

**BLOOD SCIENCES  
DEPARTMENT OF CLINICAL BIOCHEMISTRY**Title of Document: *Urine C peptide creatinine ratio*Q Pulse Reference N<sup>o</sup>: BS/CB/DCB/EN/9

Authoriser: Sadie Redding

Version N<sup>o</sup>: 7

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**Urine C peptide creatinine ratio (UCPCR)**

Urine c peptide creatinine ratio (UCPCR) is mainly to be used in patients on insulin treatment, to assess endogenous insulin secretion. Its role in patients not on insulin is limited. If the result of UCPCR is out of keeping with other clinical findings then a repeat test is recommended, especially if the result is unexpectedly low. Patients with a high endogenous secretion >25<sup>th</sup> centile are likely to be those that benefit most from metformin/other oral agents.

Most of the studies have been performed in patients with normal renal function (eGFR >60 mL/min/1.73 m<sup>2</sup>) but it has been validated in patients with Type 2 diabetes with moderate renal impairment (eGFR 30-60 mL/min/1.73 m<sup>2</sup>). The test is unlikely to be appropriate in patients with severe renal impairment.

Interpretation of urine C-peptide:creatinine ratio for investigation of patients with established Diabetes mellitus (>3 years since onset):

>0.6 nmol/mmol Substantial insulin secretion, associated with type 2 DM and MODY and absence of absolute insulin requirement;

0.2-0.6 nmol/mmol Intermediate insulin secretion;

<0.2 nmol/mmol Severe insulin deficiency, managed as type 1 DM

**Requesting UCPCR**

Sample Type: Urine collected in boric acid container (MSU pot).

**Note** if sample is collected into a plain container and received within 24 hours, it can be transferred into a boric acid container, frozen and sent for analysis. If received in a plain container >24 hours after collection, the sample will be rejected.

Sample Collection: 2 hours after eating largest meal of the day, having emptied their bladder before eating (see appendix instruction sheet).

Sample Stability: 3 days at room temperature.

Sample Labelling: Please label all samples with the patient's name, date of birth and NHS number.

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Sample test code: UCP

Target Report Time: 1 week

Samples should be posted on the same day of collection via your local laboratory to:  
Department of Clinical Biochemistry, Level 8, Bristol Royal Infirmary, Marlborough  
Street, Bristol, BS2 8HW

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**Appendix1 : Patient information****INSTRUCTIONS FOR THE COLLECTION OF URINE SAMPLE FOR URINE  
C-PEPTIDE CREATININE RATIO (UCPCR) ANALYSIS**

Please pass urine just before your biggest meal of the day and discard.

1. Eat your meal as usual with a glass or more of water.
2. Do not eat or drink anything else for the next 2 hours unless you have a hypoglycaemic attack ('go hypo'), in which case you should do this test on another day).
3. Do not pass urine until 2 hours after this meal.
4. **2 hours after this meal, please go to the toilet and pass some urine into the pot with the red top provided.** Screw the lid on securely.
5. Write the date and time the sample was collected on the bottle.