Mood Stabilizer Medication Monitoring Panel

💊 Lithium

🔬 Baseline Monitoring

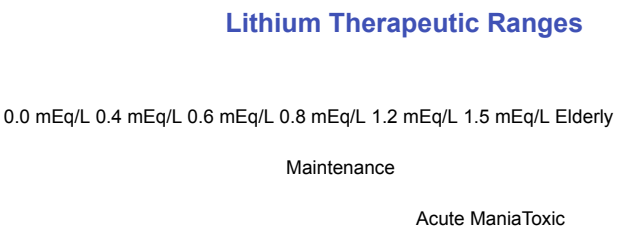
📋 Laboratory Tests

- Comprehensive metabolic panel (CMP) with electrolytes
- Complete blood count (CBC)
- Thyroid function tests (TSH, free T4)
- Serum creatinine and BUN
- eGFR (estimated glomerular filtration rate)
- Urinalysis
- Pregnancy test (if applicable)
- ECG for patients >40 years or with cardiac risk factors
- Calcium levels

🩺 Clinical Assessments

- Comprehensive psychiatric evaluation
- Baseline weight and BMI
- Vital signs (BP, HR)
- Neurological examination
- Cardiac assessment
- Medication review for interactions
- Cognitive function assessment
- Hydration status and salt intake assessment
- Suicide risk assessment

📊 Lithium Level Monitoring



🎯 Therapeutic Ranges

- **Acute mania:** 0.8-1.2 mEq/L
- **Maintenance:** 0.6-0.8 mEq/L
- **Elderly:** 0.4-0.6 mEq/L
- **Levels >1.5 mEq/L:** Toxic range

⏱️ Timing of Levels

- Draw 12 hours after last dose (trough level)
- Steady state reached after approximately 5 days
- Initial level 5-7 days after starting or changing dose
- Monthly until stable, then every 3-6 months
- More frequent monitoring with:
  - Medication changes

- Illness
- Significant environmental temperature changes
- Changes in sodium or fluid intake
- Signs of toxicity

Follow-up Monitoring

1-2 Weeks

- Lithium level
- Tolerability assessment
- Medication adherence
- Side effect evaluation

1-3 Months

- Lithium level
- Renal function (creatinine, BUN)
- Electrolytes
- Thyroid function
- Clinical response
- Calcium levels
- Weight/BMI
- ECG (if indicated)

Every 6-12 Months

- Lithium level
- Comprehensive metabolic panel
- Thyroid function tests
- Urinalysis

Toxicity Monitoring

Signs of Toxicity

Side effect assessment

- **Mild (1.5-2.0 mEq/L):** Nausea, vomiting, diarrhea, tremor, drowsiness, muscle weakness
- **Moderate (2.0-2.5 mEq/L):** Confusion, dysarthria, ataxia, coarse tremor, lethargy, hyperreflexia
- **Severe (>2.5 mEq/L):** Seizures, coma, cardiac arrhythmias, hypotension, death

💊 Valproic Acid/Divalproex Sodium

🔬 Baseline Monitoring

📋 Laboratory Tests

- Comprehensive metabolic panel
- Complete blood count with platelets
- Liver function tests (ALT, AST,

bilirubin) •

Coagulation studies (PT/INR, PTT)

- Ammonia level (if available)
- Pregnancy test (if applicable)
- Consider EEG if history of seizures

Assessments •

Comprehensive psychiatric evaluation

- Baseline weight and BMI
- Vital signs
- Neurological examination
- Medication review for interactions
- Menstrual history (females)
- History of liver disease
- History of pancreatitis
- Suicide risk assessment

📊 Valproate Level Monitoring

🎯 Therapeutic Ranges •

🩺 Clinical

Therapeutic range: 50-125 µg/mL (350-700 µmol/L)

- **Bipolar disorder target:** 80-125 µg/mL
- **Epilepsy target:** 50-100 µg/mL

Timing of Levels

- Draw trough level (before morning dose)
- Steady state reached after 2-4 days
- Initial level after 3-5 days
- Monthly until stable, then every 3-6 months
- More frequent monitoring with:
  - Medication changes
  - Signs of toxicity
  - Suboptimal response
- Side effect evaluation

Follow-up Monitoring

2-4 Weeks

- Valproate level
- Liver function tests
- CBC with platelets
- Tolerability assessment

Annually

- Comprehensive metabolic panel
- CBC with platelets
- Valproate level
- Weight/BMI
- Consider bone density in long-term use

- Valproate level
- Liver function tests
- CBC with platelets
- Weight/BMI
- Clinical response
- Side effect assessment

3-6 Months

- Menstrual history (females)

