Pharmacokinetics: A Comprehensive Overview of Principles and Applications

Course Description
The course will provide participants with a comprehensive overview of pharmacokinetics by integrating concepts in physiology and mathematics. At the end of this seminar, attendees will understand how to design pharmacokinetic studies, evaluate pharmacokinetic data, and predict the effect of physiological and formulation changes on the pharmacokinetics of drugs. Your instructor will provide an overview of the anatomy and physiology of organ systems relevant to absorption, distribution, metabolism, and excretion, explain pharmacokinetic concepts after intravenous doses and oral doses, in bioavailability and bioequivalence, biopharmaceutics, and clearance. Understanding of theoretical principles will be facilitated by numerous practical examples from the literature, and through case studies. Periodic review and reinforcement of important concepts will be achieved through discussions, and completion of a series of in-class assignments.

Who Should Attend
• This course is designed for individuals working in the pharmaceutical industry with degrees in biology, chemistry, or chemical engineering who desire an understanding of the fundamental principles of pharmacokinetics. Specifically, personnel involved with drug manufacturing and development, discovery, formulation development, metabolism, preclinical, clinical operations, regulatory affairs, data management, clinical pharmacology, registration, licensing, and drug safety will benefit from this course.

Instructor
Anil D’Mello, Ph.D.

You Will Learn To
• Compute pharmacokinetic parameters after intravenous and oral drug administration
• Design pharmacokinetic studies
• Analyze and interpret data from pharmacokinetic studies
• Evaluate bioequivalence data
• Predict the effect of physiological and formulation changes on the pharmacokinetics of drugs
• Understand the mechanisms underlying drug/drug interactions, and predict the potential for the occurrence of drug/drug interactions

Interactive Exercises
• Classroom discussions customized to participants’ backgrounds and questions
• A series of in-class assignments
• Group examination of case studies

Course Outline

Day One: 8:30 a.m. – 4:30 p.m.

• Anatomy and Physiology: Anatomy and physiology of systems responsible for drug absorption, distribution, metabolism, and excretion
• Intravenous Dose: Conceptual description and computation of half-life, volume of distribution, area under the plasma concentration – time curve, and clearance
• Oral Absorption: Description of the phases in drug absorption, computation of half-life, volume of distribution, area under the plasma concentration – time curve, clearance, $C_{\text{max}}$, and $t_{\text{max}}$; effect of alterations in pharmacokinetic parameters on the area under the plasma concentration – time curve, $C_{\text{max}}$, and $t_{\text{max}}$ of the drug

Day Two: 8:30 a.m. – 4:30 p.m.

• Bioavailability and Bioequivalence: Definition of terms and computation of bioavailability and bioequivalence; design of bioavailability studies; historical perspective of statistical techniques used to evaluate bioequivalence data
• Physiological and Formulation Factors Affecting Drug Absorption: Effect of food, drug solubility, permeability, and surface area on the rate and extent of drug absorption
• Clearance Concepts: Physiological model for organ clearance and the effect of alterations in organ blood flow, intrinsic clearance, and plasma protein binding on drug pharmacokinetics

Course Dates and Locations

October 28-29, 2008
Philadelphia, PA
Philadelphia Airport Marriott
Course #: SCKA1008
$1,495.00 by September 19
$1,695 after September 19

November 20-21, 2008
Philadelphia, PA
Renaissance Philadelphia Airport Hotel
Course #: SCKA1108
$1,495.00 by October 17
$1,695 after October 17

Registration
• ON-LINE: www.barnettinternational.com
• FAX or MAIL: Submit Registration Form (back cover) with Payment to Barnett Customer Service
For assistance, CALL (800) 856-2556

Registration includes Tuition, Networking Lunches, Refreshments, and all Educational Materials.
Team Discounts Available!

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Accreditation:
Barnett International is accredited by the Accreditation Council for Pharmacy Education as a provider of continuing pharmacy education. Participants will receive 15 hours (1.5 CEU) of continuing education credit for full participation, including the completion of a pre-test, post-test, and program evaluation. Barnett International will mail ACPE statements within three weeks of program completion. ACPE#: 778-000-07-023-L04-P. Released: 9/07.