her patella and now walks with a stick. She had occasional fit-like attacks but electroencephalography showed no evidence of epilepsy. She was registered as disabled, a total invalid with a 21-year history.

Comment

These patients present a considerable problem. They are not deliberate malingerers, nor are they psychopaths with Münchausen's syndrome. We agree with Hawkins *et al.*⁸ that there are similarities between these patients and those with anorexia nervosa, in that the condition affects particularly young girls who have immature personalities; however, of the 13 patients who failed to recover, four of the 12 women were married and three were over the age of 40 at the onset of symptoms, and there was one man of 27.

In the management of these patients one cannot better Lyell's⁵ dictum that one has to indicate indirectly that you know of their activities but sympathize. They should be given an opportunity to talk but many do not do so. Direct confrontation with the patient or relatives leads to the patient ceasing to attend. Though isolation and failure to communicate makes them difficult to help, we have recently obtained slightly more encouraging results from relaxing exercises taught by a clinical psychologist. It must be admitted that essentially the patients who have recovered have done so when they have matured or

when their life situation has changed and not as a result of medical intervention.

We are grateful to Dr. R. E. Church for allowing us to include his patients in the study. We thank all those family doctors who so kindly and efficiently supplied up-to-date information on their patients, and the numerous medical social workers for the hours spent on interviews. We are indebted to Miss Morag Melvyn for her help with the psychological management of several patients, and to Dr. Lawton Tonge for his psychiatric assessments and advice. We should also like to thank Miss Wendy Spencer, of the photographic department.

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Hospital Topics

Occupational Hazards in Window Cleaning

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Summary

Accidental falls involving window cleaners treated at the Middlesex Hospital over five years are reviewed. Failure to use safety belts and the lack of suitable anchorage points were contributory factors in all 20 patients. The use of protective equipment and the provision of anchorage points should be enforced. While the doctor's duty is to treat injuries he also has the opportunity to draw attention to their prevention.

Introduction

During six months in 1972 as an accident officer at the Middlesex Hospital I treated seven window cleaners who had been injured by falls. Four were permanently disabled and unable to return to their occupation. In view of the disabilities produced by the injuries and to review the safety standards used by window

cleaners I undertook a retrospective survey of a further 13 patients with similar injuries presenting during 1967-72.

Types of Injuries

All the injuries resulted from falls from ladders or window sills and the patients fell into two groups: group 1 consisted of nine patients with minor fractures or soft tissue injuries requiring outpatient treatment, and group 2 consisted of 11 patients with multiple injuries, who were all admitted to hospital; four required emergency surgery. Falls from heights below 6.1 m (20 ft) produced relatively minor injuries to the arms in seven of the nine patients in group 1, while falls from greater heights produced multiple injuries to the legs or trunk in 10 of the 11 patients in group 2 (see table). In the arm fractures around the wrist joint predominated. In the leg injuries involving the ankle joint and calcaneum were most common; in three patients the injury was bilateral. In three patients compression fractures of the vertebrae complicated leg fractures. Joint dislocations occurred in four patients and in one (case 15) involved three separate joints. Internal injuries occurred in only one patient and proved fatal (case 20).

Effects of Injury

There were no disabilities reported among the patients in group 1. The most common disability in group 2 resulted from fractures of the calcaneum. When the fracture involved the subtalar joint the resulting

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loss of inversion and version produced instability that made work on uneven surfaces impossible. All six patients with fractures of the calcaneum complained of pain in the heel from one to four years after injury. Two patients developed unusual complications. In case 16 an ischaemic contracture of the long flexors of the toes produced a painful claw foot. In case 15 subluxation of the subtalar and mid-tarsal joints persisted after dislocation; despite the gross varus deformity and instability the patient refused surgical correction.

The average stay in hospital of patients in group 2 was two months, and rehabilitation was required in eight, none of whom could return to window cleaning. Two patients returned to window cleaning for six months before finding other work at ground level. At the time of writing, seven patients were employed at various jobs at ground level and three patients were unemployed. The other patient died.

