Head injuries today

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It is interesting that recent advances in the management of head injuries — the essentially practical aspect of the subject — have come rather from a re-orientation and re-emphasis of existing knowledge than from much direct application of the fruits of basic research. Nevertheless, a great deal of experimental work on fundamental problems is being pursued, particularly in the U.S.A. where, for example, large sums of money and technical resources support efforts to elucidate the mechanism of concussion and problems connected with the physical protection of the heads of motorists and aviators, and where a vast research programme in connection with the exploration of space has enabled American scientists to overcome many difficulties that arise when man is subjected to great acceleratory forces. A representative picture of much recent American research can be found in Head Injury Conference Proceedings (Caveness & Walker, 1966).

In Britain, however, the work being done is more appropriate to this country's incomparably smaller budget for this sort of activity, and its emphasis has been more on attempts to try to improve, on a wider basis of applied knowledge than hitherto, the standards of service and treatment for patients sustaining head injury, for it is certain that there is still much room for improvement. In this, as in many fields of medicine where new techniques, drugs and other advances arrive at bewildering speed, there is a correspondingly urgent need for their evaluation and consolidation at regular intervals, for the gap between discovery and full application appears to be widening. What is new can be overlooked while, even during our preoccupation with what is newer still, we are being jostled by the newest of all.

Historical perspective

In order to appreciate better today's situation, it may be helpful to consider briefly what has happened in the past, for the basic causes of head injury have not changed greatly throughout the ages. Of these, personal violence is presumably the oldest, some form of warrior's protective helmet having been in use for approximately 3000 years. The head injuries of modern warfare are mostly caused by high-velocity missile fragments and, being compound, they almost invariably require surgical attention against infection. (In contrast, the head injuries of peacetime are commonly blunt and closed and, apart from the suture of scalp lacerations, demand surgery only if there is a complication, such as intracranial haemorrhage.) Besides premeditated assault, personal violence can, of course, cause unintentional head injury during competitive games, and the distinction between these two circumstances is blurred nowadays only in respect of boxing. In this sport, the intention appears to be to damage the brain only enough to produce what is called in the ring a 'knock out', but the result may be clinically indistinguishable from cerebral concussion and sometimes, as seen occasionally at autopsy, from cerebral laceration or intracranial haemorrhage. Two hundred years ago there were other hazards of this kind, and these were even more serious because of the much greater liability to, and the danger from, infective complications of injury.

Man's desire to get about faster than his two legs can carry him has always been a prominent cause of head injuries: the horse, the chariot and the carriage were merely the slower and less numerous predecessors of the motorcycle, the motorized bicycle and scooter and the automobile itself, but, unlike its formidable mechanical successors, the horse also kicked and threw its riders — and, indeed on occasions, still takes this active part in the production of quite unpleasant head injuries.

Alcohol has over the centuries never been far from the head-injury scene, acting as an incitement to personal violence and as a factor exposing poor horsemanship and driving, by augmenting any natural or latent tendency to aggression, to rashness and foolhardiness; and also by the way in which it facilitates falls through impairment of mental judgement and locomotion. A Limerick surgeon, Sylvester O'Halloran, writing at the end of the eighteenth century, when cheap spirits,
recently abolished in England, continued as the result of Irish revenue policy, observed that, 'fairs, patrons and public meetings begin with festivity and end with broken skulls'; and, 'I have had no less than four fractured skulls to trepan on a May morning' (Lyons, 1959).

*Falls from heights* comprise another age-old cause of injury to the head, but it is important to realize that when walking or standing, healthy adults only rarely fall with sufficient clumsiness to cause significant injury to the head, and that when, for example, one is told that a young man 'just fell down', it will often be found that he was either intoxicated with alcohol at the time, or subject to some form of epilepsy—the 'falling sickness' of our ancestors. In the very young and very old, however, this is, of course, not necessarily so: gait may be ataxic and the postural reflexes inefficient.

Nowadays, the causes of head injury vary somewhat in their proportions in different hospitals. In the wilder, heavily populated parts of our cities, where life itself is faster and looser than the vehicle traffic, more injuries due to assault are seen than one would expect to find in hospitals situated near the main highways, to which the more familiar toll of the roads is brought. Elsewhere, one may see a higher proportion of industrial or mining injuries, and in different parts of the world there are injuries peculiar to the locality.

