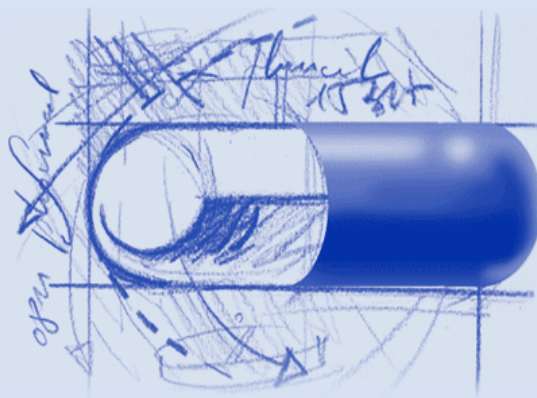


Welcome to PHARMED



ENTER

**POST-GRADUATE PROGRAMME IN PHARMACOLOGY
AND PHARMACEUTICAL MEDICINE**



SEMINARS 3, 4 & 5
**Clinical Trials, Pharmacokinetics &
Biostatistics**
18-22 January, 22-26 February, 22-26 March 2010

PHARMACOKINETICS : BASIC CONCEPTS AND APPLICATIONS

Roger VERBEECK

Pharmacokinetics is the study and characterization of the time course of drug absorption, distribution, metabolism and excretion, and the relationship of these processes to the intensity and time course of therapeutic and toxicologic effects of drugs. The physiologic concepts underlying the fundamental pharmacokinetic processes of absorption, distribution and elimination will be described. The interrelationships among pharmacokinetic parameters and physiologic variables in healthy volunteers and in patients will be demonstrated.

DRUG METABOLISM

Roger VERBEECK

The aim of the lectures is to present different aspects of drug metabolism in humans and animals. The first consists of a short overview of phase I and phase II reactions in the liver and elsewhere in the organism. Attention will also be given to stereoselective metabolism. In a second part, the methodology used in drug metabolism studies will be explained : in vitro methods (microsomes, hepatocytes, liver perfusion), in vivo methods (urinary data, intrinsic clearance). The third part will discuss the different factors influencing drug metabolism, such as species, genetic polymorphism, age (neonate, elderly), gender, interactions (induction, inhibition) and disease states. This seminar will focus on some practical aspects of genetic polymorphism of some drug metabolism enzymes. Molecular basis of the variable enzyme activities and methods to genotype individuals will be discussed (debrisoquine - sparteine polymorphism, mephenytoin and N-acetylation polymorphism).

CLINICAL PHARMACOKINETICS AND LINKAGE BETWEEN PHARMACOKINETIC AND PHARMACODYNAMIC DATA

Christian de MEY

This part of the course is focused on non-mathematical pharmacokinetics, describing the core processes of drug absorption, distribution, metabolism and excretion as a dynamic equilibrium between pharmacokinetic input and output. The main sources of their variability are discussed. Attention is paid to their assessment during drug development and their impact on competitive drug profiling. Examples of 'misleading' and 'confounding' pharmacokinetics are discussed. Finally, the course will consider the linkage between pharmacokinetic and pharmacodynamic data.

BIOEQUIVALENCE TESTING

Roger VERBEECK

Based on the CHMP Note for Guidance on the Investigation of Bioavailability and Bioequivalence, the following aspects of bioequivalence studies for immediate and modified release oral drug products will be discussed: study design, subject selection, food-interaction studies, pharmacokinetic analysis and statistical evaluation of the data, biowaivers based on the Biopharmaceuticals Classification System (BCS).

BIOSTATISTICS

Viviane De MAERTELAER, Christian MELOT

Part I : This part of the course will discuss the fundamental statistical concepts that are essential for professionals in the biomedical sector. Univariate tests of hypotheses, confidence intervals, regression analysis, and some non-parametric tests will be discussed.

Part II : The second part will cover statistical methods required by more elaborate research investigations. Several typical designs of studies will be discussed, including Bayesian and adaptive designs. Techniques for determining the number of subjects required in a clinical trial will be presented.