Details of Patients and Types of Injuries in Both Groups of Window Cleaners

Case No.	Age (Years)	Height of Fall (m)	Means of Support	Fractures and Other Injuries
Group 1				
1	22	6.1	Sill	Lower end of radius
2	19	3.7	Ladder	2nd metacarpal
3	18	3.7	Sill	Lower end of radius
4	59	3.0	Ladder	Clavicle
5	29	3.0	Ladder	Radius
6	55	3.0	Ladder	Fibula
7	61	3.0	Ladder	Radius
8	65	3.7	Ladder	Inferior pubic rami, lower end of radius
9	24	6.1	Ladder	Scaphoid
Group 2				
10	41	3.7	Sill	Calcaneum, tibia and fibula
11	41	6.1	Sill	Calcaneum (bilateral), subluxation R. ankle
12	30	12.2	Sill	Calcaneum (bilateral), talus (bilateral), scaphoid, lower end of radius
13	54	6.1	Ladder	Calcaneum, femur, lower end of radius, dislocated shoulder
14	23	9.2	Sill	Calcaneum (bilateral), pelvis, lumbar vertebrae, lower end of radius
15	21	12.2	Sill	Midtarsal dislocation (bilateral), subtalar dislocation, dislocation of wrist, scaphoid
16	20	9.2	Sill	Tibia and fibula, T 12, L 1, L 2, scaphoid, lower end of radius
17	29	15.2	Sill	Calcaneum, talus, pelvis, dislocated elbow
18	58	12.2	Sill	Femur, olecranon (all bilateral), radius, patella
19	51	15.2	Sill	Fracture and dislocation of ankle, lumbar vertebrae, 11th rib
20	22	12.2	Sill	Ruptured spleen, haemothorax, dislocated hip

Regulations on Use of Protective Equipment

A bylaw passed by the London County Council in 1903 states:

Every person who in any street to the obstruction, annoyance or danger of residents or passengers, stands or kneels on the sill of any window for the purpose of cleaning or painting such window, or for any other purpose whatsoever, such sill being more than six feet in height from the level of the ground immediately below it, without support sufficient to prevent such person from falling, shall for every such offence forfeit and pay a sum not exceeding twenty shillings (£1.00).

This bylaw was revised in 1967 and the fine increased to £20. It is obviously for the protection of the public rather than the window cleaner, as no reference is made to sills not overhanging streets. None of the 20 window cleaners was wearing a safety belt at the time of the accident. Several had access to belts but found that they could seldom use them because of the lack of suitable anchorage points.

There are two types of protective equipment available to window cleaners: a body harness supporting the whole body and a safety belt (see fig.) worn around the waist with a connecting line to allow room for manoeuvring. All approved appliances must bear a British Standard mark giving proof of their ability to support the weight of the falling body. Regulations for the fixation of anchorage points¹ require steel hooks or staples to be embedded in the outside wall so as to allow the cleaner to attach and release his line from the inside of the building.

Ladders should be properly secured and prevented from moving on slippery surfaces. The recommended maximum height for using a ladder is 9.2 m (30 ft). Not surprisingly, therefore, most cleaners in this series used window sills or parapets when working above this height. In two patients injuries occurred while the cleaner was stepping

from one sill to the next to save time. The building of office blocks with large surface areas of glass means that these windows have to be cleaned from the outside using mechanical hoists and mobile platforms. Older buildings were designed to be cleaned from the inside and few, therefore, provide the necessary attachments for safety belts or harnesses.

Protective equipment for window cleaners: body harness (left) and safety belt that is worn round the waist (right).

Law on Compensation

The Factories Act 1961,² provides window cleaners who are employed to work in factories with certain safeguards:

Where any person has to work at a place from which he be liable to fall a distance of more than 6 feet 6 inches, then, unless the place is one which affords secure foothold and, where necessary, secure handhold, means shall be provided so far as is reasonably practicable by fencing or otherwise ensuring his safety.

For window cleaners, footholds may be taken to mean window sills, ladders, or platforms while handholds refer to window frames or ladders.

In the case of *Wigley v. British Vinegars*,³ Mr. Wigley, an independent contractor, fell a distance of 3 m (10 ft) and was killed while cleaning from a ladder which was "sound, steady, and correctly positioned." There was no anchorage point for his safety belt. Though evidence was given that it was "not usual for window cleaners to use safety belts when working from a ladder," compensation was claimed on the grounds that as occupiers of the factory premises, the owners were in breach of the Factories Act in not providing means to ensure his safety. The court ruled that the ladder used by the cleaner afforded a secure foothold, and that it was not rendered insecure by the need to use both hands on the windows.

