# Lamotrigine

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| **Description** | Anticonvulsant |
| **Indication** | Therapeutic drug monitoring |
| **Additional Info** | Lamotrigine is metabolised in the liver to a glucuronide conjugate which is excreted in the urine.<br>Side effects include rashes, neurological and gastrointestinal disturbances. Concomitant therapy with other anticonvulsant drugs e.g. valproate has been associated with multi-organ failure. |
| **Concurrent Tests** | None |
| **Dietary Requirements** | None |
| **Interpretation** | The plasma half-life is ~24 hrs and time to steady state concentration is 4-6 days.<br>However, concomitant therapy with other anticonvulsants significantly affects its clearance. Phenytoin, carbamazepine and phenobarbitone reduce the half-life to ~12 hrs. Whereas valproate increases the half-life to 60 hrs. Therefore, monitoring the concentration may be useful when optimising the dose for patients on multiple therapy. There are large inter individual differences between the dose and the concentration response. However, plasma concentration correlates with effect. |
| **Collection Conditions** | Take sample once steady state has been reached (4-6 days). Take samples at trough level i.e. pre dose.<br><br>Plain serum sample (Sarstedt white top). |
| **Frequency of testing** | Measurement is generally only indicated:<br>• When first starting lamotrigine therapy (once at steady state).<br>• If other regular medications change which can influence the pharmacokinetics of lamotrigine.<br>• If persistent side effects are experienced. |