

Seizure Disorders Care Guide

December 2016



CALIFORNIA CORRECTIONAL
HEALTH CARE SERVICES

SUMMARY

GOALS

- ✓ Identify and classify type of seizure
- ✓ Avoid drug-drug interactions
- ✓ Minimize seizures through appropriate therapy
- ✓ Minimize adverse events, including potentially avoidable hospitalizations

ALERTS

- Signs and symptoms of drug toxicity
- Ensure antiepileptic drug (AED) adherence
- Seizures lasting > 5 minutes
- History of traumatic brain injury (TBI)
- Contraception, pregnancy, and menopause

TREATMENT OPTIONS

Initiating Medication

- Medication is not indicated after a first seizure in most patients. Evaluate need for therapy on an individual basis.
- Offer AEDs after first tonic-clonic seizure if:
 - Prior history of absence, myoclonic or focal seizures
 - Congenital neurologic defect
 - Electroencephalography (EEG) with epileptic discharge
 - Recurrence risk unacceptable to patient
- Medication selection is dependent in part on seizure class and epilepsy syndrome.
- Optimize monotherapy before considering second agent.
- Encourage adherence, monitor side-effects, ensure good control is maintained and educate patient.
- AEDs usually not indicated for provoked seizures. Treat underlying cause if possible. Discontinue prophylactic AEDs unless seizures reoccur.

Drug-Resistant Seizures

- If seizures are uncontrolled, or patient is not seizure free at maximally tolerated doses of initial AED, consider changing to a different first line AED. Titrate new medication to therapeutic level prior to tapering initial AED.
- Consider psychogenic nonepileptic seizure diagnosis. Pseudoseizures may have physiologic or psychogenic etiology (see page 2).
- Consult neurology if seizures are not well controlled on two medications.

CDCR Housing/Activity Restrictions

- Complete a CDCR 7410, Comprehensive Accommodation Chrono for bottom bunk.
- Consider lower tier also in selected cases.
- Issue restrictions on driving, operating heavy equipment, working with heat, and working at heights.

Status Epilepticus

- The principal goal of treatment is to emergently stop seizure activity. The initial treatment strategy includes simultaneous assessment and management of airway, breathing, and circulation (obtain IV access, administer O₂, and secure the airway as needed), check vital signs, fingerstick glucose, seizure abortive drug treatment (i.e., lorazepam) and emergent transport to a higher level of care (see pages 3 and 6).

MONITORING

- Measure baseline CBC, BUN/creatinine, LFTs, electrolytes, and albumin prior to starting AED therapy.
- Monitor CBC, BUN/creatinine, LFTs, electrolytes as indicated.
- Monitor for adverse effects.
- Obtain AED level to establish baseline when stable dose is achieved for agents where drug levels are

useful to monitor adherence or when seizure control changes. (AEDs are sometimes drugs of abuse in CDCR/CCHCS.)

- Primary Care Provider (PCP) follow-up frequency will vary on case by case basis. Well-controlled patients may be seen at 180 day intervals.
- AED dosing is based primarily on side effects and seizure control, rather than AED levels.

EVALUATION

New Onset Seizures (See page 3 for more details)

Diagnosis

Epilepsy is a neurologic disorder characterized by recurring seizures (altered cerebral function due to excessive and abnormal electrical discharges of brain cells).

Differential Diagnosis

Acute symptomatic or “provoked” seizures: seizures which occur in the setting of stroke, traumatic brain injury, metabolic derangement (e.g., hypoglycemia, hyponatremia, drug/alcohol withdrawal, drug intoxication, medications, and encephalitis). Unless seizures recur they are not considered epilepsy.

Nonepileptic paroxysmal disorders: syncope, psychological disorders, sleep disorders, paroxysmal movement disorders, migraine, miscellaneous neurologic events. In the elderly: transient ischemic attack (TIA), transient global amnesia, drop attacks.

Classification

- Identify seizure type(s) and/or epilepsy syndrome (see page 7).
- Distinguish between focal or generalized seizures.

Clinical Factors and Diagnosis

- Identify what happened before, during, and after the attack as well as any potential triggers.
- EEG if epilepsy is suspected.
- For new onset seizure, perform magnetic resonance imaging (MRI) of the head without and with contrast if epilepsy is suspected.
- Computed tomography (CT) head without contrast is preferred in new-onset posttraumatic seizure, for urgent assessment, or when MRI is contraindicated.

ESTABLISHED SEIZURES

History

- Obtain past medical history of seizures. Attempt to obtain pre-incarceration history and medical records.
- Identify seizure type or description, number, and frequency of seizures.
- Assess for changes in seizure control.

