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Subject:	ESTIMATED GLOMERULAR FILTRATION RATE (GFR)				
Approved by: Laboratory Director, Jerry Barker (electronic signature)					
Approved by: Laboratory Medical Director, Mark P. Burton, MD (electronic signature)					
Approved by: Affiliate Lab Medical Director, Chris Giampapa, MD (electronic signature)					
Approved by: Affiliate Lab Medical Director, Paul J. Sims, MD (electronic signature)					
Approved by: Affiliate Lab Medical Director, F.E. Williamson, MD (electronic signature)					

ESTIMATED GLOMERULAR FILTRATION RATE (GFR)

The National Kidney Disease Education Program (NKDEP), an initiative of the National Institutes of Health, recommends the use of the estimated glomerular filtration rate (eGFR) instead of serum creatinine level alone to assess kidney function for adults older than 18 years. NKDEP and other organizations encourage laboratories to estimate GFR by using the Modification of Diet in Renal Disease (MDRD) Study equation and routinely report eGFR with all serum creatinine determinations to facilitate earlier diagnosis and treatment of CKD.

The GFR is estimated using the MDRD equation which does not require weight or height variables. From a serum creatinine measurement, it generates a GFR result normalized to a standard body surface area (1.73 m²) using sex, age, and race. Unlike the Cockcroft – Gault equation, height and weight, which are often not available in the laboratory information system, are not required. The MDRD equation does require race (African American or non – African American), which also may not be readily available. For this reason, eGFR values for both African Americans and non – African Americans are reported.

MDRD equation used at MCL to calculate GFR:

The equation we use at MCL for GFR is the equation that is used with a creatinine method that is traceable to IDMS. The instrument we perform creatinine on is the Vitros Fusion which uses creatinine slides that have been recalibrated to the IDMS standard.

GFR EQUATION:

$$\text{GFR (mL/min/1.73 m}^2\text{)} = 175 \times (\text{S}_{\text{cr}})^{-1.154} \times (\text{Age})^{-0.203} \times (0.742 \text{ if female}) \times (1.210 \text{ if African American)} \text{ (conventional units)}$$

GFR will only be calculated for patients 18 years and older.

NOTE: These calculations may be verified against a calculator at:

www.nkdep.nih.gov/professionals/gfr_calculators/mdrd.htm

These calculations should be verified semiannually.

REFERENCE RANGE:

Healthy adults: $>60 \text{ mL/min/1.73 m}^2$