EMBARKATION OF CASUALTIES FROM A BEACH-HEAD.
AN ARTICLE BASED ON EXPERIENCES IN SICILY AND ITALY.

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INTRODUCTION.

In an amphibious operation the landing of all men and stores after the first assault flight is the responsibility of the Beach Group attached to the formation concerned. The medical element of the Beach Group is responsible for the early surgical treatment of casualties and for their evacuation by embarkation on to hospital craft. This medical element consists of a Field Dressing Station with one or more Field Surgical Units and, possibly, a Field Transfusion Unit. These units combine to open an Advanced Surgical Centre about half to one mile inland while the Light Section of the Field Dressing Station remains on the beach as a Beach Dressing Station. The F.D.S. is also responsible for finding an Embarkation Team to carry out evacuation. The prompt clearance of casualties in the early stages is essential, not only for the maintenance of morale but in order to keep vacant as many as possible of the limited number of beds available so that a sudden rush of casualties may be accommodated. Further, it must never be forgotten that unsuitable weather may make evacuation impossible for several days.

To enable this prompt clearance to be carried out a considerable amount of organization is necessary. No fixed drill can be laid down for circumstances differ in every operation and, although certain basic principles remain constant, the majority of factors vary so considerably that a special plan requires to be prepared in each instance. In making such a plan the following factors must be considered:

(1) The Number of Medical Units to be Cleared.—In the early stages of an operation nearly all casualties are evacuated through the Advanced Surgical Centre of each beach. A few casualties, however, always appear at the Casualty Embarkation Point from other sources so that, even at this simple stage, it is essential to have clerking carried out at this point in order that proper documentation may be effected. Subsequently it may prove necessary to evacuate other medical units through this point, as other beaches may be found to be unsuitable and be closed down and eventually a port will be employed. Thus, in one case, this unit found itself responsible for clearing no fewer than eight medical units. In due course an Area medical staff officer takes over the duties of casualty embarkation.

(2) Hospital Craft.—The medical planning of the operation provides for the arrival off the beach at fixed times of hospital ships or carriers, usually the latter, which have a smaller capacity and a less specialized staff, being intended for short voyages only. Information about the actual arrival of these must be obtained by close liaison through the Military Landing Officer with the Senior Naval Officer Landing. Such craft may have to serve several beach sectors and an allotment of the number to be embarked by each sector, based on returns showing the number awaiting evacuation, is laid down by higher authority which has been previously informed of the capacity of each ship. It is worth mentioning here that stretcher cases for hospital craft are those which cannot be taken off the stretcher to walk or be assisted down to the lower decks.
Operational conditions dictate the distances at which the hospital craft lie off and the time for which they remain at anchor. Where heavy aerial attack may be expected they are obliged to lie well away from other shipping and usually sail well before dusk. These limiting factors demand an effective plan for smooth and efficient evacuation when the craft are available. Nevertheless, we strongly believe that, while patients may be prepared for evacuation, they must never actually be moved until the arrival of the hospital craft is confirmed.

When, owing to various reasons, hospital craft were not available off the Italian beaches, or when their capacity was not adequate to accept all casualties for embarkation, Landing Ships, Tank, were used for evacuation with considerable success for a short voyage of twelve hours. One hundred and fifty sitting cases could be taken in the troop spaces and 200 stretcher cases on the tank deck, though these were emergency figures, and instructions for their normal use for casualty evacuation limited the numbers to 120 sitting cases and 100 stretcher cases. As these craft were always urgently required and could not be subjected to unnecessary risk, they only beached for the minimum time and had to be loaded with the greatest possible speed. To enable this loading to be completed in the desired time of twenty to thirty minutes arrangements to load casualties were made, at the latest, when the L.S.T. beached and began to unload. In order to have the casualties at the beach ready to embark by the end of the short time taken for the L.S.T. to discharge its cargo, they had to be concentrated and ready to move. This was greatly facilitated by the use of Casualty Transit Area described below. Rapid embarkation was effected by driving ambulances on to the tank deck and unloading them there which, incidentally, offered the advantages of eliminating one handling of the patient and of avoiding the exposure of casualties to further wounding by A.A. fragments—a very great aid to morale. The use of L.S.S.T. for this purpose was obtained by application to the Senior Naval Officer Landing or the Principal Beach Master. When they were so used it was necessary to detail a medical party consisting of 1 N.C.O. and 4 Nursing Orderlies to accompany the casualties, having with them the following equipment: 1 Surgical Haversack, 1 Shell Dressing Haversack, 2 Bedpans, 2 Urinals, Reserve Dressings, Hot Water Bottles (as many as possible) and Feeding Cups.

Priority 1 cases could not be embarked on L.S.S.T. as adequate facilities for their care could not be provided but these represented only a small percentage of the total to be cleared and evacuation by L.S.T. was eminently suitable for surgical cases in plaster and the majority of sick. After the first few days of the Anzio operation at least half the number of casualties evacuated were sick cases.

