



All Collections > FAQs and Troubleshooting > Vancomycin dosing in hemodialysis patients

Vancomycin dosing in hemodialysis patients

Dosing vancomycin in patients on hemodialysis with DoseMeRx



Written by Sharmeen Roy, PharmD, BCPS

Updated over a week ago

At DoseMeRx, we've implemented a range of vancomycin models to help you optimize therapy for a variety of patient cohorts.

An overview of the hemodialysis (HD) model

The adult HD model in DoseMeRx is derived from the Goti et retrospective study which included 336 patients on high-flux, intermittent HD. Study researchers found that clearance in patients undergoing HD was 35% lower than clearance in non-dialysis patients, and the volume of distribution was approximately halved in dialysis patients when compared to nondialysis patients.

When using the model, entering dialysis times is not required because this model uses a "smoothed" average of vancomycin clearance across the "on" and "off" dialysis periods. Patients may be dosed using trough or AUC24 depending on your institutional preference.

How to incorporate the model into your workflow

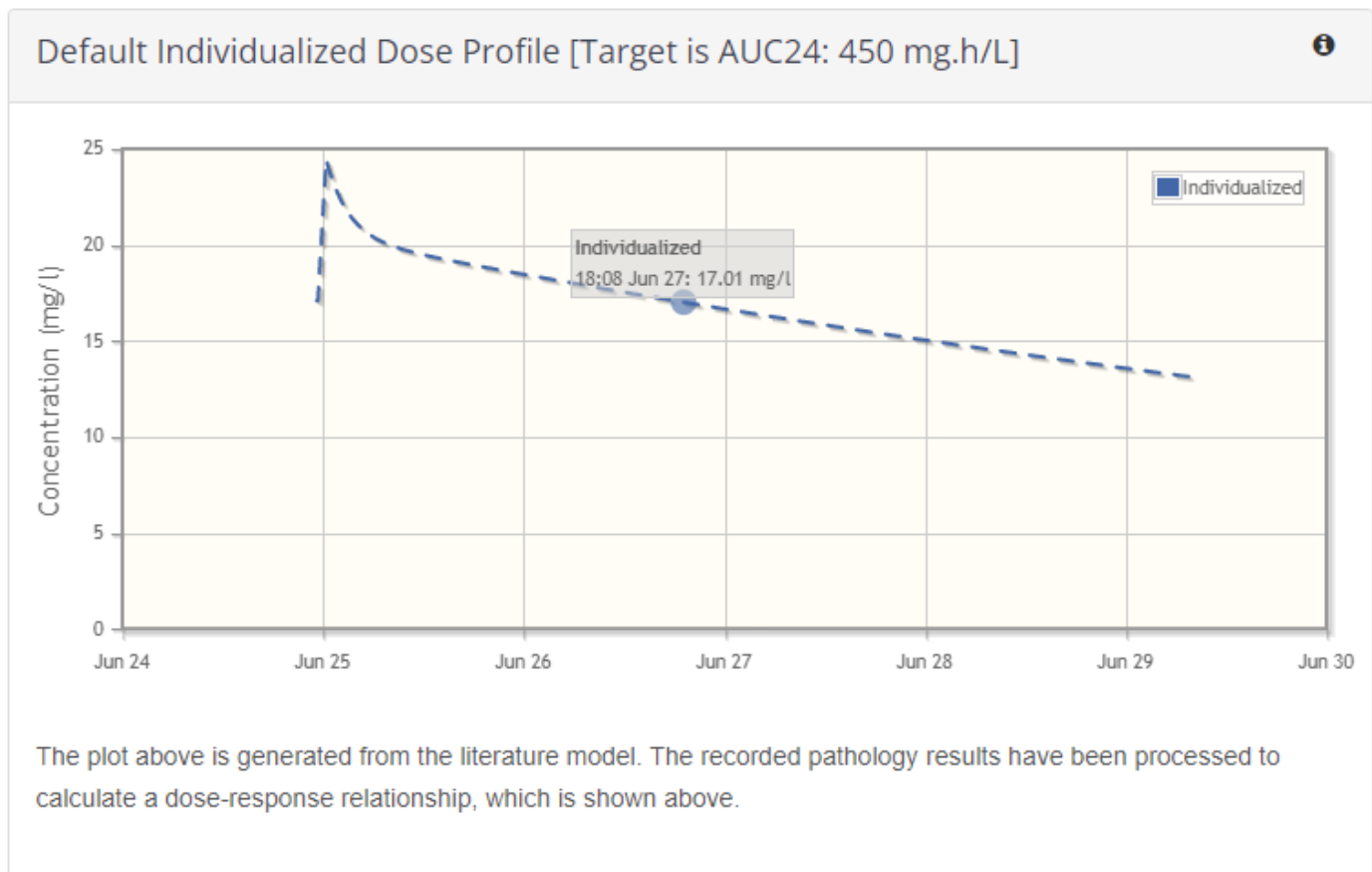
This can best be demonstrated using a sample patient. *(Note: Although this example references AUC24, the workflow is similar if dosing to a specific pre-dialysis level [i.e. trough]).*

Let's say we have a patient who receives a loading dose of vancomycin on a Monday prior to an HD session (on the same day) and then receives a second dose of vancomycin on a Wednesday (post HD). Prior to HD on Friday, a pre-dialysis level is obtained and this is used to calculate the

patient's third dose that will be given post HD at 1800 with a goal of achieving a target AUC₂₄ of 450mg.h/L.

The individualized dosing calculation that will be displayed in this example will reflect the predicted pk/pd parameters that will be achieved based on your institutional defaults. For example, if the institutional defaults are set to 1 dose (with the default interval set at 48 hours), the predicted "trough" that is displayed will represent the expected concentration at the end of the time frame specified and the AUC that is displayed represents the estimated AUC extrapolated to 24 hours. As a reminder, the customized section can be used to calculate doses across longer dosing intervals if needed (e.g. 72 hours or over a weekend).

An easy way to visualize this is to hover over the Default Individualized Dose Profile which will show you the predicted vancomycin level at any point in time during therapy (Figure 1). The corresponding values for each dose are also displayed in the table on the dosing screen.



Additional tips for this model

1. Ensure that your institutional defaults are set to best reflect your hospital's protocol for both the number of doses and intervals

2. In some cases, a pre-HD level will yield a "*Withhold*" recommendation. In this case, a post HD level may be needed (ideally obtained at least 2 hours post HD per guidelines).
3. To reduce the number of additional labs, another option would be to move from pre-HD levels to post HD levels.
4. Ensure that any doses and levels that have been given prior to admission are documented. If there are no doses documented, DoseMeRx will assume that the patient is starting with a blood level of zero which can impact the calculations.

Related Articles

[Renal Impairment and Dialysis in DoseMeRx](#)

To try all the vancomycin models available in DoseMeRx, [schedule a time](#) to discuss your trial.

Did this answer your question?



doseme-rx.com

