
Lab Dept: Chemistry

Test Name: AMITRIPTYLINE AND NORTRIPTYLINE

General Information

Lab Order Codes: AMNO

Synonyms: Elavil®; Tricyclic Antidepressants; TCA

CPT Codes: G0480 – Drug, test, definitive

Test Includes: Nortriptyline and total Amitriptyline/Nortriptyline reported in ng/mL.

Logistics

Test Indications: Useful in therapeutic drug monitoring and relief of symptoms of endogenous depression. The test may also be useful to evaluate patient compliance and evaluating potential toxicity.

Lab Testing Sections: Chemistry – Sendouts

Referred to: Mayo Medical Laboratories (MML Test: AMTPR)

Phone Numbers: MIN Lab: 612-813-6280

STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 2 – 4 days, test set-up Monday – Friday

Special Instructions: **Gel tubes are not acceptable.** Draw specimen immediately before next scheduled dose (minimum 12 hours after last dose).

Specimen

Specimen Type: Blood

Container: Red top NO GEL tube

Draw Volume: 3 mL (Minimum: 1 mL) blood

Processed Volume: 1 mL (Minimum: 0.25 mL) serum

Collection: Routine venipuncture

Special Processing: Lab staff: Centrifuge specimen, remove serum aliquot into a screw-capped round bottom plastic vial. Serum must be separated from cells within 2 hours of collection.
Store and ship at refrigerated temperatures. Forward promptly.

Patient Preparation: None

Sample Rejection: Mislabeled or unlabeled specimens; collected in gel tube; gross hemolysis; gross lipemia, grossly icteric

Interpretive

Reference Range:

Amitriptyline and Nortriptyline:	Reference Range: 80 - 200 ng/mL
Nortriptyline:	Reference Range: 70 - 170 ng/mL
<p>Interpretation: Most individuals display an optimal response to amitriptyline when combined serum levels of amitriptyline and nortriptyline are between 80 and 200 ng/mL. Risk of toxicity is increased with combined levels > or =300 ng/mL.</p> <p>Most individuals display optimal response to Nortriptyline with serum levels between 70 and 170 ng/mL. Risk of toxicity is increased with nortriptyline levels > or =300 ng/mL.</p> <p>Some individuals may respond well outside of these ranges, or may display toxicity within the therapeutic range, thus interpretation should include clinical evaluation.</p> <p>Therapeutic ranges are based on specimens drawn at trough (immediately before the next dose). Levels may be elevated in non-trough situations.</p>	

Critical Values: N/A, See Interpretation statement above

Limitations: This test cannot be performed on whole blood. Serum must be separated from cells within 2 hours of drawing; if serum is not removed within this time, tricyclic antidepressant levels may be falsely elevated due to drug release from RBC's. Specimens that are obtained from gel tubes are also not acceptable, as the drug can absorb on the gel and lead to falsely decreased concentrations.

Methodology: Liquid Chromatography-Tandem Mass Spectrophotometry (LC-MS/MS)

References: [Mayo Medical Laboratories](#) (April 2016)

Updates:

3/4/2004: Test moved from MedTox Laboratories to Mayo Medical Laboratories.

10/26/2009: Note change in reference ranges. Plasma specimens no longer accepted.

10/25/2012: Toxic level update from MML.

11/9/2015: Updated method and reference ranges. No longer lists toxic levels.

2/2/2016: CPT update

11/16/2016: CPT update