

Antiseizure Medications and Fetal Development Chart

Congenital Malformation Risk (low, mild, moderate, high)		Specific Birth Malformations	Special Consideration	Lactation Safety Recommendations
Valproic acid			References: 6,7,11	
High risk	Neural tube defects (eg, spina bifida), craniofacial defects (eg, oral clefts, craniosynostosis), cardiovascular malformations, hypospadias, and limb malformations (eg, clubfoot, polydactyly) have been reported.		Risk of congenital malformations increases with higher doses	Recommended; with close infant monitoring
Topiramate			References: 6,7,11	
High risk	Oral cleft lip or palate, hypospadias and atrial septal defect		Risk of congenital malformations increases with higher doses	Recommended
Phenobarbital			References: 6,7,11	
High risk	Oral clefts and cardiac malformations		Risk of congenital malformations increases with higher doses	Breastfeeding with caution; encourage individualized approach and close monitoring
Carbamazepine			References: 4,6,7, 11	
Moderate risk	Neurotube defects (spina bifida), craniofacial defects (cleft lip and palate), hypospadias, genitourinary tract defects, skeletal malformations (club foot and polydactyly), respiratory and gastrointestinal malformations, and cardiovascular malformations		Risk of congenital malformations increases with higher doses and antiseizure polytherapy	Recommended
Phenytoin			References: 6,7	
Moderate risk	Orofacial clefts, cardiac defects, dysmorphic facial features, nail/digit hypoplasia, growth abnormalities including microcephaly, and intellectual disability. Isolated cases of malignancies (including neuroblastoma) and coagulation defects in the neonate (may be life threatening) following delivery have also been reported.		Risk of congenital malformations increases with higher doses	Recommended; with close infant monitoring

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Felbamate			References: 1	
Mild risk Limited data	Postmarketing case reports in humans include fetal death, genital malformation, anencephaly, encephalocele, and placental disorder			Not Recommended
Pregabalin			References: N/A	
Mild risk Limited data				Limited data Insufficient data on safety; careful discussion with patient
Clobazam			References: 7,11	
Mild risk Limited/insufficient data				Breastfeeding with caution only if: low maternal dose and close monitoring of infant for symptoms
Lamotrigine			References: 4,7, 11	
Low risk			Risk of congenital malformations increases with higher doses (>325 mg daily)	Recommended
Levetiracetam			References: 4, 7, 11	
Low risk				Recommended

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Oxcarbazepine			References: 6, 7	
Low risk Limited data	May be associated with craniofacial defects (such as oral clefts) and cardiac malformations (such as ventricular septal defects)		Risk of teratogenic effects is higher with antiseizure drug polytherapy than monotherapy	Recommended
Clonazepam			References: 6, 7	
Low risk Limited/insufficient data				Use of alternative medication recommended
Gabapentin			References: 5	
Limited data	Possible risk of cardiac malformations with prolonged fetal gabapentin exposure; higher risk of preterm birth, smaller gestational status, and increased neonatal intensive care unit admission			Recommended
Eslicarbazepine			References: 6	
Limited/insufficient data				Insufficient data on safety
Lacosamide			References: 6, 7	
Limited/insufficient data				Insufficient data on safety; careful discussion with patient

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Rufinamide			References: 7	
Limited/insufficient data				Insufficient data on safety; careful discussion with patient
Cenobamate			References: 7	
Limited/insufficient data				Insufficient data on safety; careful discussion with patient
Zonisamide			References: 7, 11	
Low risk Limited/insufficient data				Recommended
Primidone			References: 3, 7	
Limited data	Increased risk of fetal loss, increased risk of preterm birth, hypospadias, cleft lip/palate, club foot			Breastfeeding with caution; encourage individualized approach and close monitoring
Stiripentol			References: 2, 4, 7	
Limited/insufficient data				Insufficient data on safety; careful discussion with patient
Tiagabine			References: 4	
Limited/insufficient data				Insufficient data on safety; careful discussion with patient

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Vigabatrin			References: 2, 4	
Limited/insufficient data				Insufficient data on safety; careful discussion with patient
Ethosuximide			References: 9	
Limited/insufficient data				Insufficient data on safety; careful discussion with patient
Brivaracetam			References: 7, 12	
Low risk Limited/insufficient data				Recommended
Fenfluramine			References:	
Limited data	Increased risk of fetal loss, increased risk of preterm birth, hypospadias, cleft lip/palate, club foot			Breastfeeding with caution; encourage individualized approach and close monitoring
Perampanel			References: 7, 10	
Limited/insufficient data				Insufficient data on safety; careful discussion with patient
Retigabine			References:	
Limited/insufficient data				Insufficient data on safety; careful discussion with patient

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Cannabidiol			References: 7	
Limited/insufficient data				Insufficient data on safety; careful discussion with patient
Acetazolamide			References: 7	
Limited/insufficient data				Insufficient data on safety; careful discussion with patient

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