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How are the vancomycin AUC values calculated in the historical dose outcomes table?

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Understanding how historical AUC calculations are performed



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The historical per-dose outcome data table, located below the Historical Plot, can be a source of valuable clinical information. For vancomycin models, there are seven labeled categories in this table that provide detailed information related to vancomycin dosing and pharmacokinetic (PK) parameters including AUC tau (T), AUC24, peak and trough.

You will notice that the PK related values displayed for the most recent dose are italicized. This is because at the time that these values are being calculated, the date and time of the next dose has not been recorded yet. Therefore, DoseMeRx will use the previous dosing interval (e.g. 9 hours in the example below) to estimate the expected PK parameters. Once the date and time of the next dose has been recorded, the table will update with this new information. Keep in mind that these are estimates based on the individualization of the pharmacokinetic model, therefore, there may be slight differences between the estimated value displayed on this table and the actual measured value reported by the laboratory.

These values may also vary slightly as compared to the AUC24 estimates that may be displayed in other areas of the software (e.g. the Dose Report). In these other areas of DoseMeRx, the time of the next dose is known.

Time	Dose	Infusion Length	AUC _T	AUC ₂₄	Peak	Trough
Apr 2 2020, 15:00	1000 mg	2 hours	AUC ₉ : 183.68 mcg.h/mL *	489.82 mcg.h/mL *	25.11 mcg/mL *	16.52 mcg/mL *
Apr 2 2020, 06:00	1000 mg	1 hours	AUC ₉ : 169.32 mcg.h/mL	451.52 mcg.h/mL	23.79 mcg/mL	14.75 mcg/mL
Apr 1 2020, 22:00	1000 mg	1 hours	AUC ₈ : 117.82 mcg.h/mL	353.46 mcg.h/mL	18.42 mcg/mL	12.12 mcg/mL
Apr 1 2020, 10:00	1000 mg	1 hours	AUC ₁₂ : 106.01 mcg.h/mL	212.02 mcg.h/mL	12.37 mcg/mL	6.41 mcg/mL

* Predicted outcomes for the most recent dose are estimates (as the exact time of next dose is unknown)

Did this answer your question?



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