Military Medicine and Surgery

THE CASUALTY CLEARING STATIONS

THOMAS HERBERT GOODWIN, C.M.G., D.S.O.

Colonel, Army Medical Service, England

WASHINGTON, D. C.

Prior to the present war, this unit was designated a "clearing hospital"; but the nomenclature was altered to "casualty clearing station" soon after the commencement of the present campaign. The unit corresponds, more or less closely, in organization, establishment and function to the "evacuation hospital" of the United States Army.

The following remarks apply to the "casualty clearing station" of the British Army, and may possibly be found of service to officers doing duty with an "evacuation hospital" of the United States Army.

Establishment.—This consists of a lieutenant-colonel, R. A. M. C., in command of the unit; six other medical officers; one quartermaster; eight sergeants; seven corporals, and sixty-two privates.

Attached.—There are three chaplains, one interpreter and six Ambulance Service Corps drivers (mechanical transport).

Transport.—This consists of three 3-ton lorries.

The sergeants are allotted for duties as follows: nursing duties, 2; steward, 1; dispenser, 1; cook, 1; pack storekeeper, 1; clerk, 1, and general duty, 1.

Two of the privates are trained in the use of carpenters' tools.

Nursing Service.—Nursing sisters are appointed, whenever circumstances permit, to a casualty clearing station.

Function.—The casualty clearing station forms a connecting link between the field ambulances and the stationary and general hospitals. It receives patients from the field ambulances by means of the motor ambulance convoy, and it transmits them to the stationary and general hospitals by means of the ambulance trains. It will be readily understood that the functions of a casualty clearing station must necessarily be very elastic; during periods of comparative inactivity it may act more or less as an advanced stationary hospital, transmitting only such patients toward the base as are unlikely to be fit for duty within a reasonable period, while during a period of active battle it acts as a "sieve," winnowing the patients, according to the severity and nature of their injuries, to the base, the "rest station," etc. Again, a casualty clearing station may be allotted special functions; for example, one casualty clearing station may be detailed to deal entirely with cases of abdominal wounds, such patients being brought as rapidly as possible from the front to the special casualty clearing station, and there operated on and retained until fit for transport to the base.

Position.—The position of a casualty clearing station in the area of operations must necessarily vary with the military exigencies of the time being.

The unit will almost invariably be situated close to a railway station and within from 5 to 10 miles of the front line, but may not infrequently be pushed farther forward than this in order to lessen the journey of patients by road as far as possible.

Organization.—In European warfare, buildings will be utilized so far as possible, but very frequently the

accommodation will necessarily be in huts, tents, or a combination of all three.

An important point to remember in the establishment and organization of a casualty clearing station is that it must be capable of rapid and very considerable expansion; ordinarily it is equipped for 200 patients, but it may—at short notice—be required to accommodate a very much larger number.

Consequently it should always be insured that suitable ground is available for the erection of tents, and that any available buildings¹ are prepared for conversion into wards, etc., for patients, should the necessity arise.

It will be found advantageous to organize a casualty clearing station into the following sections or departments; (a) reception; (b) cooking; (c) packstore; (d) nursing, and (e) operating.

(a) *Reception of Patients.*—Arrangements for the reception of patients must be carefully organized in order to prevent any possibility of confusion when large convoys of wounded arrive. There should be a wide and clearly marked entrance for motor ambulances, with an equally clear separate exit to the main road. This is necessary in order that ambulance vehicles may enter, unload their patients at the "reception" hut or building, and depart without being obliged to turn around or to cause any delay or obstruction to the vehicles behind.

A "stretcher party" must always be on duty, night and day, in order to unload patients promptly on arrival. In the "reception" room the patients are seen and rapidly sorted into groups, the lightly wounded being sent to one department, the seriously wounded to another, patients requiring immediate operation to another, etc. Each department is worked by its own staff, and, during active operations, the personnel will be kept extremely busy.

The reception room must be of ample dimensions, as many hundreds of patients may arrive at the same time, and must be rapidly and efficiently dealt with. The admission and discharge books are here filled in by the clerks detailed for the duty.

(b) *Cooking.*—The kitchen arrangements must be complete in every detail, diets for every class of patient being required almost daily. Soups and other hot drinks should be available at any hour for patients on arrival.

(c) *Packstore.*—Here the patients' arms and equipment are taken possession of, tied into bundles and labeled.

(d) *Nursing.*—This comprises the "hospital" section proper of the unit. Wards should be organized and equipped for each class of patient; those for patients that are operated on being in close proximity to the operating theater, while those for patients less seriously wounded may be more distantly situated, possibly in tents. The operating room, Roentgen-ray room, and "serious surgical" wards should be close to each other and conveniently situated.

