Lab Dept: Chemistry

Test Name: THEOPHYLLINE LEVEL

**General Information**

Lab Order Codes: THEO

Synonyms: Aminophylline; Theodur; Slo-Bid

CPT Codes: 80198 - Theophylline

Test Includes: Theophylline concentration reported in ug/mL.

**Logistics**

Test Indications: Theophylline relaxes bronchial smooth muscles to relieve or prevent asthma. Caffeine is a minor metabolite and is often seen in neonates taking theophylline. Peak levels are achieved in 30–90 minutes depending on the compound and type of preparation. The biologic half-life ranges from 3.5 hours in young children to 8–9 hours in adults.

Lab Testing Sections: Chemistry (all specimens analyzed on the Mpls Campus)

Phone Numbers:
- MIN Lab: 612-813-6280
- STP Lab: 651-220-6550

Test Availability: Daily, 24 hours

Turnaround Time: 4 hours

Special Instructions: N/A

**Specimen**

Specimen Type: Blood

Container: Green top (Li Heparin) tube preferred
- Alternate tube: Red, marble or gold top tube

Draw Volume: 0.6 mL blood

Processed Volume: 0.2 mL serum/plasma

Collection: Routine venipuncture. Mix tubes containing anticoagulant by gentle inversion.
**Special Processing:**
Lab Staff: Centrifuge specimen, remove serum/plasma aliquot into a plastic sample cup. Store at refrigerated temperatures.

**Patient Preparation:**
None

**Sample Rejection:**
Mislabeled or unlabeled specimen

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**Interpretive**

<table>
<thead>
<tr>
<th>Reference Range:</th>
<th>Therapeutic Concentration: 10 - 20 ug/mL</th>
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</thead>
<tbody>
<tr>
<td>Critical Values:</td>
<td>Toxic concentration: &gt;25 ug/mL</td>
</tr>
<tr>
<td>Limitations:</td>
<td>N/A</td>
</tr>
<tr>
<td>Methodology:</td>
<td>Particle-Enhanced Turbidimetric Inhibition Immunoassay (PETINIA)</td>
</tr>
<tr>
<td></td>
<td>Siemens Dimension Vista THEO Flex Insert, PIN 781071.00, 11/6/2013, Rev D</td>
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</tbody>
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**Updates:**
12/22/2011: Turnaround time updated, previously listed as 4 hours.  
2/9/2016: Update alt tube type  
7/8/2016: TAT update, previously 2 hours