	No of patients	No with Kaposi's sarcoma	No with opportunistic infections	Mean CD4+ lymphocytes ($\times 10^9/l$)	Mean HIV p24 antigen (U/l)	No with epilepsy or taking anticonvulsants	No with alcohol consumption >2 units/day	No with clinical or radiological hepatomegaly
Patients with Dupuytren's contracture	18	6	15	59	152 000	1	3	5
Bilateral	9	3	7	43	121 000		2	2
Unilateral	9	3	8	75	182 000	1	1	3
Patients without Dupuytren's contracture	32	11	25	52	75 000	2	5	4
Total	50	17	40	54	103 000	3	8	9

*None of the patients had diabetes mellitus.

consumption, history of epilepsy or diabetes mellitus, and use of anticonvulsant drugs were no more common in those with Dupuytren's contractures (Student's *t* test). The presence of Dupuytren's contracture was not correlated with immunological function as measured by absolute CD4+ lymphocyte count, concentration of p24 antigen, time since HIV antibody was first detected, particular opportunistic infections, any drug, or tumours associated with HIV.

Comment

The prevalence of Dupuytren's contracture in the general population is 4% to 5.6%³ and increases with age and a family history of the condition.⁴ It is associated with heavy manual labour, trauma, epilepsy, diabetes mellitus, and alcoholic liver disease. None of these risk factors accounted for the condition in our patients, among whom the prevalence was 36%.

Oxidation by free radicals may be a cause of Dupuytren's contracture as ischaemia related conversion of xanthine dehydrogenase to xanthine oxidase, which reduces oxygen to yield superoxide free radicals, has been shown in surgical specimens of Dupuytren's contractures.¹ These free radicals are thought to induce proliferation of fibroblasts and production of type III collagen, which lead to fibrosis of the palmar aponeurosis. Furthermore, treatment with allopurinol may improve Dupuytren's contractures by binding

xanthine oxidase and preventing production of the free radicals.⁵ Possibly, increased production of free radicals also occurs in patients infected with HIV. Free radicals derived from oxygen are responsible for oxidation of unsaturated fatty acids in cell membranes, and increased plasma concentrations of malondialdehyde, which indicate high basal peroxidation of lipids, have been shown in patients with HIV infection.²

The prevalence of Dupuytren's contractures in patients infected with HIV may, therefore, be an important marker of disturbed metabolism of free radicals derived from oxygen, which in turn may be an important intermediary mechanism in the development of AIDS. This suggests that treatment with a scavenger of free radicals such as ascorbic acid may have a role in preventing some manifestations or progression of the disease.

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Training in accident and emergency: views of senior house officers

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There is no nationally accepted training programme for senior house officers in accident and emergency. Teaching varies from comprehensive instruction before and during tenure of the post to no formal instruction at all, and some medical schools do not provide any undergraduate training in the specialty. Yates and Wakeford showed that senior house officers were poorly prepared for the work that they were about to undertake¹; when tuition was provided the format was determined by the senior staff. We undertook a study to gain a perspective of teaching from the trainees' view point.

Methods and results

We distributed a questionnaire to 60 senior house officers at eight different hospitals who had had more than three months' experience in accident and emergency work. The questionnaire assessed their personal preparation for the post, the amount of teaching

provided, and the effect that teaching had had on their confidence. A linear analogue scale from 0 to 9 was used to assess their clinical confidence.

Before starting the post three doctors had done more than 20 hours' reading, 15 between 11 and 20 hours, 18 up to 10 hours, and 24 none. Twenty eight had attended an introductory weekend course and 16 an introductory day course.

All 60 doctors received one to two hours of teaching each week from senior staff in the accident and emergency department and other specialist staff. Eighteen, however, had not received any teaching on multiple or minor injuries, nine on resuscitation, and 37 on spinal injuries.

χ^2 Analysis was used to study any correlation between the score for clinical confidence and formal teaching on various subjects (table). A figure for overall confidence was obtained by adding individual scores for the 10 broad subject categories and a further 10 specific acute clinical problems—namely, acute anaphylaxis, myocardial infarction, the sudden infant death syndrome, managing violent patients, acute epiglottitis, 60% burns, multiple injuries, finger tip injuries, patients with head injuries refusing admission, and cardiac arrest. Overall confidence was not significantly correlated with previous postgraduate experience, but was with the number of months spent working in accident and emergency (Kruskal-Wallis test, *H* value = 11.44; *p* < 0.01) and the number of hours spent in personal preparation (*H* value = 7.23; *p* < 0.05). Fifty seven of the doctors thought that accident

Subject	Doctor had received teaching		Mean score for confidence among those who:		Significance
	Yes	No	Had received teaching	Had not received teaching	
Gynaecology	21	39	7	5	NS
Ear, nose, and throat	35	25	5	5	NS
Dermatology	14	46	2	4	NS
Psychiatry	19	41	5	3	$\chi^2=6.77, p<0.01$
Ophthalmology	30	30	7	6	$\chi^2=5.87, p<0.05$
Maxillofacial	15	45	4	4	NS
Paediatrics	31	29	6	5	$\chi^2=5.99, p<0.05$
Urology	18	42	7	6	NS
General medicine	37	23	7	7	NS
General surgery	25	35	7	6	NS

0 = No confidence, 9 = confident.

and emergency work provided them with valuable experience for their chosen careers.

