

## Economic evidence profiles for review question: What antiseizure therapies (monotherapy or add-on) are effective in the treatment of tonic or atonic seizures/drop attacks?

**Table 21: Economic evidence profile**

Study and country	Limitations	Applicability	Other comments	Incremental costs	Incremental effects	ICER	Uncertainty
<b>Author &amp; year:</b> Benedict 2010  <b>Country:</b> United Kingdom  <b>Interventions:</b> Rufinamide (RUF) Lamotrogine (LTG) Topirimate (TPM) Standard therapy(ST)  <b>Population:</b> People with Lennox-Gastaut syndrome	Potentially serious limitations <sup>1</sup>	Partially applicable <sup>2</sup>	<b>Type of economic analysis:</b> CEA  <b>Time horizon:</b> 3 years  <b>Primary measure of outcome:</b> Cost per 1% increase in successfully treated patient	Drop attack analysis vs ST TPM: -£709 LTG: -£462 RUF: -£452 Total seizures analysis vs ST TPM: £191 LTG: -£1,302 RUF: £462	<b>Drop attack analysis vs ST</b> (% reduction) TPM: 3.2% LTG: 2.1% RUF: 6.2%  <b>Total seizures analysis vs ST</b> (% reduction) TPM: 3.0% LTG: 3.7% RUF: 4.9%	<b>ICER for TPM (cost per 1% reduction in drop attacks):</b> Vs LTG: Dominated Vs RUF: £62 Vs ST: Dominated  <b>ICER for LTG (cost per 1% reduction in seizures):</b> Vs TPM: Dominated Vs RUF: £2151 Vs ST: Dominated	<b>Deterministic sensitivity analyses:</b> Results were robust to various sensitivity analyses  <b>PSA:</b> <i>Willingness to pay for 1% reduction in drop attacks and total seizures for 80% probability RUF preferred option:</i>  Drop attack: £250 Total seizures: £900

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<b>Author &amp; year:</b> Verdian 2010  <b>Country:</b> United Kingdom  <b>Interventions:</b> Rufinamide (RUF) Lamotrogine (LTG) Topirimate (TPM)  <b>Population:</b> Children with Lennox-Gastaut syndrome	Potentially serious limitations <sup>3</sup>	Directly applicable <sup>4</sup>	<b>Type of economic analysis:</b> CUA  <b>Time horizon:</b> 3 years  <b>Primary measure of outcome:</b> Cost per QALY	<b>Incremental costs for RUF Vs</b>  TPM: £1,632 LTG: £3,209	<b>Incremental QALYS for RUF Vs</b>  TPM: 0.079 LTG: 0.021	<b>Cost per additional QALY</b>  RUF vs TPM: £20,538 RUF vs LTG: £154,831	<b>Deterministic sensitivity analyses:</b> Results were most sensitive to transition probabilities between health states associated with the ASMs. Changes to other parameters, discounting rate and time horizon resulted in comparable results.  <b>PSA:</b> Probability RUF cost effective at £20k threshold  Vs TPM 52% VS LTG 8%  Probability RUF cost effective at £30k threshold  Vs TPM 65% VS LTG 15%

ASM: antiseizure medications; CEA: cost effectiveness analysis CUA: cost utility analysis; ICER: incremental cost effectiveness ratio; LTG: lamotrigine; QALY: quality adjusted life year; RUF: rufinamide; ST: standard therapy TPM: topiramate; VS: versus

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