Special Monitoring Considerations

High-Risk Populations

- **Women of childbearing potential:** Pregnancy testing, contraception counseling, folate supplementation
- **Children:** More frequent liver function monitoring, ammonia levels if mental status changes
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- **Elderly:** Lower doses, more frequent monitoring of drug levels and side effects
- **Polypharmacy:** Monitor for drug interactions, especially with other enzyme-inducing or inhibiting medications

Carbamazepine

Baseline Monitoring

Laboratory Tests

- Complete blood count with differential
- Comprehensive metabolic panel
- Liver function tests
- Electrolytes
- HLA-B*1502 testing for Asian patients
- Pregnancy test (if applicable)

Clinical Assessments

- Comprehensive psychiatric evaluation
- Baseline weight and BMI
- Vital signs
- Neurological examination
- Medication review for interactions
- Skin examination
- Ocular examination
- Suicide risk assessment

Consider ECG if cardiac history

Carbamazepine Level Monitoring

Therapeutic Ranges

- **Therapeutic range:** 4-12 µg/mL (17-51 µmol/L)

- **Bipolar disorder target:** 8-12 µg/mL
- **Epilepsy target:** 4-12 µg/mL

Timing of Levels

- Draw trough level (before morning dose)
- Steady state reached after 2-4 weeks (due to autoinduction)
- Initial level after 5-7 days
- Repeat level at 3-4 weeks (after autoinduction)
- Monthly until stable, then every 3-6 months
- More frequent monitoring with:
  - Medication changes (especially enzyme inducers/inhibitors)
  - Signs of toxicity
  - Suspected non-adherence

Follow-up Monitoring

2 Weeks

- CBC with differential
- Liver function tests
- Tolerability assessment

Every 3-6 Months

- Carbamazepine level
- Side effect evaluation

CBC with differential

- Liver function tests
- Electrolytes
- Clinical response
- Side effect assessment

- Carbamazepine level • CBC with differential • Liver function tests
- Electrolytes
- Clinical response

4 Weeks

Special Monitoring Considerations

Serious Adverse Effects

- **Blood dyscrasias:** Monitor for fever, sore throat, easy bruising/bleeding, pallor
- **Stevens-Johnson syndrome/TEN:** Monitor for rash, mucosal involvement, fever

- **Hyponatremia:** Monitor for confusion, headache, nausea, weakness
- **Drug interactions:** Significant CYP3A4 inducer, affects many medications

Lamotrigine

Schedule •

Baseline Monitoring

Laboratory Tests •

- Comprehensive metabolic panel
- Complete blood count
- Liver function tests
- Pregnancy test (if applicable)

Clinical Assessments •

- Comprehensive psychiatric evaluation
- Baseline weight and BMI
- Vital signs
- Skin examination
- Medication review for interactions
- Suicide risk assessment

Dosing Considerations

Titration

Standard titration: Start 25 mg daily for 2 weeks, then 50 mg daily for 2 weeks, then increase by 50 mg every 1-2 weeks to target dose (usually 100-200 mg daily)

- **With valproate:** Start 25 mg every other day for 2 weeks, then 25 mg daily for 2 weeks, then increase by 25-50 mg every 2 weeks
- **With enzyme inducers:** May need faster titration and higher doses

Level Monitoring

- Routine level monitoring not generally required
- Consider levels in cases of:
  - Suspected toxicity
  - Suspected non-adherence
  - Pregnancy (levels may decrease)
  - Significant drug interactions
- Reference range: 3-14 µg/mL (when measured)

Follow-up Monitoring

Every 2 Weeks During Titration

- Skin examination
- Tolerability assessment
- Side effect evaluation
- Rash monitoring

Annually

- Comprehensive metabolic panel
- Complete blood count
- Clinical response

3-6 Months

- Clinical response
- Side effect assessment
- Medication adherence
- Consider liver function tests

- Side effect assessment

Special Monitoring Considerations

Rash Monitoring

- **Benign rash:** Occurs in 5-10% of patients
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Serious rash (SJS/TEN): Occurs in 0.1-0.3% of adults, 1-2% of children

- **Warning signs:** Mucosal involvement, facial swelling, blistering, skin pain, fever, lymphadenopathy
- **Risk factors:** Rapid titration, concurrent valproate, history of rash with other AEDs, HLA B*1502 (in Asian patients)
- **Action:** Discontinue immediately if suspicious rash appears

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2. National Institute for Health and Care Excellence (NICE). Bipolar Disorder: Assessment and Management
3. International Society for Bipolar Disorders. Safety monitoring guidelines for lithium
4. British Association for Psychopharmacology. Evidence-based guidelines for treating bipolar disorder
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