

# Lithium

<b>Description</b>	Lithium is used for the prophylaxis and/or treatment of mania, bipolar disorder and depression.
<b>Indication</b>	Therapeutic drug monitoring
<b>Additional Info</b>	<p>Lithium has a narrow therapeutic window and levels greater than 1.5 mmol/L may be fatal. Toxic effects of lithium include tremor, ataxia, dysarthria, nystagmus, renal impairment and convulsions.</p> <p>Early signs of lithium toxicity include diarrhoea, vomiting, drowsiness, muscular weakness, and lack of coordination. More severe symptoms include ataxia (failure or irregularity of muscle action), giddiness, tinnitus (ringing in the ears), blurred vision, and a large output of dilute urine.</p> <p>Lithium toxicity is worsened by sodium depletion.</p> <p>The long term use of lithium is also associated with hypothyroidism. Rarely, lithium has been known to cause Diabetes Insipidus.</p>
<b>Concurrent Tests</b>	N/A
<b>Dietary Requirements</b>	N/A
<b>Interpretation</b>	The target serum level for Lithium is 0.4-1.0 mmol/L (Pathology Harmony 2011). This relates to a pre-dose (trough) level.
<b>Collection Conditions</b>	Serum (red top) or serum gel (gold top) samples are acceptable. Samples must be taken no earlier than 12 hours after the last oral dose.
<b>Frequency of testing</b>	<p>As required if toxicity is suspected. Measure up to every 4 hours in lithium overdose.</p> <p>Measure days 4-7 after initiation of treatment then every week until dosage has remained constant for 4 weeks. Measure every 3 months on stable regimes. Re-measure Lithium when preparation changed, when fluid intake changes or when interacting drugs are added/withdrawn.</p>