ARMY CONCEPTS OF FORWARD AEROMEDICAL EVACUATION

BASED ON A PAPER BY

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General Maxwell D. Taylor, of the United States Army has said: “I often feel that there is considerable misunderstanding about Army aviation and its objectives. It is in nowise competitive with the roles and the missions of the Air Force. It rather attempts to obtain for the units of the Army mobility based upon the low-performance fixed-wing airplane and the transport helicopter. These vehicles do for us in the air what trucks do for us on the ground. They are not formed into an Air Force or an Air Corps, but rather are scattered through seven of our combat arms and services. For example, the Artillery, the Infantry, the Transportation Corps, and the Army Medical Service all have their need for this type of air transportability to adjust fire, to expedite reconnaissance, to move supplies and to evacuate the wounded. Particularly on an atomic battlefield, which as we visualise it will be characterised by great dispersion of units, we will need air transportability for many vital components of the Army system of weapons and equipment.”

As a corollary to that statement it may be said at the beginning that Army aeromedical evacuation is not intended to replace or duplicate support provided by the Air Force to the rear of the combat zone. It is an extension into the forward areas of the proved value of aerial evacuation, where early treatment and selective evacuation are paramount. A better understanding of the organisation and role of Army forward aeromedical evacuation and its link with Air Force supporting aeromedical evacuation will be obtained if the Army policy is expressed.

Forward aeromedical evacuation includes the air evacuation of patients from place of injury to place of initial treatment and then on to medical units located in the combat zone. Supporting aeromedical evacuation is the movement of patients by air from medical units located within the Army area to outside the combat zone. The requirements of these two types of aeromedical evacuation differ in several important respects, therefore different procedures must be adopted.

The Army has long recognised the advantages of aeromedical evacuation, but until recently has not had the proper aircraft in sufficient numbers for this to be carried out in the forward areas. As early as 1936 field trials of the autogyro as a forward evacuation vehicle were conducted. The idea was discarded at that time due to engineering and financial reasons only.

The feasibility and full advantages of aeromedical evacuation by high-

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performance fixed-wing aircraft became apparent early in the Second World War. Then air evacuation was designed as the primary means of moving patients to the rear of the combat zone. This was carried out by transport aircraft of the Air Force. Pending development of the helicopter and the assault type aircraft there remained, however, little chance of progress in forward aeromedical evacuation.

In Korea circumstances demanded that the advantages of air evacuation be extended into the most forward areas. The restriction and disposition of Army treatment facilities, the nature of the country, the type of fighting, and the extremely limited surface communications, all combined to establish an urgent requirement for a rapid, atraumatic, certain way of evacuating casualties from forward medical units to hospitals capable of providing definitive, life-saving surgery. These considerations, plus the acceptance of the helicopter as an organic vehicle of the Army, allowed the final fulfilment of an old ideal of the Army Medical Service.

The development of forward Army aeromedical evacuation in Korea was the result of expediency rather than a preconceived plan. Shortly after the outbreak of fighting, a helicopter detachment of the Third Air Rescue Squadron began to receive requests from units for the evacuation of casualties from difficult country. As this detachment was not fully occupied in its primary role, these calls were answered. By August, 1950, this unit was answering so many calls that it spent most of its time on medical evacuation.

Quick to note the advantages of helicopter evacuation under such conditions, and after certain tests were carried out, the Army adopted helicopters for the evacuation of casualties. In January, 1951, the first Army helicopter detachment with a primary role of medical evacuation became operational. This was soon followed by two other units.

These units were originally non-medical and were attached to forward surgical hospitals, under the operational control of D.D.M.S. Corps. In August, 1952, the helicopter ambulance unit was authorised as a medical unit and became operational in December, 1952. The record achieved by medical helicopter ambulance units in Korea is now history and is one of the major factors contributing to the reduction of mortality among wounded to only 2.4 per cent, the lowest in any major war to date.

POLICY

Army Aviation is capable and accepts the task of forward aeromedical evacuation. The existing agreement between the Army and the Air Force is that the Army may have such fixed-wing aircraft (within certain weight limits) as it requires to perform its duties, and rotary wing aircraft (without specific weight limitations) as it requires for its tactical and support role within the combat zone.