Replacements of stretchers and blankets could not be obtained from L.S.S.T. and arrangements had to be made for returning the number so lost to the beach-head by other means.

(3) Transport to Casualty Embarkation Point.—Only two ambulances are available from the F.D.S. and more must be supplied on a Corps basis. Sitting cases can be moved by truck. In early stages of the operation the Motor Ambulance Convoy cars usually attached to Casualty Clearing Stations may not have been landed, in which case divisional cars must be used.

(4) Preparation of Patient.—In view of the fact that considerable delay might occur before the embarkation of the patient, hospital evacuation officers should ensure that:

(i) Patients are fed, given the opportunity to use a urinal or bedpan and securely wrapped as shortly as possible before being moved.

(ii) All plaster cases are particularly inspected.

(iii) Field Medical Cards are tied to the lapel of the sitting patient or stretcher handle of the stretcher case. Uniformity saves much time and makes the task of the E.M.O. at the port of disembarkation immensely easier.

(iv) All kit accompanies each patient. A.F. W.3042 (wounded man's kit label) should always be used.

(v) Red Cross Bags, if available, are issued.

They should further see that this preparation is complete by the anticipated time of evacuation, e.g. in transferring patients from beds to stretchers, and that sufficient personnel
are available to load ambulances with the minimum of delay. The last ambulance from each clearance must report as such to the E.M.O.

(5) **Documentation.**—As casualties travel by sea and may be embarked on various craft a rigid system of checking must be employed. For this reason a nominal roll from each evacuating medical unit is called for, to be delivered to the E.M.O. on the dock by the first ambulance. The preparation of this nominal roll may be considered extremely difficult but, if the system here described is adopted, it is not only easy but of great assistance to the evacuation officer himself.

In the medical unit a suitable number of large and conspicuous placards is provided, bearing a big letter "E" (one foot square). These are serially numbered and are kept in the reception department or evacuation ward. As soon as a patient is nominated for embarkation the N.C.O. in charge obtains one of these placards and enters the patient’s name and ward on an evacuation list, kept at the same place, against the serial number of the placard. This is then placed beside the patient’s bed and the serial number is marked conspicuously on the outside of the Field Medical Envelope (A.F. W. 3118A).

In this way a nominal roll is automatically prepared during the time prior to evacuation and the evacuation officer can readily pick out the cases awaiting clearance without having to consult all the Field Medical Cards in the ward. In addition, he can tally the names and the wards against the serially numbered nominal roll and can always readily discover the number awaiting evacuation.

At the Casualty Embarkation Point the E.M.O. can quickly check the name of the man, by observing the serial number on the envelope, on the nominal roll on which is marked the name or number of the craft on which he is being embarked. With a long list of names this obviates hunting for each individual name and saves much valuable time. On occasion, it is necessary during evacuation to add to the numbers to be cleared. In such cases supplementary nominal rolls must be sent to the E.M.O. Small numbers can usually be slipped in without difficulty but permission should be obtained to add more than four or five.

The E.M.O., on making liaison with the hospital ship representative, can help him considerably by giving the numbers of priority cases, officers and minor sick. The last may include cases of minor chronic ailments or venereal disease which can be accommodated on mattresses in corridors thus increasing the total number that can be accepted.

(6) **Casualty Embarkation Point.**—This is sited at a point on the beach or port to suit the Navy, after consultation with S.N.O.L., and is manned by the F.D.S. embarkation team. Clear signposting is essential with " IN " and “ OUT ” traffic signs.

It is very important that it be established early and that all cases are checked through in order that a complete record of evacuations is subsequently available.

Embarkation Team consists of: (a) Unit Stretcher Bearer Officer who acts as E.M.O. and must maintain full liaison with S.N.O.L. and P.B.M. re (i) arrival, position and length of stay of hospital ships; (ii) availability of small craft for evacuation; (iii) provision of L.S.Ts. if necessary. (b) 1 N.C.O. and 4 stretcher bearers. More stretcher bearers are desirable but cannot be supplied by the F.D.S. Naval personnel, hospital ship R.A.M.C., prisoners and casual labour may be available. (c) 1 Clerk.

**Supplies.**—The team is provided with a small amount of medical equipment, medical comforts and containers of hot tea. They also have bedpans, urinals and feeders for the occasion when they have to accompany casualties to the hospital ship. A stretcher and blanket dump is placed here to replenish ambulances and to receive the exchange stretchers and blankets returned from the hospital ship. The provision of ground sheets is recommended in case the weather should be inclement as patients have little or no protection from the elements while being transported from the beach-head to the hospital ship.

