

Early Infantile Epileptic Encephalopathy (EIEE)

A neurological disorder characterized by [seizures](#). The disorder affects [newborns](#), usually within the first three months of life (most often within the first 10 days) in the form of epileptic seizures. Infants have primarily [tonic seizures](#) (which cause stiffening of muscles of the body, generally those in the back, legs, and arms), but may also experience [partial seizures](#), and rarely, [myoclonic seizures](#) (which cause jerks or twitches of the upper body, arms, or legs).

Episodes may occur more than a hundred times per day.

Most infants with the disorder show underdevelopment of part or all of the cerebral hemispheres or structural anomalies.

Some cases are caused by metabolic disorders or by mutations in several different genes. The cause for many cases can't be determined. There are several types of early infantile epileptic encephalopathy.

The EEGs reveal a characteristic pattern of high voltage spike wave discharge followed by little activity. This pattern is known as "[burst suppression](#)." The seizures associated with this disease are difficult to treat and the syndrome is severely progressive.

Some children with this condition go on to develop other epileptic disorders such as West syndrome and Lennox-Gestaut syndrome.

Rotavirus has been associated with [neonatal seizures](#) and specific [white matter magnetic resonance imaging](#) (MRI) abnormalities. Hopmans et al. described monozygotic [twins](#) who not only tested positive for rotavirus with these white matter MRI abnormalities but who also showed an [electroencephalography](#) (EEG) pattern characteristic of [early infantile epileptic encephalopathy](#) (EIEE), which has so far solely been described in epileptic encephalopathies with a poor prognosis. This report suggested that rotavirus infection must be added to the list of causes of EIEE EEG and that the outcome then is likely more favorable. As MRI and EEG signs of rotavirus encephalopathy were present in one twin with only subtle neurologic symptoms, rotavirus may well cause insidious central nervous system complications more often. They suggest considering rotavirus infection in [neonates](#) presenting with [seizures](#), and to add rotavirus infection to the differential diagnosis of EIEE ¹⁾.

1)

Hopmans EM, van der Heide A, Chung PK, Brinkman D, Feltkamp MCW, van Dijk JG, Steggerda SJ, Niks EH. [Rotavirus](#)-Induced Neonatal Epileptic Encephalopathy-A Disease Spectrum Illustrated by Monozygotic Twins. *Neuropediatrics*. 2019 Sep 21. doi: 10.1055/s-0039-1695712. [Epub ahead of print] PubMed PMID: 31541999.

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