Comment

Although these results are based solely on perceptions (a criticism levelled at a similar study of trainee general practitioners²) and we did not assess the doctors' skills or confidence objectively, we believe that the results highlight deficiencies in the teaching provided. The amount of teaching received each week (one to two hours) correlated well with the figure of 1.68 hours cited elsewhere.³

Teaching significantly altered the doctors' confidence in psychiatry, ophthalmology, and paediatrics, which parallels the findings of other studies.⁴ The doctors had all had recent experience in medicine and

surgery from their house jobs, which may explain why teaching did not alter their confidence in these subjects. Experience of other subjects is usually limited to undergraduate teaching, and we were surprised that the effect of teaching was significant in only three subjects. Possible explanations for this are the small numbers who received teaching and the fact that lectures have little effect on practical skills. When teaching occurred it was restricted to one lecture per subject during the six month post, which may be insufficient to raise confidence appreciably.

We believe that the teaching of junior accident and emergency staff could be improved considerably. A comprehensive introductory course should be provided in conjunction with both formal and informal teaching concentrating on the most important and life threatening conditions. We found large gaps in the content of formal teaching. There is scope for the development of a national training programme in accident and emergency for undergraduates and post-graduates.⁵

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Diving practices of scuba divers with asthma

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Many doctors believe that people with asthma should not dive because of the risk of sections of the lung being incompletely ventilated; as the diver ascends the sections may fail to empty sufficiently, resulting in pneumothorax and possibly cerebral gas embolism. The Health and Safety Executive has banned people with asthma from working as commercial divers, and the British Sub-Aqua Club recommends that amateurs with allergic asthma should not dive if they have wheezed in the past 48 hours. We failed to find any reports of studies of asthmatic divers.

Subjects, methods, and results

We circulated an anonymous questionnaire for divers with asthma in the magazine *Diver*, which has a circulation of 38 000. It was designed to examine the diving careers of the respondents and their history of asthma. As well as asking about age, sex, and qualifications the questionnaire asked how soon respondents thought they could dive after an attack of asthma and whether they had dived after this time.

We received replies from 104 divers (91 men and 13 women). One hundred of these divers were aged 16-40 and had been diving for six years or less; the whole group had logged 12 864 dives. Eighty nine of the respondents had had asthma since childhood, 70 wheezed less than 12 times a year, and 22 wheezed daily. Precipitants of asthma included, in descending order of frequency, upper respiratory tract infections, pollen, exercise, and cold air.

Surprisingly, 54 respondents had no idea how soon

they could return to diving after wheezing (table). Nine who wheezed daily thought that it was safe to dive one hour after wheezing; they had logged 1241 trouble free dives. No cases of pneumothorax or gas embolism had occurred, but one diver had had decompression sickness on two occasions. Ninety six respondents had taken β_2 agonists before diving "just in case," and 29 were taking prophylactic drugs (17 inhaled steroids and 13 sodium cromoglycate).

Comment

The United Kingdom has no legislation to control scuba diving by amateurs. It would seem reasonable to provide safe guidelines for people with asthma rather than state that they should not dive, a recommendation that many are likely to ignore. Our 104 respondents had completed over 12 000 dives without sustaining pneumothorax or cerebral gas embolism. Our study may have missed divers with asthma who had problems, but we contacted the regulatory bodies for diving and other interested parties and did not elicit any case of asthma having caused problems.

It is disturbing that over half of the respondents did not know the current recommendations for safe diving and that one fifth had dived within 12 hours of wheezing. This suggests that the doctors undertaking medicals for diving are not giving sufficient advice, and we believe that only suitably qualified doctors should be used for such medicals, as is the case for commercial divers. Most of the divers' asthma was precipitated by cold air, exercise, and allergy yet nobody admitted to having had an attack of asthma while diving. It is surprising that neither the cold dry air from the aqualung nor the exercise entailed in diving precipitated an attack. Our study suggests that the British Sub-Aqua Club's recommendation to divers—not to dive within 48 hours of wheezing—is safe.

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Response of divers with asthma when asked how soon after wheezing they thought it was safe to dive

	No of respondents
-1 Hour	9
-2 Hours	7
-5 Hours	
-12 Hours	5
-24 Hours	14
-48 Hours	8
-1 Week	4
-2 Weeks	2
-1 Month	1
Did not know	54