But the present-day problem is, of course, largely that of road-traffic accidents, which might perhaps be regarded as the latest manifestation of natural selection at work. And in even this brief phase of evolution, the situation can be seen to be changing all the time: Table 1 shows comparable figures from the Radcliffe Infirmary, Oxford: those compiled in 1954 by Lewin and those by the author 10 years later, in 1964. Approximately 70% of head injuries at this hospital are from road accidents. In 60–70% of fatal road accidents there are head injuries (Gissane, 1963; Lewin, 1964; London, 1964) and from Lewin's (1964) estimates we have some idea of the size of the problem posed by head injuries of all kinds throughout the country. Approximately 100,000 are admitted to hospitals yearly; at least another 100,000 treated in casualty departments and sent home; and others are dealt with by general practitioners, factory nurses, etc. Two hundred and fifty thousand is perhaps too conservative a grand total, which is one person in 200 per year needing some treatment for a head injury of some kind. The vast majority of these will be mild, even trivial, and uncomplicated, but—and it is this that will always invest the subject with an aura of unease—even what is apparently a very trivial head injury, without necessarily any significant brain damage, may on rare occasions be complicated by some alarming turn of events leading to death. Intracranial haemorrhage may result from a torn blood vessel; meningitis can follow a little tear of the meninges from the sharp splintering of the fractured inner wall of one of the sinuses; and severe epileptic fits, even status epilepticus, may on rare occasions be the reaction, to even the mildest trauma, of a brain which is probably predisposed in this way. These are the cases that tend to get the headlines in the newspapers; but for every one of these fortunately rare events, numerous mild head injuries expose a great many people to disability, both mental and physical; to anxiety and frank neurosis, and this situation can be mitigated or even prevented by judicious management. In a sense, therefore, the minor head injuries are more important than the severe ones, in that they are much more numerous and that there is greater scope for effective treatment. The problem of the 'vegetable', the severely brain-damaged and disabled person, can easily be exaggerated; these patients are obtrusive and stay around in hospitals, perhaps for months, to reproach us, either for having saved them for such mere survival or for not having been able to do more to help them. But the great majority of those who survive brain injuries make reasonable recoveries, so that a sense of proportion must be kept.

Advances in the treatment of head injuries may be regarded as having come about in three main phases of medical history. First, surgeons opened the skull to evacuate complicating collections of blood or pus in order to prevent death from cerebral compression. The Arab surgeons were at least attempting to do this centuries ago, but recorded successes from such intervention appear to have been few until Pott (1790) and his French predecessors 200 years ago started the wave of

| Table 1 |
|---|---|
| (each series from 1000 consecutive head injuries) | |
| Car | 125 | 322 |
| Motor cycle (and scooter) | 224 | 142 |
| Pedal cycle | 233 | 113 |
| Total vehicle accidents | 582 | 577 |
| Pedestrians | 163 | 98 |
| Total road accidents | 745 | 675 |
skull trephining that has fluctuated in intensity right up to the present time. The greatly increased accuracy of clinical, particularly neurological localization during the past 100 years and, much more recently, radiological aids have better enabled surgeons to know where to operate on the head, although the answer to the question when? remains less clearly defined except in the face of the classical syndrome of extradural haemorrhage following a 'lucid interval'.

Moreover, greatly improved surgical and anaesthetic techniques have in recent years resulted in the actual operations themselves carrying little risk. This has been particularly so since, in the second phase, there has been the overcoming of the complication of intracranial sepsis as a cause of death. As for the present-day treatment of compound wounds of the skull and brain, it is interesting that the actual surgical technique used is one which could have been practised centuries ago: that of early and thorough excision of contaminated tissue and careful closure of the wound which is a much more important prophylaxis against infection than any supporting antibiotic administration, whatever may be the colours of its spectrum. Nor should the same care be neglected in the case of simple scalp wounds, from which the occasional spread of infection intracranially may still cause death. Even should infection become established, it is now usually possible to combat it with appropriate systemic and/or intrathecal antibiotic therapy, together with the still useful but half-forgotten drug, sulphadiazine, which, alone among the few sulphonamides remaining in use, enters the cerebrospinal fluid in sufficiently high concentrations after administration by mouth.

So, with infection largely preventable, and with the means to relieve the relatively uncommon complication of clot-compression of the brain, we are left with some other causes of death and disability, and it has been the fuller recognition of these factors and the understanding of how they operate and by what means they can be prevented that constitute the third and latest phase of advance in treatment. This has been facilitated by the removal of the mystique of undue neurological emphasis which had made the subject seem difficult for the non-specialist; by concentrating more on the whole patient than on his head and brain; and by distinguishing essential practical techniques from the sophistications of specialist neurosurgical practice (Potter, 1963a).

