

Vancomycin trough target may be lower for teens

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(HealthDay)—The target trough concentration of vancomycin seems to

be lower for adolescents than for adults, according to a study published online June 13 in the *Journal of Clinical Pharmacology*.

Shankar Lanke, Ph.D., from the University of Findlay in Ohio, and colleagues conducted a [retrospective study](#) to examine vancomycin pharmacokinetics (PK) and pharmacodynamics in 463 [adolescent patients](#) (age 12 to 18 years). A one-compartment model, which identified [body weight](#) and creatinine clearance as covariates significantly impacting vancomycin disposition, was used to describe vancomycin PK. The authors used the model to establish the dosing strategies that achieved the targeted area under the 24 hour time curve versus minimum inhibitory concentration ($AUC_{0\text{ to }24}/MIC$) ratio of ≥ 400 . In order to find an acceptable target trough range in adolescents, these data were correlated with minimum steady state concentration ($C_{ss,min}$).

The researchers found that when the MIC was ≤ 1 mg/L, $C_{ss,min}$ ranging from 10 to 12.5 mg/L was highly predictive of achieving an $AUC_{0\text{ to }24}/MIC \geq 400$.

"These results suggest that the target trough concentration for adolescents may be lower than that for adults," the authors write.

More information: [Abstract](#)
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