GUEST EDITORIAL

Training in resuscitation

There has recently been an increase in interest in cardiopulmonary resuscitation (CPR) amongst the lay public, paramedical and medical personnel. The BBC's *Save a Life* (Fisher *et al.*, 1986) campaign series of programmes, showing the benefits of basic CPR, encouraged the public to enrol for short courses held in their vicinity and apparently many responded. Some hospitals now offer similar training to their community to improve the results of locally run coronary ambulances. Much of the credit for this must go to Dr Chamberlain and his dedicated team in Brighton who pioneered 'bystander resuscitation' in the UK. This involved a massive commitment to training before there was any evidence (Vincent *et al.*, 1984; Eisenberg *et al.*, 1979) that such training would improve the outcome from sudden cardiac death.

Interest in hospital resuscitation has occupied the minds of all those involved in accident and emergency (A & E) medicine, stimulated partly by Peter Baskett's incisive leading article (Baskett, 1985). This drew, for evidence, on the largely negative studies of groups of junior doctors performance, in Cambridge (Casey, 1984) and London (Skinner *et al.*, 1985), at basic and advanced cardiac life support. The St Bartholomew's Hospital study was, of course, largely self-critical as the authors were themselves responsible, in part, for the training of the junior doctors who performed so indifferently.

Nearly 2 years on, is the situation any better? It is hoped that training in basic life support has improved and it is certainly available at the author's hospital for any medical student, doctor or lay member of the hospital staff by phoning the Bart's City Life Saver Manager who will arrange a 2-h training session. This training should be compulsory for medical students and a pre-requisite of entry to Final MB should be completion of such a course.

Anaesthetists, cardiologists and doctors working in A & E medicine are often keen to train medical students and junior doctors, but this is very time consuming for busy clinicians. Some hospitals have been fortunate enough to receive funding for 'resuscitation training officers' who organize and coordinate training within their own hospitals. However, what form should this training take, and how should standards be established and maintained?

The author has recently attended two courses, the first an Advanced CPR workshop at the Central Middlesex Hospital, England, and the second an Advanced Cardiac Life Support (ACLS) course in Seattle in the northwest part of the USA. The Central Middlesex Hospital course was a one-day programme of lectures and practical classes on all aspects of CPR. The 42 trainees included 24 doctors from A & E medicine, three anaesthetists and eight doctors from general medicine, as well as an orthopaedic surgeon. The day was split between lectures, demonstrations and small group workshops in ventilation, including mask and ET tube placement, arrhythmia recognition,

and intravenous line placement. The most valuable workshop, in the author's view, was the 'megacode'. This session essentially puts the trainee in the hot seat: he or she is required to be in charge of a simulated cardiac arrest, not only deciding on the appropriate treatment of various life threatening arrhythmias, but also controlling and monitoring the performance of other members of the crash team including the 'anaesthetist', the 'houseman' doing external cardiac massage and the 'nurse' providing the drugs and defibrillating the patient. There is no doubt that participating in such simulated arrests exposes trainees' weak spots and the presence of an audience induces anxiety similar to that experienced at a real cardiac arrest. The equipment for such training sessions, however, is not cheap and includes more than £2000 for an Arrhythmia Anne (Laerdal) which, essentially, will provide all abnormal rhythms likely to be encountered in a cardiac arrest when connected to a monitor and allows the manikin to be 'defibrillated' when appropriate—this piece of equipment is vital for such 'megacode' practicals—together with an intubation trainer; the monitor and defibrillator will, of course, be standard hospital equipment. The course at the Central Middlesex Hospital was a brave attempt to teach a difficult subject in a short period of time and it certainly showed what trainees did not know, but the author is not convinced that a doctor working in A & E medicine would have been adequately prepared by such a course to manage a real cardiac arrest confidently and competently.

The ACLS course in Seattle, which the author attended courtesy of the King's Fund and Physio Control, was a more thorough preparation for such emergencies. The 2-day weekend course held at the Virginia Mason Clinic was one of many similar courses held at various centres across the USA. The courses are all standardized and regularly assessed by the American Heart Association (AHA). All doctors working in A & E medicine require ACLS certification to work and 2-yearly renewal of the certificate is mandatory. The course costs \$90, and includes a large 300-page textbook produced and regularly revised by the AHA. This book is posted to the trainee on registration for the course and reading of the book, together with the completion of a 50-question MCQ pretest, is assumed. The course content was organized by a cardiologist and an emergency room doctor but the actual running and coordination of the lectures and practicals was ably done by the hospital's course coordinator. The course was exhaustive and, not surprisingly in the USA, included the medicolegal aspects of CPR. Trainees performance in all the practical classes was constructively criticized with the aim of encouraging the student to achieve the high standards set by the AHA, such as accurate intubation in less than 35 s. The 'megacode' practice was, again, most instructive with someone recording all decisions and treatment plans, whilst a cardiologist programmed logical rhythms on the Arrhythmia Anne in response to the trainee's management. Complications seen in a cardiac arrest were simulated and needed to be accurately diagnosed as well as properly managed. The presence of an examination at the end of the course in all aspects of ACLS concentrated the mind wonderfully and success was by no means guaranteed. The pass rate was approximately 75% and those failing included both coronary care nurses and doctors. The exam, quite logically, was the same for doctors and nurses as both are essential members of the cardiac arrest team which needs to work as a unit for success.

The American course, largely as a result of their experience, was the better course. Similar courses should be established in the UK, standardized by the Resuscitation

Council (UK) and be made available to doctors and nurses alike. A 2-day, American-style ACLS course has recently taken place at St Bartholomew's Hospital, London, England. Most importantly, ACLS certification should be a prerequisite for all doctors involved in A & E medicine. At least one resuscitation officer per district should be appointed, funded by the region, to coordinate such essential teaching.

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