Table I-15. Strength of applicability for withdrawals due to adverse events for older versus newer antiepileptic drugs

| Outcome | Older AED | Newer AED | Strength of Applicability | Conclusion With Description of Applicability |
| --- | --- | --- | --- | --- |
| Total withdrawals | Carbamazepine | Gabapentin  Lamotrigine  Oxcarbazepine  Topiramate  Vigabatrin | Moderate | Compared with carbamazepine, newer antiepileptic drugs did not reduce withdrawal for any reason. Overall applicability is limited because multiple newer antiepileptic drugs were compared to carbamazepine and the majority of the trials included were conducted in Europe and Scandinavia. |
| Total withdrawals | Carbamazepine Controlled or Sustained Release | Lamotrigine  Levetiracetam | Low | Compared with controlled or sustained release carbamazepine, newer antiepileptic drugs did not reduce withdrawal for any reason. Overall applicability is limited because multiple newer antiepileptic drugs are compared to controlled or sustained release carbamazepine. Applicability to a United States population is limited because the trials included in the analysis were conducted in Scandinavia, Europe and South Africa. Applicability is also limited to a pediatric and adult population because one of the trials included in the analysis was conducted in patients 65 years of age or older. |
| Total withdrawals | Ethosuximide | Lamotrigine | Low | Compared with ethosuximide, lamotrigine did not reduce withdrawal for any reason. Overall applicability is limited because the trial was conducted in patients between the ages of 2.5 and 13 years. |
| Total withdrawals | Phenytoin | Lamotrigine  Oxcarbzepine | Moderate | Compared with phenytoin, newer antiepileptic drugs did not reduce withdrawal for any reason. Overall applicability is limited because multiple newer antiepileptic drugs were compared to phenytoin. Applicability to the United States population is limited because the majority of the trials included in the analysis were conducted outside of the United States in Argentina, Brazil and the United Kingdom. |
| Total withdrawals | Valproic Acid | Felbamate  Lamotrigine  Oxcarbazepine  Topiramate  Vigababtrin | Moderate | Compared with valproic acid, newer antiepileptic drugs did not reduce withdrawal for any reason. Overall applicability is limited because half of the studies included in the evaluation were conducted outside of the United States in China and Europe and multiple newer antiepileptic drugs were compared to valproic acid. |
| Withdrawals due to lack of efficacy | Carbamazepine | Gabapentin  Lamotrigine  Oxcarbazepine  Topiramate  Vigabatrin | Moderate | Compared with carbamazepine, newer antiepileptic drugs increased withdrawal due to lack of efficacy. Overall applicability is limited because multiple newer antiepileptic drugs were compared to carbamazepine and the majority of the trials included were conducted in Europe and Scandinavia. |
| Withdrawals due to lack of efficacy | Carbamazepine Controlled Release | Lamotrigine | Low | Compared with controlled release carbamazepine, lamotrigine increased withdrawal due to lack of efficacy. Overall applicability is limited to the United States because patients enrolled in Europe and South Africa. |

| Table I-15. Strength of applicability for withdrawals due to adverse events for older versus newer antiepileptic drugs (continued) | | | | | |
| --- | --- | --- | --- | --- | --- |
| Outcome | Older AED | Newer AED | Strength of Applicability | Conclusion With Description of Applicability |
| Withdrawals due to lack of efficacy | Phenytoin | Lamotrigine  Oxcarbazepine | Moderate | Compared with phenyoin, newer antiepileptics did not increase withdrawal due to lack of efficacy. Overall applicability is limited because multiple newer antiepileptic drugs were compared to phenytoin. Applicability to the United States population is limited because the majority of the trials included in the analysis were conducted outside of the United States in Argentina, Brazil and the United Kingdom. |
| Withdrawals due to lack of efficacy | Valproic Acid | Lamotrigine  Oxcarbazepine  Topiramate  Vigabatrin | Moderate | Compared with valproic acid, newer antiepileptic drugs did not increase withdrawal due to lack of efficacy. Overall applicability is limited because half of the studies included in the evaluation were conducted outside of the United States in China and Europe and multiple newer antiepileptic drugs were compared to valproic acid. |
| Withdrawals due to adverse events | Carbamazepine | Gabapentin  Lamotrigine  Levetiracetam  Oxcarbazepine  Topiramate  Vigabatrin | Moderate | Compared with carbamazepine, newer antiepileptic drugs decreased withdrawal due to adverse events. Overall applicability is limited because multiple newer antiepiltpetics were compared to carbamazepine and the majority of the studies included in the evaluation were conducted in Europe. |
| Withdrawals due to adverse events | CarbamazepineControlled or Sustained Release | Lamotrigine  Levetiracetam | Low | Compared with controlled or sustained release carbamazepine, newer antiepileptic drugs decreased withdrawal due to adverse events. Overall applicability is limited because multiple newer antiepileptic drugs are compared to controlled or sustained release carbamazepine. Applicability to a United States population is limited because the trials included in the analysis were conducted in Scandinavia, Europe and South Africa. Applicability is also limited to a pediatric and adult population because one of the trials included in the analysis was conducted in patients 65 years of age or older. |
| Withdrawals due to adverse events | Ethosuximide | Lamotrigine | Low | Compared with ethosuximide, lamotrigine did not decrease withdrawal due to adverse events. Applicability is limited because the trial was conducted in patients between the ages of 2.5 and 13 years. |
| Withdrawals due to adverse events | Phenytoin | Lamotrigine  Oxcarbazepine | Moderate | Compared with phenyoin, newer antiepileptics did not decrease withdrawal due to adverse events. Overall applicability is limited because multiple newer antiepileptic drugs were compared to phenytoin. Applicability to the United States population is limited because the majority of the trials included in the analysis were conducted outside of the United States in Argentina, Brazil and the United Kingdom. |
| Withdrawals due to adverse events | Valproic Acid | Lamotrigine  Oxcarbazepine  Topiramate  Vigabatrin | Moderate | Compared with valproic acid, newer antiepileptic drugs did not decrease withdrawal due to adverse events. Overall applicability is limited because multiple newer antiepileptic drugs were compared to valproic acid. |

AED = antiepileptic drug