FIRST-AID-POST WORK IN AIR RAIDS

BY

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My only reason for venturing on this paper is that eighteen months ago I should have been very grateful for any information, however meagre, about what one might expect to happen at a first-aid post during air raids. As fixed first-aid posts vary according to their locality, structure, and staff, it is advisable, first, briefly to describe the one of which my colleague Dr. W. G. Arthur and I are in charge. This consists of the larger part of a public baths adapted to its present use by the usual expedient of flooring over a swimming-bath and partitioning the resultant hall into rooms. It is situated on the edge of a big industrial district, and serves a large and thickly populated area. Such a post is compact, excellently heated, and has a large and independent supply of hot and cold water. To offset these advantages it has a single-span roof, which offers little overhead protection, and from which clouds of dust and dirt are shaken down by the vibration of any near-by explosion. The rooms are small, and, more important, this large hall cools down rapidly when the doors are constantly opened.

Staff and its Training

The staff consists of two medical officers, two dentists, a post officer (a retired nurse), one State-registered nurse, seventeen full-time (paid) staff (sixteen women, one man), and 140 part-time volunteers (110 women, thirty men). The problem confronting the medical officer is to create a unit which is efficient enough and sufficiently elastic to enable him to deal with ten or 100 cases admitted in rapid succession, and to do this with a partially trained staff. Recognizing this, in 1939 we produced a scheme of training under which the staff were trained to do efficiently what was within their capabilities, and their duties were limited to handling injured persons under doctors' orders. They were taught: (1) the immediate application of anti-shock measures; (2) to understand and remember verbal orders from the M.O.; (3) how to, and when not to, remove clothing; (4) the principles of asepsis, etc.; (5) to know where every item of equipment was kept; (6) the application, as ordered, of dressings and splints; and (7) complete familiarity with the casualty cards and forms.

We found that they could become reliable workers in this limited field, whereas any attempt to turn them into nurses would have been unwise, and, indeed, was impossible in the time and with the resources available. In actual raids they were remarkably efficient and were surprised at their own confidence. The only sign of nervousness was some hesitancy and slowness at first, which soon passed off.

Types of Casualty

In theory a first-aid post is to receive walking wounded and moderately wounded sitting cases, but no stretcher cases. In practice, however, should the "incidents" be numerous or near, almost any kind of casualty may be expected, and of those we received 54% were walking, 26% sitting, and 20% stretcher cases. Yet not one of these cases was, in the existing circumstances, wrongly sent to a first-aid post, which reflects the greatest credit on the first-aid parties who distinguished between the "direct to hospital" cases and the others, without medical aid, in the dark, and, in most instances, while raids were still in progress. Such good fortune must obviously not be depended upon.

In one raid we received in all eighty cases: six of abrasions and contusions (two were in elderly and shocked persons); two of head wounds and concussion; one of penetrating wound of the skull (moribund on admission); two of compound fractures (elbow, tibia, and fibula); three of simple fracture (humerus, Colles's, and radius and ulna); twenty-six of lacerated wounds (from flying debris); one of (glass) abrasions of both corneae; one of deeply penetrating wound of the thigh (glass); and thirty-eight of multiple wounds from flying glass.

No case of hysteria was seen in this or any other raid, though we did see some hysteria among "shelterers" during long "alerts" without local "incidents." We found that elderly people with even mild injuries stood the cold, dark, confusion, and misery of a raid very badly, the mental shock of losing their

home playing a part, and some died a day or two later having given us little evidence to justify such a prognosis. The ultimate prognosis of all major injuries was largely dependent upon the degree of exposure to cold, etc., after injury. Gross haemorrhage was not as common as we anticipated. We used no tourniquets; those cases of bleeding that we had were treated either by packing the wound with dry gauze or by picking up the vessels when they could readily be found. Very few burns were seen, and these were not extensive or severe. (The problem of first-aid treatment of burns was solved by asking the surgeon in charge of the receiving hospital what treatment he preferred for cases sent on to him: he decided upon 2% sod. bic. compresses.)

Few cases had had any first-aid treatment. No splints had been applied, a rough bandage or sling being the usual maximum. The bulk of casualties were therefore mild, and the problems presented arose chiefly from their number, the rate of arrival, and also from the difficulty of distinguishing patients from friends and relatives, as often they were all equally begrimed.

Organization

The number of staff needed was at least thirty-two: sixteen first-aid dressers (four pairs on each side, male and female); two first-aid dressers for "reception"; one (man) at entrance door, and one (man) at exit door; two waiting-room clerks; two canteen workers; one telephone clerk; four stretcher-bearers; a post officer; one S.R.N.; one or two dentists.

