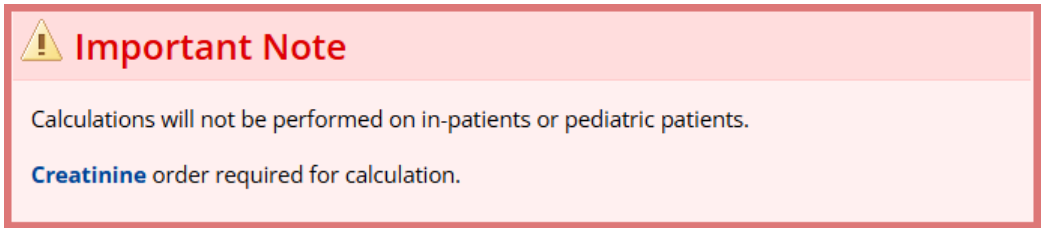
N/A Estimated Glomerular Filtration Rate (eGFR)

BMC, CRH, LFH, HRK, OCH, FTT, FOX, FCC



Performing Location(s)
BMC, CRH, LFH, HRK, OCH, FTT, FOX, FCC

Specimen Type
Serum or Plasma

Preferred Container
Gold or Red top tube

Alternate Container
Green top tube

Minimum Volume to Submit for Testing
0.5 mL serum/plasma

Storage Requirements
Sample tubes should be centrifuged within 2 hour of collection followed by transfer of the serum (red or gold top) or plasma (green top) to a labeled plastic, aliquot tube.
See Causes of Rejection for temperature requirements.

Transportation Needs
Deliver specimen to the laboratory within 1 hour of collection.
If not possible see “Storage Requirements”

Causes for Rejection
Mislabeled or unlabeled specimen
Less than 50% draw for vacutainer tubes
> 7 days refrigerated
> 48 hours room temperature
> 6 months frozen
Hemolysis > 500 mg/dL HgB
Lipemia > 700 mg/dL Trig
Bilirubin > 20 mg/dL Bili

Reference Range

Calculation of eGFR without a Race Term:
Since 1999, eGFR equations have included race (Black or non-Black) as a coefficient. As race is self-ascribed or socially ascribed on the basis of physical characteristics, such as skin color, and may not directly correlate to the diverse genetic ancestry of communities of color in the United States, use of a race coefficient is problematic and no longer recommended.
GFR Estimating Equation Recommended by National Kidney Foundation (NKF) is the 2021 CKD-EPI Equation using Creatinine:
Rationale: The final report of the NKF-ASN Task Force to reassess the inclusion of Race in Diagnosing Kidney disease has recommended this equation for the race free estimation of GFR.

Sex	Creatinine	Equation
Female	**≤ 0.7**	**GFR=143x(Scr/0.7)-0.241x0.994Age**
	> 0.7	**GFR=143x(Scr/0.7)-1.200x0.994Age**
Male	**≤ 0.9**	**GFR=142x(Scr/0.9)-0.302x0.994Age**
	> 0.9	**GFR=142x(Scr/0.9)-1.200x0.994Age**

Interpretation of the estimated GFR (eGFR) and status of chronic kidney disease (CKD) is as follows:	
GFR Estimate (ml/min/1.73 m2)	**Interpretation**
≥ 60	Normal function or mild kidney damage if clinically at risk
30-59	Moderate GFR
15-29	Severe GFR
< 15	Kidney failure

Glomerular Filtration Rate (GFR) Notes
The clinical laboratory automatically calculates glomerular filtration rate (GFR) on all adult out-patients with a creatinine based on legal gender. The GFR is usually accepted as the best overall index of kidney function in health and disease. The formula used and recommended by the 2021 CKD-EPI equation, National Kidney Foundation and American Society of Nephrology. This equation is expected to provide a more accurate estimate of GFR than Creatinine Clearance. It uses serum creatinine in combination with patient age and sex to estimate GFR. The calculation (shown below) will be included on all adult outpatients with a serum creatinine at no charge. Refer to urinary Albumin-Creatinine ratio for facilitating appropriate classification of Chronic Kidney Disease, to assess risk of progression and to monitor patients at risk to develop CKD.
The equation may not accurately estimate GFR in pediatric patients (<18 years), patients with normal renal function, patients with unstable creatinine values, or liver transplant patients.
Drug-induced reduction in GFR raises the serum creatinine concentration, and is detected by the CKD-EPI equation. However, drugs that raise serum creatinine concentration without affecting GFR will give falsely low estimates of GFR. In most cases, GFR can be estimated after discontinuing the drug.
Please note, in general, adjustments of drug dosing in the literature and in product labels has been based on calculated creatinine clearance, not on GFR. Dosage adjustments for drugs using GFR may be inaccurate because of this.

Available STAT
Yes

Methodology
Calculated from creatinine and legal gender

CPT Code
82565