

1096-VG-1974      **Whitney Leeann Forbes\*** (forbesw@goldmail.etsu.edu) and **Michele Joyner**. *A Physiologically-Based Pharmacokinetic Model for Ertapenem.*

Ertapenem is a carbapenem used to treat a wide range of bacterial infections. We developed a physiologically-based pharmacokinetic model for the distribution of ertapenem within the body. What sets ertapenem apart from other carbapenems is its longer half-life which implies it need only be administered once daily. In the model, parameters such as human body weight, organ volumes, and blood flow rates of particular tissues are used to examine the absorption, distribution, metabolism, and excretion of ertapenem. The blood concentrations we found were then compared to experimental data. In the future, this model could be used as a basis for understanding how differing health conditions alter the concentration of ertapenem in the body. This could identify potential situations where the dosage should be adjusted. (Received September 16, 2013)