It was found that the small "reception" rooms at the entrance were unusable for their intended purpose; if there were few casualties they were unnecessary, and if many they were too small to allow any real sorting; in either case, with the doors continually open they were too cold for patients, even slightly injured ones, to wait in. Two reliable first-aid workers dealt with the reception of cases as follows. Stretcher cases were passed straight into the treatment room, whatever the injury, as they took up too much space in the reception room; sitting cases were passed straight in, if possible, to prevent waste of time in transport. Walking cases were sorted on their own merits, the criterion being their general condition rather than their injury. No serious attempt was made to separate the sexes, it being both unnecessary and impossible.

Treatment Given

As each case came in it was taken over by a pair of dressers, who made the patient comfortable, applied warmth, exposed wounds, and removed wet clothing, etc., until the M.O. came, examined the casualty, and ordered treatment. Casualty cards (M.P.C. 46) were not filled in until treatment was completed unless the M.O. wanted a drug given, in which case the dose was noted by him on the card so that it might be administered without delay. All injections, both hypodermic and intramuscular, were given by the dentists; this ensured both accuracy and rapidity and saved a great deal of the M.O.'s time. The dose was written on the card by the M.O., the dresser took the card to the dentist, who initialled it after administering the drug and entering upon the card the time it was given. The syringes were charged either by the dentist or by a qualified chemist. Thus the M.O. could see every case within a few minutes of arrival or at once; cases were never out of his sight, and he could return to any serious case as often as he wished, while keeping dressers at work on others. He would order preparations for wound suture, go and look at another case or so, return and put in the sutures, give orders for the dressing and disposal of the case, and pass on. The personnel were quite capable of doing their part in the scheme.

All fractures were immobilized. Thomas splints were used as necessary, no haste was needed, and we took well over the ten minutes allowed. Large wounds, after control of bleeding, had a "mine" dressing applied, but no effort was made to clean it up as the casualty went straight to hospital for full surgical toilet. Patients who had homes to go to were treated as completely as possible; simple fractures were immobilized and the patients were told to report to hospital next day; incised wounds were sutured, and some small superficial lacerated wounds were excised under 2% novocain local anaesthesia. No general anaesthetics were given or needed. Morphine, grain 1/4 hypodermically, was usually sufficient for all cases received, but was

repeated in some instances. If a casualty had no home and was incapable of looking after himself at a rest home, he had to go to hospital in any case, so no complete treatment was attempted, but if time allowed these patients were cleaned up so that they could be put to bed with the minimum of trouble to the hospital staff. The dressers spent much time in washing scalps free of tiny fragments of glass, which was often finely powdered; the gas-cleansing sinks were used for this purpose. The M.O.s were mobile and invariably went to the patient, dressing trolleys making this easy. The trolleys, which carried a standard set of simple instruments (sterile), were cheap unpainted dinner wagons.

When treatment was completed the dresser was responsible for filling up M.P.C. 46 and handing over this and the patient, together with instructions as to disposal, to the waiting-room (or "recovery-room") attendant. A clerk filled up the casualty record form (M.P.C. 44) here, where hot drinks were also given, as elsewhere, when needed. The evacuation of cases was found to require a capable administrator to make full use of ambulances, cars, and especially the lulls in the raids, otherwise there was congestion at the post. We used our post officer for this duty. The supply of transport in an urban district would appear to be reasonably good, for areas not greatly affected can supply transport to augment that of the heavily raided area. An idea of the value of the fixed first-aid post is provided by the fact that of the eighty casualties received in this raid, fifty-three were sent home or to a rest home instead of being a charge on the local hospital.

Some Precautionary Measures

The temperature of the post should be maintained, however trying to the staff before the raid. It was found very-necessary to make arrangements beforehand to collect blankets from the ambulances, etc., to replace those used for patients going out; unless this is done a serious shortage rapidly arises. Hot-water bottles seem to vanish despite every effort. A shock cage may be of inestimable value and is cheap and easy to make; it can be heated electrically, because the current, should it fail, is rapidly restored. The gas supply, however, will almost certainly be poor even if there are no local "incidents," and spare Primus stoves should be instantly available for the sterilizer and to prepare hot drinks. Some sort of emergency water supply is advisable. An emergency lighting set may be of great value, not merely in case of failure of current, but also because full lighting is impossible if the black-out is breached. A portable spotlight, made from a car headlamp on an adjustable arm and supplied from a battery, has been of great value to us. We used far more wool than we anticipated in our first major raid; it is hardly necessary to add that it should be cut to suitable sizes, ready for use.

