

Cortisol, Free, Random, Urine

Test ID: CRANR

Useful for:

Investigating suspected hypercortisolism when a 24-hour collection is prohibitive (ie, pediatric patients)

Profile Information:

Test ID	Reporting Name	Available Separately	Always Performed
CRAN	Cortisol, Random, U	No	Yes
CRETR	Creatinine, Random, U	Yes (order RCTUR)	Yes

Methods:

CRAN: Liquid Chromatography-Tandem Mass Spectrometry (LC-MS/MS)

CRETR: Enzymatic Colorimetric Assay

Reference Values:

Males

0-2 years: 3.0-120 mcg/g creatinine

3-8 years: 2.2-89 mcg/g creatinine

9-12 years: 1.4-56 mcg/g creatinine

13-17 years: 1.0-42 mcg/g creatinine

> or =18 years: 1.0-119 mcg/g creatinine

Females

0-2 years: 3.0-120 mcg/g creatinine

3-8 years: 2.2-89 mcg/g creatinine

9-12 years: 1.4-56 mcg/g creatinine

13-17 years: 1.0-42 mcg/g creatinine

> or =18 years: 0.7-85 mcg/g creatinine

Use the conversion factors below to convert each analyte from mcg/g creatinine to nmol/mol creatinine.

Conversion factor

Cortisol: mcg/g creatinine x 312=nmol/mol creatinine

Cortisol molecular weight=362.5
Creatinine molecular weight=113.12

Specimen Requirements:

Supplies:	Plastic, 10-mL urine tube (T068)
Container/Tube:	Clean, plastic aliquot container with no metal cap or glued insert
Preferred:	Refrigerated
Specimen Volume:	10 mL
Collection Instructions:	Collect a random urine specimen.
Minimum Volume:	4 mL

Specimen Stability Information:

Specimen Type	Temperature	Time
Urine	Frozen	28 days
	Ambient	7 days
	Refrigerated (preferred)	14 days

Cautions:

Random urine cortisol results are less reliable than results obtained from properly collected and complete 24-hour urine specimens, which are not affected by diurnal variations in cortisol levels.

Acute stress (including hospitalization and surgery), alcoholism, depression, and many drugs (eg, exogenous cortisone, anticonvulsants) can obliterate normal diurnal variation, affect response to suppression/stimulation tests, and increase baseline levels.

Liquid chromatography-tandem mass spectrometry methodology eliminates analytical interferences including carbamazepine (Tegretol) and synthetic corticosteroids.

Random urine specimens may yield falsely elevated values when patients have a high urinary output.

Renal disease (decreased clearance) may cause falsely low values.

Values may be elevated to twice normal in pregnancy.

Patients with exogenous Cushing syndrome caused by ingestion of hydrocortisone will not have suppressed cortisol values.

When N-acetylcysteine is administered at levels sufficient to act as an antidote for the treatment of acetaminophen overdose, it may lead to falsely decreased creatinine results.

CPT Code:

82530

82570

Day(s) Setup: Monday through Friday; 4 p.m. **Analytic Time:** 2 days**Questions**

Contact Joshua Yang, Laboratory Technologist Resource Coordinator at 800-533-1710.