

Intubating ability of house-officers in University Hospital, Kuala Lumpur

Chan Yoo Kuen, MBBS (Mal), FFARCS (Ireland)
Lecturer in Anaesthetics
Faculty of Medicine
University of Malaya
59100 Kuala Lumpur

Summary

A survey showed only 27% of our house-officers know how to intubate. Ninety-two percent however recognise the alternative to intubation. On the whole, knowledge centering around intubation is generally lacking.

Key words: House-officer, intubating abilities.

Introduction

The ability to intubate is one of the crucial requirements for a successful outcome in cardio-pulmonary resuscitation in the wards. It has recently been recognised in some British hospitals that this ability is lacking in their own house-officers (HOs) and remedial action is now being taken.

An assessment along similar lines is undertaken here so that our own house-officers who form the frontline team in ward resuscitation can be properly trained if they show the same standard as their British counterparts.

Method

Twenty-six house officers in UHKL (doing either surgical, orthopaedic or O & G and spending time in OT between February 1987 and June 1987) were assessed individually in the OT induction room on the following:—

- a) Ability to fix blade to handle of laryngoscope.
- b) Intubation (and time required).
- c) Recognising the best alternative to intubation.
- d) Recognising the size of endotracheal tube to be used.

Patients for intubation were induced with thiopentone and relaxed with suxamethonium. Only healthy adult patients in the elective lists were used. All patients whom the anaesthetist judged as being difficult (short neck, receding chin, missing teeth etc.) were not used for the purpose.

Pre-oxygenation was carried out before intubation was allowed in the presence of the anaesthetist (lecturer) who would intervene rapidly if the house-officers proved incompetent. The ability was determined with three intubations on three different patients. A successful outcome was one where the candidate successfully intubated at least two of the three patients. The speed

of intubation was equal to the time the laryngoscope was taken in the hand to the time the endotracheal tube was in and the laryngoscope put down on the trolley.

Testing the recognition of the best alternative to intubation in the ward was in the form of an M.C.Q.:

- i) Call seniors and in the meantime do not attempt further.
- ii) Use an ambu bag and a mask.
- iii) A tracheostomy should be done by whoever is the most experienced present.
- iv) A cricothyrotomy should be attempted.
- v) Use mouth-to-mouth or mouth-to-nose breathing.

Results

	Percentage
1. Had intubation taught in medical school	96
2. Ability to fix blade to handle	73
3. Ability to intubate*	27
4. Recognising the best alternative to intubation	92
5. Recognising correct tube sizes for neonates	27
infant	42
children	42
adult	50

*Average time required for intubation by the successful candidates was 38 seconds with a range of 12 to 115 seconds.

Discussion

Most of our house-officers are graduates from the Faculty of Medicine of the University of Malaya and although attempts are made to teach intubation in year four (via the use of mannequins and anaesthetised patients), only 27% still retain this ability when they become house-officers. This figure is comparable to those from St. Bartholomew's Hospital, London¹ and from the Departments of Medicine and Emergency Medicine, University of Colorado Health Sciences Centre, Denver, U.S.A.²

For those who were able to intubate, the average time taken was 38 seconds. Hence this group will still do miserably in the Advanced Cardiac Life Support Examination³ in the United States where the upper limit is 35 seconds.

It was comforting however to realise that at least 92% of them recognised that the best alternative to intubation in the ward was to use an ambu bag and a mask. This survey however does not make an attempt to differentiate whether they recognise that intubation periods should be kept short in the ward and that the bag and mask should be considered sooner than is usually the case.

Knowledge centering around the laryngoscope and endotracheal tubes is sadly lacking. This

inadequate knowledge may actually contribute to prolonging the hypoxia in a cardiopulmonary arrest patient in the ward.

Conclusion

Courses in cardiopulmonary resuscitation with special emphasis on intubation and management of the airway should be made compulsory in the undergraduate programme. Another course in the early housemanship posting is required to reinforce this as our survey showed only one in four will retain the skill after a lapse of two years.

Acknowledgement

I would like to thank the staff of the Department of Anaesthesia UHKL for their support in doing the survey; Professor Delilkan for his help in the preparation of this paper and the Director for allowing the survey to be done on the house-officers and the patients. I would also like to thank all the house-officers (1986–1987) who so enthusiastically took part in the survey and Mrs. Wong the department's secretary for typing the manuscript.

References

1. Skinner DV, Camm AJ, Miles S. Cardiopulmonary resuscitation skills of pre-registration house-officers. *BMJ* 1985; 290: 1549–1550.
2. Lowenstein SR, Libby LS, Mountain RD, Hansbrough JF, Hill DM, Scoggin CH. Cardiopulmonary resuscitation by medical and surgical house-officers. *Lancet* 1981; ii: 679–81.
3. Standards and guidelines for cardiopulmonary resuscitation (CPR) and emergency cardiac care (ECC) part IV. Advanced cardiac life support. *JAMA* 1980; 244: 479–94.