

Sept-16 Follow-Up

Action Items

- Pop-up for $SCr < 0.5$ --> Please evaluate for muscle wasting and utilize clinical judgment for estimating CrCl

Cachectic / Muscle Wasting Check is still displaying if $SCr < 1?$

Descriptor flags red if:

- 1.) Age ≥ 65 .. elderly
- 2.) $SCr < 0.5$.. "SCr < 0.5"
- 3.) BMI < 18.5 .. "Underweight"

Pop-up alert when "SCr < 0.5"

Changes

- 1 Changed icon to red critical warning
- 2 Added title "SCr < 0.5 Alert"

Update (is this OK?)

- 1 Because Crass's model does not use CrCl, added extrapolation alert if patient is obese and $SCr < 0.5$

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Dosing vancomycin in the super obese: less is more

Ryan L. Crass¹, Ryan Dunn², Joseph Hong², Lynne C. Krop² and Manjunath P. Pai^{1*}

¹Department of Clinical Pharmacy, College of Pharmacy, University of Michigan, Ann Arbor, MI, USA; ²Department of Pharmacy, Morton Plant Hospital, BayCare Health System, Clearwater, FL, USA

*Corresponding author. University of Michigan College of Pharmacy, 428 Church Street, Ann Arbor, MI 48109, USA. E-mail: amipai@med.umich.edu
orcid.org/0000-0001-7119-5034

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Table 2. Nomogram for the empirical dosing of vancomycin in obese and super obese patients based on estimated CL_{cr}

Estimated CL_{cr} (L/h)	Loading dose (mg)	Maintenance dose (mg)	Probability of 24 h efficacy (AUC_{0-24} > 400) (%)	Probability of 48 h efficacy (AUC_{0-48} > 400) (%)	Probability of toxicity (AUC_{0-24} > 700) (%)
1 ^a	2500	500 q24h	100	100	23
2	2500	1000 q24h	98	100	1
3	2500	1500 q24h	93	100	0
4	2500	1000 q12h	99	100	0
5	2500	1250 q12h	98	100	0
6	2500	1500 q12h	96	100	0
7	2500	1750 q12h	94	100	0
8	3000	2000 q12h	99	100	0
9	3000	2250 q12h	98	100	0
10	3000	2250 q12h	92	100	0

^a AUC_{0-24} , area under the concentration-time curve (AUC) from 0 to 24 h; AUC_{0-48} , AUC from 24 to 48 h; AUC_{0-72} , AUC from 48 to 72 h. ^bVancomycin clearance (CL_{cr}) should be estimated using the following equation derived from the population model: $CL_{cr} = 9.656 - 0.078 \times AGE + 2.009 \times SCr + 1.09 \times SEX + 0.04 \times TBW^{0.75}$, where AGE is age in years, SCr is serum creatinine in mg/dL, SEX is 1 if male and 0 if female, and TBW is total body weight in kg.

^cDosing recommendations for $CL_{cr} < 0.5$ L/h could not be provided as CL_{cr} values below this threshold represent extrapolation beyond the patient population used to build the model. Clinical judgement should be used in these circumstances, and intermittent dosing with increased TDM should be considered, as the probability of toxicity is high.

- Calculator not allowing you to go back and revise patient information

Changes

1	SCr: 0.6 mg/dL CrCl: 76.3 mL/min	Population: Estimates Vd: 24.2 L Ke: 0.1392 t1/2: 5 hrs CLVanco: 3.4 L/hr	Initial CrCl
2	SCr: 0.6 mg/dL CrCl: 45.8 mL/min ^SCr to 1: True	Population: Estimates Vd: 24.2 L Ke: 0.0871 t1/2: 8 hrs CLVanco: 2.1 L/hr	After rounding to 1
3	SCr: 0.6 mg/dL CrCl: 100 mL/min ManuallyEntered?: True ^SCr to 1: True	Population: Estimates Vd: 24.2 L Ke: 0.1796 t1/2: 3.9 hrs CLVanco: 4.4 L/hr	After manually-entering CrCl = 100 mL/min

- While on **Kidney Function** page, Population-based parameters should be updating if there is a change in CrCl
 - NOTE:** Obese patients that **CLVanco** is being estimated from **Crass's** equation does not update with a change in CrCl.
 - However, there is now the ***Extrapolation Alert*** if the SCr falls outside of the mode.