



BEYOND THE GUIDELINES: INFORMATION ABOUT STATUS EPILEPTICUS

What is Status Epilepticus (SE)?

SE is a seizure that lasts for more than 30 minutes or if someone has two or more seizures without becoming conscious between seizures^{1,2,3}. SE is life-threatening and may occur in persons living with epilepsy or in those with no history of seizures. If someone is having SE, it may occur as a convulsive seizure (e.g. generalized

tonic-clonic) or a non-convulsive seizure (e.g. absence or complex partial) and must be treated in a hospital immediately^{2,4}. A person may have refractory SE if seizures continue despite the use of two anti-seizure drugs (ASDs)¹.

How common is SE?

- ◆ Estimated incidence of SE around the world is 15-20 cases per 100,000 people¹.
- ◆ Infants (<1 year of age) and the elderly (>65 years of age) are more likely to have SE, and are also more likely to have poor long-term outcomes⁵.
- ◆ Around 20% of SE cases are fatal and long-term mortality rates are around 55% in adults and 20% in children⁵.

What causes SE?

There are many potential causes of SE, but these vary with age. In elderly adults, the most common causes are stroke and hypoxia⁶. Other causes of SE may be infection (most common in children), alcohol-related SE, traumatic brain injury, cancer, metabolic disorders, and withdrawal from ASDs^{1,6}. The possibility of SE should be discussed with all women and girls considering pregnancy and who plan on discontinuing ASDs. To help determine the cause of SE in children, a

clinician may recommend an electroencephalogram (EEG) for the child to see whether there are any focal or generalized abnormalities in their brain³. Brain imaging procedures (e.g. magnetic resonance imaging, computed tomography) may be considered for the child but only if they are in a stable condition and their seizures are controlled. A clinician may also perform other lab tests to diagnose the cause, including checking the ASD levels, a toxicology test, or blood test³.

i Immediate treatment of SE is required. Prolonged convulsive seizures may lead to permanent brain injury or damage to other organs.

How is SE treated?

Recent studies suggest that a benzodiazepine be given as the first line of treatment for SE, specifically midazolam, diazepam (Valium) or lorazepam (Ativan)^{2,4,6}. If the person with SE is in a hospital setting and the seizures continue, the second line of treatment for SE is intravenous phenobarbital or phenytoin^{2,4}.

It is also important that critical care be provided to persons experiencing SE including maintaining blood pressure, supporting respiration, and other vital signs⁴. Treatment should be administered by a clinician or a family member/caregiver, if they are given appropriate training.

References

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- (5) Sculier, C., Gainza-Lein, M., Fernandez, I.S. (2018) Long-term outcomes of status epilepticus: A critical assessment. *Epilepsia*. 59(5):155-169.
- (6) Leppik, I.E. (2018) Status epilepticus in the elderly. *Epilepsia*. 59(5):140-143.

