Unprovoked First Seizure in Adults

Definitions, recurrence risk and risk factors, effect of immediate AED therapy on short- and long-term outcomes, adverse events, and shared decision-making.

2015 AAN/AES Evidence-Based Guideline
Management of an Unprovoked First Seizure in Adults
AAN/AES Guideline Subcommittee · Neurology
2015;84:1705–1713

LEVEL — A · Highest Confidence | B · Moderate | C · Lower | Background / Context

1 Definitions & Scope

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Unprovoked seizure: no acute precipitating cause; excludes provoked seizures (acute metabolic/toxic disturbance, trauma, stroke) which carry a different prognosis.

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Two categories: unknown etiology, or "remote symptomatic" — seizure related to a preexisting brain lesion or progressive CNS disorder.

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Scope: applies to adults presenting with a single unprovoked seizure (~150,000 U.S. adults/year); does not apply to patients with ≥2 seizures at presentation.

2 Recurrence Risk & Risk Factors

A

Overall risk is greatest within the first 2 years (21–45%); prior brain insult (stroke/trauma) and EEG with epileptiform abnormalities are also Level A risk factors.

B

Significant **brain-imaging abnormality** and **nocturnal seizure** are moderate-confidence risk factors for recurrence.

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After a 2nd seizure, risk of further seizures is very high — 57% by 1y, 73% by 4y — AED initiation is then generally accepted.

3 Immediate AED — Short-Term Effect

B

Immediate AED therapy, vs. delaying until a 2nd seizure, **likely reduces recurrence risk** over the next 2 years — pooled data: ~23% treated vs. ~43% untreated.

C

Immediate treatment **may not improve quality of life** — one controlled trial found no significant 2-year QOL difference, though untreated patients were more often restricted from driving.

4 Long-Term Prognosis

B

Over the longer term (>3 years), immediate AED treatment is **unlikely to improve prognosis** for sustained seizure remission.

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Remission rates at >3–5y follow-up: ~88% immediate vs. ~87% deferred treatment — not significantly different; no evidence immediate treatment reduces mortality or SUDEP risk.

5 AED Adverse Events

B

7–31% of patients on AED monotherapy experience an adverse event — predominantly mild and reversible.

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No AED-related deaths or life-threatening allergic reactions reported (population size limited). Agents studied: phenytoin, phenobarbital, carbamazepine, valproic acid, lamotrigine — most AEs dose-related and reversible.

6 Shared Decision-Making

Individualize: weigh recurrence risk against AED adverse-event risk; incorporate educated patient preferences. Immediate treatment will not improve long-term remission but will reduce recurrence risk over the next 2 years.

Social factors: discuss driving privileges and employment implications — only 21% of first-seizure patients received correct driving advice in one study.

Krumholz A, Wiebe S, Gronseth GS, et al. Evidence-Based Guideline: Management of an Unprovoked First Seizure in Adults: Report of the Guideline Development Subcommittee of the AAN and the American Epilepsy Society. *Neurology*. 2015;84(16):1705–1713.