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**Lab Dept:** Chemistry

**Test Name:** HCO<sub>3</sub>

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***General Information***

**Lab Order Codes:** HCO<sub>3</sub>

**Synonyms:** Bicarbonate, blood; Bicarb

**CPT Codes:** 82374 – Carbon dioxide, bicarbonate

**Test Includes:** HCO<sub>3</sub> concentration as a calculated value reported in mEq/L.

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***Logistics***

**Test Indications:** Useful for evaluation of acid-base balance and the body's ability to control pH. Bicarbonate ion is the principle transport form for CO<sub>2</sub>.

**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:** Arterial punctures, arterial line and indwelling arterial catheter samples must be obtained by physicians or qualified staff from radial, brachial, femoral arteries or catheter sites.

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***Specimen***

**Specimen Type:** Whole blood

**Container:** Preferred: Sims Portex® syringe (PB151) or Smooth-E syringe (956-463)

**Draw Volume:** 0.4 mL (Minimum: 0.2 mL) blood

**Processed Volume:** 0.2 mL blood

**Collection:** Arterial punctures must be performed by qualified personnel. Once the puncture has been performed or the arterial line specimen drawn, immediately remove all air from the syringe. Remove the needle, cap tightly and gently mix. Forward the specimen promptly at ambient temperature.

**Note on arterial line draws:** The IV solution must be removed from the system prior to collection to prevent contamination.

**Special Processing:** Lab Staff: Deliver the specimen to the blood gas testing station. Testing must be completed within one hour of collection or the sample should be immersed in an ice bath as soon as possible.

**Patient Preparation:** Based on collection type

**Sample Rejection:** Mislabeled or unlabeled specimens, samples containing air, non-heparinized samples, collection times exceeding one hour and clotted samples

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### ***Interpretive***

**Reference Range:** 22 – 27 mEq/L

**Critical Values:** <10 and >40 mEq/L

**Limitations:** N/A

**Methodology:** HCO<sub>3</sub> by calculation

**References:** Tietz, Norbert (1995) Clinical Guide to Laboratory Tests, 3rd edition, WB Saunders Co, pp 1081-1084

NCCLS (1999) Procedures for the Collection of Arterial Blood Specimens, Third Edition, NCCLS document, H11-A3

ABL 800 Flex Operator's Manual, Publication 201410, Edition E, Code Number 994-909

ABL90 FLEX Operator's Manual, Publication 201403, Edition H, Code Number 996-656

**Updates:** 3/29/2016: Change TAT, previously listed as 1 hour  
6/11/2018: Updated references