

R.J. Yardley, J.J. Miles, S. Arkle¹ & C.L.J. Wong¹, The Television Centre, University of Portsmouth, and ¹School of Pharmacy & Biomedical Science, University of Portsmouth, St. Michael's Building, White Swan Road, Portsmouth, PO1 2DT.

The pharma-CAL-ogy project is funded through the Teaching and Learning Technology Program (TLTP), which aims to encourage the use of modern technology in higher education to make it more productive and efficient. The project has focussed on the development of courseware, both computer-based learning materials, many of which have been demonstrated to the Society, and video-based learning materials.

Here we describe videotapes which aim to provide step-by-step laboratory guides for commonly used pharmacological organ bath preparations. They are suitable for undergraduates from Pharmacology, Medical, Pharmacy and some Biomedical Science courses. The content is concerned primarily with the dissection and preparation of the tissue and setting it up to make recordings, the detail of operating equipment and the pharmacological properties of the tissues are not covered.

The first videotape contains material on five preparations: *Isolated Ileum*; *Vas Deferens*; *Isolated Atria*; *Phrenic-Nerve Diaphragm*; *Anococcygeus Muscle*. A further programme (*Introduction to Isotonic and Isometric Contractions*) explains and demonstrates these two commonly used methods of recording and incorporates still graphics to explain and describe the structure of smooth, cardiac and skeletal muscle cells and the structure of the sarcomere. Animated graphics (to illustrate the sliding of actin and myosin filaments during muscle contraction) and cartoon graphics (simple animations of a weight-lifter and a tug-of-war to demonstrate the difference between isometric and isotonic contraction) are also used.

The second tape contains four *in vitro* preparations: *Isolated Trachea*; *Isolated Aorta*; *Rabbit Jejunum* (Finkleman); *Perfused Mesenteric Bed* and two other programmes: *Injection Techniques* which is a short guide to and demonstration of different injection techniques in both rat and mouse (preparation of a syringe, oral administration, intra-peritoneal injection, sub-cutaneous injection and intra-muscular injection, and intravenous injection into the mouse tail vein) and an *in vivo* animal preparation (*Blood Pressure in Anaesthetised Animals*) demonstrating the technique of measuring arterial blood pressure and heart rate in an anaesthetised animal (anaesthetisation; maintenance of body temperature; cannulation of trachea, jugular/femoral vein and carotid artery, pressure transducer and recording apparatus).

The programmes were mastered onto broadcast quality Betacam SP videotape and are distributed on two high quality one hour VHS cassettes each containing six programmes of 8-12 minutes with commentary. For most of the preparations the following format is used: identification of the organ/tissue; dissection and removal of the tissue; setting up the tissue in the organ bath (mounting the tissue, aeration, application of tension, drug addition and/or electrical stimulation, washing. The video also includes sequences showing live and still trace recordings from each preparation. When structures are difficult to locate or identify, high resolution graphics, developed on Autodesk 3D Studio, are used for clarification.

The videotapes may be used in several ways: (i) to prepare students before they perform a practical themselves; (ii) free access to them at any time during the laboratory session to clarify aspects of dissection or recording; (iii) as an alternative, perhaps in conjunction with a computer simulation, for those students who will not have the opportunity to perform an investigation on a specific preparation.

284P PRELIMINARY RESULTS OF A SURVEY OF BSc PHARMACOLOGY COURSES IN THE U.K.

Education Sub-Committee, British Pharmacological Society, 16 Angel Gate, City Road, London EC1V 2PT.

There has been growing concern about the changes facing pharmacology and particularly the changes facing the teaching of pharmacology (Page et al., 1994; Hughes, 1996). The British Pharmacological Society has increasingly been pro-active in fostering discussion about the changes facing pharmacology in order to help ensure that pharmacologists continue to be trained in appropriate numbers and with appropriate skills. As part of the activities of the Education Sub-Committee, we recently carried out a survey to establish what constitutes as BSc degree in Pharmacology in the U.K. Heads of Department of Pharmacology in eighteen Universities in the U.K. were asked to complete a questionnaire to obtain basic information for the Society on the content of BSc Degree courses in pharmacology. The total (mean \pm S.D.) number of hours of Pharmacology taught in year one was 81 ± 88 (range 0-293), in year two was 228 ± 113 (range 100-453) and in year three was 493 ± 157 (range 320-900). Of the total hours of non lecture work in year three, 11% was wet practical work, 1% was dry practical work, 68% was laboratory based project work and 26% was library or dissertation based project

work. Eight of the Universities surveyed offered extra-mural year placements which in one University only was compulsory.

There was considerable variation in the content of the courses offered across the U.K. This can be illustrated with reference to three areas surveyed. The mean total hours in year 1-3 for respiratory pharmacology was 4.1 (range 0-17), gastrointestinal pharmacology was 1.7 hours (range 0-9) and other non-laboratory sessions (e.g. I.T. skills, communication skills, group work) was 17.94 (range 0-55) hours.

This preliminary survey suggests that there is considerable variation in the content of BSc courses in Pharmacology in U.K. Universities.

Page, C.P., Sutter, M.C., Walker, M.J. Trends Pharmacol. Sci (1994); **15**: 17-19.

Hughes, I.E. Trends Pharmacol. Sci (1996); **17**: 32-34.