S.P., a 60-year-old, 5’3” female, was started on 1000mg vancomycin administered as a one hour infusion q12h for the treatment of staphylococcal infection. She weighs 60 kg and has a serum creatinine of 1.1 mg/dL. Calculate the first dose and steady-state peak and trough concentrations of vancomycin for the IV infusion administration. Is the therapeutic goal attained (i.e. is the steady-state vancomycin trough concentration between 15mg/L and 20 mg/L)?
A.J., a 61-year-old male was to be administered vancomycin therapy for a presumed hospital-acquired, methicillin-resistant *S. aureus* infection. He is 5'9" tall and weighs 89 kg. His serum creatinine is 1 mg/dL. What is his dosing regimen based on the nomogram below? Based on this dosing regimen, what are the expected steady state peak and trough vancomycin concentrations for IV bolus administration? Do you need to adjust the dosing regimen based on the computation that you have obtained?
D.J., a male patient, 55 years of age, 168 lbs in weight and 5’4” in height has acquired *S. pneumoniae* infection. His serum creatinine is 1 mg/dL. The MIC of vancomycin against his infection was estimated in the laboratory to be 1 µg/mL. Compute a dosing regimen for IV bolus administration to achieve a desired steady-state peak concentration of 45 µg/mL and trough concentration of 15 µg/mL. Evaluate whether the 24 hour AUC/MIC ratio is greater than 400 assuming that vancomycin is administered as an IV bolus and follows a one compartment body model.
P.K., a 65 year old male, weighing 72 kg, has been diagnosed with urosepsis. He receives 500 mg tobramycin every 36 hours as a one hour infusion. A blood sample was drawn 9 hours after the end of the infusion. The respective concentration was determined to be 9 mg/L. Based on the observations, make appropriate changes to PK’s dosing regimen.