## Childhood epileptic encephalopathy

**Version: 3.1**  
**Published: 20 October 2018**

### Condition for which IVIg use is in exceptional circumstances only

<table>
<thead>
<tr>
<th><strong>Specific Conditions</strong></th>
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<tbody>
<tr>
<td>✷ Landau Kleffner syndrome</td>
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<tr>
<td>✷ Lennox-Gastaut syndrome</td>
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<tr>
<td>✷ Atypical rolandic epilepsy</td>
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<tr>
<td>✷ West syndrome</td>
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<table>
<thead>
<tr>
<th><strong>Indication for IVIg Use</strong></th>
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<tbody>
<tr>
<td>✷ Children with epileptic encephalopathy resistant to anti-epileptic medications and steroid therapy or steroid responsive but dependant</td>
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<tr>
<td>✷ Relapse of epileptic encephalopathy following a trial of weaning from Ig therapy in a patient previously demonstrating response</td>
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<table>
<thead>
<tr>
<th><strong>Level of Evidence</strong></th>
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<tbody>
<tr>
<td>Evidence of probable benefit – more research needed (Category 2a)</td>
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<table>
<thead>
<tr>
<th><strong>Description and Diagnostic Criteria</strong></th>
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<tbody>
<tr>
<td>Epilepsy is a clinical syndrome of recurrent epileptic seizures and has multiple causes. Immune mediated mechanisms can result in epilepsy. Patients with epilepsy due to clear cut inflammatory syndromes such as autoimmune encephalitis, Rasmussen encephalitis or post encephalitic epilepsy are considered elsewhere.</td>
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<tr>
<td>It is possible that immune mechanisms have a role in some cases of epilepsy, however defining these mechanisms is challenging. A few epileptic encephalopathy syndromes in infants and young children are responsive to steroids, and for this reason, an immune mechanism is possible. Intravenous immunoglobulin (IVIg) has been trialled in these patients with mixed success. A subgroup of patients with West syndrome, Landau Kleffner syndrome and Lennox Gaustaut syndrome have been observed to respond to steroids or IVIg and there is uncontrolled case report data that supports a possible improvement of symptoms with IVIg.</td>
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<thead>
<tr>
<th><strong>Justification for Evidence Category</strong></th>
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<tr>
<td>The literature on intravenous immunoglobulin (IVIg) in epileptic encephalopathy syndromes such as West syndrome, Landau Kleffner, Lennox Gaustaut is limited to case reports and small case series and the quality of this literature is poor. It can be concluded that a proportion of patients with these epileptic syndromes may benefit from IVIg, particularly those patients with demonstrable immune abnormalities in blood, CSF or neuroimaging.</td>
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<thead>
<tr>
<th><strong>Diagnosis Requirements</strong></th>
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<tr>
<td>A diagnosis must be made by a Neurologist.</td>
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*Note: This is a summary of the content from the Childhood epileptic encephalopathy document. The full document can be found [here](#).*
<table>
<thead>
<tr>
<th>Qualifying Criteria for IVIg Therapy</th>
<th>Children with epileptic encephalopathy resistant to anti-epileptic medications and steroid therapy or steroid responsive but dependant</th>
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<tbody>
<tr>
<td>Please use the indication <strong>Relapse of epileptic encephalopathy following a trial of weaning from Ig therapy in a patient previously demonstrating response</strong> for responding patients who have relapsed after weaning from previous Ig therapy.</td>
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</tr>
</tbody>
</table>
| • Diagnosis of Landau Kleffner syndrome, Lennox-Gastaut syndrome, West syndrome or atypical rolandic epilepsy confirmed by EEG  
AND  
• Refractory epilepsy with ongoing seizures of at least weekly frequency  
AND  
• Evidence of associated neurodevelopmental or neurocognitive issues  
AND  
• Failure of corticosteroid therapy to control seizures  
OR  
• Corticosteroid responsive but patient is steroid dependent for seizure control  
OR  
• Corticosteroid therapy has an absolute contraindication  
AND  
• Persistent seizures despite treatment with at least three anticonvulsant medications  
AND  
• Persistent seizures despite surgical intervention to control epilepsy  
OR  
• Surgical intervention is inappropriate  
|
| Review by a neurologist is required after three months of treatment to determine whether the patient has responded, and annually thereafter. If there is no benefit after the first three months of treatment, IVIg therapy should be abandoned.  

Documentation of clinical effectiveness (such as maintaining a seizure diary) is necessary for continuation of IVIg therapy.  

