

# Lennox-Gastaut syndrome diagnostic support checklist

A practical aid for neurologists.

Use this checklist when Lennox-Gastaut syndrome (LGS) is a possible diagnosis in a person with childhood-onset epilepsy, multiple seizure types, treatment-resistant seizures, cognitive or behavioural impairment, or suggestive EEG findings.<sup>1-3</sup>

## For use as a clinical aid only.

This checklist does not confirm or exclude LGS.

It is intended to support clinical judgement and help identify when further EEG review, repeat assessment or referral to a specialist epilepsy service may be needed.<sup>1,4</sup>

## LGS should be considered where there is a pattern of:

- Seizure onset before 18 years<sup>2,3</sup>
- Tonic seizures plus at least one other seizure type<sup>1-3</sup>
- Treatment-resistant seizures<sup>1-3,5</sup>
- Cognitive and/or behavioural impairment<sup>1-3,5</sup>
- EEG evidence of slow spike-and-wave activity and generalised paroxysmal fast activity in sleep<sup>1-3</sup>

The ILAE diagnostic criteria include mandatory criteria, exclusionary criteria and alert features. Alert features should prompt caution and consideration of other conditions.<sup>2,3</sup>

**Clinical reminder:** LGS may evolve over time. Absence of a feature at one assessment does not always exclude LGS, particularly if EEG data are incomplete or cognitive/behavioural features are still emerging.<sup>1,5,6</sup>

## Why consider Lennox-Gastaut Syndrome (LGS)?

**LGS is a severe developmental and epileptic encephalopathy. It is typically associated with multiple drug-resistant seizure types, including tonic seizures; characteristic EEG abnormalities; and cognitive and/or behavioural impairment, which may evolve after seizure onset.**<sup>1-3</sup>

LGS can be difficult to recognise because clinical features vary between individuals, symptoms can evolve over time, and not all features may be present at the first assessment.<sup>1,5,6</sup> Delayed diagnosis, misdiagnosis and overdiagnosis can occur, even with existing diagnostic guidance.<sup>1,5</sup>

## Symptoms and clinical features that may raise suspicion

Consider LGS in a person with childhood-onset epilepsy who has one or more of the following features:

- **Tonic seizures**, particularly during sleep<sup>1-3</sup>
- **Multiple seizure types**, such as atonic, myoclonic, focal, generalised tonic-clonic or epileptic spasms<sup>1-3</sup>
- **Drop attacks or unexplained falls**, which may reflect tonic or atonic seizures<sup>2,3</sup>
- **Non-convulsive status epilepticus** or prolonged episodes of altered awareness<sup>1-3</sup>
- **Seizures that remain resistant to antiseizure medicines**<sup>1-3,6</sup>
- **Cognitive impairment, behavioural difficulties or developmental concerns**, which may be present early or emerge over time<sup>1-3,6</sup>
- **EEG findings suggestive of LGS**, including slow spike-and-wave complexes and generalised paroxysmal fast activity during sleep<sup>1-3</sup>

## Why use this checklist?

This checklist was developed by 10 paediatric and adult epileptologists from seven countries, funded by UCB. The seven questions are based on ILAE criteria for the classification and definition of LGS.<sup>1</sup>

120 cases were assessed: 64 LGS and 56 non-LGS.<sup>1</sup>

The checklist outcome was correct in 95% (n=114) of cases, including 68.3% (n=82) perfect matches with the expert diagnosis and 26.7% (n=32) “possibly LGS” outcomes that matched the original LGS diagnosis.<sup>1</sup>

Incorrect matches (2.5%; n=3) were associated with the absence of documented characteristic EEG features and with a lack of cognitive or behavioural impairment. This reinforces the need to reassess patients when clinical or EEG features evolve.<sup>1</sup>

## How to use the checklist

### Instructions

Tick **one** answer only for each question.

Use the best available clinical history, seizure history, medication history and EEG information.

If information is not known or not available, select the “unknown/insufficient data” option where provided.

After completing all seven questions, count the number of Green, Amber, and Red responses and use the interpretation guide (on the reverse of the checklist).

## Use this checklist to prompt action, not to make a final diagnosis

A “likely” or “possible” result should prompt consideration of:<sup>1</sup>

- Review of seizure history and previous EEGs
- Sleep EEG or repeat EEG, where clinically appropriate
- Review of cognitive, behavioural and developmental history
- Referral to a specialist epilepsy service or tertiary epilepsy centre
- Reassessment if new features emerge

# Lennox-Gastaut syndrome diagnostic support checklist

For UK/Irish healthcare professionals only.

Patient Name:

NHS Number:

Date:

Clinician:

## How to use

Select **one** answer per question. Count the number of **Green** **Amber** and **Red** responses, then use the interpretation guide below.

