and non-smokers separately) and in those with significant coronary disease (again smokers and non-smokers separately). Why is it thought that minimal thyroid dysfunction is a risk factor in middle aged women only? Surely men should also be investigated.

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Resuscitation needed for the curriculum?

SIR,—Not surprisingly the paper by Dr David V Skinner and colleagues and the leading article by Dr Peter F Baskett have opened up a wide debate in both the medical press and the media. The Resuscitation Council of the United Kingdom, an advisory group of doctors concerned with the standards and practice of cardiopulmonary resuscitation, must share some responsibility for highlighting the issues and publicising its collective experience. The difficulty lies in persuading individual doctors, hospital committees, and deans of medical schools that practical training in emergency aid and resuscitation should be an essential part of a doctor's general professional make up. The points which we should like to see adopted are fourfold.

Firstly, training in lifesaving first aid and emergency care should be compulsory in the first year of the undergraduate medical curriculum. Such training should emphasise the practical aspects and should include practice in basic life support cardiopulmonary resuscitation on a training manikin. It could be included in the physiology part of the undergraduate course.

Secondly, advanced life support training in defibrillation, drug therapy, intravenous infusion, and endotracheal intubation, etc, should be included in the clinical part of the curriculum, probably during attachment to the department of cardiology, anaesthesia, or accident and emergency medicine. Again manikin practice is essential to overcome the natural fumblings and embarrassment which occur when the student is faced with the real human emergency.

Thirdly, practical testing in advanced life support should be an integral part of the assessment for the final MB examination, and, finally, the training should continue in the preregistration and postregistration years. Within each health district there should be a named person or persons with specific responsibilities for coordinating the resuscitation service and providing training and assessment facilities.

These points have been put to the education committee of the General Medical Council, which reported that it is looking into the provision of training in these subjects, both at undergraduate level and during the preregistration period currently under review. We would hope that a certificate of proficiency in life support skills becomes a prerequisite for employment of the young doctor, as occurs in some parts of North America.

As a profession surely we must put our own house in order before the media, public, and patients' demands provide unacceptable pressure from without.

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SIR,—Mr David V Skinner and his colleagues (25 May, p 1549) and Dr Peter F Baskett's leading article have highlighted alarming incompetence in methods of resuscitation among junior medical staff and I am sure everyone will agree that a remedy must be quickly found. I am equally certain that many of these young doctors are also deficient in a whole range of important skills, which, of course, is why they have only provisional registration. Indeed, the whole range of clinical skills and theoretical knowledge is, at best, embryonic at the moment of registration. British medical schools are rightly proud of their record of implanting a sound framework for the later acquisition and development of further skills; but they are unable, and will remain unable, to respond to the large number of requests from specialist groups for the inclusion of their particular skills. Each of these requests is reasonable and highly desirable, but those arguing the case are rarely greatly concerned with the fragmentation of the curriculum or the effect that has on the students and their education. The attempt to make the curriculum into a microcosm of the wider medical practice is, some believe, a cause of tensions which adversely affect students' performance, leading to a loss of excitement and enthusiasm at the end of the course—a course which, allowing for the time taken by paraclinical subjects, provides a mere 25 months' genuine clinical training. The present apologists are trying to solve an important problem by creating a new curriculum fragment; students will certainly see it that way since the subject "is to be examined theoretically and practically."

While it should be possible to find three or six hours of undergraduate time for resuscitation training, this would be a bad solution. Firstly, it would imply the arguable judgment that "resuscitation" is necessarily more important than all the other deficiencies of the curriculum. Secondly, it would support the false belief that intensely practical skills—for example, intubation—can be usefully acquired as a package of factual knowledge supported by practical work at a time remote from the possibility of actual performance. The fact that a few students might choose an in depth study of the subject and become very proficient and "competent instructors of the lay public" should be encouraged but that does not invalidate the above generalisation. Thirdly, the proposed solution postpones the ultimate one, which is the provision of structured education and training in the preregistration year to complement the undergraduate course. This may be very difficult but, sooner or later, the profession will have to face the matter. The proper place for training in resuscitation is the preregistration year and the same applies to a whole range of practical matters; at present too much is left to chance during this period.

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SIR,—The implication that preregistration housemen commonly have to deal with arrests alone and that a common cause of death in hospitals is incompetent cardiopulmonary resuscitation by housemen is incorrect; the belief that cardiopulmonary resuscitation can be taught and, furthermore, accurately assessed by the use of manikins is simplistic; and the assumption that on arrival at one's first job as a doctor one should be able to handle all emergency procedures singlehanded is unrealistic.

Clearly medical students should be taught basic cardiopulmonary resuscitation techniques. But to suggest that teaching these procedures in "cold blood" in six hours of a curriculum of five years will significantly diminish mortality from cardiopulmonary arrest in British hospitals is shortsighted. Management of an arrest can only be learnt by firsthand experience, as is true of management of an unconscious patient, an epileptic fit, a shocked patient, or a tension pneumothorax. These are no less life threatening than a cardiopulmonary arrest and are much less likely to be attended by more experienced staff.

I had always thought that the preregistration year was specifically designed to give the first year doctor supervised experience in those procedures he has been taught about but has had only rudimentary firsthand experience of. It would be interesting to discover how much the house officers studied by Dr David V Skinner and colleagues had improved over their 12 months. It would be ideal if we could all learn twice as much in half as much time but not very realistic.

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SIR,—Like Mr David V Skinner and colleagues, we in Hull have also found that preregistration housemen and senior house officers have rarely been trained in airway care, defibrillation, or cardiac massage. Our resuscitation committee therefore demands compulsory attendance by all junior medical staff during the first week of employment at a training session. Doctors are also urged to practise intubation during routine theatre lists under the guidance of consultant anaesthetists. In spite of this we are aware that attempts at resuscitation could often be improved.

A further problem exists in that with the increasing amount of resuscitation performed by specially trained staff in the coronary care unit or the accident and emergency department, and with the provision of a medical registrar and anaesthetist on the crash team, our housemen may still not get enough practice at active resuscitation to remain confident once they have learnt to resuscitate. Perhaps the answer lies in all junior staff attending regular practice sessions of resuscitation techniques.

Britain lags behind the United States in more than this one respect. Despite model examples like Brighton, our community resuscitation schemes are still underdeveloped. These are, however, the main way of reducing the formidable number of patients dying of myocardial infarction before they reach hospital.

Furthermore, we lack resuscitation aids. The cardiopulmonary resuscitator Life Aid has been used in the United States for over 10 years but is only infrequently seen in this country. Such aids have become most useful during any but the shortest of cardiac arrests as massage becomes increasingly ineffective as the resuscitators' stamina fails. In Hull our experience with the resuscitation ambulance staffed by senior doctors from the accident and emergency department has been encouraging. However, it is not uncommon for a patient with chest pain to arrest in a "routine ambulance" and, despite the best attempts made by the ambulance staff, survive only to become a cabbage in the intensive care unit. We regard the cardiopulmonary resuscitator of proved value, as it not only provides good massage but frees hands for other aspects of the arrest. However, there is still only one cardiopulmonary resuscitator in the Hull area, where four hospitals have acute medical beds catering for 250 000 people.

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