Once patients are stable, a trial of weaning from Ig therapy should be considered every year to identify those in remission. Responding patients who relapse within three months of cessation of Ig therapy can reapply under the indication **Relapse of epileptic encephalopathy following a trial of weaning from Ig therapy in a patient previously demonstrating response**. |
Relapse of epileptic encephalopathy following a trial of weaning from Ig therapy in a patient previously demonstrating response

This indication is for **responding patients who relapse within three months of cessation of Ig therapy**. For patients who have never trialled off a request must be submitted using the indication **children with epileptic encephalopathy resistant to anti-epileptic medications and steroid therapy or steroid responsive but dependent.**

- Moderate deterioration in symptoms of epileptic encephalopathy within three months of ceasing Ig in a patient who had previously responded to Ig therapy

AND

- Increased frequency of seizures compared to when receiving Ig therapy

IVlg should be used for up to three months before a review by a neurologist is required to determine whether the patient has responded. Annual review is required thereafter. If there is no improvement after the initial three month’s treatment, Ig therapy should be abandoned.

Documentation of clinical effectiveness (such as maintaining a seizure diary) is necessary for continuation of IVlg therapy.

Once patients are stable, a trial of weaning from Ig therapy should be considered every year to identify those in remission.

<table>
<thead>
<tr>
<th>Exclusion Criteria</th>
<th>Rasmussen encephalitis</th>
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<tr>
<td></td>
<td>- see <a href="#">Rasmussen encephalitis</a></td>
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<tr>
<td></td>
<td>Post encephalitic epilepsy</td>
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<tr>
<td></td>
<td>- see <a href="#">Antibody mediated autoimmune encephalitis (AMAE)</a></td>
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</table>
Review Criteria for Assessing the Effectiveness of IVIg Use

Children with epileptic encephalopathy resistant to anti-epileptic medications and steroid therapy or steroid responsive but dependant

Review by a neurologist is required after three months of treatment to determine whether the patient has responded, and annually thereafter. If there is no benefit after the first three months of treatment, IVIg therapy should be abandoned.

Documentation of clinical effectiveness (such as maintaining a seizure diary) is necessary for continuation of IVIg therapy.

Once patients are stable, a trial of weaning from Ig therapy should be considered every year to identify those in remission. Responding patients who relapse within three months of cessation of Ig therapy can reapply under the indication Relapse of epileptic encephalopathy following a trial of weaning from Ig therapy in a patient previously demonstrating response.

Clinical effectiveness of Ig therapy can be demonstrated by:

On review of the initial authorisation period

- Documented moderate improvement in the severity of symptoms (including improved cognition / behaviour / ambulation) compared to at qualifying
  
  AND

- Reduction in the severity and/or frequency of seizures compared to the qualifying assessment

On review of a continuing authorisation period

- Further documented improvement in or stabilisation of symptoms (cognition or behaviour or ambulation) compared to the previous review assessment
  
  AND

- Further documented improvement in or stabilisation of seizures compared to the previous review
  
  AND

- A trial of weaning from Ig therapy with a view to cessation of Ig therapy is considered annually for patients who are clinically stable to identify those in remission or a valid reason provided as to why a trial is not being planned or is contraindicated at this time
Relapse of epileptic encephalopathy following a trial of weaning from Ig therapy in a patient previously demonstrating response

IVlg should be used for up to three months before a review by a neurologist is required to determine whether the patient has responded. Annual review is required thereafter. If there is no improvement after the initial three month’s treatment, Ig therapy should be abandoned.

Documentation of clinical effectiveness (such as maintaining a seizure diary) is necessary for continuation of IVlg therapy.

Once patients are stable, a trial of weaning from Ig therapy should be considered every year to identify those in remission.

Clinical effectiveness of Ig therapy can be assessed by:

On review of the initial authorisation period

- Moderate improvement in the severity of symptoms (improved cognition or behaviour or ambulation) compared to the severity of symptoms of relapse
  AND
- Reduction in the severity and/or frequency of seizures compared to severity and/or frequency at relapse

On review of a continuing authorisation period

- Further documented improvement in or stabilisation of symptoms (improved cognition or behaviour or ambulation) compared to the previous review assessment
  AND
- Further reduction in or stabilisation of, the severity and/or frequency of seizures compared to the most recent assessment
  AND
- A trial of weaning from Ig therapy with a view to cessation of Ig therapy is considered annually for patients who are clinically stable to identify those in remission or a valid reason provided as to why a trial is not being planned or is contraindicated at this time.
Dose

Children with epileptic encephalopathy resistant to anti-epileptic medications and steroid therapy or steroid responsive but dependant

- **Induction Dose** - 2 g/kg as divided dose over 2 to 5 days.
- **Maintenance Dose** - 1 g/kg as divided dose over 2 to 5 days, monthly

The aim should be to use the lowest dose possible that achieves the appropriate clinical outcome for each patient.

Refer to the current product information sheet for further information on dose, administration and contraindications.

Relapse of epileptic encephalopathy following a trial of weaning from Ig therapy in a patient previously demonstrating response

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**Bibliography**


