
Creatinine serum - measured

Important note: This is an archived metadata standard from the AIHW Knowledgebase. For current metadata standards and related information please access METeOR, the AIHW's Metadata Online Registry at <http://meteor.aihw.gov.au>

Identifying and Definitional Attributes

Data Dictionary: NHDD
Knowledgebase ID: 000655 Version number: 1
Metadata type: DATA ELEMENT
Registration Authority: NHIMG Admin status: SUPERSEDED
Effective date: 01-MAR-05
Definition: A person's measured serum creatinine.
Context: Clinical settings and population survey :
Serum creatinine can be used to help determine renal function.
Serum creatinine by itself is an insensitive measure of renal function because it does not increase until more than 50% of renal function has been lost.

Relational and Representational Attributes

Datatype: Numeric
Representational form: QUANTITATIVE VALUE
Representation layout: NNNN
Minimum Size: 2
Maximum Size: 4
Data Domain: NOVAL measured in umol/L (micromoles per litre)
Guide For Use: Record the absolute result of the most recent serum creatinine measurement.

Note: If the measurement is obtained in mmol/L it is to be multiplied by 1000.

Serum creatinine together with a patient's age, weight and sex can be used to calculate glomerular filtration rate (GFR), which is an indicator of renal status/ function. The calculation uses the Cockcroft-Gault formula.

DSS Diabetes (clinical):
Record absolute result of the most recent serum creatinine

measurement in the last 12 months to the nearest umol/L
(micromol per litre)

Collection Methods: Measurement of creatinine should be carried out by laboratories, or practices, which have been accredited to perform these tests by the National Association of Testing Authority.
-Single venous blood test taken at the time of other screening blood tests.
-Fasting not required

Related metadata: is used in conjunction with Service contact date version 1
is used in conjunction with Weight - measured version 2
relates to the data element Diabetes status version 1
is used in conjunction with Date of birth version 4
is used in conjunction with Renal disease - end-stage, diabetes complication version 1
is used in conjunction with Sex version 3

Administrative Attributes

Source Document: Caring for Australians with Renal Impairment (CARI) Guidelines.
Australian Kidney Foundation

Source Organisation: CV-Data Working Group
National Diabetes Data Working Group

Comments: In settings where the monitoring of a person's health is ongoing and where a measure can change over time (such as general practice), the service contact date should be recorded.

There is no agreed standard as to which units serum creatinine should be recorded in.

In combination with age, sex and body weight, it could be used for a more accurate assessment of renal function.

Creatinine is normally produced in fairly constant amounts in the muscles, as a result the breakdown of phosphocreatine. It passes into the blood and is excreted in the urine. Serum creatinine can be used to help determine renal function. The elevation in the creatinine level in the blood indicates disturbance in kidney function.

GFR decreases with age, but serum creatinine remains relatively stable. When serum creatinine is measured, renal function in the elderly tends to be overestimated, and GFR should be used to assess renal function, according to the Cockcroft-Gault formula:

$$\text{GFR (ml/min)} = (140 - \text{age [yrs]}) \times \text{body wt (kg)}$$

women)] $814 \times \text{serum creatinine (mmol/l)} \times 0.85$ (for

To determine chronic renal impairment
GFR > 90ml/min - normal
GFR >60 - 90ml/min - mild renal impairment
GFR >30 - 60ml/min - moderate renal impairment
GFR 0 - 30 ml/min - severe renal impairment

Note: the above GFR measurement should be for a period greater than 3 months. GFR may also be assessed by 24-hour creatinine clearance adjusted for body surface area.

In general, patients with GFR < 30 ml/min are at high risk of progressive deterioration in renal function and should be referred to a nephrology service for specialist management of renal failure.

Patients should be assessed for the complications of chronic renal impairment including anaemia, hyperparathyroidism and be referred for specialist management if required.

Patients with rapidly declining renal function or clinical features to suggest that residual renal function may decline rapidly (ie. hypertensive, proteinuric (>1g/24hours), significant comorbid illness) should be considered for referral to a nephrologist well before function declines to less than 30ml/min. (Draft CARI Guidelines 2002. Australian Kidney Foundation).

Patients in whom the cause of renal impairment is uncertain should be referred to a nephrologist for assessment.

[Data Element Links](#)

Information Model Entities linked to this Data Element

NHIM Service provision event

Data Agreements which include this Data Element

| | |
|--|-------------------|
| DSS - Cardiovascular disease (clinical) | From 01-Jan-03 to |
| DSS - Diabetes (clinical) | From 01-Jan-03 to |
| DSS - Acute coronary syndrome (clinical) | From 04-Jun-04 to |
