Bipolar Disorder — Lithium Monitoring

Levels, routine bloods, toxicity triggers & shared care

CLINICAL PATHWAY

Lithium is the GP's core share-care responsibility. Check the level 12 hours after the last dose, every time — regular monitoring is what keeps a uniquely effective drug safe.

THERAPEUTIC LEVELS

- **Maintenance:** 0.6–0.8 mmol/L — the target range to maximise relapse prevention
- **Acute mania:** up to 0.6–1.0 mmol/L as tolerated, then back to the maintenance range once stable
- **Depression augmentation:** 0.4–0.8 mmol/L when lithium is added to an antidepressant for treatment-resistant depression
- **Toxicity:** symptoms commonly emerge above 1.5 mmol/L — the level alone doesn't reliably predict toxicity, so always correlate with the clinical picture

MONITORING SCHEDULE

- **Early maintenance:** baseline, then 7, 14 and 28 days after starting or any dose change
- **Once stable:** 3, 6 and 12 months, then annually if levels and renal/thyroid function stay stable
- **Recheck sooner:** any change in presentation, an abnormal result, a new interacting medicine, or intercurrent illness

ROUTINE BLOODS (6-12 MONTHLY)

- **Renal:** lithium level, electrolytes, urea, creatinine and eGFR — lithium can cause nephrogenic diabetes insipidus and, rarely, chronic kidney disease
- **Thyroid & parathyroid:** TSH and calcium — both hypothyroidism and hyperparathyroidism are recognised long-term effects
- **Cardiometabolic:** FBC, glucose, lipids, weight/BMI and a baseline ECG, repeated periodically

TOXICITY TRIGGERS

- Dehydration, febrile illness, vomiting or diarrhoea — volume loss raises the level
- NSAIDs (regular use more than occasional) — reduce renal lithium clearance
- ACE inhibitors or angiotensin receptor blockers — both can significantly raise the level
- Thiazide diuretics especially — consider amiloride instead if a diuretic is needed
- Any new or stopped interacting medicine, or major surgery — recheck around the time of the change

SAFETY

- Always measure the level 12 hours after the last dose — an early or late sample makes the result uninterpretable
- Recheck the level after starting or stopping an NSAID, ACE inhibitor, ARB or diuretic, and during any acute illness with vomiting, diarrhoea or reduced fluid intake
- Don't rely on the level alone to exclude toxicity — symptoms can occur at normal or therapeutic concentrations, especially in older patients

RED FLAGS / REFER

- Symptoms of toxicity (coarse tremor, ataxia, confusion, vomiting) → same-day medical assessment; measure the level urgently and consider hospital referral
- Declining renal function or a thyroid/parathyroid abnormality on long-term lithium → nephrology or endocrinology review alongside continued psychiatric care
- Planning pregnancy, or pregnant, while on lithium or valproate → specialist preconception review before any dose change

For health-professional use. Framework: RANZCP Mood Disorders CPG (2020); lithium interactions, Aust Prescr 2020;43:91-3.
Companion sheet: MH-02A Recognition & Treatment.