

Please note: not all preparations listed may be immediately available, if in doubt discuss with pharmacy

**Table 1: Guidance for conversion of common oral anti-epileptic drugs<sup>2,3</sup>**

Drug name	Oral formulations	Alternative formulations	Dosage equivalence	Method of administration in NBM patients
<b>Carbamazepine</b>	Tablets MR tablets Liquid 20mg/ml	Suppositories (125mg and 250mg)	100mg oral = 125mg rectal <sup>4</sup>  (Max. licensed rectal dose = 250mg four times daily; consider referral to neurology <sup>†</sup> if patient's dose exceeds this)	<ul style="list-style-type: none"> <li>Use liquid for patients with enteral tube. Dilute dose with equal volume of water.</li> <li>If total dose exceeds 400mg/day (of standard release or modified release tablets) divide into four equal doses when converting to liquid</li> <li>Modified release tablets <b>cannot</b> be crushed.</li> <li>Use suppositories if no enteral tube (licensed for up to 7 days)</li> </ul>
<b>Lacosamide</b>	Tablets Syrup 10mg/ml	Injection (IV)	Equivalent dose <sup>4</sup> (all formulations)	<ul style="list-style-type: none"> <li>Syrup can be administered via enteral tube.</li> <li>Give intravenously if no enteral tube (only experience in up to 5 days use; thereafter, if ongoing IV therapy needed, discuss with neurology).</li> </ul>
<b>Lamotrigine</b>	Tablets Dispersible tabs	Nil	Equivalent dose	<ul style="list-style-type: none"> <li>Dispersible tablets can be administered via enteral tube.</li> <li>Contact neurology<sup>†</sup> for advice if no enteral tube.</li> </ul>
<b>Levetiracetam</b>	Tablets Granules Liquid 100mg/ml	Injection (IV)	Equivalent dose <sup>4</sup> (all formulations)	<ul style="list-style-type: none"> <li>Use liquid or granules (shake the granules in 10ml of water for 2 minutes then flush the enteral tube with 10ml of water twice) if available or tablets can be crushed and dispersed in water for enteral tubes.</li> <li>Give intravenously if no enteral tube.</li> </ul>
<b>Phenytoin</b>	Capsules Chewable tabs Liquid 6mg/ml Tablets	Injection (IV)	100mg caps/tabs/injection = 90mg liquid/chewable tabs <sup>2,3</sup>	<ul style="list-style-type: none"> <li><b>Refer to Table 3: Additional information regarding administration</b></li> <li>Intravenous therapy is the preferred option for NBM patients, continuous cardiac monitoring required.</li> <li>Liquid can be administered via enteral tube but can be problematic. Dilute with equal volume of water. Must allow two hour break in enteral feeds before and after dose.</li> </ul>
<b>Sodium Valproate</b>	Tablets MR tablets/ capsules/granules Crushable tabs Liquid 40mg/ml	Injection (IV)	Equivalent dose <sup>4</sup> (all formulations)	<ul style="list-style-type: none"> <li>Liquid can be administered via enteral tube. Dilute dose with equal volume of water.</li> <li>The crushable tablets can be crushed and dispersed in a small amount of water for administration.</li> <li>Modified release formulations <b>cannot</b> be crushed.</li> <li>If patient on MR formulation give a smaller dose more frequently when converting to liquid (e.g. if on 500mg MR tablets twice daily give 250mg liquid four times daily).</li> <li>Give intravenously if no enteral tube.</li> </ul>

<sup>†</sup>Advice from neurology is sought via Queen Elizabeth University Hospital (QEUP) switchboard.