Lastly, the accommodation, comfort and feeding of the personnel of the unit must not be forgotten. No pains should be spared to insure the comfort and well-being of the medical personnel, every member of which will be extremely hard worked. Nursing sisters

1. As a rough estimate of the number of slightly wounded patients that may be accommodated in a building for one night, it may be reckoned that, in rooms over 15 feet but under 20 feet in width, one man can be accommodated for every yard of length, while in rooms 20 feet and more in width two men can be accommodated for every yard of length.

especially are rather prone, if permitted, to neglect their own well-being, and will cheerfully put up with any discomfort, and possibly neglect their meals, while at the same time working themselves to the point of exhaustion in the interests of their patients. This self-sacrifice is most laudable, but is certain to lead to breakdown if unchecked. It will consequently be necessary for the commanding officer of a casualty clearing station to insure that the nursing sisters have comfortable quarters, that they have a due proportion of rest and sleep, that their meals are well cooked and served, and that there is due insistence that they obtain their meals regularly; otherwise during a period of stress it may be found that sisters and nurses will, if permitted, work for twelve or fifteen hours at a stretch without food or rest.

It must not be inferred from the foregoing that work in a casualty clearing station is in a continuous condition of high pressure. During battle periods the amount of work to be got through is enormous, the operating work especially being extremely onerous, and every member of the personnel is working at very high pressure; but during the comparatively "quiet" intervals, matters are much easier, and it is during these intervals that very much may be done in the way of organization in order to prepare for the busy days and nights in the future.

Office, Surgeon-General of the Army.

MEDICAL IMPRESSIONS IN A BASE HOSPITAL

MILTON MANDEL, M.D.

Major, M. R. C., U. S. Army; Physician, U. S. Army Base Hospital No. 12 (Chicago)

FRANCE

After two months' experience as medical director of U. S. Base Hospital No. 12 (a Chicago organization), stationed "somewhere in France," I have come to the conclusion that the American physician cannot afford to miss the opportunity which presents itself. No other department in the service serves a more important function, and I am firmly convinced that the efficiency of the fighting force depends largely on the efficiency of the medical corps.

Mr. Julius Rosenwald of the Council of National Defense, in discussing the ultimate outcome of the war, tritely stated that it would be the "survival of the best fed." The physician not only passes on the fitness of the volunteer and conscript, and must dispose of him when he is sick or wounded, but is also of necessity the dietitian and the sanitarian.

JUDGMENT AN ASSET

When dealing with thousands of men drawn from all walks of life, and representative of every social stratum, one realizes the necessity of carefully observing the workings of the human mind and of closely studying the individual.

The most difficult task which has confronted us is distinguishing the real from the spurious. By the latter I do not refer to the neurasthenic, who will be touched on later. Every soldier who has seen active service knows the symptoms of the more prevalent diseases, such as trench fever, gas poisoning, and disordered action of the heart. Occasionally he will

recite to you in textbook fashion his symptoms, and will attempt to play on your sympathies, not because he is a slacker—there are none in the Army—but because he is tired physically and sometimes nervously. It is this type of case which taxes one's judgment. Sentiment must be utterly eliminated. The individual must be subordinated to the cause which he serves. A trip to "Blighty" is what he wants, but a few weeks in a nearby convalescent camp again puts him in shape for line duty.

The severe physical and nervous exertion to which the military man is subjected necessarily lights up neurotic tendencies. The more common neuroses encountered are, first, disordered action of the heart (D. A. H.), second, shell shock hysteria, and, third, exhaustion neuroses.

Disordered Action of the Heart.—These patients complain of precordial pains. These rarely simulate angina; more often the distribution and the radiation of the pain depend on the suggestive and leading questions asked. Palpitation is an almost constant concomitant, but dyspnea on exertion is not usually mentioned by the uninitiated, whereas the veteran has learned that shortness of breath is highly suggestive of heart disease. Anasarca of the extremities never occurs. There are no changes in the size and shape of the heart, but occasionally an accidental murmur is audible. The blood pressure is unaffected. Rest, suggestion and graduated exercise usually bring about prompt recovery.

Shell Shock Hysteria.—The hysteria and neurasthenia which develop in uninjured men after a severe engagement manifest themselves in innumerable ways, and almost invariably we are able to elicit a history suggesting a previous neuropathic tendency which antedates the war. Hysteria is more likely to occur after shell shock, but may develop without apparent cause. I have not had opportunity to observe many cases of shell shock, as these patients are sent to special neurologic hospitals. However, it is not common to see cases of pseudomusculospiral paralysis coming on suddenly with wrist-drop and perversions of the sensation, which bear no relationship to the course of the nerve; also paraplegia of the lower extremities, developing while the patient is under observation for some other condition, without any sensory disturbance and, of course, with full retention of bladder and rectal control.

Exhaustion Neuroses.—The neurasthenia is usually the ordinary exhaustion neurosis, and is sent to us labeled "debility." Introspection, fatigue on slight exertion, despite the fact that the muscles are hard and firm, sluggish speech, weak voice and impaired memory are the common evidences.

Functional neurologic pictures are the same as are those met in civil practice; only they are much more frequent, and quite naturally so.

NEED FOR PRACTICAL MEN

I sincerely hope that the members of the medical profession will not wait for conscription. There is plenty of work to be done, and hard working, practical men of ability are needed. The ultrascientific man or the man with a hobby would feel very much out of place in a base hospital such as ours. The work must be done quickly and accurately. The compensation for the work is the satisfaction in knowing that one is "doing one's bit."