

OAML Communiqué

CO23 - ROUTINE REPORTING OF ESTIMATED GLOMERULAR FILTRATION RATE (eGFR)

JULY, 2007

Since 2006, whenever a serum creatinine was requested, Ontario's community laboratories have routinely calculated and reported the eGFR, for all individuals older than 18 years. During this time a number of important articles have been published on the subject. The clinical practice guidelines of the National Kidney Foundation's Quality Outcome Initiative maintain that eGFR plays a central role in the definition of chronic kidney disease (CKD) ⁽¹⁾. There is consensus that eGFR represents the best generally available measurement of kidney function ⁽²⁾. This has not changed.

The purpose of this Communiqué is to supplement the OAML's eGFR Communiqué issued in November 2005 and to reiterate that when creatinine assays have been properly standardized, as is the case for OAML member laboratories, the benefit of reporting eGFR outweighs the limitations noted below ⁽³⁾. Ontario's community laboratories will therefore continue the current practice of reporting calculated eGFR. Data from several OAML laboratories, noted on page 2, indicate that the percentage of individuals with an eGFR of 60-89 mL/min/1.73m² is considerably greater than the 30% of the adult population anticipated from the previous OAML literature search (up to 2005). Based on this finding, OAML member laboratories will now highlight the appropriate use of eGFR by appending the following message to eGFR results of 60-89 mL/min/1.73m²:

eGFR's of 60-89 mL/min/1.73m² are seen in almost half of the adult (> 18 years) population of Ontario. Further screening for CKD in this patient group is therefore not recommended, unless the patient is already at high risk for CKD.

Patients at high risk for CKD include those with clinical conditions such as diabetes, hypertension, and a family history of kidney disease, as well as those with significant proteinuria.

Limitations

Clinicians are reminded of the following limitations of the eGFR measurement:

- eGFR does not reliably predict actual GFR for those at extremes of weight and age, vegetarians, amputees, and for those with a sudden change in GFR.
- As noted above, eGFR does not reliably predict actual GFR in those with creatinine clearance above 60 mL/min ⁽²⁾.
- Some medications including trimethoprim, sulphamethoxazole, ciprofloxacin, and fenofibrate can interfere with creatinine measurements, and therefore the eGFR.
- Standard medication dosing guidelines for those with impaired renal function use estimated creatinine clearance, not eGFR.
- For patients of African descent, the reported eGFR value should be multiplied by a correction factor of 1.21.
- eGFR's below 60 mL/min/1.73m² should be confirmed by repeat testing, and CKD documented by persistence of eGFR below 60 mL/min/1.73m² for three months or longer ⁽¹⁾.

Due to these limitations, some have recommended that numerical values for eGFR be reported only for levels below 60 mL/min/1.73m²⁽²⁾, and values greater than 60 mL/min/1.73m² be reported as \geq to 60 mL/min/1.73m². There has not been widespread acceptance of this practice in Canada. Ontario community laboratories will continue the current practice of reporting the actual calculated eGFR, for values between 60 and 90 mL/min/1.73m². Provision of this data should not influence actual clinical management. Our clinical recommendations remain unchanged.

Community Laboratories' Data

The following data represent the distribution of eGFR in patients served by several community laboratories in Ontario, using a weighted average of 142,654 samples:

| | |
|---------------------------------|--------|
| ≥ 90 mL/min/1.73m ² | 36.83% |
| 60-89 mL/min/1.73m ² | 48.55% |
| 30-59 mL/min/1.73m ² | 12.70% |
| 15-29 mL/min/1.73m ² | 1.85% |
| <15 mL/min/1.73m ² | 0.07% |

Specialist Referrals

A position paper from the Canadian Society of Nephrology (September 2006) endorses routine reporting of eGFR, but only recommends testing for CKD for high risk groups, as noted previously in this document.⁽⁴⁾

The position paper recommends referral to a nephrologist in the following situations:

- a. Acute renal failure
- b. eGFR < 30 mL/min/1.73m²
- c. Progressive loss of kidney function
- d. Persistent proteinuria
- e. If a clinician is unable to achieve targets for blood pressure or other renal protective or cardiovascular protective strategies, or is unprepared to manage the CKD patient.

Cited References

1. National Kidney Foundation, Inc 2002. Kidney Disease Quality Outcome Initiative, Clinical Practice Guidelines for Chronic Kidney Disease: Evaluation, Classification, and Stratification. Retrieved March 19, 2007, from http://www.kidney.org/professionals/KDOQI/guidelines_ckd/toc.htm
2. Stevens, L., Levy, A. Clinical Implications of Estimating Equations for Glomerular Filtration Rate. *Annals of Internal Medicine* 2004; 141: 959-61
3. Stevens, L., Levy, A., Hostetter, T. Automatic Reporting of Estimated Glomerular Filtration Rate—Just What the Doctor Ordered. *Clinical Chemistry* 2006; 52: 2188-93
4. Canadian Society of Nephrology, September 2006. Care and Referral of Adult Patients with Reduced Kidney Function; Position Paper from the Canadian Society of Nephrology. Retrieved May 3, 2007, from [http://www.cnsn.ca/local/files/CSN-Documents/CSN Position Paper Sept2006.pdf](http://www.cnsn.ca/local/files/CSN-Documents/CSN%20Position%20Paper%20Sept2006.pdf)

To Learn More

For additional resources, including the previous OAML communiqué on this subject, and answers to Frequently Asked Questions, please visit our website at www.oaml.com/eGFR

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