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course factfile



Clinical Pharmacokinetics

Certificate of Professional Development (By Distance Learning)

Introduction

The School of Pharmacy and Biomolecular Sciences offers a wide variety of courses at undergraduate and postgraduate level for full and part time students. Other postgraduate courses offered within the school include a PgCert/PgDip/MSc in Clinical Pharmacy, a CPD in Oncology Pharmacy Practice (by distance learning) and a professional doctorate in Pharmacy (DPharm).

The Course

The Clinical Pharmacokinetics Programme has evolved from close collaboration between the University and Wirral University Teaching Hospital NHS Foundation Trust.

Clinical pharmacokinetics facilitates dose individualisation and ensures patient safety. An advanced understanding of the subject helps the practitioner ensure that patients get the most out of their medicines. If pharmaceutical care aspires to identify and meet the drug-related needs of individual patients, understanding clinical pharmacokinetic methods is essential. The course is relevant to all healthcare professionals who are responsible for direct patient care. It will however be of particular interest to pharmacists working in critical care, renal services, paediatrics/neonatology, haematology/oncology, gastrointestinal/liver services, elderly care, infectious diseases, medicines information or in undergraduate or post-graduate teaching. The course will give confidence to allow one to tutor others in the subject.

The course is offered as a Certificate in Professional Development. The aim of the course is to enable students to:

- Demonstrate an understanding of the information conveyed by pharmacokinetic parameters.

- Recognise those drugs for which pharmacokinetic considerations are likely to be of real clinical relevance.
- Calculate initial dosage regimens, based upon individual patient characteristics, including consideration of any relevant pathological or physiological conditions.
- Adjust dosage regimens using clinical endpoints and the results of therapeutic drug monitoring.

Structure

The University operates its programmes on a modular basis. The programme comprises one module which has a credit value of 12-Credits. Each credit relates to 10 hours of student learning. The course therefore represents 120 hours of professional development. The course is studied part time and it is anticipated that student will complete the course within one calendar year. Students undertake the course through distance learning, using the University's Blackboard on-line delivery system.

Student Support

Each student will be assigned a personal tutor in addition to the University's and School's technical and administrative support officers.

Entry Requirements

All entrants will normally be graduates in pharmacy or other healthcare disciplines who will have access to patients in community, primary or secondary healthcare settings. Applicants with other academic backgrounds will be considered.

Assessment

The course is assessed by an on-line Multiple Choice Question examination and by submission of case studies. All assessments will be moderated by an external examiner.

Content

The course comprises 8 sections whose size is denoted by the unit rating:

Section 1 (3 Units) Absorption, distribution, metabolism and elimination of drugs including basic pharmacokinetic terminology, definitions and equations. General principles of empirical dose adjustment.
Section 2 (3 Units) Influence of anatomical, physiological and pathological changes on pharmacokinetic handling. Ideal body weight, dosing weight, influence of age, pregnancy, obesity, amputation, emaciation and body building. This material will link with worked examples in other sections.
Section 3 (1 Unit) Assessment of renal function, including both Cockcroft and Gault and MDRD methodology.
Section 4 (2 Units) Clinical pharmacokinetics of aminoglycosides including individualised and extended interval dosing and use of the Area Under the Inhibitory Curve (AUC).
Section 5 (1 Unit) Clinical pharmacokinetics of digoxin and digibind.
Section 6 (1 Unit) Clinical pharmacokinetics of theophylline and Aminophylline.
Section 7 (2 Units) Clinical pharmacokinetics of Anticonvulsants including the orbital plot to guide dosing of phenytoin.
Section 8 (2 Units) The clinical pharmacokinetics of drug interactions. The time course of drug interaction, clinical significance of possible interactions and their likelihood. The development of skill sets to assess the likely significance of a drug interaction for a specific patient.

How to Apply

Application forms and further information can be obtained from:

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Course Tutors

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