DESIGN AND CONDUCT OF CLINICAL TRIALS

This course will cover the theoretical and practical aspects of all phases of clinical research and development of drugs including the setting of objectives, the impact of early findings in phase I and II studies on the further development, the choice between different types of studies, the resource implications, the design of protocols, case report form, information sheet for patients, the choice of primary and secondary end-points, the monitoring of studies, data management, adverse events monitoring, the writing of the final report, quality assurance and audits. Beside the presentation of basic theoretical concepts, the courses will involve several practical sessions on writing a study protocol, designing a case report form, critical evaluation of publications, audit findings.

PLANNING THE DEVELOPMENT OF NEW DRUGS

Jean-Pierre TASSIGNON

This course provides an overview of the integrated development of a new medicine at a corporate and international level, with emphasis on the organization of a programme of clinical trials from conception to finalization of written reports and compilation of the clinical section of a registration dossier.

STUDY DESIGNS

Marie-Paule DERDE

The course defines such basic concepts as : biases, blinding, randomisation, parallel versus cross-over designs, superiority, equivalence and non-inferiority trials.

THE PROTOCOL

Jean-Pierre TASSIGNON

The protocol is the key reference document of a clinical trial. The homework " Drafting a protocol for a clinical study " will provide a unique opportunity to integrate many aspects of clinical research and provide a competence in reading and understanding protocols.

ETHICAL AND LEGAL ISSUES IN DRUG DEVELOPMENT

André HERCHUELZ, Ingrid KLINGMANN, Greet MUSCH,

Performance of clinical studies has important ethical implications. The course will start with the fundamental concepts of bioethics and the basic documents (Nuremberg code, Declaration of Helsinki). In a more practical way, the rules for functioning of ethical review committees will be presented. The European regulations of clinical trials and their implementation at the national level will be discussed. The difference of the ethics committee review system, organization, review timelines and submission process between EU member states will be presented and discussed.

CLINICAL TRIALS IN DEVELOPING COUNTRIES-CHALLENGES AND OPPORTUNITIES

Eckart W. SCHWARZ

Traditionally, the majority of clinical development activities sponsored by multinational pharmaceutical companies have been carried out within the context of developed countries. This situation appears to be progressively changing, with more and more clinical trials being conducted in developing countries. Conduct of clinical trials in developing countries must not only follow the same stringent ethical and procedural standards as countries in the developed world, but also, and equally importantly so, there must be a “fair benefit” to study subjects and communities involved. Informed Consent procedure must be followed. Post trial access to study drug has been a controversial topic. Many angles need to be considered, for instance, to whom should this be extended (trial subjects or entire population), and how long for (until launch or life-long) ?

GOOD CLINICAL PRACTICE AND SOPs

Monique PODOOR

The ICH-Good Clinical Practice (ICH4-GCP) guidelines for clinical studies will be reviewed in detail. The consequences of the European Directive on Clinical Trials will be discussed.

ORGANISING, MONITORING AND REPORTING CLINICAL TRIALS

Marc de LONGUEVILLE, Dominique VERHOEVEN, Carl EMERSON, Yves GEYSELS, Bernard VRIJENS, Maurits Van DEN EYNDE

This course analyses the many tasks that must be performed by the investigator and the sponsor before the study starts, during the trial and after the end of the clinical part. The importance of contract management and the specific roles of clinical research associates (CRAs) and of contract research organisations (CROs) will be emphasized. The management of the investigational medicinal product and related regulations will be discussed. New technologies will be presented: eCRF, electronic medication event monitoring and patient telemonitoring.

STRATEGIC IMPORTANCE AND PRACTICAL ORGANISATION OF PHASE I STUDIES

Steven RAMAEL, Dirk VANDER MIJNSBRUGGE, Vanja VAN ASCH, Isabelle FORMESYN

This course analyses the conduct of Phase I studies. The following issues will be addressed :

- Responsibilities of the principal investigator
- Critical milestones
- Staff and activity scheduling
- Pharmacy activities.

The course includes a tour of the Pfizer Phase I Research Unit.

SPECIFIC ISSUES AND STANDPOINTS

Stéphane DEWIT

An investigator's view on clinical research

Denis LACOMBE, Françoise MEUNIER

An investigators network, the EORTC

INVESTIGATOR SITE AND SPONSOR QUALITY COMMON AUDIT FINDINGS

Susan TRAINOR

Setting up a sound clinical quality system to conduct clinical trials is not only crucial but a regulatory requirement for the sponsor and the investigator site. A review of the systems used in clinical trials and the common audit findings will be presented.



