



Serum Creatinine Clearance

Serum Creatinine Clearance- measures the rate at which creatinine is cleared by the kidney

Many chemotherapeutic agents are cleared by the kidneys. Over time this can create renal toxicities. If a patient's serum creatinine clearance is below normal a reduced dose of renal toxic drugs may be recommended. At RCIC we use the Cockcroft-Gault Equation to calculate a patient's serum creatinine clearance.

See policy AS-129 Carboplatin dose Calculation (to follow)

Cockcroft-Gault Method:

Male: $Cl\ cr = [(140 - \text{age}) \times \text{weight}] / (72 \times S\ cr)$

Female: $Cl\ cr = [(140 - \text{age}) \times \text{weight}] / [(72 \times S\ cr)] \times 0.85$

Cl cr = estimated creatinine clearance in mL/minute

Weight = patient weight in kg

S cr = serum creatinine in mg/d

Area Under the Curve (AUC)- measures the bioavailability of a drug based on a plot of blood concentrations sampled at frequent intervals. It is directly proportional to the total amount of unaltered drug in the patient's blood.

RCIC uses the Calvert Formula to figure Carboplatin dosing based on AUC. Carboplatin can also be dosed as mg/m².

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Calvert formula:

Dose (in mg) = target AUC (mg.ml.min) x (CrCl(ml.min)+25)