In short, the aim has been Head Injuries for Everyman, who has to deal with most of them, rather than for the few on the touchlines.

**Today**

**Prevention**

Careful analysis of the different types of head injury and their causation, and research into their mechanisms, are essential if effective preventive measures are to be devised; but intense propaganda appears then to be necessary before the public will avail themselves of such protection. One need mention only the slow acceptance of safety helmets and seat-belts in cars to illustrate this, although accident-prevention in the home and in factories and the part played by alcohol are gradually being forced on the attention and the conscience of the public. Moreover, the obstruction of more and more disabled persons, salvaged because of more efficient treatment, is bringing home the truth that a major head injury can be a disaster not only to the victim but also to his family and dependents, as well as being a heavy charge on the community and its overstrained hospital services.

That the epidemiological situation is changing all the time was seen in Table 1, and the research to make available these sorts of figures must go on continually if preventive measures and the planning of accident services (which take a long-time to implement) are to be appropriate rather than obsolescent.

**Principles of treatment**

An injury to the brain causes damage that is irreparable in the sense that, so far as is known, there is no regeneration of neurones of the central nervous system. However, the recovery of function through neurones that have survived can be surprising, and, because we have as yet no method of determining early the quantity of this potential for recovery in an individual case, the management should normally be based on the expectation of recovery and the patients' relatives never left bereft of hope, however guarded a prognosis is entertained. Treatment is prophylactic against complications and definitive.

**Prophylactic treatment.** It follows from this that, if the injured brain is to be given the best chance to recover the most function, it should be jealously guarded against further damage that may threaten it continuously for some time after the actual head injury. Apart from intracranial haemorrhage, infection and seizures, the duration of this danger from complications depends mostly on the severity of the injury and therefore on the duration of the ensuing coma. This guarding against the now well-recognized complications of unconsciousness is part of the prophylactic treatment that has resulted from the third phase in the advance of head-injury treatment already mentioned.
This has really come about in the last 15 years or so through the realization that the commonest mechanism of death in those who survive an initial severe trauma to the brain is through some kind of respiratory insufficiency — often frank asphyxia which stops the heart. The term ‘cardiac arrest’ has unfortunately become a cliché—as if it were a condition sui generis—which is a pity because this may preclude thought as to how the arrest occurred and, more important, in what way it could have been prevented. In these patients, unconscious from a head injury, it can be prevented very simply—by ensuring adequate pulmonary ventilation through a free airway. This is really the first and most urgent thing to ensure after a head injury has occurred. For, although an episode of airway obstruction or apnoea may have been insufficient to stop the heart, a period of hypoxia may have been sufficient in itself to damage the brain, which of all organs has a high demand for oxygen and which, it should be remembered, has already been damaged by the injury.

When a road accident throws a man out of his car or off his motorcycle on to the road, unconscious, chance determines whether he ends up on his back or in a prone position. Even if he has been only mildly concussed, it is quite possible that his return of consciousness will be ushered in by vomiting and, if he is on his back, and particularly if his stomach is full of food and drink (and statistics tell us that it is likely to be) then he may drown even before the ambulance arrives. Moreover, provided a person has had enough alcohol to drink, he does not even need to have had a head injury in order to die in this way—by drowning in his own vomit.

Fig. 1 shows one of the most important methods of treatment of head injuries—the almost-prone position for all patients who are unconscious and whose cough and swallowing reflexes are at all depressed; for those who have complicated jaw fractures or much bleeding in the mouth or nasopharynx. The prone, semiprone, three-quarter prone, tonsil position, coma position or the almost-prone position—it matters not what it is called—some form of prone position will diminish the risk of inhaled vomit and blood. The offputting thing about this position is that it does not allow proper examination of the patient, but this can wait until he gets to hospital, where nowadays a cuffed endotracheal tube is usually passed as a temporary safeguard, if this should still be necessary.

All this is of fundamental importance, and it was a mistake of the past to pay much attention to the injured part, the head, and too little to the patient whose respiratory function depends on his brain function and whose brain function is very much dependent on adequately oxygenated blood. Twenty-five years ago, stertorous respiration was to most people just stertorous respiration: a sign of deep coma or of a deep plane of anaesthesia. Now it is an alarming sign and one to be remedied immediately, for it means simply that the airway is obstructed.

