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**Lab Dept:** Chemistry

**Test Name:** CARBOXY HEMOGLOBIN

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***General Information***

**Lab Order Codes:** COHB

**Synonyms:** Carboxy Hgb; Carbon Monoxide

**CPT Codes:** 82375 – Carbon monoxide (carboxyhemoglobin); quantitative

**Test Includes:** Carboxyhemoglobin concentration reported as a % of total hemoglobin.

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***Logistics***

**Test Indications:** Carbon monoxide has a much greater binding affinity for hemoglobin than does oxygen. Carboxyhemoglobin is a hemoglobin-carbon monoxide complex. Carbon monoxide is normally generated in small quantities from the catabolism of heme. Common exogenous sources include cigarette smoke, automobile exhaust, and poorly ventilated home heating units.

**Lab Testing Sections:** Chemistry

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

STP Lab: 651-220-6550

**Test Availability:** Daily, 24 hours

**Turnaround Time:** 30 minutes

**Special Instructions:** Capillary tube samples will not be accepted. See [Collection](#).

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***Specimen***

**Specimen Type:** Whole blood

**Container:** Sims Portex® syringe (PB151) or Smooth-E syringe (956-463) or Green- (Li Heparin) top tube

**Draw Volume:** **Preferred:** 0.4 mL in Sims or Smooth-E syringe  
**Alternate:** Completely filled green (lithium heparin) top tube, 2.7 mL of blood in a 3.0 mL tube.

**Processed Volume:** 0.2 mL whole blood

<b>Collection:</b>	Routine venipuncture. <b>Do not</b> expose specimen to air. Immediately remove all air from blood gas syringe, remove needle, cap tightly, and mix. Keep syringe/tube stoppered to avoid exposure of specimen to atmosphere. Forward promptly at ambient temperature only.
<b>Special Processing:</b>	Lab Staff: Deliver carboxyhemoglobin specimen to the blood gas workstation for testing. Specimens should be analyzed within one hour of collection.
<b>Patient Preparation:</b>	None
<b>Sample Rejection:</b>	Mislabeled or unlabeled specimen; samples containing air; capillary tubes, clotted specimens

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### ***Interpretive***

<b>Reference Range:</b>	0.0 – 1.5%
<b>Critical Values:</b>	N/A
<b>Limitations:</b>	N/A
<b>Methodology:</b>	Oximetry
<b>References:</b>	<p>Tietz (1999) Textbook of Clinical Chemistry, 3rd edition, Philadelphia, WB Saunders Co, pp 918, 1662</p> <p>ABL800 FLEX Operator's Manual from software version 6.14, Publication: 201410, Edition: E, Code number: 994-909, <a href="http://www.radiometer.com">www.radiometer.com</a></p> <p>ABL90 FLEX Operator's Manual from software version 3.1xx Publication 201403, Edition H, Code number 996-656</p> <p>Jacobs &amp; DeMott Laboratory Test Handbook, Lexi-Comp, Inc, Hudson, OH, 5th Edition, 2001</p>
<b>Updates:</b>	9/4/14: Turnaround time update, previously listed as 1 hour. References update.