**This checklist is an aid only and does not provide a definitive diagnosis.** Results should be interpreted in a clinical context and may indicate the need for referral or further testing (see the next page for further information).<sup>1</sup>

### LGS diagnostic checklist and scoring system (Select a single response for each question)

Q1. What was the patient’s age at the first seizure?

<8 years

8–17 years old

≥18 years

Q2. Are there cognitive or cognitive plus behavioural impairments present?

Yes

Patient too young

No

Q3. Has the patient ever experienced tonic seizures?

Yes

Unknown

No

Q4. Has the patient experienced other seizure types?

Atonic, myoclonic, focal, generalised tonic-clonic, nonconvulsive status epilepticus, epileptic spasms

Yes

Unknown seizure type

No additional seizure types

Q5. Are the seizures resistant to antiseizure medications?

Yes

No

Q6. Has the EEG of the patient ever shown generalised, bifrontal or bilateral slow spike-and-wave complexes (<2.5 Hz)?

Yes

Unknown/insufficient data

No, never

Q7. Has the EEG of the patient ever shown generalised paroxysmal fast activity in sleep (>10 Hz or greater)?

Yes

Unknown/insufficient data

No, never

### Score (Count and insert the total number of responses for each column below)

Green

Amber

Red

### Score interpretation

7 Green = Likely diagnosis of LGS

1–2 Amber = Possible diagnosis of LGS  
3–4 Amber = Insufficient data  
(Can include any number of green but **no** red responses)

≥1 Red = Unlikely diagnosis of LGS  
(Regardless of the number of green or amber responses)

### Result

Likely diagnosis of LGS

Possible diagnosis of LGS

Insufficient data  
Repeat checklist if new symptoms present, or every 6 months

Unlikely diagnosis of LGS

# How to interpret the result

## 7 Green = Likely LGS.

This pattern is consistent with LGS.

**Suggested action:** refer to a specialist epilepsy service or tertiary epilepsy centre for diagnostic confirmation and management planning.<sup>1</sup>

## 1–2 Amber = Possible LGS.

LGS remains possible, but key information is incomplete or uncertain.

**Suggested action:** review missing information; consider repeat EEG, sleep EEG and/or specialist epilepsy referral.<sup>1</sup>

## 3–4 Amber = Insufficient data.

There is not enough information to support or exclude LGS.

**Suggested action:** gather further clinical, developmental/behavioural and EEG information. Repeat the checklist if new symptoms emerge, or within 6 months if concerns remain.<sup>1</sup>

## ≥1 Red = Unlikely LGS based on current information.

LGS is less likely based on currently available information.

**Suggested action:** consider alternative diagnoses. If clinical concerns remain, seek specialist epilepsy advice and reassess if features evolve.<sup>1</sup>

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## Clinical reminder

LGS may evolve over time. Absence of a feature at one assessment does not always exclude LGS, particularly if EEG data are incomplete or cognitive/behavioural features are still emerging.<sup>1</sup> This checklist should be used alongside seizure history, EEG review, developmental/cognitive assessment and clinical judgement. **It is not a definitive diagnostic test.**<sup>1</sup>

## Abbreviations

**EEG:** Electroencephalogram; **Hz:** Hertz; **ILAE:** International League Against Epilepsy; **LGS:** Lennox-Gastaut Syndrome; **NHS:** National Health Service.

## References

Specchio N, et al. Poster P566, 36th International Epilepsy Congress, Lisbon, Portugal, 30 August–3 September 2025. IE-DA-2500462 | July 2026

## Do you have any questions or need additional copies of the LGS checklist?

Reach out to your local UCB colleague or email  
[neurology.solutions@ucb.com](mailto:neurology.solutions@ucb.com)

### Abbreviations

**EEG:** Electroencephalogram; **Hz:** Hertz; **ILAE:** International League Against Epilepsy; **LGS:** Lennox-Gastaut Syndrome; **NHS:** National Health Service; **NICE:** National Institute for Health and Care Excellence.

### References

1. Specchio N, et al. A checklist to support the diagnosis of Lennox-Gastaut syndrome. Poster P566, 36th International Epilepsy Congress, Lisbon, Portugal, 30 August–3 September 2025.
2. Specchio N, et al. *Epilepsia*. 2022;63(6):1398–1442.
3. International League Against Epilepsy. [EpilepsyDiagnosis.org](http://EpilepsyDiagnosis.org): Lennox-Gastaut syndrome diagnostic criteria.
4. NICE. Epilepsies in children, young people and adults. NICE guideline NG217. Published April 2022; updated January 2025.
5. Auvin S, et al. *Epilepsia Open*. 2025;10(1):85–106.
6. Pujar S, Cross JH. Expert Review of Neurotherapeutics. 2024;24(4):383–389.

This non-promotional material is intended for UK/Irish healthcare professionals only, and was funded by UCB Pharma Ltd. It does not replace clinical judgement or local NHS/HSE referral pathways.

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