Clinical Use
• Assess metabolic disorders of calcium metabolism

Reference Range

**Calcium (1635X)**  mg/24-h
- Men  50-300
- Women  50-250

**Calcium (11216X)**  mg/g creat
- 1-11 mo  0.03-0.81
- 1 y  0.03-0.56
- 2 y  0.02-0.50
- 3-4 y  0.02-0.41
- 5-6 y  0.01-0.30
- 7-9 y  0.01-0.25
- 10-17 y  0.01-0.24

**Creatinine (1635X)**  g/24-h
- 3-8 y  0.11-0.68
- 9-12 y  0.17-1.41
- 13-17 y  0.29-1.87
- Adults  0.63-2.50

**Creatinine (11216X)**  mg/dL
- 0-6 mo  2.32
- 7-11 mo  2.36
- 1-2 y  2.128
- 3-8 y  2.149
- 9-12 y  2.183
- >12 y
  - Males  20-370
  - Females  20-320


Interpretive Information

- Hyperparathyroidism
- Vitamin D intoxication
- Paget’s disease
- Myeloma
- Hypoparathyroidism
- Rickets
- Osteomalacia
- Hypocalcemia
- Hypocalciuric hypocalcemia

Clinical Background
Urinary calcium excretion is the major route of calcium elimination. Renal tubular calcium reabsorption is closely regulated to maintain serum calcium concentrations within a narrow physiologic range. The daily filtered load of calcium at the glomerulus approximates 9,000 mg/day in adults; only 1% to 3% of filtered calcium is excreted. Urinary calcium is bound in part by citrate, sulfate, and oxalate anions, and binding varies with pH, urine flow, and composition. It is difficult to ascertain whether changes in urine calcium relate to changes in filtered load, tubular reabsorption, or both. The usual urine calcium (mg/dL) to creatinine (mg/dL) ratio is 0.14 or less; values above 0.20 suggest hypercalciuria.

Method
- Spectrophotometry
- Analytical sensitivity: 0.2 mg/dL
- Creatinine concentration also reported

Specimen Requirements

**Urine, 24-h (1635X)**
10 mL refrigerated aliquot of a 24-h urine; 1 mL minimum
Collect urine in 25 mL of 6N HCl (preferred), 10 g boric acid, or 10 mL concentrated glacial acetic acid. Refrigerate during collection. Record 24-h volume on vial and request form.

**Urine, 2nd void (11216X)**
10 mL refrigerated aliquot of a 2nd void urine; 1 mL minimum
Adjust pH to <3.0 with 6N HCl prior to aliquoting.