Casualties arrive in batches, often with little warning, and it is important to remember this and make use of the intervals to clear up the post before resting the staff. We found our two chaplains of great value, especially where patients were anxious as to the welfare of their relatives. All tables, etc., should be kept covered until casualties actually arrive. It is advisable to have a reserve and rested shift ready to carry on from, say, 8 a.m. till noon after a night raid, as casualties continue to trickle in during this period.

We made many errors from ignorance and inexperience which are not recorded here, but from which we learnt much, not the least important being the need for keeping all organization as flexible as possible.

E. Kellermann (*Tubercle*, 1941, 22, 212) studied the effect of war conditions on a group of thirty-three patients receiving artificial pneumothorax at a dispensary, with the following results: (1) The first eighteen months of the war produced no appreciable change in their clinical condition. (2) There was a definite tendency towards loss of weight and failure to gain weight. (3) There was no evidence that loss of weight was due to food rationing. There was evidence that in war conditions loss of weight and failure to gain weight were due to a combination of extrinsic factors such as anxiety and excitement, resulting from the military situation and from prolonged and intense aerial activity.

Nova et Vetera

CHINESE MEDICINE, ANCIENT AND MODERN

As Chinese civilization is the oldest in the world there ought to be a considerable body of information about its ancient medicine. It is difficult, however, to obtain authentic material, and the subject is ignored in some works on the history of medicine, which begin with the Greeks in 500 B.C. Chinese medicine is much older than that, and some of its records go back to the third millennium B.C. and to three famous rulers—one of them still the patron saint of Chinese drug stores—each of whom wrote a book on diseases and their remedies. Dr. George Hoan Hsing Woo recently gave an interesting address on the subject at the China Institute in London. He described how ancient Chinese medicine was based in part on the theory of two principles, the male and the female, whose equilibrium signified perfect health. The male and female principles were even extended to the classification of drugs. Another theory supposed the human body in health to correspond to the harmonious proportion of the five fundamental elements (apparently, in China, wood is added to the Aristotelian four).

Dr. Woo spoke also of four standard methods of diagnosis in the old Chinese medicine—namely, observation, interrogation, auscultation, and palpation. By observation was meant the study of the complexion and the facies; by interrogation, the history; by auscultation, only the strength and tone of the voice of the patient; and by palpation, the pulse. The feeling of the pulse was greatly elaborated in old China; more than 150 volumes were written on this subject. There was a special technique for it: the use of a silk cushion, the noting of the difference between the right and the left, the careful disposition of the fingers in taking the pulse, and many elaborate deductions as to the state of the patient were drawn by these practitioners, who had "eyes at their finger-tips."

Early Endocrinology

On the treatment of diseases Dr. Woo referred to the famous work *Pen Tsao* on the materia medica, which was produced in the third century A.D. and re-edited in 1578. Much of Chinese medical literature, by the way, appears to be commentaries on the original books, and then commentaries on the commentaries. Dr. Woo claimed for the Chinese that they were early practitioners in endocrinology. Thousands of years ago a deficiency in a gland—the thyroid, for example—was treated by the use of a gland from an animal. Animal liver was prescribed for diseases of the blood. Pig's stomach was given in a concentrated bouillon for general weakness or anaemia; also for anaemia an infusion from a piece of rusty iron wrapped in gauze or silk was given. The bones of the dinosaur, which had been dug up in the desert and were rich in calcium, were used in the treatment of children suffering from fits. The Chinese drug *ma huang*, from which ephedrine was first prepared, was given in cases of asthma. Behind the crudity of much of the treatment was an acute and subtle observation and what might be called clinical instinct, although the scientific background was lacking.

From all this Dr. Woo turned to modern medicine, which might be said to date from 1835, when Dr. Peter Parker of the American Mission Board opened the first hospital in Canton—a hospital, by the way, where Sun Yat-sen more than sixty years later started his medical studies. For three-quarters of a century, until the establishment of the Republic in 1912, medical organization and the teaching of medicine were in the hands of missionaries. Sun Yat-sen created a Bureau of Health in Peking in 1912, but not until 1927, when the Central Government of General Chiang Kai-shek was established in Nanking, was a Ministry of Health set up. Until then, while there had been an almost violent enthusiasm for Western knowledge, it had not been properly canalized. It took the form of a blind copying of Western methods, and the various medical schools took their colour—American, British, French, German, as the case might be—from the country in which their teachers had been educated. By 1933 an official medical curriculum was established by the Ministry of Education for all medical schools.