Lab Dept: Chemistry

Test Name: VITAMIN E

**General Information**

Lab Order Codes: VE

Synonyms: Alpha Tocopherol

CPT Codes: 84446 – Tocopherol alpha (Vitamin E)

Test Includes: Specific quantitation of alpha-tocopherol reported in mg/L.

**Logistics**

Test Indications: Useful for diagnosis of (or evaluation of) individuals with motor and sensory neuropathies, monitoring vitamin E status of premature infants requiring oxygenation, and evaluation of persons with intestinal malabsorption of lipids.

Lab Testing Sections: Chemistry - Sendouts

Referred to: Mayo Medical Laboratories (Test: VITE/60297)

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

Test Availability: Daily, 24 hours

Turnaround Time: 2 – 5 days, test set up Monday – Friday

Special Instructions: See Patient Preparation

**Specimen**

Specimen Type: Blood

Container: SST (Gold, marble or red) tube

Draw Volume: 1.5 mL (Minimum: 1 mL) blood

Processed Volume: 0.5 mL (Minimum: 0.25 mL) serum

Collection: Routine venipuncture
**Special Processing:** Lab Staff: Centrifuge specimen immediately, remove serum aliquot into a screw-topped plastic vial. Store and ship at refrigerated temperatures. Forward promptly.

**Patient Preparation:** Patient must be fasting for 12 – 14 hours (overnight fast) and not have ingested alcohol or vitamin supplements for at least 24 hours before specimen is collected. Newborns and premature infants should be drawn just before feeding.

**Sample Rejection:** Mislabeled or unlabeled specimens; gross hemolysis; gross lipemia

## Interpretive

<table>
<thead>
<tr>
<th>Reference Range:</th>
<th>0 - 17 years:</th>
<th>3.8 - 18.4 mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥18 years:</td>
<td>5.5 – 17.0 mg/L</td>
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<tr>
<td>Significant deficiency:</td>
<td>&lt;3.0 mg/L</td>
<td></td>
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<tr>
<td>Significant excess:</td>
<td>&gt;40 mg/L</td>
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</tbody>
</table>

**Interpretation:**
Values that indicate the need for supplementation:
- Premature: <2.0 mg/L
- Neonate: <2.0 mg/L
- Child (3 months): <3.0 mg/L
- Child (2 years): <4.0 mg/L
- Adult: <4.0 mg/L

Values that indicate significant excess:
- Adults: >40 mg/L

**Critical Values:**
N/A

**Limitations:**
Testing of nonfasting specimens or the use of vitamin supplementation can result in elevated plasma vitamin concentrations. Reference values were established in patients who were fasting.

**Methodology:**
Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS); specific quantitation of alpha-tocopherol.

**References:**
[Mayo Medical Laboratories Web Page](http://www.mayoclinic.org) December 2017

**Updates:**
- 9/4/2007: Lipemic specimens will be rejected. MML notification due to issues with fat solubility.
- 9/28/2010: Test code update (now performed only at Mayo New England), specimen volume requirements decreased.