Timetable

Monday, January 18th

- 12.00 – 13.00 *MCQ on preclinical research & development (for participants to seminars 1& 2)*
- 13.00 – 17.30 *Marie-Paule Derde*
Study designs

Tuesday, January 19th

- 09.00 – 12.00 *Christian Mélot*
Critical reading of a scientific publication on biostatistics
- 13.00 – 17.30 *Roger Verbeeck*
Pharmacokinetics : basic concepts & applications (I - II)

Wednesday, January 20th

- 09.00 – 12.00 *Viviane De Maertelaer*
Reminder of basic statistical notions
- 13.00 – 17.30 *Jean-Pierre Tassignon*
Planning the development of new drugs

Thursday, January 21st

- 09.00 – 12.00 *Viviane De Maertelaer*
Statistical aspects in the planning of clinical trials
- 12.00 – 13.30* *PHARMED LUNCH*
- 13.30 – 17.00 *Roger Verbeeck*
Pharmacokinetics : basic concepts & applications (II)
Roger Verbeeck
Presentation of the homework
“Analysis of pharmacokinetic data”

Friday, January 22nd

- 09.00 – 13.00 *Christian de Mey*
Clinical pharmacokinetics
Linkage between pharmacokinetic and pharmacodynamic data

Coffee breaks : 10.30-11.00
15.00-15.30



Timetable

Monday, February 22nd

- 13.00 – 15.00 **Jean-Pierre Tassignon**
Introduction to the practice of clinical research
- 15.30 – 17.30 **Roger Verbeeck**
Drug metabolism (I)
- 17.30 – 18.30 **Françoise Meunier**
An investigator network, the EORTC

Tuesday, February 23^d

- 09.00 – 12.00 **Christian Mélot**
Statistical analysis of complicated designs and multivariable analyses
- 13.00 – 15.00 **Roger Verbeeck**
Drug metabolism (II)
- 15.30 – 17.30 **Roger Verbeeck**
Discussion of the homework
“Analysis of pharmacokinetic data”

Wednesday, February 24th

- 09.00 – 12.00 **Viviane de Maertelaer**
Common errors in statistics and how to avoid them
- 13.00 – 16.30 **Jean-Pierre Tassignon**
Writing a study protocol
- 16.30 – 18.30 **Jean-Pierre Tassignon**
Presentation of the homework
“Drafting a protocol for a clinical study”

Thursday, February 25th

- 09.00 – 10.30 **Christian Mélot**
Bayesian clinical trials
- 11.00 – 12.30 **Viviane de Maertelaer**
Meta-analyses
- 12.30 – 14.00 PHARMED LUNCH**
- 14.00 – 17.00 **Roger Verbeeck**
Validation of drug assay methods
Bioequivalence
- 17.00 – 18.00 **Stéphane Dewit**
An investigator's view on clinical research

Friday, February 26th

- 09.00 – 10.30 **André Herchuelz**
The role of ethics committees
- 11.00 – 12.30 **Greet Musch**
Clinical trials in Europe: the regulatory framework and the role of the national competent authority

12.30 – 13.30

Ingrid Klingmann

Differences of the ethics committee review process between EU member states

Coffee breaks : 10.30-11.00 & 15.00-15.30



Monday, March 22nd

13.00 – 17.30

Marc de Longueville

Set-up of the study

Tuesday, March 23rd

09.00 - 12.00

Marc de Longueville

Conduct of a study

13.00 – 15.00

Carl Emerson

Outsourcing of clinical trials and contract management

15.30 – 17.30

Yves Geysels

Management of the investigational product

17.30 – 18.30

Bernard Vrijens

Patient adherence and persistence in trials and practice

Wednesday, March 24th

09.00 – 11.00

Marc de Longueville

Closure of the study

11.00 – 13.00

Dominique Verhoeven

Study monitoring by CRAs

14.00 - 18.00

Steven Ramael, Mrs Vanja Van Asch, Mrs Isabelle Formesyn and Dirk Vander Mijnsbrugge

Phase I studies : strategic importance and practical organisation

Thursday, March 25th

09.00 – 12.30

Marc de Longueville

Interpretation of data and writing of the final study report

12.30 – 14.00

PHARMED LUNCH

14.00 – 16.00

Monique Podoor

Good clinical practice (ICH-GCP)