**See overleaf**

**Table 2: Guidance for conversion of other oral anti-epileptic drugs**

Drug name	Oral formulation	Alternative formulations	Dosage equivalence	Method of administration in NBM patients
<b>Brivaracetam</b>	Tablets Liquid 10mg/ml	Injection (IV)	Equivalent dose <sup>4</sup> (all formulations)	<ul style="list-style-type: none"> <li>• Use liquid for patients with NG/PEG tubes (licensed).</li> <li>• Give intravenously if NJ/PEJ or no enteral feeding tube.</li> </ul>
<b>Cenobamate</b>	Tablets	Nil	N/A	<ul style="list-style-type: none"> <li>• Crush and disperse tablets in water for enteral tubes<sup>5</sup>, limited evidence, monitor closely.</li> <li>• Contact neurology for advice if no enteral tube.</li> </ul>
<b>Clobazam</b>	Tablets Liquid 1mg/ml Liquid 2mg/ml	Nil	Equivalent dose	<ul style="list-style-type: none"> <li>• Crush and disperse tablets in water for enteral tubes</li> <li>• Contact neurology<sup>†</sup> for advice if no enteral tube.</li> </ul>
<b>Clonazepam</b>	Tablets Liquid 0.4mg/ml Liquid 0.1mg/ml	Nil	Equivalent dose	<ul style="list-style-type: none"> <li>• Use liquid or disperse tablets in at least 30ml water for NG/PEG tubes.</li> <li>• Disperse tablets in at least 30ml water for NJ/PEJ tubes.</li> <li>• Contact neurology<sup>†</sup> for advice if no enteral feeding tube, an unlicensed IV clonazepam is available but not always appropriate.</li> </ul>
<b>Eslicarbazepine</b>	Tablets Liquid 50mg/ml	Nil	Equivalent dose	<ul style="list-style-type: none"> <li>• Tablets can be crushed and administered in water<sup>6</sup>, or use liquid if available, however no information is available regarding suitability of administration via enteral feeding tubes. Contact neurology<sup>†</sup> for advice.</li> </ul>
<b>Ethosuximide</b>	Capsules Liquid 50mg/ml	Nil	Equivalent dose	<ul style="list-style-type: none"> <li>• Use syrup for patients with an enteral feeding tube. Dilute dose with an equal volume of water.</li> <li>• Contact neurology<sup>†</sup> for advice if no enteral tube.</li> </ul>
<b>Gabapentin</b>	Tablets Capsules Liquid 50mg/ml	Nil	Equivalent dose	<ul style="list-style-type: none"> <li>• Open capsules and dissolve contents in water or use liquid* for patients with NG/PEG tubes</li> <li>• Open the capsules and dissolve contents in water for patients with NJ/PEJ tubes</li> <li>• Contact neurology<sup>†</sup> for advice if no enteral tube</li> </ul>
<b>Oxcarbazepine</b>	Tablets Liquid 60mg/ml	Nil	Equivalent dose	<ul style="list-style-type: none"> <li>• Use liquid for patients with an enteral feeding tube. Dilute dose with an equal volume of water.</li> <li>• Contact neurology<sup>†</sup> for advice if no enteral tube.</li> </ul>
<b>Perampanel</b>	Tablets Liquid 500micrograms/ml	Nil	Equivalent dose	<ul style="list-style-type: none"> <li>• Tablets can be crushed and administered in water for administration via NG/PEG tube<sup>7</sup>.</li> <li>• Contact neurology<sup>†</sup> for advice if NJ/PEJ or no enteral tube.</li> </ul>
<b>Phenobarbital</b>	Tablets Elixir 3mg/ml Liquid 10mg/ml (unlicensed)	Injection (IV)	Equivalent dose <sup>4</sup> (all formulations)	<ul style="list-style-type: none"> <li>• Use elixir/liquid for enteral tubes. Note - 3mg/ml elixir contains 38% alcohol.</li> <li>• If liquid is not available crush tablets and mix with water.</li> <li>• Contact neurology<sup>†</sup> for advice if no enteral tube as intravenous phenobarbital not always appropriate</li> </ul>
<b>Pregabalin</b>	Tablets Capsules Liquid 20mg/ml	Nil	Equivalent doses	<ul style="list-style-type: none"> <li>• Open capsules and dissolve contents in water or use liquid for patients with enteral tubes</li> <li>• Contact neurology<sup>†</sup> for advice if no enteral tube.</li> </ul>
<b>Primidone</b>	Tablets	Nil	N/A	<ul style="list-style-type: none"> <li>• Crush and disperse tablets in water for enteral tubes.</li> <li>• Contact neurology<sup>†</sup> for advice if no enteral tube.</li> </ul>

**Table 2 continued overleaf**

<b>Rufinamide</b>	Tablets Liquid 40mg/ml	Nil	Equivalent dose	<ul style="list-style-type: none"> <li>• Use liquid which is licensed for administration via enteral tubes.</li> <li>• Contact neurology<sup>†</sup> for advice if no enteral tube</li> </ul>
<b>Tiagabine</b>	Tablets	Nil	N/A	<ul style="list-style-type: none"> <li>• Crush and disperse tablets in water for enteral tubes</li> <li>• Contact neurology<sup>†</sup> for advice if no enteral tube.</li> </ul>
<b>Topiramate</b>	Tablets Sprinkle caps Liquid 10mg/ml and 20mg/ml	Nil	Equivalent dose	<ul style="list-style-type: none"> <li>• Crush and disperse tablets in water for enteral tubes.</li> <li>• Absorption may be reduced if given jejunally – monitor closely</li> <li>• Contact neurology<sup>†</sup> for advice if no enteral tube.</li> </ul>
<b>Vigabatrin</b>	Tablets Soluble tablets Sachets	Nil	Equivalent dose	<ul style="list-style-type: none"> <li>• Use soluble tablets if available</li> <li>• Disperse sachets in at least 10ml of water for enteral tubes</li> <li>• Contact neurology<sup>†</sup> for advice if no enteral tube.</li> </ul>
<b>Zonisamide</b>	Capsules Liquid 20mg/ml	Nil	Equivalent dose	<ul style="list-style-type: none"> <li>• Use liquid if available or open capsules and disperse contents in water or apple juice for enteral tubes</li> <li>• Flush tube three times with 5ml of water after liquid administration</li> <li>• Contact neurology<sup>†</sup> for advice if no enteral tube</li> </ul>

<sup>†</sup>Advice from neurology is sought via Queen Elizabeth University Hospital (QEUH) switchboard.

\*levels of propylene glycol, acesulfame K and saccharin sodium may exceed the recommended limits if high doses of Rosemount gabapentin solution are given to those with low body weight (39-50kg)

**Table 3: Additional information regarding phenytoin administration**

<b>Additional Information Regarding Phenytoin Administration</b>
<p><b>Intravenous Phenytoin</b> Intravenous phenytoin therapy necessitates continuous monitoring of ECG, blood pressure and respiratory rate during administration (see IV drug monograph on <a href="#">Medusa</a> via AthenA and local dosing guidance available <a href="#">here</a>).</p> <p><b>Administration of Phenytoin via Enteral Tubes</b> Absorption of phenytoin is highly variable when given via enteral tubes and interaction with enteral feeds (including bolus feeds) can affect bioavailability. Intravenous phenytoin may be preferable in patients with current seizures or sub-therapeutic phenytoin levels and in those with NJ/PEJ tubes. Please inform a pharmacist if you have a patient being administered phenytoin via an enteral tube.</p> <p><b>Therapeutic Drug Monitoring</b> All patients receiving phenytoin intravenously or via an enteral tube must have phenytoin levels monitored. Advice on therapeutic drug monitoring of phenytoin can be found in section 4 of '<a href="#">Guideline for Phenytoin Dose Calculations</a>' in the Adult Therapeutics Handbook.</p>

## References

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