The danger here is of further brain damage from hypoxic hypoxia and Table 2 shows the various ways in which this can occur and how it can be prevented and overcome. The addition of an injury to the chest, interfering with the respiratory mechanism peripherally, makes the situation very much worse, and the combination of a chest injury and a head injury used always to carry a very grave prognosis, but now there are grounds for believing that this no longer need be so. And it should be remembered also that in surgical shock, in loss of blood and in anaemia, there can also be hypoxia: the blood circulation may be too sluggish to bring enough oxygenated blood to the brain cells (stagnant hypoxia), and there may not be enough red cells to carry sufficient oxygen (anaemic hypoxia). Therefore, the routine treatment of shock by blood replacement is as relevant to the treatment of the head injury as to the patient as a whole—indeed, it may be literally vital.

There are three other ways in which patients used to die, but now do so only occasionally; although any of these factors that are being mentioned may contribute or combine to cause the death of someone who is capable of recovery.

Bedsores can now usually be prevented by good practical nursing: regular turning and attention to the skin over pressure points. There is so far no substitute for the hard work that this entails; mechanical beds and mattresses are not really enough—yet.

Dehydration used to occur before enough was known about water and salt metabolism and
First, there is the failure to heed the warning of Hippocrates that no head injury should be regarded lightly. His lesson is one of the many in the conservative management of head injuries, on the things that any doctor can do about them, it should be stressed that the term 'conservative treatment' is very much more than a euphemism for just doing nothing.

**Observation as prophylactic treatment.** The place of the present-day practice of intensive observation in the care of a patient who has had a head injury is best illustrated in the context of the complication of middle meningeal (extra-dural) haemorrhage—the 'thief in the night'. It will be recalled that the surgical prevention of death from cerebral compression was the first of the three phases of effective treatment of head injuries. The operative steps to be taken will not be recounted here, because the essentials of the technique at present in use have been known and well described in surgical textbooks for at least 100 years and can be found in them today (e.g. Lewin, 1966; Potter, 1964). During the past century, therefore, it has been theoretically possible to save the life of everyone developing this complication after an injury which did not also cause serious brain damage. Yet, the general mortality from this complication probably remains at about 50%, owing chiefly to the operation being performed too late or not at all. There are several reasons for this state of affairs and, if these are recognized, it can be readily seen how the mortality rate could be reduced very considerably, as it has been in some hospitals where attitude and organization are more important than specialized techniques or facilities.

When prolonged dehydrating measures were fashionable to try to remove water from a brain that was often never really waterlogged, a practice that probably contributed to many deaths. Now, adequate fluid balance is the aim, and if this is done, even with simple intelligent empiricism, it is very uncommon for serious metabolic disturbance to occur.

**Hyperpyrexia** occasionally follows a head injury where there has been derangement of the thermostatic mechanism, and very high body temperatures may occur. It is known that the brain is particularly sensitive to high temperatures, and it is therefore considered important to try to prevent possible further brain damage from this cause. The body temperature is kept usually below 101°F (38.5°C) but it is, of course, always important to be sure that the fever that one is suppressing is not the natural and perhaps beneficial response to an infection of some kind. Diagnosis is more important than treatment, in that it has to come first. This lowering or prevention of an unusually high fever should not be confused with the purposeful lowering of body temperature below normal, 'artificial hypothermia', which does not seem quite to have fulfilled its early promise—at least as an important method of treatment.

The foregoing account has perhaps given some idea how the understanding of the mechanisms of death and disability following a head injury has increased and how this new orientation of our knowledge has led to active and at times vigorous prophylactic measures being taken to prevent all these complications, particularly the respiratory ones occurring in the unconscious patient. Indeed, although the emphasis in this paper is on the conservative management of head injuries, on the things that any doctor can do about them, it should be stressed that the term 'conservative treatment' is very much more than a euphemism for just doing nothing.

