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NEPHROLOGISTS DEBATE USES OF ESTIMATED KIDNEY FUNCTION

eGFR Could Increase Detection of Kidney Disease, But Some Warn Against 'Universal Screening'

Washington, DC (July 29, 2008) — A routinely available laboratory result called the estimated glomerular filtration rate (eGFR) provides a simple indicator of kidney function and may increase early diagnoses of chronic kidney disease (CKD). However, widespread use of eGFR for this purpose may have inherent flaws and dangers—including a risk that large numbers of elderly patients will be misclassified as having CKD.

The September issue of the *Clinical Journal of the American Society of Nephrology* (CJASN) presents contrasting views on the routine use of eGFR for early recognition of CKD. While acknowledging its limitations, Thomas H. Hostetter, MD, of Albert Einstein College of Medicine believes that expanding the use of eGFR will allow CKD to be diagnosed and treated at an earlier stage. Richard J. Glasscock, MD of the David Geffen School of Medicine at the University of California, Los Angeles, argues that "automatically" reporting eGFR will inappropriately function as a form of "covert universal screening" for CKD.

Calculated from a routine laboratory test which measures a patient's serum creatinine level, eGFR has long been used as a rough estimate of actual kidney function. It provides a practical alternative to more precise kidney function tests, which are complex and take several days to yield results. In 2002, the National Kidney Foundation's Kidney Dialysis Outcomes Quality Initiatives (KDOQI) proposed a CKD classification system based on the eGFR. Since then, many laboratories have begun reporting eGFR—and corresponding CKD classification—on every patient that undergoes a serum creatinine measurement.

In a commentary written with Dr. Christopher Winearls of the Oxford Kidney Unit at the University of Oxford, Dr. Glasscock raises concerns about using eGFR as a form of "universal screening" for CKD. The authors point out that the estimating equations for eGFR do not consider normal age- and sex-related variations in kidney function. Without data on other signs of stage 3 CKD, the use of eGFR could lead "to an erroneous categorization of mostly elderly and female subjects as having an intermediate stage of a lethal disease," the commentators write.

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In the absence of such evidence, there is no proof that early identification and treatment will improve patient outcomes—such as reductions in the risk of progression to end-stage renal disease (permanent loss of kidney function requiring dialysis or transplantation) or in the high rate of cardiovascular disease accompanying CKD. "The eGFR formulas and the KDOQICKD classification system are not yet ready for wider application to screening for CKD in the population as a whole," Dr. Glasscock and Dr. Winearls assert.

A contrasting viewpoint, written by Dr. Michal L. Melamed and Dr. Carolyn Bauer along with Dr. Hostetter, points out that "mass or universal screening is not the purpose of estimated GFR reporting." The authors agree that a definition based on eGFR alone would yield to "disturbingly high estimates" of the prevalence of CKD in the United States—"The notion that one in eight Americans has kidney disease beggars belief," the commentators state.

What the authors find even more disturbing, however, is the high rate of patients with serious, progressive kidney disease who receive no diagnosis, treatment, or medical advice before reaching ESRD. "Reporting of estimated GFR is only one tool in attempting to rectify this latter problem," write Dr. Hostetter and colleagues. They highlight the need for nephrologists to educate primary care doctors and the public as to the recognition and management of CKD, including the proper use of eGFR.

The debate over eGFR has implications for the entire nephrology community and the public, according to an introductory editorial by William M. Bennett, MD, of Legacy Good Samaritan Hospital in Portland, Ore. "It is also relevant to industry who make products for CKD as well as for nonprofit organizations—ie, the more kidney disease, the more relevant they become," comments Dr. Bennett, who is also Editor-in-Chief of CJASN. "If, however, we are including people who really don't have CKD, we could get burned by being accused of conflict of interest and being self serving. A complex issue indeed!"

The debate will appear online at <http://cjasn.asnjournals.org/> on July 30, 2008 and in the September 2008 print issue of CJASN.

A not-for-profit organization of 11,000 physicians and scientists dedicated to the study of nephrology, ASN is committed to providing a forum regarding the latest research and clinical information about kidney diseases. ASN publishes the *Journal of the American Society of Nephrology* (JASN), CJASN, and the *Nephrology Self-Assessment Program* (NephSAP). In January 2009, the Society will launch *ASN Kidney News*, a newsmagazine for nephrologists, scientists, allied health professionals, and staff.

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