

AED DOSAGE & FORMULATIONS

Anti-seizure drug dosing and formulations (pediatric and adult). "Not before" = minimum age. Verify all doses before prescribing.

Drug	Not before	Loading	Target level	Peds dosing (start-max)	Peds formulations	Adult dose	Adult formulations
First-generation							
Carbamazepine (Tegretol)	—	—	4–12 µg/mL	5–35 mg/kg/d (TID)	Susp 20/mL; chewable tab 100 mg	200–800 BID	Tab IR 200, XR 100/200/400 mg
Ethosuximide (Zarontin)	3 years	—	40–100 µg/mL	10–40 mg/kg/d (BID)	Syr 50/mL; cap 250 mg	500–1500 QD	Cap 250 mg
Phenytoin	—	15–20 mg/kg*	10–20 µg/mL (free 1–2)	4–8 mg/kg/d (BID)	Susp 25/mL; chewable 50 mg	100–200 TID	Cap 100, 200, 300 mg
Valproate	6 months	40 mg/kg	50–100 µg/mL	10–60 mg/kg/d (BID/TID)	Syr 50/mL	250 BID – 60 mg/kg	Tab DR 125/250/500; ER 250/500; sprinkle 125
Phenobarbital	—	15–20 mg/kg	10–40 µg/mL	3–6 mg/kg/d (QD); target level 10–40	Elixir 4/mL; tab 15/30/60/100	60–200 mg/day	Tab 15/30/60/100; elixir; injectable
Clonazepam	—	—	20–70 ng/mL	0.01–0.2 mg/kg/d Max: <1 mg if <1 yr, 6 mg >1 yr	—	0.5–20 mg/day (÷)	Tab 0.5/1/2; ODT 0.125–2 mg
Second-generation							
Gabapentin (Neurontin)	3 years	—	2–20 µg/mL	10–50 mg/kg/d (TID)	Syr 50/mL	300–2400/d	Cap 100/300/400; tab 600/800
Topiramate (Topamax)	2 years	—	5–20 µg/mL	1–9 mg/kg/d (BID; max 400 mg)	Sprinkle 15/25	25–200 BID	Tab 25/50/100/200; Trokendi XR 25/50/100/200
Lamotrigine	2 years	—	2.5–15 µg/mL	0.3–15 mg/kg/d (BID; slow titration, ½ dose with valproate)	Chewable 2/5/25; disintegrating 25/50/100	25/d – 200 BID (½ dose with valproate)	Tab 25/100/150/200
Levetiracetam (Keppra)	1 month	60 mg/kg	12–46 µg/mL	10–60 mg/kg/d (BID)	Syr 100/mL	500–1500 BID	Tab 250/500/750/1000
Oxcarbazepine (Trileptal)	2 years	—	3–35 µg/mL (MHD)	10–60 mg/kg/d (BID)	Sus 60/mL	300–1200 BID	Tab 150/300/600; Oxtellar XR 150/300/600
Zonisamide (Zonegran)	16 years	—	10–40 µg/mL	2–12 mg/kg/d (off-label <16 y)	Cap 25/50/100	100 QD, titrate to 400 (max 600)	Cap 25/50/100
Tiagabine (Gabitril)	12 years	—	20–200 ng/mL	4–32 mg/d (QHS)	—	4–56 mg/day (BID–QID)	Tab 2/4/12/16
Felbamate (Felbatol)	2 years	—	30–60 µg/mL	15–45 mg/kg/d (TID)	Susp 120 mg/mL	400–1200 TID	Tab 400/600
Third-generation							
Lacosamide (Vimpat)	1 month	200–400 mg	10–20 µg/mL	2–15 mg/kg/d (BID, by wt)	Syr 10 mg/mL	Mono 100–200 BID; adj 50–200 BID	Tab 50/100/150/200
Brivaracetam (Briviact)	1 month	—	0.2–2 µg/mL	1–5 mg/kg BID (by weight)	Sus 10/mL	25–100 BID	Tab 10/25/50/75/100; IV
Clobazam (Onfi)	2 years	—	30–300 ng/mL	≤30 kg: 5 mg HS; >30 kg: 5 mg BID (max 20 / 40 mg/d)	Susp 2.5/mL; tab 10/20	10–40 mg/day	Tab 10/20
Perampanel (Fycompa)	4 years	8–36 mg (off-label)†	180–980 ng/mL	2–12 mg QHS	Susp 0.5 mg/mL	2–12 mg QHS	Tab 2/4/6/8/10/12
Vigabatrin (Sabril)	1 month	—	not routinely monitored	50–150 mg/kg/d (BID)	Sachets 500 mg	500–1500 BID	Tab 500 mg
Rufinamide (Banzel)	1 year	—	5–30 µg/mL	10–45 mg/kg/d (BID, with food)	Susp 40/mL	200–1600 BID	Tab 200/400
Eslicarbazepine (Aptiom)	4 years	—	3–35 µg/mL	200–300 mg start (by weight) → 600–900 mg	—	400–1600 QD	Tab 200/400/600/800
Newest agents (2018+)							
Cannabidiol (Epidiolex)	1 year	—	not established	2.5 → 10 mg/kg BID (12.5 for TSC)	Oral soln 100 mg/mL	Same (weight-based)	Oral soln 100 mg/mL
Cenobamate (Xcopri)	Adults only	—	not established	—	—	12.5 mg QD, slow titration q2wk to 200 (max 400)	Tab 12.5/25/50/100/150/200
Fenfluramine (Fintepla)	2 years	—	not established	0.1–0.35 mg/kg BID (max 26 mg/d; 17 with stiripentol)	Oral soln 2.2 mg/mL	Same (weight-based)	Oral soln 2.2 mg/mL
Ganaxolone (Ztalmy)	2 years	—	not established	≤28 kg: up to 21 mg/kg TID; >28 kg: up to 600 mg TID (with food)	Oral susp 50 mg/mL	—	Oral susp 50 mg/mL

***Phenytoin oral load:** 400 → 2h → 300 → 2h → 300 mg (total 1000 mg over 6 hours). †**Perampanel** is loaded orally off-label (8–36 mg). Loading doses shown are IV loads for **status epilepticus** (fosphenytoin/phenytoin 15–20, valproate 40, levetiracetam 60 mg/kg).