**Table 2**

<table>
<thead>
<tr>
<th>Chance determines whether someone rendered unconscious by a head injury is thrown on to his back or face downwards</th>
<th>Correct posturing later should always ensure that the risk of inhalation complications is reduced to a minimum</th>
<th>What may be inhaled?</th>
<th>Effects</th>
<th>Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vomitus (gastric juice irritates; solid food may obstruct)</td>
<td>Hypoxia from Collapse of the lung Pneumonic consolidation</td>
<td>Correct posturing Suction (Avoid morphine which may aggravate anoxia)</td>
<td></td>
<td></td>
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<tr>
<td>Drinks (unwisely given)</td>
<td>1. Chemical (gastric juice) 2. Bacterial Pulmonary oedema</td>
<td>Treatment Correct posturing Suction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Blood</td>
<td>The injured brain may thus suffer further damage In severe cases</td>
<td>Frequent turning from side to side Physiotherapy Endotracheal tube, tracheostomy</td>
<td></td>
<td></td>
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<tr>
<td>Saliva and other secretions</td>
<td></td>
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<tr>
<td>Cerebrospinal fluid</td>
<td>Asphyxia and cardiac arrest may occur</td>
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</tbody>
</table>
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medicine that have to be learnt and relearted over and over again, as often from bitter personal experience which, as best defined by Oscar Wilde (1893), is 'the name everyone gives to their mistakes'. If, as it is sometimes said, the scientific method must always be the basis of medical practice, then every medical man would have to see a death following a mild head injury before satisfying himself that what Hippocrates said was true. There is still a small place for dogma.

So commonly, the possibility of extradural haemorrhage, complicating what appears to be a mild concussion from a bump on the temple, is just not considered, and by the time it is, events have often moved rapidly — too rapidly. A child must be got to hospital, and if he is still alive when he gets there, there must be someone who can operate on him immediately (which often there is not), and there must be the tools for the job (which often there are not). Patients with head injuries are still taken to hospitals where there are no proper facilities for this type of case, sometimes because the ambulance men are told to go to the nearest hospital regardless whether it is an appropriate one—and the coroner may even have something harsh to say if they do not.

So the first thing that can be done is to have as many of these patients as possible admitted to a hospital where the complication can, first, be anticipated; second, spotted early when it is occurring, so that, thirdly, the cerebral compression can be relieved before it is irreparable. Obviously, every case of trivial head injury cannot be admitted—the line has to be drawn somewhere. As a ready rule, it is advisable to admit, for at least the first night (the most dangerous time for this complication):

1. All who have been concussed; that is to say, those who have any traumatic amnesia.
2. All with skull fracture.
3. All children brought to hospital (the seriousness of their injury can often be difficult to assess).
4. All others who cause anxiety on account of undue headache, vomiting or other undue symptoms which might be referable to the head injury.

Some hospitals may say that all this just cannot be done, and this may be so; but if it is not done, the mortality from this complication will continue to be higher than it need be. Once in hospital, after X-rays of the skull have been taken and the wound dealt with, intensive observation is instituted, and this is designed to detect complications as early as possible. This is active prophylactic management and is another example of the new type of conservative treatment that has replaced an older one of mere laissez-faire.

This intensive observation is carried out by the nurses who note at half-hourly intervals, or more frequently if necessary, the level of responsiveness; the pupils; the pulse rate, systolic blood-pressure and the respiratory rate and temperature. These observations are recorded on the type of chart shown in Fig. 2. If this is done carefully, and with a knowledge of what is being looked for, an extradural haemorrhage is likely to be detected in plenty of time. The chief signs of this are a progressive lowering of the level of responsiveness, a progressively dilating pupil on the side of the clot, a progressively slowing of the pulse and perhaps of the respirations, and a rising systolic blood-pressure. Not all these signs are usually present: there is nearly always some combination of them which makes the diagnosis pretty clear, but the examination must have been repeated again and again.

If the patient is already unconscious, the nurse should be carrying out other forms of active treatment to prevent the complications which have been mentioned earlier: keeping the airway clear by suction, turning the patient from side to side, preserving the skin and, later, feeding the patient by tube and checking the body's fluid balance — active, but conservative treatment.

Definitive treatment. It is believed that there is also a more positive benefit in admitting these patients with mild head injuries to hospital. There is still a good deal of anxiety and often barely concealed superstition about head injuries, and if these patients and their relatives are left to fend for themselves, they will often act inappropriately. Residual headache is fairly common and some patients will stay much too long in bed on account of this, while others will try to shake it off by getting up too early and hurrying back to work, only to relapse later for a longer period of disability than need have occurred. An anxiety state or frank neurosis may even supervene, and it may be difficult to decide whether there is anything seriously the matter or not. There seems little doubt that neurotic sequelae are very much less likely to occur in patients who have been admitted to hospital right from the start. These patients are usually impressed that their injury has been taken seriously, and they are reassured when they have been gradually sat up and got out of bed before being sent home, after being told that all is well and that within a week or two they should be able to get back to work. They are warned not to be surprised if they have some headache for a little while, and the relatives are told to encourage a gradual return to normal activities and not to fuss the patient or put him back to bed at home.
In doubtful cases, it is a good practice to see the patient again in a week or so to make sure that all is well and to give further reassurance.

