

## **THE ACCIDENT PROBLEM**

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I welcome you all here this afternoon. I come as a representative of the British Orthopaedic Association, who are supporting this great venture on the part of the Accident Institute and the College of General Practitioners. I think it is a magnificent effort and I want to thank them very much indeed.

This is a *symposium* and may I remind you that according to Socratic principles a symposium is an occasion for discussion. Our Socrates to whom we owe a great debt is, of course, Mr William Gissane. But I do impress on you that we have got to *discuss* this burning problem; this is not just a series of lectures.

## **THE PRACTITIONER'S VIEWPOINT**

**R. M. McGregor, T.D., M.B., CH.B. (Hawick)**

It is indeed a great pleasure and an honour to be the opening speaker in this symposium, and this honour is enhanced by the presence of our colleagues from the British Orthopaedic Association and the Birmingham Accident Institute.

Family doctors should at all times be prepared to describe our difficulties to every subsidiary branch of our profession. There

are many criticisms of the National Health Service, but there is one advantage given to the family doctor which is seldom mentioned: he is the only person who knows or can have information of the number he has at risk. Numbers vary not only because of removals and emigration, enlistment and death, but also because over the years patients pass from one age group to another, thus greatly complicating the production of statistically accurate tables. In my own practice over a period of eleven and a half years, I have been responsible for a yearly average of approximately 2,441 patients. This gives a total of 28,000 people and the pattern conforms to what one might expect in the community at the present day, particularly in a partly urban and a partly rural population. The men fade away as the years go on, whereas the women continue to flourish. During these eleven and a half years this population of 28,000 has suffered somewhere in the vicinity of 3,720 accidents; these have involved 1,029 males and 833 females, giving a basic rate of 13.26 per cent of the population. The males in all age groups surpass the basic accident rate except in the 65 and over group, whereas the rate for females is under the basic rate in all age groups but that young females and those aged 65 and over show a proportionately higher rate. The problem seems to affect the young male, and as males grow older they learn caution. The females never seem to learn, or at least after the 15 to 44 age group the merry widow throws caution to the wind. I may say that there are not only more females alive, but there is an actual increase in accident rate amongst elderly females.

My practice is situated in a small town in the Scottish borders and has extensive rural surroundings; a third of it is situated in the rural areas and this gives me the opportunity to compare town and country. In both town and country the accident rate for males again surpasses the basic rate, whereas that for the female is under the basic rate in both areas. There is a definite difference between the accidents occurring in the town and in the country, although it is not as marked as one might have expected.

Many of these injuries are of a trivial nature, but others are of great severity. Numerically the male seems to suffer more from strains, lacerations, fractures, and the effects of foreign bodies. But on a percentage basis, if a female has an accident she is more liable to get a sprain or strain than the male; she is more likely to suffer from bruises, contusions, and burns. The male is more liable to get fractures and lacerations.

Although many of these injuries are trivial, the sum total of invalidism caused by these 3,720 accidents has amounted to the considerable total of 41,371 days. The total number of days off

work or school amounted to 13,566, and days in hospital to 5,368.

I divide accidents into three varieties. The first variety the family doctor should deal with entirely himself; under no circumstances should he send the patient to an orthopaedic surgeon. If he does, the chances are that the patient will be submitted to too much investigation, and some rarity will be diagnosed of which the patient were better not aware. The second variety is one that can be dealt with if the family doctor has reasonable facilities in his consulting room, or better still if he is associated with a cottage hospital. If these injuries are sent to hospital, they are dealt with by the house surgeon. I have no reason to think that the house surgeon should not be trained, but I prefer him to be trained on patients other than my own. There is a third variety in which we are undoubtedly very grateful to the orthopaedic surgeon for his help and advice, and in this series of 3,720 cases I have sought advice for, or had transferred to other hospitals, 111 cases.

In discussing any large series of accidents it is fitting to think in terms of epidemiology. In the ten years from 1949 to 1959 there has been a growing tendency for the number of accidents to increase. July is the month in which the greatest number of accidents occurred, and it is interesting to note that from April to September, that is the spring and summer months, there were 1,954 accidents as opposed to 1,700 in the winter months. When one considers the snow and ice in my area for many months in the year, it seems amazing that there should be this difference, but it is probably due to the greater activity of people in summer.

I have taken a greater interest in the location of accidents in the past year, and my figures show that 38 per cent of accidents occur in the home, 26.8 per cent at work, 24 per cent on the roadway and only 4 per cent in sporting activities, unless you combine school and playground. These figures show that the home causes the greatest number of accidents.

