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PACT: An ESICM Multidisciplinary Distance Learning Programme for Intensive Care Doctors

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Summary

Update in Education: Patient-Centred Acute Care Training (PACT) is an interactive distance learning course for the training of doctors working in intensive care and acute medicine.

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Intensive Care Medicine (ICM) is a medical specialty where doctors from a variety of disciplinary backgrounds manage the medical care of critically ill patients. Training and continuing education for these doctors involves the acquisition and maintenance of the knowledge, skills and attitudes which allow them to manage the most severely ill. In order to improve and harmonise the quality of intensive care medicine, the European Society of Intensive Care Medicine (ESICM) is producing a distance learning programme: Patient-Centred Acute Care Training (PACT) for the training of doctors working in intensive care and acute medicine.

The PACT Programme – General Aspects

The PACT programme is modular in design and when completed (in 2005) will contain 45 modules (see Table 1) of which around 23 modules will be published by 2004. The modules are divided into four broad areas: 1. Clinical problems; 2. Organ specific problems; 3. Skills and techniques and 4. Professionalism (see Table 1).

PACT is being produced at the outset in written and electronic forms. The electronic medium allows PACT to offer learning and updating mechanisms intermediate between the current written and oral media, with the benefit of rapid updates when required.

There is a European emphasis to PACT, but the authors and the module reviewers, who are drawn from all over the world, are recognised experts and many also bring special educational and multi-media skills. The ESICM medical educationalist has an everyday role in module development and in the editorial processes.

Table 1: PACT modules

Clinical problems	Organ specific problems	Skills and techniques	Professionalism
Altered consciousness	Abdominal problems	Airway management	Clinical outcome
Arrhythmia	Acute brain ischaemia	Basic clinical examination	Communication skills
Bleeding and thrombosis	Acute hepatic failure	Airway management	Ethics
Environmental hazards	Acute myocardial ischaemia	Clinical imaging	Health technology assessment
High risk surgical patient	Acute renal failure	Haemodynamic monitoring	Organisation and management
Hypertension	COPD and asthma	Homeostasis	
Hypotension	Heart failure	Infection control strategies	Quality assurance & cost-effectiveness
Immunocompromised patients	Neuromuscular conditions	Mechanical ventilation	Teaching and learning
Major intoxication	Pancreatitis	Nutrition	
Multiple trauma	Traumatic brain injury	Organ donation and transplantation	
Oliguria and anuria		Organ function monitoring	
Pyrexia		Respiratory monitoring	
Respiratory failure		Sedation	
Sepsis and MODS		Transportation	
Severe infection			

Currently PACT has more than 500 subscribers. More and more hospitals are opting for a site licence. In the Netherlands for example, all university hospitals have a site licence, making the PACT programme available to trainees.

PACT Programme – Educational Aspects

PACT meets the desirable features of a distance learning programme as described by Harden and Laidlaw [1]. A key characteristic of adult education systems is the proactive approach of participants to manage their learning, with access to a teacher or process, which may be provided from a distance, for guidance and interaction. Each PACT module is written as a kind of study guide which provides a vehicle for this interaction and has three roles in facilitating education: 1. assisting in the management of learning; 2. providing a focus for activities relating to learning and 3. Providing information on the subject or topic of study [2, 3]. Each PACT module contains a so-called Patient challenge (PATCH) and a series of 'Tasks'. The PATCH contains a clinical scenario (involving one or more patients) in which the user is asked to interpret the nature of the clinical problems and make management decisions. The PATCH generates 'Learning Issues' which the reader is then invited to pursue by clicking electronically to the Task section of the module (or PACT Programme generally). The Tasks, containing the theory, are based on real life in the ICU and reflect the day-to-day work of intensive care practitioners. The starting points for all modules are patient/work related tasks e.g. managing the patient with fever or recognising complications of pancreatitis.

In order to make PACT a comprehensive and professional learning experience, a variety of interactive elements are incorporated into each module. For example, participants are invited to consolidate their knowledge in an active way by answering questions which arise in the text. Interspersed in the text are 'Thinks', where users are asked to reflect on the knowledge they have acquired and consider its consequences and how they would apply the new knowledge in practice. 'Activities' are suggested to explore how such new theoretical knowledge might have practical clinical application. 'Snippets' and 'Anecdotes' further enrich the text and all can be enjoyed as an option. The interactive dimension is completed with a series of self-assessment MCQs at the end of each module. Those studying for the European Diploma in Intensive Care (EDIC) exam will find these especially relevant as they are in the EDIC style. The plan is to use the PACT programme increasingly as a guide and resource for the EDIC exam.

