has been unsuccessful.
Infantile epileptic spasms syndrome	Hormonal treatment (adrenocorticotropic hormone, tetracosactide or prednisolone) with or without vigabatrin could be considered. Vigabatrin alone should be considered for children with IESS who are at high risk of steroid-related side effects. Vigabatrin alone should be considered for children with IESS as a result of tuberous sclerosis. If vigabatrin is ineffective after 1 week, add high-dose prednisolone. Levetiracetam, nitrazepam, sodium valproate or topiramate could be considered as second-line therapies. Children with IESS should be assessed within 1–2 weeks of commencing treatment and have treatment adjusted if necessary.	
Tuberous sclerosis		Everolimus could be considered for children (age 2 years and older) with refractory seizures associated with tuberous sclerosis complex, when other treatments have failed. Children prescribed everolimus should be closely monitored for adverse events.
Dravet syndrome	Sodium valproate could be considered.	Stiripentol and clobazam could be considered as an adjunctive therapy for children (3 years and older) with Dravet syndrome whose seizures are poorly controlled with sodium valproate. Cannabidiol or fenfluramine could be considered as an adjunctive therapy in conjunction with clobazam for children (2 years and older) with Dravet syndrome. Levetiracetam or topiramate, along with a ketogenic diet, could be considered if triple therapy is unsuccessful in reducing seizures in children (2 years and older) with Dravet syndrome. If all other treatment options are unsuccessful, potassium bromide could be considered.

Note: *Children exposed to sodium valproate or topiramate in utero are at risk of developmental disorders and should not be prescribed unless safety conditions are met. Before prescribing check the **MHRA website** for current advice. Before starting treatment with fenfluramine, patients should have an echocardiogram, then every 6 months for the first 2 years, and annually during treatment. This should be in, or in consultation with, a tertiary epilepsy centre.*