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**Lab Dept:** Chemistry

**Test Name:** IONIZED CALCIUM

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***General Information***

**Lab Order Codes:** ICA

**Synonyms:** Calcium, Ionized, Blood, Ionized Calcium

**CPT Codes:** 82330 – Calcium, ionized

**Test Includes:** Ionized calcium concentrations reported in mEq/L.

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***Logistics***

**Test Indications:** Calcium is the fifth most common element and the most prevalent cation found in the body. Calcium exists in three physiochemical states in plasma: free/ionized, bound and complexed with small anions. Ionized calcium is a more useful measure than total calcium and provides the best indication of calcium status because it is biologically active and is tightly regulated by hormones. Calcium is used for the assessment and treatment of parathyroid disease, a variety of bone diseases and chronic renal disease.

**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:** See [Container](#) for special container recommendations. See [Collection](#) for special draw requirements.

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***Specimen***

**Specimen Type:** Whole blood

**Container:** **Preferred:** Sims Portex® syringe (PB151) or Smooth-E syringe (956-463) **Accepted:** Radiometer Balanced Heparin Capillary gas tube (MIN: 70 uL cap tube, STP: 100 uL cap tube)

**Draw Volume:** 0.4 mL (Minimum: 0.2 mL syringe, MIN: 0.07 mL capillary, STP: 0.1 mL capillary) blood

**Processed Volume:** 0.2 mL syringe blood, MIN: 0.07 mL capillary blood, STP: 0.1 mL capillary blood

**Collection:** Routine venipuncture using one of the [collection containers](#) listed above. Immediately remove all air from syringe, remove needle, cap tightly, and mix. Send in original tube. Forward immediately at ambient temperature. **Do not expose specimen to air.**

**Special Processing:** Lab Staff: Deliver ICA syringe/cap gas tube immediately to the lab testing station. Specimen should be analyzed within 2 hours of collection, or placed in ice slurry.

**Patient Preparation:** None

**Sample Rejection:** Mislabeled or unlabelled specimens; samples containing air; samples collected in containers other than balanced heparin; specimens older than 2 hours; clotted samples

***Interpretive***

<b>Reference Range:</b>	<b>Age:</b>	<b>Range:</b>
	0 - 7 days:	2.10 - 2.96 mEq/L
	8 days - 17 years:	2.40 - 2.76 mEq/L
	>18 years:	2.32 - 2.64 mEq/L

**Critical Values:** <1.50 mEq/L

**Limitations:** N/A

**Methodology:** Ion-Selective Electrode (ISE)

**References:**

ALB800 FLEX Operator's Manual from software version 6.4, Publication: 201410, Edition E, Code 994-909, [www.radiometer.com](http://www.radiometer.com)

ABK90 FLEX Operator's Manual from software version 3.1xx, Publication 201403, Edition H, Code 995656

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

Tietz Textbook of Clinical Chemistry (1999) 3<sup>rd</sup> edition, WB Saunders Company

**Updates:**

2/17/2005: Critical Value previously listed as <2.00 mEq/L.  
 10/13/2014: Stability on ice changed from 30 minutes to 2 hours.