One of the roles of army aircraft is aeromedical evacuation within the combat zone which includes battlefield pick-up and movement of casualties to the initial place of treatment and subsequently to medical units within the combat zone.
In order to be effective, forward aeromedical evacuation must be immediately available. It must be completely integrated with other tactical and administrative operations and must be compatible with existing operational and medical situations. Severely wounded men cannot afford to wait for time-consuming interservice arrangements for their evacuation. To do so would nullify many of the advantages of forward aeromedical evacuation.

Within the Army, the Medical Service has the responsibility for medical evacuation, whether by land or by air, and it is the only organisation within the Army with experience in the movement of casualties. Any division of the responsibility for medical evacuation within the combat zone would result in confusion, duplication of effort, and a marked reduction in effective medical care. Efficient evacuation is an adjunct to effective treatment. Correct integration of evacuation with treatment is essential for economical medical care. The D.M.S. is responsible for the policy, procedure and technique in aeromedical evacuation within limits laid down by the Staff.

**AIRCRAFT**

The Army Medical Service has authorised helicopter ambulance detachments to carry out emergency evacuation. These units consist of five helicopters, seven pilots, and the necessary other ranks. Until recently all units were equipped with reconnaissance type helicopters capable of carrying two stretcher patients in pairs. Certain medical ambulance units have now been issued with the Sikorsky H-19 helicopter capable of carrying six stretcher patients inside. The latter are interim equipment.

The aircraft of choice for forward aeromedical evacuation is a high performance, small silhouette helicopter capable of lifting two stretcher patients and one medical orderly inside. The Bell XH-40 helicopter, which will be available in 1960, is ideal. The exclusive use of reconnaissance helicopters as interim equipment for all medical helicopter ambulance units is not desirable. Pending the issue of a suitable helicopter (such as the Bell XH-40), the use of a variety of the helicopters now available will reduce the limitations of each type of aircraft.

Medical helicopter ambulance units are for the movement of severely wounded casualties where promptness of treatment will determine the difference between death or survival, or the loss or retention of a limb. These individuals must be picked up as quickly as possible and taken directly to medical units capable of giving the type of medical care that is required. These patients normally require detailed medical surveillance during the flight, and the aircraft normally crosses at least one tactical boundary. The allotment of single-purpose ambulance aircraft is considered to be no more uneconomical than the provision of fire engines and field ambulances by the Army. In fact the efficiency of air operations is increased in that their tactical commanders are not constantly required to divert aircraft from other roles for aeromedical evacuation beyond their own boundaries.
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DEPLOYMENT

Normally helicopter ambulance units are allotted to Army and attached to forward medical units under the despatch control of D.D.M.S. Corps or commander of Corps Medical Centre. This allotment forward increases flexibility in that units may easily be moved from one sector to another, and attachment to subordinate medical headquarters facilitates administration and the co-ordination of air and ground evacuation. Also, location at supporting medical units is appropriate in that these units are normally the rear terminus for emergency aeromedical evacuation. The D.D.M.S. Corps or O.C. Corps Medical Centre is close enough to the front to know the situation, yet far enough away to be able to balance priorities for evacuation and to know the situation in the supporting medical installations.

In special situations—i.e., river crossings, airborne assaults or amphibious operations—helicopter ambulance units may be attached to Divisions. In such cases the A.D.M.S. will exercise normal operational control.

NON-EMERGENCY EVACUATIONS

The routine air evacuation of non-emergency patients can most economically be accomplished by returning transport aircraft, if certain basic principles are accepted. Wherever possible more aircraft are being developed to carry patients. All Army Aviation units have an ancillary aeromedical evacuation role, provided the necessary medical equipment and personnel are made available.

In these cases the Medical Service normally informs the Staff of its requirements, designates forward and rear medical units, makes the necessary medical arrangements at both ends, and provides the necessary medical personnel and equipment. This type of evacuation is normally used for the movement of routine patients when other means of evacuation are inadequate or non-existent. Further, time is not at a premium as in the emergency cases. If adequate facilities are available forward for collection, treatment and holding, these patients may safely be held for reasonable periods while arrangements are being made for their evacuation. If properly prepared beforehand, these routine air evacuations do not normally require detailed skilled medical care during flight. This type of supplemental aeromedical evacuation closely approximates to support aeromedical evacuation. It is most commonly used in evacuation of isolated units largely dependent upon air transport for resupply and other administrative support.

