

# Can consultants resuscitate?

**ABSTRACT**—Twenty-four of 53 hospital consultants responded to an offer to attend a resuscitation training course. Fourteen of them had never had resuscitation training. Their performance of basic life-support was assessed before and after training according to the Resuscitation Council UK recommendations. Their initial performance of basic life-support on a manikin was extremely poor. One hour of training and practice resulted in statistically significant improvements.

Many reports in the literature testify to the inability of many groups of hospital workers to perform adequate cardiopulmonary resuscitation [1].

The first formal course in resuscitation training held at this hospital for 24 junior hospital doctors made us aware of the value of such training. We therefore decided to offer a similar course for hospital consultants at our hospital.

We report the response to the offer, the ability of consultants to perform basic life-support before and after the training session, and we assess the value of the exercise.

This is the first UK report to investigate such training at consultant level.

## Methods

A letter was sent to all 53 consultants of the acute unit (excluding the authors), representing all specialties at Bedford General Hospital, inviting them to attend a formal course in basic life-support (with airway adjuncts and defibrillation), according to the specific guidelines of the Resuscitation Council UK [2,3]. The arrangements were designed to be sufficiently flexible to make attendance easy.

The aims of the course were explained, and permission to test ability in basic life-support before and after the session was obtained from the participants.

The basic life-support measures were adopted according to the Resuscitation Council UK [2,3] and the Royal College of Physicians [4].

Each participant was presented in turn with a 'collapsed person in the street' in the form of a Resusci-

Anni Manikin (Laerdal) on the floor, with instructions to carry out basic life-support with the assistance of one non-medical 'passer-by'. The conduct of that resuscitation attempt was marked on a standard form (Table 1). After the initial assessment, an hour of tuition and practice in basic life-support was given in groups of not more than six consultants, and a further hour on airway management and defibrillation. Thereafter, each consultant repeated the same test of basic life-support.

## Testing of basic life-support

The order and content of the scoring was designed to reflect the Resuscitation Council UK guidelines for basic life-support [2]. A score of one point was awarded to each of the items 1 to 6 inclusive, and item 8. Item 7 carried two points: one point if two breaths were given and another point if the breaths adequately ventilated the manikin. This was assessed visually by the marking author by looking to see whether or not the chest rose adequately. Item 9 carried three marks: one if 15 compressions were given, one if the compressions were adequate to compress the chest, and one if the rate of compression was in the range 60–80 per minute. Automated performance monitors were not used. After the practice session, the same procedure was assessed for each consultant by the same marker author, without knowledge of the pre-test score.

Scores were summed in two ways: first, the total score for the whole sheet was obtained for each consultant; second, only items 7 (ventilation) and 9 (compression) were included, to assess simply whether breathing and circulation were adequately supported.

**Table 1.** Scoring sheet for basic life-support assessment.

1.	Say 'Are you all right?' (or similar)	0/1
2.	Gently shake shoulders	0/1
3.	Call for help	0/1
4.	Tilt head/Lift chin	0/1
5.	Check for breathing	0/1
6.	Check for obstruction	0/1
7.	Two (slow) breaths	Two breaths? 0/1 Adequate? 0/1
8.	Check pulse for 5 seconds	0/1
9.	Fifteen compressions	Fifteen? 0/1 Adequate? 0/1 Rate? 0/1

A maximum score assessing all 9 items = 12.

A maximum score assessing only items 7 and 9 = 5.

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After the courses, a final assessment letter was sent to each participant, ranking the various components of the course on a scale of 1 (poor) to 5 (excellent), and two further questions were asked: had the participant (a) attended such a course before as a consultant, and (b) ever attended such a course at any stage in training.

Wilcoxon's signed rank test was used to assess the significance of the difference in scores obtained in basic life-support before and after training.

**Results**

Of 53 consultants initially invited, 28 (53%) responded, and 24 (86%) of them indicated an interest in resuscitation training and subsequently attended the course. Four consultants (14%) indicated no interest.

Table 2 summarises the scores obtained as an average of all 24 consultants, pre- and post-training. It was evident from the pre-test that if account were taken of the proper order of the stages of carrying out basic life-support, all the consultants would have scored zero marks.

In the assessment of ventilation and compression only (items 7 and 9), ten consultants (42%) scored zero marks in the pre-test, and no consultant scored the maximum of five marks (ie no participant could ventilate and compress adequately). But in the post-test, 16 consultants (67%) scored full marks on ventilation and compression and none scored zero.

Of the 24 consultants, 21 (88%) returned the post-course questionnaire. Nineteen (90%) of them had never attended resuscitation training as a consultant, and 14 (67%) had never attended resuscitation training at any stage in their career. Nineteen (90%) indicated that a refresher course would be welcome.