16.30 – 17.30

Eckart Schwarz

Clinical trials in developing countries-challenges and opportunities

17.30 – 18.30

Maurits Van Den Eynde

New technologies in clinical trials and healthcare

Friday, March 26th

09.00 – 11.00

Jean-Pierre Tassignon

Discussion of the homework

”Drafting a protocol for a clinical study”

11.00 – 13.00

Susan Trainor

Investigation site and sponsor quality common audit findings

Coffee breaks : 10.30-11.00

15.00-15.30 (except on Thursday)



Marc de LONGUEVILLE

MD, PhD, FFPM, MBPCM, Medical Director Inflammation,
UCB Pharma

Viviane De MAERTELAER

Ph.D. in physics, ULB, Professor at the ULB

Christian de MEY

M.D., FFPM, FRCP, Associat. Prof. University of Frankfurt, Clinical pharmacologist ACPS,
Mainz-Kastel, Germany

Marie-Paule DERDE

Ph.D. in pharmaceutical Sciences, General Manager, Data Investigation Company Europe
(DICE), Brussels

Stéphane DEWIT

M.D., Ph.D., ULB-AIDS Reference Centre CHU Saint-Pierre, Brussels

Carl EMERSON

Senior Manager, Clinical Procurement, GSK Biologicals

Isabelle FORMESYN

Head Pharmacy, Pfizer Clinical Research Unit Brussels

Yves GEYSELS

Ph.D., Head Clinical Research Operations Europe North, Novartis. Past Chair of the
Association of Clinical Research Professionals (ACRP), Ass. Prof. at the University College of
Antwerp, Dept. of Healthcare

André HERCHUELZ

M.D., Ph.D., Professor of Pharmacology at the ULB, Member of the Belgian Medicines
Commission, Chairman of the Ethics Committee of Erasme Hospital

Ingrid KLINGMANN

MD, PhD, FFPM, FBCPM, Managing Director, Pharmaplex bvba, Member of the Board, Co-
Chair Ethics Working Party and Co-Chair "Patients' Roadmap to Treatment" Working Party,
EFGCP, Brussels, Belgium.

Denis LACOMBE

M.D., M.Sc., European Organisation for Research and Treatment of Cancer (EORTC), Brussels

Christian MELOT

M.D., Ph.D., ULB, M. Sci. Biostatistics, Limburgs Universitair Centrum, Professor of
Biostatistics at ULB, Associate Professor at the Intensive Care Department, Erasme Hospital



Françoise MEUNIER

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Greet MUSCH

Head of Department Research & Development, Federal Agency for Medicines & Healthproducts, Brussels, Belgium

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Steven RAMAEL

MD, Medical Director, SGS Life Science Services-Clinical Research, Antwerp, Belgium

Eckart W. SCHWARZ

M.B., Ch.B., University of Bristol, Vice President & Global Head, New Product Development, GSK Biologicals

Jean-Pierre TASSIGNON

M.D., ULB, FFPM, Dipl. Pharm. Med., President & CEO, Crossover CRI AG, Chairman EFGCP Board, Formerly President PSI Pharma Support International AG (1995-2006)

Susan TRAINOR

Diploma in Nursing Montreal, Canada, President and CEO of Trainor & Partners International

Vanja VAN ASCH

Head trial & Project Management, SGS – Clinical Pharmacology Unit Antwerp

Maurits VAN DEN EYNDE

Consultant Pharma Division. Euremis n.v.

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Dominique VERHOEVEN

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Bernard VRIJENS

Ph.D., Chief Scientist, AARDEX Group, Pharmionics research center, Vise, Belgium, Adjunct professor, University of Liège, Belgium

LANGUAGE

All courses are taught in English.

REGISTRATION FEE

900 Euros for each seminar (including access to the electronic documentation), 250 Euros for one day or 2 halves-days.

*Procedure: register by mail by returning a completed registration form.
Payment should be arranged upon receipt of our bill.*

LOCATION

FREE UNIVERSITY OF BRUSSELS
School of Medicine – Building F – Room F2-407
Campus Erasme – Route de Lennik, 808
B – 1070 Brussels
Belgium

TRANSPORTATION

See our web site (venue) : <http://www.ulb.ac.be/medecine/pharmed>

REGISTRATION & INFORMATION

For more information please contact.

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