There are many aspects from which accidents can be studied, and it is possible that the greatest contribution that the family doctor can make on this subject is in the study of the individual. In a previous article it has been shown that a patient who is accident-prone is also sickness-prone (McGregor, R. M., 1908). My sickness rate for the general population is 1.9—2.2, and if you consider the sickness rate of those who have had accidents you will find that those people who have had one accident have a greater sickness rate than the general population, and again those who have had several accidents have a still greater sickness rate over the general population than those who have had one accident. It is undoubtedly true that the accident-prone person does exist, and it is in finding such people and subjecting them to the closest scrutiny that some

help may be obtained in reducing the accident problem.

As I have already stated, these accidents involved 1,029 males and 833 females, which gives an average of two accidents per patient involved in accidents, and 53 per cent of all accidents have involved patients who have had three or more accidents. It is a study of this group of patients that might prove profitable.

The young male is the accident-prone culprit, his accident-proneness decreasing as age increases. The young female is also accident-prone, but again caution is thrown to the winds after the 15 to 44 year-old group.

An examination of the medical and social history of the 480 people involved in three or more accidents is worthwhile.

In the 0 to 4 age group, these patients are too young to have developed individual propensities. The percentages of 4.63 in the male and 5.54 in the female having 3 or more accidents are quite high. It is here that the parental influence plays a large part, and all too frequently accidents result from carelessness or stupidity on their part. It is noteworthy that one or other parent of these children have themselves suffered multiple accidents. Poverty, untidiness, and overcrowding in homes provide the answer in some cases, but more frequently the cause lies with apprehensive and all too possessive parents. The child with some physical defect such as strabismus would seem to be more liable.

In the 5 to 14 age group, the child is beginning to get more freedom; accidents in the playground and playing fields become more common, and it is in this age group that we see emerging the accident-prone person. The unduly protected child appears to treat his new-found freedom with some abandon and he pays the price. The child who has been intelligently warned without any inducement of fear is less liable to accident. The child with some physical defect such as strabismus, the spastic child, and the child with poliomyelitis determined to play with the physically fit, all appear to be more liable to multiple injuries. Above all, however, children brought up in poor surroundings with overcrowded and untidy homes proportionately suffer more frequently from accidents than any other group. These accidents do not necessarily occur in the home, since these are the people who seek their amusements in the street.

In the 15 to 44 age group, while family maladjustment and overcrowded and untidy homes still play a part, athletics, the type of employment, the bicycle, motor cycle, and motor car prove more common causes of accident. It is in this age group that the accident-prone already seen in the younger age group come into their own. Give them a dangerous weapon such as a cycle, motor-bike, or car, or place them in a hazardous occupation such as joinery, certain types of railway work, or the building industry, and their accident

rate perceptibly goes up above that for the rest of the community. The physically disabled seem to have achieved some stability, but the incompletely controlled epileptic, the partially blinded, and those that have acquired deafness all appear in the notes with multiple injuries. The inherently nervous and distracted person is a real menace.

In the 45 to 64 age group, the number of accidents among women shows an increase; the reckless and harum-scarum are less conspicuous, but the nervous, apprehensive person, particularly female, accounts for a considerable total. The sprains and strains seem to occur among those who try to indulge in active sport and in unaccustomed exercise. Disabled persons, such as the arthritic, the partially blind, the uncontrolled diabetic and the asthmatic, all seem to be more prone to multiple accidents.

In the 65 and over group the accident rate among women is greater than among men, the nervous, apprehensive person is less in evidence, but among men the sprains and strains from doing exercise or work for which they are no longer able is a considerable cause. The blame lies more frequently, however, in some form of disablement; those who have had a cardiac or a cerebrovascular lesion are much more prone to multiple accidents than any others. Vertigo is the next most common cause and this is to be seen more frequently in women. The combination of vertigo and osteoporosis seen more frequently in women is the precursor of fracture of the neck of the femur. Blindness, alcoholism, chronic bronchitis, and arthritis are other disabilities which play a part in the causation of multiple injuries in the aged.

#### REFERENCE

McGregor, R. M. (1953), *Brit. med. J.*, **2**, 1306

## THE SURGEON'S VIEWPOINT

W. Gissane, CH.M., F.R.C.S., F.R.A.C.S. (*Surgeon, Birmingham Accident Hospital*)

The accident problem may be described as the first epidemic in the history of surgery; it is man-made, world-wide, continuous, and is a direct consequence of the age of power and speed in which we live, work, and play.

The motor car, which was in my youth a luxury, is now an essential amenity to the present and perhaps all future generations. Every