In addition to this active and necessary psychological treatment, other forms of definitive treatment may be required: scalp wounds must be properly excised and sutured and contaminated tissue removed from all layers of a compound depressed fracture before the scalp is carefully closed. Details of the appropriate surgical techniques can be found in the books already referred to, and these contain also accounts of the treatment of meningitis and epileptic seizures which can be carried out by any doctor.

**Organization for the treatment of head injuries (Potter, 1965a)**

If approximately one in every 200 of us per year must expect to have some sort of a head injury, we may wonder when this is going to happen, and where we are likely to be taken if we are involved in a road accident, say on our holidays, and who will be there to look after us.

The chances are that we will be seen first by a casualty officer from one of the commonwealth countries, and if it were not for the presence of these doctors and compulsory for candidates for the F.R.C.S. to undertake a period of casualty work, it might be difficult to get casualty officers at all. For, apart from this being very hard, exacting and responsible work that goes on round the clock, it is a fact that accident surgery, an obvious and topical specialty directed at the great epidemic of our age, is not officially a specialty at all and normally offers no career unless achieved through an orthopaedic training and practised in nearly all cases in conjunction with orthopaedic surgery. This would be appropriate if accidents consisted solely of fractures and dislocations, but there are also numerous head injuries, severe and lethal chest injuries, injuries to the abdomen and complicated combined injuries which call for more than the skills of one specialty. The newly appointed orthopaedic surgeon certainly has specialist knowledge of fractures, but his special experience of other types of trauma will vary very
much indeed according to where he has been trained or how much enterprise he himself has shown in choosing his training programme.

Ninety per cent of cases of head injury in this country are cared for by general or orthopaedic surgeons, and only about 10% by neurosurgeons. In at least one hospital, anaesthetists have the main responsibility for these injuries; and in one teaching hospital, cases of head injury enter a medical ward under the care of the physician on duty. It is not, however, necessary—not is it ever likely to be possible—to have neurosurgeons with their expensive and specialized facilities at every `acute' hospital to deal with all the head injuries, or even the majority of them. It will have been seen from what has been said already that good, active conservative management, which is all that it required for the vast majority of cases, can be perfectly well carried out by any good doctor who is prepared to apply certain general principles rather than to try to learn complicated special techniques. There are neurosurgical units fairly well placed throughout the country in relation to the chief population needs (though generally not near the main roads), and most of them give at least some sort of advisory service by telephone, although the amount of practical help that they are able to give varies considerably.

This appears to be a situation where specialization has gone awry, and it is probably everybody's fault that this has been allowed to happen. When the general surgeons handed over the fractures to orthopaedic surgeons, this did not make orthopaedic surgeons into accident surgeons; and the whole trauma-baby has in most places now been let out with the fracture bath-water, so that general surgeons deal only with those injuries related to what is really their specialty, abdominal surgery. Nor is it easy for general or orthopaedic surgeons during their training to get the right sort of experience of head injuries, even if they take an appointment in a neurosurgical unit, because most of these units admit only relatively few, highly selected and complicated cases of head injury at second-hand—often the kind of cases in fact that the non-neurosurgeon is not going to be expected to deal with anyway.

So one can read in the British Medical Journal and in the Lancet advertisements for Accident and Emergency Officers and for Casualty Officers and Registrars, but to find Consultant posts, one has to turn to vacancies under the heading of Orthopaedic Surgery. Although this is disputed by orthopaedic surgeons, there does seem to be a strong case for abandoning the notion that there is something wrong about training people properly and specifically to deal comprehensively with accidents (Potter, 1963b), as is done at the moment in very few centres. The need is obvious and overwhelming; there are young men who want this type of training, but only a few are really getting it at present. There will, of course, always be a place for the centrally based specialist; but what is needed now is not the specialist-orthopaedic-surgeon, the specialist-neurosurgeon, chest-surgeon, abdominal surgeon and maxillo-facial surgeon at every hospital which admits accidents, but rather a new race of really general surgeons, well distributed and capable of dealing at least competently with all aspects of injury. This would create a renaissance of general surgery to meet the challenge of the new epidemic that is trauma.

References