Despite the obvious difficulties in claiming compensation few of the cleaners had insured themselves against injuries. Only three in group 2 were insured; the reasons given by the other seven cleaners for not seeking insurance cover were usually that of high insurance premiums and poor cover in the event of a fatality: the figure of £500 payable to the dependant was quoted by one insurance firm dealing with cleaners. Some window cleaners who contracted their services to cleaning agencies assumed that they were insured by them for personal injuries when in fact they were only covered for death.

Discussion

A high proportion of falls from ladders may be attributed to

unsecured ladders. *The Annual Report of the Chief Inspector of Factories* for 1971⁴ reported 443 cases of ladder accidents in factories in the second quarter of the year which had been investigated. Of these, loss of control had occurred in 182 cases when the ladder was stable and in 229 cases when the ladder became unstable. It was assumed that precautions were not justified when either the time required to do the job was short or the height at which the job was done was not great. Though no references were made in this report to window cleaners, some of the points raised were applicable—for example, when payment was based on the number of windows cleaned in a given time safety standards were often ignored, with tragic consequences.

The Royal College of Surgeons in 1961,⁵ in a report on accident prevention and life saving, found that 75% of accidents were caused by human factors, particularly the failure to use protective equipment and a feckless attitude to safety at work. They recommended that the use of protective equipment should be enforced. Most window cleaners in this series were most at risk when working from window sills. Falls were attributable as much to carelessness by the cleaners as to defects in the windows or sills and injury could have been prevented by the wearing of protective equipment. The implementation of better safety standards and the need for a general code of practice applying to all window cleaners could best be served through effective training. An estimated 30% of window cleaners employed by cleaning agencies enjoy union representation and are provided with a code of practice outlining possible hazards. The remainder, being self-employed, enjoy no

such privileges. There are no figures available for the numbers of window cleaners killed or disabled each year. In the United Kingdom the Inspectorate of Factories reported 68 deaths during 1966-71 as a result of falls from ladders. Nade and Monahan,⁶ in a survey of 203 fractures of the calcaneum, found that in 189 patients symptoms still present two years after the injury showed little tendency to improve. Of these patients 14% had changed jobs as a direct result of their injuries. In this series of 20 window cleaners all the patients with fractures of the calcaneum were severely disabled by their injuries and none was able to return to window cleaning permanently.

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Aspects of Sexual Medicine

Sexual Problems in Disorders of the Nervous System

II. Psychological Reactions

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Disease of the spinal cord will result in impaired sexual function, and the severity of this impairment will depend on the extent of the neurological damage. The result is that the conventionally accepted view of sexual satisfaction culminating in orgasm will not be obtainable for most patients. Nevertheless, the psychical component is still preserved and function is retained in the normally innervated parts of the body, as is the function of the organs of sight, hearing, touch, and smell, so that the general principles of rehabilitating paraplegic patients still pertain—that is, using the rest of the normally innervated body to compensate for the loss of function in the paralysed parts. As in other fields in paraplegia, the aim of rehabilitation in the sexual field is not necessarily to achieve normal function again—this, by virtue of the intrinsic properties of the nerve cell, is not

possible—but to enable the patients to compensate for their disabilities by using their remaining faculties to satisfy their partners and thus, secondarily, themselves.

Counselling

Not only must the doctor be aware of the sexual problems in disorders of the nervous system but he must also know how to advise the patients. The doctor's own social and cultural attitudes may well encourage or prevent meaningful counselling. It is no good thinking that because the patient does not ask questions he is quite satisfied with his situation and that no advice is needed. This is the refuge of doctors who are embarrassed about discussing patients' sexual problems with them. On the other hand, aggressively approaching the patient in a jocular fashion may lead to severe embarrassment. Each patient must be treated individually, but certain guidelines can be laid down.

In a patient with a spinal cord injury, as soon as it is reasonable in the first few weeks, the position with regard to the severity of his injury is explained to him. The prognosis with regard to his bladder, bowel, and sexual function, working possibilities, and housing are discussed. All aspects of the sexual prognosis may not be known at this stage, but the possible sexual problems may

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