The Army Medical Service must maintain jurisdiction over all Army aeromedical evacuation, regardless of the category of the patient or the source of the aircraft. This does not imply actual medical control of non-medical aircraft, but does include such matters as the designation of forward pick-up sites and rearward destinations, provision of necessary medical personnel and equipment, and surveillance of casualties in flight. All movement of patients must be planned and controlled.
SELECTIVITY

The selectivity inherent in aeromedical evacuation is not so apparent as its more obvious advantages in speed, range and flexibility. With adequate medical control of forward aeromedical evacuation, the individual casualty is no longer forced to be evacuated to a particular medical unit which happens to be in support of his formation. He may now be moved rapidly and safely to a medical unit best staffed and equipped for his particular type of wound. This in effect places a specialised treatment facility in direct support of every forward unit.

This also leads to economy of medical facilities. Specialists may now be concentrated in special units located well forward obviating the need for staffing and equipping forward medical units to cater for every type of patient. Surgical delays can be minimised and patient loads distributed equally through the available resources. The depletion of forward medical units of such items as splints, stretchers, blankets, etc. is avoided by exchange. The mobility of forward medical units is improved by the availability of atraumatic evacuation of patients which permits the unit to move without leaving behind large holding detachments.

CO-ORDINATION AND CO-OPERATION

To complete the picture, one must consider the integration of Army forward aeromedical evacuation with the Army ground evacuation, and the supporting evacuation provided by the Air Force and Navy. The Army still maintains its ability for ground evacuation by forward ambulance cars, and trains. Pending improvements in the performance of Army aircraft, continuity of medical service must be ensured. Forward medical units must be guaranteed that their casualties will be evacuated, regardless of weather or tactical situation. Other factors being equal, aeromedical evacuation will be used for the movement of the seriously wounded cases, and road evacuation will be used for the non-emergency and post-operative categories of patients. During periods when air is not available the ground means will also be used for the evacuation of emergency patients as in the past.

It is anticipated that those patients requiring evacuation from the combat zone will be turned over to the Air Force after they have received initial treatment, including surgery, in Army medical units. By this time the patient's condition will be such that he will not be jeopardised by the time required to arrange interservice supporting aeromedical evacuation. This has the further advantage of permitting full triage within the Army area and prevents over-evacuation of patients who need this.

In peninsular campaigns such as Korea, with Naval hospital ships located immediately off-shore, Army helicopters will be used to transport patients directly to these ships in the same manner as to Army medical units. Generally, Army medical units will be used to the fullest extent before evacuating to Naval hospital ships, and in any case, necessary arrangements will be made with the Naval authorities in advance. Regardless of the nature of the final unit within
the combat zone, the Army Medical Service must have control over forward aeromedical evacuation to ensure proper triage, prevent unnecessary evacuation and conserve the capabilities of the receiving medical unit.

CONCLUSION

These, then, are the basic Army concepts relating to forward aeromedical evacuation. They have been developed from experience, and are considered the best basis for current policy, organisation and procedure. Further, they provide guidance for the future.

Despite controversy as to the exact nature of future warfare and the organisation and employment of the Army of the future, the opinion is that nuclear as well as conventional weapons will be used freely and in great depth by both sides. As a result, it can be estimated that casualties will exceed any previous experience and that they will occur simultaneously in large numbers anywhere in the theatre. The front-line is a thing of the past.

It is also apparent that the Army of the future must make maximum use of the latest technical advances including aviation, must achieve greater flexibility and mobility, and must be capable of sustained, decentralised operations under a variety of conditions. Other trends indicate a reduction in the ratio of teeth to supporting arms and services, greater dispersion and a greater dependence upon air lines of communications.

These make much more difficult the task of the Army Medical Service. There will be greater numbers of casualties, within shorter periods of time, over a much larger area. Further, medical units must be smaller and more dispersed. More and more must be done with less and less. An equally important though less tangible consideration is the morale of the individual soldier and the continued fighting efficiency of the forward units. In isolated, dispersed positions, the soldier will become more and more concerned about his chances should he be wounded, and small mobile tactical units will only have a limited capacity for the care of patients.

The answer to a large part of the Army’s problems is Army Aviation and its component, aeromedical evacuation. The medical service must maintain the same flexibility and mobility as the fighting units. The maximum use must be made of available medical means to meet almost insurmountable medical tasks. A more rapid, more selective system of evacuation seems to be the only method of minimising the discrepancy between medical requirements and the available medical resources. The question is no longer, “Can the Army afford forward aeromedical evacuation?” It is now “Can the Army afford not to use forward aeromedical evacuation?”
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