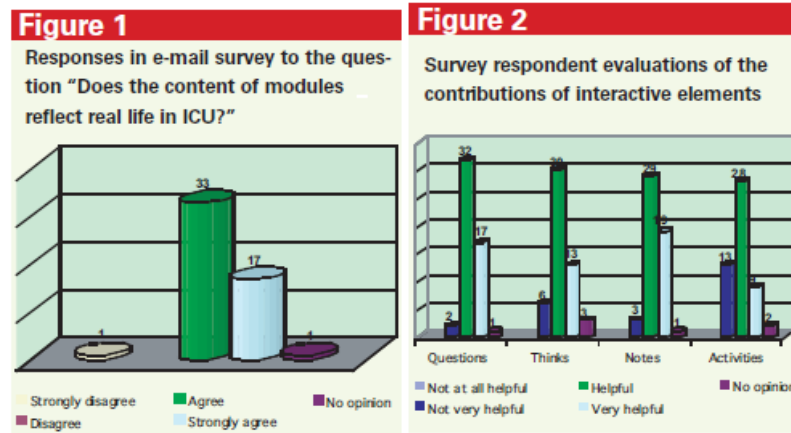
Each electronic module allows links within that module, to the rest of the PACT programme and to appropriate literature, Pubmed abstracts and relevant websites. PACT will have particular application in acute hospitals where the programme will best be made available on desk-top computers in ICUs or other sites of acute medicine practice. It is anticipated that PACT, located at the bedside, using advanced electronic features, will quickly earn a special status as a rapid, relevant and quality information and training resource for those working in ICUs. A programme of regular updating of the Internet version is now starting.

PACT Programme – Applications

PACT reflects a modern way of learning where the user is active and reflective and manages the learning process with guidance from the programme. It is firstly for use at an individual level. In the work-place and at home it can be flexibly incorporated into an individual's initial approach to the Intensive care curriculum or for continuing personal education and development. In hospital departments, it can be used by those organising training programs in Intensive Care or in related specialties, e.g. internal medicine, surgery or anaesthesia. In some units the fellows and residents study individually, followed by a group session where the patient challenge section of a module is used for an interactive group discussion. In these sessions, led by one of the trainers, the self-assessment questions can also be reviewed in a group setting. Clinical societies and organisations have also begun to use the programme for training symposia or workshops. Portugal has provided leadership in this area where PACT courses have been offered at two sites this year. These are one or two day courses focussing on a PACT module or groups of related modules e.g. Respiratory failure, Airway Management and Mechanical Ventilation, and targeted at doctors who work in the ICU. Participants study the tasks in advance, and during the course the area of study is explored in detail using lectures and the teaching facilities and devices inherent to the programme. Facilitators have been both Module authors and local senior Intensive Care Specialists. The patient challenges (PATCHs) are discussed in detail and used as a mechanism of ensuring clinical context and highlighting the relevant 'learning Issues'. In some instances skill stations have been created to allow practical reinforcement of theoretical areas e.g. in Airway management or

PACT Feedback

The feedback from subscribers to date has been very positive and the programme is being rated highly both for individuals and as a resource for group learning. Both the content and the format, including the various modalities and devices used to enhance the educational experience, have been well received. A large majority of the subscriber respondents to a small e-mail survey in December 2003 regarded the programme as strongly reflective of real-life Intensive Care practice (see Figure 1) and Figure 2 shows that these respondents also regarded the interactive features of the programme as contributing highly to the learning process. Feedback from PACT-based teaching symposia, such as those conducted in Portugal this year, has been very positive. The faculty were uniformly enthusiastic about this novel, yet substantive format and for the course participants, Learning Objectives were subcategorised into Clinical Assessment, Relevant principles, Indications / contraindications to various clinical management approaches, Details of clinical procedures, Pitfalls / complications and Clinical outcome. Success at achieving the Learning Objectives was rated at 80 – 100% for all modules of the course.



Conclusion

PACT is a novel, yet effective and efficient way of learning and updating in Intensive Care and Acute Medicine. The flexible design allows the user to utilise the programme in a variety of ways to meet his or her particular needs. It is also attractive for trainers in clinical or academic institutions, as they can use the programme in conjunction with everyday in-service training, for local or national courses or for exams such as EDIC, or for other accreditation purposes. Ultimately the impact of PACT will be measured by its broad acceptance and success in advancing the objective of the ESICM in 'promoting the highest standards of multidisciplinary care for critically ill patients through education, research and professional development'.

If you are interested in PACT you can see a demonstration of the electronic version on the ESICM website

[http://www.esicm.org/\(Education\).](http://www.esicm.org/(Education).)

If you want further information about individual subscriptions or site licence details please contact Laurence Van den Bossche, PACT Editorial Secretary: public@esicm.org

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