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**Lab Dept:** Chemistry

**Test Name:** AMMONIA

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***General Information***

**Lab Order Codes:** NH3

**Synonyms:** NH3

**CPT Codes:** 82140 – Ammonia

**Test Includes:** Ammonia concentration reported in umol/L

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***Logistics***

**Test Indications:** Hyperammonemia may result from several causes, both inherited and acquired. The inherited deficiencies of urea cycle enzymes are the major cause of hyperammonemia in infants. The acquired causes include advanced liver disease. Renal failure and Reye's Syndrome.

**Lab Testing Sections:** Chemistry

**Phone Numbers:** MIN Lab: 612-813-6280

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 1 hour

**Special Instructions:** Specimen should be transported to the lab on wet ice within 5 minutes of collection.

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***Specimen***

**Specimen Type:** Blood

**Container:** Purple top (EDTA) tube

**Draw Volume:** 2 mL blood

**Processed Volume:** 0.5 mL plasma

**Collection:** Venipuncture only, atraumatic draw. The collection tube should be tightly capped, gently inverted to mix and placed on wet ice. Specimen should be transported to the lab on wet ice within 5 minutes of collection.

**Special Processing:** Lab Staff: The specimen should be centrifuged, plasma aliquot removed to a plastic sample cup and tested within 15 minutes of collection. Specimens that cannot be tested immediately should be frozen.

**Patient Preparation:** Patient should avoid smoking for 1 hour prior to sampling.

**Sample Rejection:** Clotted specimens; mislabeled specimens; fingerstick specimens; hemolyzed specimens; specimens not received on ice; lipemic samples

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***Interpretive***

<b>Reference Range:</b>	<b>Age</b>	<b>Range (umol/L)</b>
	0 – 13 days:	64 – 107
	14 days – 1 month:	56 – 92
	1 month – 18 years:	<51
	>18 years:	<33

**Critical Values:** >150 umol/L

**Limitations:** N/A

**Methodology:** Glutamate Dehydrogenase

**References:** Alinity Ammonia Ultra Package Insert, Abbott Laboratories Diagnostic Division, Abbott Park, IL, 60064, March 2018

CALIPER pediatric reference range database (2020), Retrieved March 2020 <https://caliper.research.sickkids.ca/#/>

Burtis, CA and Ashwood, ER (1999) Tietz Textbook of Clinical Chemistry, 3rd Edition, Philadelphia, PA: WB Saunders Co., p 1146-7.

Jacobs & DeMott Laboratory Test Handbook, Lexi-Comp, Inc, Hudson, OH, 5th Edition, 2001

Biorad Ethanol/Ammonia Control Product Insert, Bio-Rad Laboratories, Irvine, CA 92618

**Updates:**

8/29/2005: TAT previously listed as 4 hours.

9/1/2014: Updated Patient Preparation, Sample Rejection

11/9/2020: Updated references for new Alinity method

11/18/2020: Tube updated to EDTA.

11/20/2020: Volume updated.

2/19/2021: Updated ref ranges