

Lithium Toxicity Suspected



Start IV Normal Saline at 1.5 – 2 times maintenance rate

- Maintain a urine output of 1 – 2 mL/kg/hour
- Choice of IV fluid may need to be adjusted if serum sodium levels are outside the range of normal (at the discretion of the bedside team)



Draw Labs and ECG

On Presentation:

- Lithium level, Electrolytes (Na⁺, K⁺, Cl⁻, HCO₃⁻), Creatinine, BUN, Calcium, Albumin
Do not collect lithium levels in a green-top *lithium heparin* tube, as this may cause falsely elevated results.
- ECG

Subsequent Investigations:

- Lithium levels every 4 hours until peak and decreasing to less than 1.0 mmol/L
- Electrolytes (Na⁺, K⁺, Cl⁻, HCO₃⁻) and Creatinine every 8 hours
 - Note: If sodium levels are abnormal, more frequent electrolyte monitoring may be warranted at the discretion of the bedside team
- ECG every 12 hours until Lithium level less than 1.0 mmol/L, or as needed
- If diabetes insipidus is suspected, consider additional testing, including serum and urine osmolality, serum and urine Na⁺, and monitoring urine output



Whole Bowel Irrigation (WBI) if indicated

- WBI is appropriate only for select patients and is not recommended for routine use.
- If WBI is recommended by the OPC Toxicologist [see OPC's WBI Resource page.](#)



Hemodialysis *may* be considered in the following scenarios in consultation with OPC Toxicologist:

- Lithium level >5 mmol/L; OR
- Lithium level >4 mmol/L with renal impairment; OR
- Seizures, life-threatening dysrhythmias; OR
- Confusion or decreased level of consciousness regardless of lithium level
- Hemodialysis may be considered at lower levels (>1.0 mmol/L) in the context of chronic lithium toxicity with significant or persistent neurological symptoms

If HD has been recommended:

- Discontinue hemodialysis when serum lithium is <1.0 mmol/L or if patient is clinically improved.
- If levels are unavailable, a minimum of 6 hours of dialysis is suggested before reassessment.
- Continue monitoring lithium levels every 4 hours for 12 hours after dialysis to assess for rebound. The dialysis catheter should remain in place until it is clear that no further dialysis is required.