Medication Review

- **Assess drug adherence:** Failure to respond to usual AEDs should prompt a review of epilepsy diagnosis and adherence to medication(s).
- **Consider drug interactions** when new medications are added, AEDs are added or changed, or seizure control changes.
- **Monitor for adverse effects/toxicity,** drug interactions, efficacy, and AED levels when indicated.

Diagnostic Evaluation

- EEG has limited use in management of chronic seizures/epilepsy.
- Consider EEG with changes in patient’s seizure pattern or class or worsening mental status.
- Neuroimaging: Perform emergently when a new focal deficit, persistent altered mental status, fever, acute head trauma, intractable headache, history of cancer, or suspected immune deficiency is present.

AED Discontinuation and Withdrawal

- Discontinuation of AEDs in patients with clearly established seizure disorders is not generally recommended due to the high risk of seizure recurrence, even after long seizure free intervals on therapy.

- When discontinuation of AED is considered (e.g., for patient in whom epilepsy diagnosis is unclear or those who have been seizure free for two years), most schedules aim for a six to nine month taper, with dose reductions at three month intervals. More rapid tapers have been studied but are associated with higher rates of seizure recurrence.

SEIZURE TYPES

PSEUDOSEIZURES OR PSYCHOGENIC NONEPILEPTIC SEIZURES*

DEFINITION: Psychogenic nonepileptic seizures (PNES) are episodes of movement, sensation, or behaviors resembling epilepsy unaccompanied by physiologic central nervous system dysfunction.

DIAGNOSIS:

- Often misdiagnosed with epilepsy (epilepsy may also be present in 5-10% or more of PNES patients). More than 2/3rds of PNES patients are female.
- Diagnosis is based on a constellation of findings, the probability of PNES increases with the number of features unusual in epilepsy. Detailed history, physical examination, observation during seizures, and psychological evaluation are required for diagnosis.
- Video-electroencephalography (vEEG) is useful for diagnosis of PNES. Observation of typical seizures without accompanying EEG abnormalities is diagnostic.

FINDINGS SUGGESTIVE OF PNES

Clinical Features:

- Gradual onset of seizures
- Long seizure duration (2-3 minutes or more)
- Waxing and waning symptoms during seizure, nonphysiologic progression
- Disorganized, asymmetrical motor activity, side to side head movements, pelvic movements (especially thrusting), opisthotonos
- Eyes often closed, resistance to eye opening during seizure (highly suggestive of PNES)
- Ictal crying, weeping
- Seizures triggered by suggestion
- Rapid recovery after seizure, awake and oriented
- Rare incontinence, tongue biting on tip (not side of tongue)

Historical Features:

- High seizure frequency
- No response to AEDs or possibly increase in seizures with AED therapy.
- Associated psychiatric disorders
- History of sexual or physical abuse
- No history of injury from seizures
- Recurrent status epilepticus with frequent emergency room visits or hospitalizations
- Failure to respond to therapy for status epilepticus
- Seizures occur only when alone or only when others are present

TREATMENT OF PNES

- Thoughtful approach to informing patient of diagnosis
- Withdrawal of prescribed AEDs
- Treatment of underlying psychological disorders

NEW ONSET SEIZURE

Diagnostic evaluation of patients with first time seizures:

- Establish whether or not the event was a seizure. Obtain a complete description of the seizure including behaviors, movements, duration, level of consciousness, etc. (both ictal & postictal), from the patient and observers.
- Consider possible correctable systemic problems such as an acute medical condition (e.g., hypoglycemia, hyponatremia), syncope, arrhythmia, neurologic illness, or injury (e.g., TIA, stroke, TBI, movement

disorder, meningitis, anoxic encephalopathy).

- Perform and document a complete physical and neurological examination.
- Labs: Obtain blood tests to identify abnormalities in electrolytes, glucose, calcium, magnesium, hepatic and renal function, and a toxicology screen when clinically indicated.
 - Depending on the clinical situation, a lumbar puncture may also be indicated to rule out infection, hemorrhage, etc.
 - Serum prolactin measurement* - Prolactin elevation (>2X baseline), measured 10 to 20 minutes after a suspected event, is a useful adjunct for the differentiation of generalized tonic-clonic or complex partial seizure from a psychogenic nonepileptic seizure but it is not sensitive enough to rule out epilepsy (i.e., does not distinguish an epileptic seizure from syncope).

*UpToDate: Psychogenic nonepileptic seizures, Alan B Ettinger, M.D. 12/16/2011