

Department of Laboratory Medicine  
Royal Infirmary of Edinburgh,  
51 Little France Crescent,  
Edinburgh  
EH16 4SA

Clinical Biochemistry  
UKAS Accredited

12<sup>th</sup> May 2023

Dear all

Following discussions between nephrology and the Primary care Lab Interface Group some changes are being made to CKD monitoring recommendations.

As a result of this, the ordersets on ICE are changing on 22<sup>nd</sup> May 2023 to:

- **CKD Monitoring eGFR > 30:** C&Es
- **CKD Monitoring eGFR < 30:** C&Es, alb, Ca<sup>2+</sup>, PO<sub>4</sub><sup>3-</sup>, FBC, urine albumin:creatinine ratio (uACR)

There will be 2 new ICE ordersets for CKD diagnosis which are:

- **CKD Diagnosis eGFR > 30:** C&Es, total cholesterol, HDL-C, urine albumin:creatinine ratio (uACR)
- **CKD Diagnosis eGFR < 30:** C&Es, total cholesterol, HDL-C, alb, Ca<sup>2+</sup>, PO<sub>4</sub><sup>3-</sup>, FBC, urine albumin:creatinine ratio (uACR)

In addition to the above tests it may be appropriate to check other tests at diagnosis depending on the clinical picture (see “more selected testing” section on edren at [Lab testing in kidney disease – edren.org](http://labtestinginkidneydisease-edren.org))

uACR testing is replacing PCR testing as the main screening test for proteinuria. Further information on the reasoning behind this is available at [Proteinuria – edren.org](http://proteinuria-edren.org). There are also some changes being made to how Albumin:Creatinine ratio (ACR) results are reported and a summary of these is included below.

Further information on these changes can also be found in a recent presentation given by Dr Robert Hunter (Consultant nephrologist) available at [Annual GP Update Meetings | Edinburgh and Lothians Laboratory Medicine \(edinburghlabmed.co.uk\)](http://annualgpupdatemeetings.edinburghlabmed.co.uk)

Best wishes

Yours faithfully,



Dr Sara Jenks  
Consultant Clinical Biochemist,  
Chair Primary care Laboratory Interface Group

## **Albumin:creatinine ratio (ACR) measurement summary**

Below is a summary of the changes to ACR measurement that have been recently introduced.

### *Universal reference range ACR*

A change has been made to use a **single cut-off for ACR (<3mg/mmol)** rather than using current gender specific cut offs to bring us in line with current NICE guidance (NG203).

### *Additional changes to maximise ACR results reported*

To increase the number of ACR results the lab can produce, the following processes are in place for samples which are either dilute or have very low or high albumin concentrations:

1. Previously if the urine was dilute (urine Cr <2 mmol/L) no ACR result was reported. This has now been changed so that ACR results will be reported but only if the result is raised, indicating possible microalbuminuria. A comment will be attached to the reported result stating 'Creatinine suggests dilute urine: interpret with caution. Please repeat by sending an early morning urine sample'.
2. For samples that are dilute (urine Cr <2 mmol/L) AND the urine albumin low (<5 mg/L), no ACR result can be reported and a recommendation to repeat on an early morning urine sample will be made.
3. For samples where the urine albumin concentration is too low to accurately measure (<5 mg/L) but the urine is sufficiently concentrated (urine Cr >2 mmol/L) the result will be reported as 'Albumin:creatinine ratio <3.0' indicating that no albuminuria is present.

### *Automatic addition of a Protein:Creatinine Ratio (PCR) to samples with a high ACR result*

If the urine albumin concentration is very raised (>850mg/L) an ACR cannot be calculated. This will trigger the laboratory to automatically measure the urine protein concentration and a PCR result will be provided.