**Discussion**

More than half of the consultants who had been invited to take part in a revision course for resuscitation expressed no interest in it, either explicitly or by default. Consultant medical staff are not renowned for their willingness to be tested in front of colleagues. We consider it, therefore, impressive that the 24 consultants who did come forward were willing to submit themselves to the potential embarrassment of being shown to be inept at a professional activity.

The conduct of basic life-support at the start of the course (pre-test) was extremely poor as no consultant was able to fulfil the Resuscitation Council UK method. Clearly, prior study and practice of the exact conduct for basic life-support is essential to get it right. With respect to ventilation and compression only, the fact that 42% of consultants scored zero marks indicated a serious lack of ability among senior medical staff in basic life-support technique. There was dramatic improvement in the scores after training, as would be expected in such a group. With respect to ventilation

**Table 2.** Average score results in basic life-support; 24 consultants.

	All actions (Items 1 to 9) Max. score 12	Ventilation/compression (Items 7 and 9 only) Max. score 5
Pre-test	3.75	1.13
Post-test	10.83	4.5
Significance	<i>p</i> <0.01	<i>p</i> <0.01

Pre-test denotes test before training.

Post-test denotes test after training.

Significance refers to Wilcoxon signed rank test applied to raw data, comparing pre-test with post-test scores.

and compression only, 16 of 24 consultants (67%) now scored maximum (5) marks and no one scored zero marks. When the whole procedure was reassessed, 12 of 24 consultants (50%) scored maximum marks, whereas in the pre-test none had achieved this (and two of them had scored zero marks). Furthermore, all 12 consultants who attained maximum marks in the post-test performed the routine in the correct order. It is evident that adequate teaching can produce major improvements in basic life-support skills. It is worrying that 67% of consultants had never received training in cardiopulmonary resuscitation at any stage in their career.

Performance of cardiopulmonary resuscitation has received much attention in the literature. In a study in 1984 of 50 newly appointed senior house officers and house officers [5], only 8% performed adequately at both ventilating and compressing the manikin. A study reported in 1991 in the UK [6] showed that of 31 pre-registration house officers only 48% were capable of effective ventilation and compression of a manikin. A similar study in New Zealand [7] examined the skills of 27 preregistration house officers, all of whom had received resuscitation training as students. Only 62% adhered to an 'A-B-C' of resuscitation, 26% failed to achieve effective mouth-to-mouth ventilation, and only 25% of them achieved over 60% correct compressions. A large study in the USA of 86 physicians of all seniorities [8] showed that the junior interns who had completed resuscitation courses performed better than the trained internists; furthermore, the trained internists performed worse in the overall knowledge tests than either junior interns or residents. The evidence that knowledge and skills deteriorate if no revision courses are taken is reiterated in a study of 31 physicians in Canada [9], whose resuscitation skills were measured six months after initial training: at that time, their skills and knowledge had deteriorated to pre-training levels.

The present study suggests that, without training, most consultants are incapable of basic life-support. It

shows that, with an adequate training session, significant improvements are possible. This can only be of great potential benefit to the management of patients. Consultants, like all other medical staff, should take regular refresher courses to ensure continued competence in basic life-support.

## References

- 1 Wynne G. ABC of resuscitation: training and retention of skills. *Br Med J* 1986;**293**:30-2.
- 2 Marsden AK. Guidelines for cardiopulmonary resuscitation: basic life-support. *Br Med J* 1989;**299**:442-5.
- 3 Chamberlain DA. Guidelines for cardiopulmonary resuscitation. Advanced life-support. *Br Med J* 1989;**299**:446-8.
- 4 Report of the Royal College of Physicians. Resuscitation from cardiopulmonary arrest: training and organisation. *J R Coll Physicians Lond* 1987;**21**(3):175-82.
- 5 Casey WF. Cardiopulmonary resuscitation: a survey of standards among junior hospital doctors. *J R Soc Med* 1984;**77**:921-4.
- 6 Morris F, Tordoff SG, Wallis D, Skinner DV. Cardiopulmonary resuscitation skills of preregistration house officers: five years on. *Br Med J* 1991;**302**:626-7.
- 7 Lum ME, Galletly DC. Resuscitation skills of first-year postgraduate doctors. *N Z Med J* 1989;**102**:406-8.
- 8 Donofrio MT, Barron DM, Winters SL, Gomes JA, Gorlin R. Cardiopulmonary resuscitation: qualifications and performance of house staff and trained internists. *Mt Sinai J Med* 1989;**56**(4):279-84.
- 9 Curry L, Gass D. Effects of training in cardiopulmonary resuscitation on competence and patient outcome *J Can Med Assoc* 1987;**137**(6):491-6.

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