

incidents jointly with the British Association for Accident and Emergency Medicine.

The association organises courses on major incidents, and the five day course on immediate care includes formal training on the same subject. The diploma in immediate medical care of the Royal College of Surgeons of Edinburgh examines candidates on skills gained in these courses. The courses and the diploma are much more relevant to on site medical services at major incidents than the much promoted advanced trauma life support courses, which relate to the care of a single patient by a single doctor in hospital.<sup>1</sup>

We believe that the key issues are, firstly, that the person serving as medical incident officer must be properly trained in managing major incidents and must participate regularly in exercises with colleagues from other services; and, secondly, that members of site medical teams must regularly work outside hospital on the many cases of trauma seen in day to day practice.

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## UK major trauma outcome study

EDITOR,—D W Yates and colleagues provide evidence on deficiencies in the trauma system in the United Kingdom.<sup>1</sup> It cannot be assumed, however, that all the observed excess mortality occurs in patients with severe injury. In the major trauma outcome study in the United States the mortality in the group of less seriously injured patients (injury severity score 1-8) was 0.37% (24/6557 patients altogether; 18/4816 with blunt injury only).<sup>2</sup> In the study in the United Kingdom the death rate was 1.8% (93/5019, excluding patients with fractured neck of femur). If the death rate from the United States was applied to the numbers in the United Kingdom 19 deaths could be expected, signifying 74 excess deaths in patients with minor injury.

The reason for the excess mortality in this group may be poor care, but the more likely explanation is a difference in the type of patients in the dataset. Even if patients with fractured neck of femur and penetrating injuries are excluded the number of patients injured by a fall was much greater in the British study (4990/10745; 46%) than the American study (2736/11482; 24%).<sup>2</sup> This group contains many elderly patients injured by simple falls. The TRISS method of determining the probability of survival makes no allowance for the appreciable pre-existing morbidity in this group. Previous work has cast doubt on the validity of using TRISS methods where such patients form a considerable part of the caseload.<sup>3,4</sup>

This hypothesis, however, may explain only part of the difference in mortality between the two countries. There is excess mortality in the seriously injured group, and efforts should continue to improve the trauma systems in Britain.

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- 1 Yates DW, Woodford M, Hollis S. Preliminary analysis of the care of injured patients in 33 British hospitals: first report of the United Kingdom major trauma outcome study. *BMJ* 1992;305:737-40. (26 September.)

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EDITOR,—D W Yates and colleagues' preliminary analysis of the care of injured patients shows that only one hospital in the United Kingdom is fit (by the standard of the United States Trauma Research Center in 1987) to admit patients with trauma.<sup>1</sup> The report confirms the report of a working party of the Royal College of Surgeons in 1988 that at least 2000 to 3000 patients die unnecessarily from trauma each year and it is therefore not unreasonable to expect that many more patients are unsatisfactorily treated. Indeed, this argument may be carried further: surely, the treatment of the most seriously ill patients must be a not unreasonable indicator of health care in a hospital.

To put the figures into perspective, we can now assert on a good statistical basis that for every consultant neurosurgeon in Britain one patient dies unnecessarily of a head injury every five weeks and, similarly, for every consultant in accident and emergency one patient dies unnecessarily from multiple trauma every month.

Clearly, when considering the health of the nation the government must not only try to prevent accidents, which cost all of us a large amount of money, but look at our whole hospital care system.

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EDITOR,—D W Yates and colleagues chose to compare the performance of accident departments in the United Kingdom with that of similar units in the United States.<sup>1</sup> Perhaps they should also compare the cost per patient.

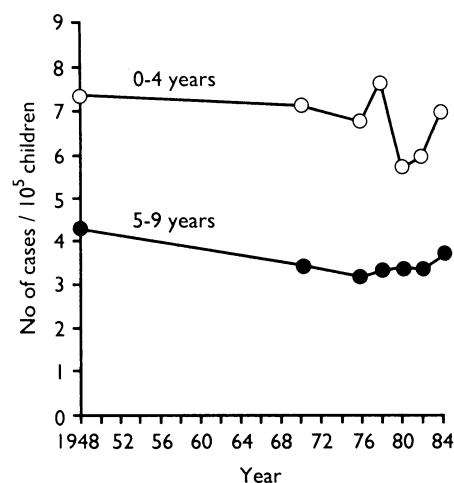
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- 1 Yates DW, Woodford M, Hollis S. Preliminary analysis of the care of injured patients in 33 British hospitals: first report of the United Kingdom major trauma outcome study. *BMJ* 1992;305:737-40. (26 September.)

## Vitamin K and childhood cancer

EDITOR,—Jean Golding and colleagues report that vitamin K given intramuscularly at birth may double the incidence of leukaemia and perhaps other cancer in children under 10 years old.<sup>1</sup> In raising questions about the study G J Draper and C A Stiller call for large cohort studies to be carried out as rapidly as possible to settle the issue.<sup>2</sup> Before such studies are conducted consideration should be given to data from the United States, where since 1961 almost all children have been given intramuscular vitamin K at birth as recommended by the American Academy of Pediatrics.<sup>3</sup> No increase in the incidence of leukaemia occurred in 1969-84 compared with 1947-50 (figure). The data, collected for the second and third national cancer surveys (1947-50; 1969-71) and the surveillance, epidemiology, and end results programme of the National Cancer Institute (1973-84), are from five areas combined: the cities of Atlanta, Detroit, and San Francisco-Oakland and the states of



Incidence of leukaemia over time among white children in United States

Connecticut and Iowa (6-7% of the American population).<sup>4</sup>

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- 1 Golding J, Greenwood R, Birmingham K, Mott M. Childhood cancer, intramuscular vitamin K, and pethidine given during labour. *BMJ* 1992;305:341-6. (8 August.)
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EDITOR,—The use of vitamin K to prevent haemorrhagic disease of the newborn and its implication as a risk factor in the development of childhood cancer have been widely debated in the medical journals and popular press over the past year. Paediatricians are now often summoned to the delivery unit to discuss the need for vitamin K and the best route of administration. These discussions with parents can last up to an hour.

The recommendations of A W McNinch and colleagues and Jean Golding and colleagues are well known.<sup>1,3</sup> From the recent letters of Beverley A Lawrence Beech and H P Dunn it seems that there could be a shift in treatment.<sup>4,5</sup> At best there will be an increase in oral prophylaxis; at worst only those thought to be at risk will be treated. Both options could have tragic results, and parents must be counselled.

In a two month period two babies with confirmed haemorrhagic disease of the newborn were referred to Addenbrooke's Hospital. Both had been born at another hospital where no vitamin K prophylaxis was given. Neither baby had any risk factors, both had had normal vaginal deliveries at full term, and both were breast fed. They had been well until about 6 weeks of age. The first had warning bleeds for three days before presenting unconscious at the local hospital. The second presented with a two day history of lethargy, poor feeding, and then focal fits. In both cases intracranial haemorrhages were diagnosed and the babies were transferred for paediatric and neurosurgical intensive care. Both babies survived; the first required evacuation of intracranial blood clots on two occasions, and the second required monitoring of the intracranial pressure. Follow up computed tomography showed appreciable cerebral atrophy, and both children may have some handicap.

Our paediatric practice of giving vitamin K intramuscularly remains unchanged. If parents