



MEMO

TO: Regional Medical Laboratory Clients

FROM: William F. Fitter, M.D., Chief of Clinical Chemistry, and
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DATE: January 28, 2008

SUBJECT: Standardization of Creatinine and Estimated Glomerular Filtration Rate (eGFR)

Effective February 3, 2008, all Regional Medical Laboratory sites will begin to **report serum and urine creatinine** using methods that have been **calibrated or traceable to the universal IDMS (Isotope dilution mass spectroscopy) standard**. The added precision that will result from this change will **permit reporting of serum creatinine to two decimal places**.

Likewise, in accord with 2007 revised guidelines from the NKDEP (National Kidney Disease Education Program, NIH) Regional Medical Laboratory will calculate and report eGFR utilizing the following formula. This formula was obtained from the most recent MDRD (Modification of Diet in Renal Disease) study using IDMS traceable serum creatinine (S_{cr}).

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

Physicians, Pharmacists and other providers who have or will use any calculation or nomogram that uses serum or urine creatinine values **for dosing purposes or other clinical decision making must ensure that these calculations or formulas have been approved or modified for use with the IDMS traceable creatinine results**, since using a creatinine result with one decimal place may result in significant errors.

Certain Point-of-Care analyzers used as back-up methods which do not support this change are excluded from this policy. These results will be noted where creatinine is reported to one decimal place only. The eGFR reported with these excluded creatinine results will utilize the current MDRD equation.

Regional Medical Laboratory will follow NKDEP recommendations and report eGFR values **above 60 mL/min/1.73 m²** simply as ">60 mL/min/1.73 m²," not as an exact number. For values **60 mL/min/1.73 m² and below**, the report will give the numerical estimate rounded to a whole number (e.g., "32 mL/min/1.73 m²").

eGFR values should be used for the assessment of renal function in individuals > 18 years of age and interpreted cautiously in individuals > 70 years and in those critically ill patients or those with rapidly changing health status, pregnant patients, morbidly obese individuals and those of high or low muscle mass for whom validation studies of eGFR have not yet been completed. Where appropriate, alternate methods for establishing renal function might be considered.

References available on request.

For additional information or questions, please contact:

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