When the Advanced Surgical Centre alone is being evacuated, casualties are called forward for embarkation as and when required. When, however, several units are being cleared, it is necessary to avoid a large concentration of patients and ambulances on the beach or dock and a more elaborate system must be employed, involving the use of a transit area.
(7) Casualty Transit Area.—When a number of medical units have to be cleared through the same Casualty Embarkation Point casualties are called forward to a Casualty Transit Area situated within half a mile of the C.E.P. Liaison is maintained by D.R. and casualties are brought down to the C.E.P. in accordance with the rate of loading, thus avoiding any congestion and reducing to a minimum the exposure of the casualties to aerial attack.

The E.M.O. must be informed daily by an early hour of the casualties awaiting evacuation by each medical unit. These are called forward in these categories: (a) Priority stretcher cases—these must be loaded on hospital ships. (b) Non-priority stretcher cases. (c) Sitting cases.

All cases are checked by an Officer or reliable N.C.O. in and out of the transit area so that the number still awaiting in the area is always known. Hot tea and some food should be available in case delay in embarkation occurs and latrines must be provided. It is desirable that the Light Section of the F.D.S. should be sited in the Transit Area to provide these services so that a compromise must be effected between the siting of the Transit Area and the B.D.S. Thus, if this can be arranged, a Medical Officer is always immediately to hand to see any serious cases in transit. A watch should be kept on all stretcher cases who may be delayed. By this system casualties for evacuation are always readily available so that L.S.sT., in particular, can be loaded without delay.

(8) Craft for evacuation from Beach-head to Hospital Ship. (All estimates of turn-rounds assume that the hospital ship is lying one mile off.)

(i) Water Ambulances.—Each hospital carrier has six of these with a capacity of 7 stretcher cases or 20 sitting cases. Using them all a fair rate of evacuation is 6 to 9 loads per hour.

(ii) Landing Craft Tank.—These are only worth using when large numbers have to be cleared. Capacity is 100 stretcher cases and 100 sitting cases. Turn-round four hours. (This assumes five stretcher squads loading and unloading being carried out by hospital ship personnel.)

(iii) Landing Craft Infantry.—Capacity 40 stretcher cases and 60 sitting cases. The latter have to be able to walk downstairs to the troop spaces. Turn-round two and a half hours. (Assumes loading personnel as for L.C.T.)

(iv) Motor Launches.—Are unsuitable for this work being extremely difficult to load and having a small capacity (14 stretcher cases and 20 sitting cases). They have, however, been used with success to rush emergency cases to a hospital ship.

(v) Dukws.—These amphibious craft can carry 9 stretcher cases (3 on the floor and 6 across the thwarts) in good weather. Under such conditions they are particularly valuable in that they can transfer the casualties direct from A.S.C. to hospital ship comfortably and without handling. Some hospital carriers can lift them to deck level by davits. Up to 30 sitting cases can be carried but no real advantage is offered by their use in such cases and they should not be diverted from their operational role without greater justification. They are obtained on request from M.L.O. They are slow to load and the turn-round, from A.S.C., is about two and a half hours.

(vi) Landing Craft Assault.—Have a small capacity, are uncomfortable for the patients and have not been used.

(9) Evacuation by Air.—When a landing strip has been established and is being used by transport aircraft, casualties may be evacuated by them on their return flight. Immediate availability of the casualties for loading is essential. Patients are therefore transferred to a R.A.F. holding medical unit on the airfield to await clearance. It is desirable to evacuate relatively minor cases rather than to let space on the aircraft be wasted.

The following types of case are not suitable for air evacuation: Shock, abdominal and thoracic wounds, acute abdominal conditions, recent severe hæmorrhage, including hæmoptysis and hæmatemesis, gas gangrene, chemically gassed, lobar pneumonia, pneumothorax, angina pectoris, coronary occlusion (during first month of condition) and meningitis (during period of increased intracranial pressure).
DISCUSSION.

In order to ensure smooth evacuation great care must be taken to avoid a bottle-neck which can occur so easily as a result of shortages of manpower or transport at any link in the chain. Delays will always occur while the system is being evolved but close liaison with all units involved and immediate investigation of any delay will rapidly produce an efficient organization. In an emergency everyone will help the wounded. One example of this (before the organization had been perfected) was a case in which two L.C.T.s fully loaded with casualties had sailed into the anchorage to try and meet a hospital ship which failed to appear. On their return 212 stretcher cases and about 140 sitting cases were transferred to a L.S.T. in forty-five minutes. Naval personnel of all ranks have invariably proved particularly helpful.

SUMMARY.

The method of evacuation of casualties from a beach-head is described with particular reference to:

(i) Loading of hospital ships.
(ii) The use of L.S.T.s as a substitute, during the Salerno and Anzio operations.
(iii) Documentation and organization of evacuation from the medical unit.
(iv) The constitution of a Casualty Embarkation Team.
(v) The use of a Casualty Transit Area and Casualty Embarkation Point.
(vi) Types and capacity of craft employed.
(vii) Air evacuation.

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