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rescue service. To remedy this deficiency, bystander resuscitation schemes have been proposed and, in some instances, introduced. The success of these schemes must depend upon the skill of the course organisers and the enthusiasm of the general public. It is encouraging that a significant proportion (36%) of the City of London population have already had some training in First Aid, including the techniques of expired air respiration (31%) and external chest compression (23%). The lack of repeat training and testing (0-2%) is disappointing, although predictable in view of the time taken to complete a traditional First Aid course.

Voluntary First Aid organisations (for example, St John’s Ambulance) have been extremely keen to be involved in our bystander resuscitation scheme. Basic life support (BLS) teaching can be provided in a 2-hour package and our survey shows that two-thirds of the population would be willing to undertake this form of training. Bystander scheme training and traditional First Aid teaching are not mutually exclusive, indeed, they are complementary, and we would hope that some people taught on bystander schemes may then wish to go on to further training on a full First Aid course run by one of the voluntary organisations.

Our survey shows that 73% of employees have some medical or paramedical provision on-site, including 22% who have on-site doctor, nurse and First Aider. This does not, however, satisfy the requirements of Seattle for one-third of the population to be trained in BLS and employers must be persuaded of this.

A successful bystander training scheme for BLS requires the cooperation of employers, a sufficient number of trainers, time for both training and re-training and the continued support of the general public.

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REFERENCES


Asthma and thunderstorms

Sir

The British Thoracic Association (1982) reported that more than 1500 people die each year in England and Wales from asthma, and that in excess of 80% were potentially preventable. With this in mind we feel that the following account of an influx of patients...
suffering from acute asthma following a thunderstorm would be of interest to accident and emergency medical staff.

On 20 June 1984, the temperature was 25 degrees centigrade, the wind speed approximately 8 kph (5 mph) from a southerly direction. Just before 17:00 h the wind speed increased to approximately 40 kph (25 mph), and at 17:00 h there was a violent thunderstorm. The storm lasted for about 30 min and from 18:00 h the wind speed dropped back to approximately 8 kph (5 mph). Up to the time of the storm, only three patients with acute asthma had attended the Accident and Emergency Department of the Hospital on that day. Over the preceding 10 days, the attendance was up to four patients per day. This compared with a rate of up to six per day for the same period in 1983 (Fig. 1). During the 7 hours which elapsed between the storm and midnight a further 19 patients with asthma attended the department. Ten of these patients clearly recalled that their asthma attack had only begun either at the time or immediately after the storm. Three patients attended after midnight giving a similar history, making a

![Graph showing spore and pollen counts](image)

**Fig. 1** Acute asthma attendance rate (A.A.A.R.) for the University Hospital Nottingham in June 1984. The spore counts and grass pollen counts (in grains per cubic meter) are shown during that period. The A.A.A.R. for the same period in 1983 is shown for comparison.
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total attendance rate for 21 June of eight. All patients had an audible wheeze and the mean peak expiratory flow rate for the group was 132 l/min (range: 60–240 l/min).

Interestingly, nine of the total of 19 patients with wheezing only gave a past history of hayfever and no history of asthma while the remaining 10 had previously been diagnosed as having asthma.

The relationship between changes in the weather and acute asthma attacks has been noted previously (Lopez & Salvagio, 1983). The reason for this is unclear, but suggested aetiological factors have included changes in atmospheric pollutants (Morrow-Brown & Jackson, 1983) and, in particular, the fungal spore Didymella Excitalis (Harries et al., 1985). During the thunderstorm described, there was no increase in the smoke or sulphur dioxide content of the air. There was, also, no change in the spore counts recorded at the Midlands Asthma and Allergy Research Association’s laboratory situated only 18 km from this hospital. We could not, therefore, identify any obvious cause for the increase in asthma attacks. However, it is known that ‘antigen-rich aerosols’ form as a result of climatic changes (Habernicht et al., 1984) and that this change is not readily detectable. Sporulation of Didymella Excitalis is increased following rainfall (Lancet Editorial, 1985) and we feel that our observations may support the implication of this fungal spore by the mechanism described.

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REFERENCES


Peritoneal lavage in the diagnosis of traumatic duodenal rupture

Sir

We report an unusual clinical sign following negative peritoneal lavage which prompted early diagnosis of a retroperitoneal duodenal tear. A 52-year-old female front-seat passenger of a car, involved in a high-speed collision, was admitted complaining of right-sided abdominal pain. The only visible signs of injury were bruises, clearly in the shape of lap and diagonal seat-belt straps, on her anterior abdominal and left lateral chest walls. The right side of her abdomen was moderately tender and guarded, but bowel sounds were normal. There was no evidence of any other injury. Diagnosti