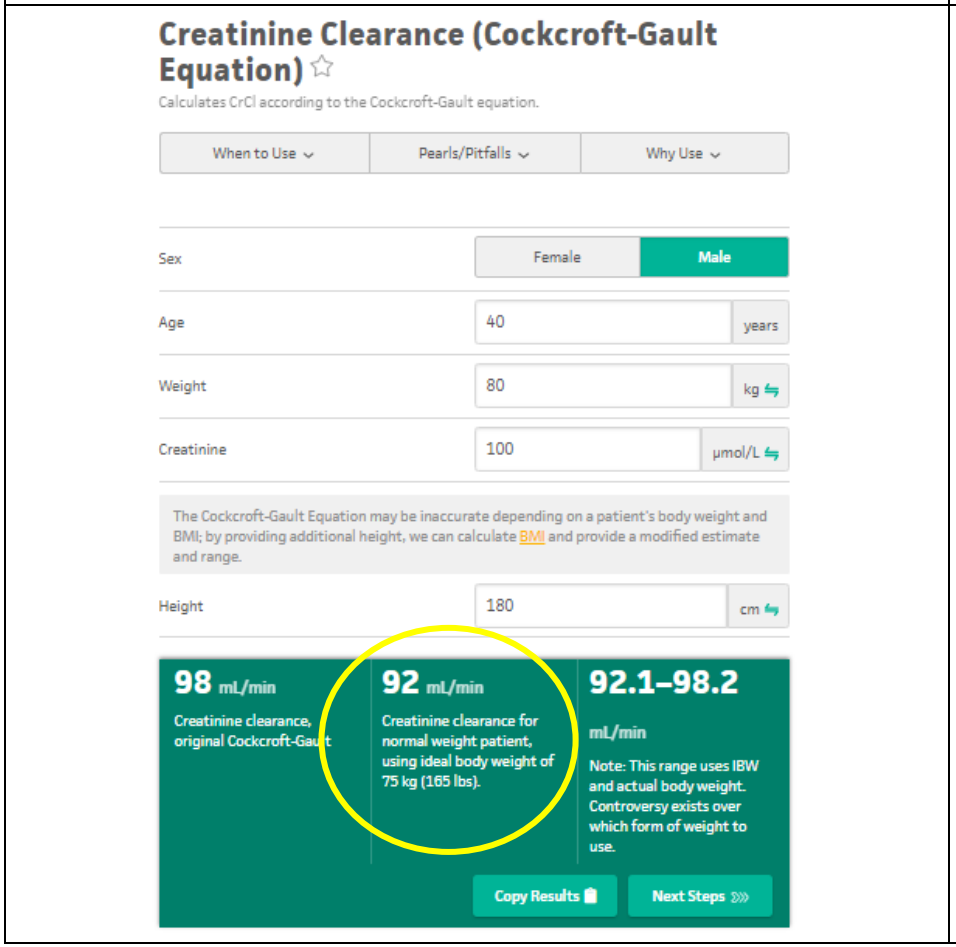
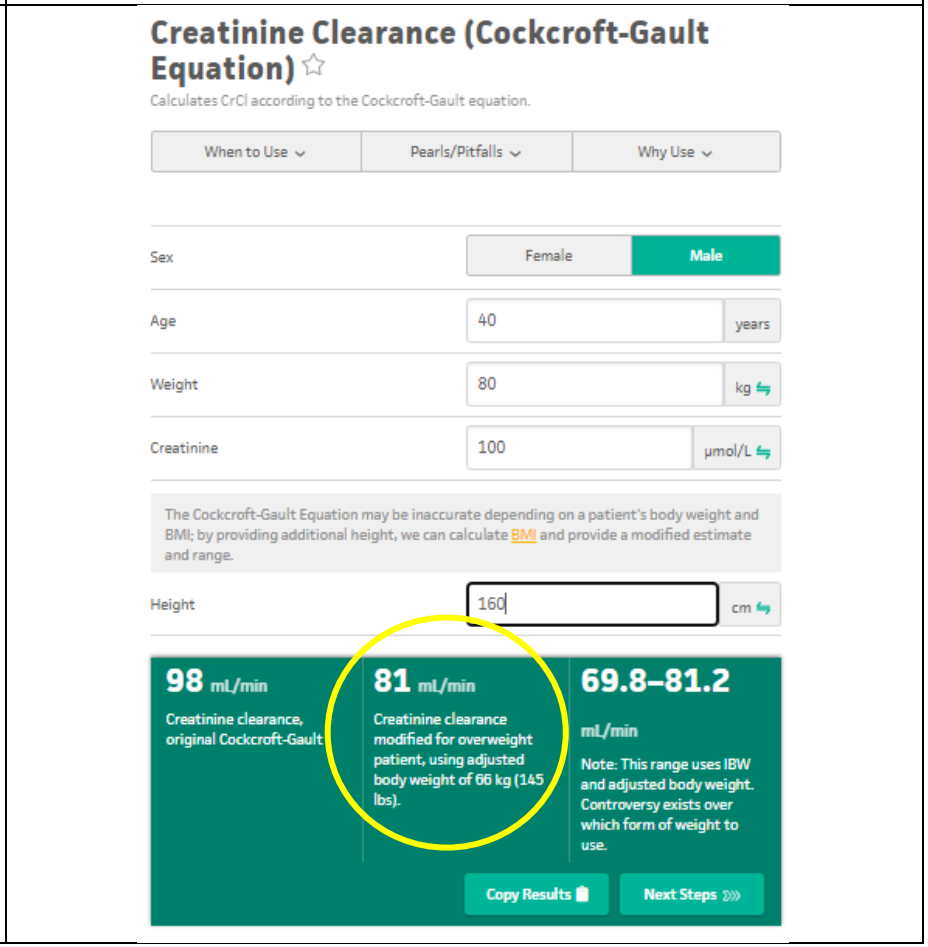
How to calculate Cockcroft-Gault CrCl using the MDCalc application

Example: consider two patients, patient A and B:

Patient	Sex	Age (years)	Weight (kg)	Creatinine (µmol/L)	Height (cm)
A	M	40	80	100	180
B	M	40	80	100	160

The parameters should be filled into the website https://www.mdcalc.com/creatinine-clearance-cockcroft-gault-equation as shown below and the results will display.

Patient A	Patient B
	

The calculator tell us the patient is of **normal weight** and therefore uses the **Ideal Body weight**	The calculator tells us the patient is **overweight** and therefore uses the **adjusted body weight**

Do you choose the CrCl value that uses the original equation, the adjusted weight or interpret the range?

In most cases, the second answer (circled in the images above) which takes into account the patients height is the most accurate measure of renal function.

- Ideal body weight should be used to calculate the CrCl.
- Where the patient's actual body weight is less than their ideal body weight, actual body weight should be used instead.
- For obese patients ideal body weight can be used, but some experts have suggested that an adjustment factor of 40% be applied to the patient's excess weight over their ideal weight i.e. adjusted ideal body weight = [IBW + (0.4x ABW-IBW)]. Clinical judgement is needed, e.g. if a patient's excess weight is due to high muscle mass not excess body fat, ABW should be used.
- Others have proposed the use of a CrCl range for drug dosing purposes, with the lower boundary defined by using IBW in the C&G equation and the upper boundary by using actual body weight

Note: The MDcalc application uses the following:

Underweight	BMI <18.5	Calculation uses actual/total body weight (i.e., no adjustment)
Normal weight	BMI 18.5-24.9	Calculation uses ideal body weight, range uses actual body weight
Overweight / obese	BMI ≥25	Calculation uses adjusted body weight, range uses ideal body weight