

Neurology – Status Epilepticus: What You Need to Know

Whiteboard Animation Transcript

with George Porfiris, MD, CCFP(EM), FCFP

Status epilepticus defined as continuous seizing for more than 5 minutes or back to back seizing without awakening, it is a medical emergency and something that you must know how to treat.

When you are called to see a patient who is actively seizing it is important that you yourself stay calm and have an organized plan of action. Do not wait around for the seizure to stop spontaneously. The longer a patient seizes, the harder it is to stop, as electrical short circuits start forming in the brain and make it more difficult to suppress.

As in all emergencies the ABCs – or “airways, breathing, and circulation” take priority. Place the patient on 100% oxygen, attach them to the monitors and establish IV access. Check a blood sugar and correct it if it is low.

The first line medications to stop the seizures are benzodiazepines and they can be given repeatedly every 5 minutes until the seizure stops. If you are lucky to have an intravenous line established, Ativan (lorazepam) is your drug of choice, if you do not have an IV you can give Versed (midazolam) intramuscularly or intranasally. Rectal Valium (diazepam) is an alternative option.

If you do not have IV access after a few doses of benzos, than an intraosseus line – often placed in the tibia – should be inserted – as it allows quick penetration of additional drugs.

After benzodiazepines, Dilantin (phenytoin) should be administered as an infusion – remember never push Dilantin as a bolus as it will cause life threatening apnea, hypotension, and arrhythmias.

If the patient is still seizing, IV phenobarbital or Valproic acid can be given over 20 minutes as a second line agent.

The final step in the treatment of status epilepticus is general anaesthesia with intubation and EEG monitoring.

The most common causes of status epilepticus are noncompliance or discontinuation of antiepileptic medications. However, alcohol and drug toxicity or withdrawal, CNS infections, CNS malignancies and severe head trauma must all be ruled out.

In the back of my mind, I also consider these three other causes in select patients:

1. Could the patient be pregnant or post partum? If yes, consider eclampsia and check the blood pressure, and if present, treat with IV magnesium sulfate and urgent C-Section if still pregnant.
2. Could this be an overdose of the TB drug INH (isoniazid)? This type of overdose can present with intractable seizures and will only respond to IV Vitamin B6.

3. And finally, could this be a form of hyponatremia? If the patient has a sodium of less than 110 and is actively seizing, you must correct the sodium (but not too fast, because that can cause brain edema).