Original Communications.

CONCERNING FIELD AMBULANCES.

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The field ambulances that proceeded to the European theatre of the Great War were organized and equipped as the result of experience gained in the South African War. During that campaign no field ambulances existed, the collection of wounded being carried out by bearer companies which evacuated to the field hospitals, each of these units being independent under its own commanding officer.

It was found that there was occasionally lack of liaison between the two; also that the title field hospital was a somewhat glorified term, this unit being really a hospital only in name. It was, therefore, decided to combine the bearer company and field hospital into one command under the designation of field ambulance.

This field ambulance was subdivided into a bearer division corresponding to the old bearer company, and a tent division corresponding to the old field hospital. It was also subdivided into three sections, each section being capable of independent action with its bearer subdivision and its tent subdivision.

The present field ambulance is the result of further experience gained during the Great War. It is interesting to study the changes that have been made:

1. Modifications in Equipment.—This will not be dealt with.

2. Addition of Motor Ambulances.—This change took place in the early stages of the Great War, and in this connection it is interesting to note that for years before the War medical officers taking part in medical staff rides urged the necessity for these vehicles. It has been suggested that expense was the bar. This was not the only reason; a strong counter argument was congestion of roads. The question of road congestion is always a big problem, and it was argued that every additional vehicle added to this difficulty, and where one vehicle could serve two purposes it must be used. Hence the well-known instruction “empty supply vehicles will assist in clearing the wounded.”

3. Changes in Organization.—If we study the organization of the present field ambulance does it not divide itself readily into a “light” and “heavy” echelon? How was it that during the long years of the War this very essential change was not introduced? Actually, for practical purposes, it was made by many field ambulance commanders modifying the method of packing.
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Speaking for my own field ambulance, the necessity for this subdivision into a light and heavy echelon became early apparent, and so accordingly we drew up and printed a method of packing the whole unit.

For our light echelon we used our four general service limbered wagons. On two wagons was packed all that was essential to form two advanced dressing stations, and on the remaining two all that was essential to form one main dressing station. These, with the addition of our three water carts and ambulance wagons constituted our light echelon. We could send our forage cart and six general service wagons, the heavy echelon, to be brigaded in rear with the brigade second line transport. For all practical purposes we thus forestalled the tactical formation of the present field ambulance into a headquarters and two companies; the headquarters being capable of forming a main dressing station and each company an advanced dressing station.

Although all field ambulance transport was "first line" it was sometimes convenient for tactical purposes to brigade the heavy transport with the brigade second line.

These brief remarks, I hope, will demonstrate that the field ambulance as at present organized should be a convenient unit to handle tactically. The present formation has smoothed out difficulties which in the Great War had to be overcome by individual field ambulance commanders.

I have dealt with this subject broadly and have not touched on improvements in equipment, addition of a field cooker, etc., my object being merely to show how we have, so far as the organization of a field ambulance is concerned, profited by the lessons of the Great War. But have we profited in all respects?

I think we are in danger of forgetting many little practical lessons which may be worth while remembering, and the real object of this article is to record them. The events of the European war are indelibly impressed on the minds of all who took part in it, and we are apt to forget that the years are passing and a new generation is springing up completely ignorant of matters we feel we can never forget.

It was with such thoughts in my mind that some years ago when serving at Woolwich I volunteered to give some lectures as part of the winter training programme; one lecture was entitled "A few small points concerning field ambulance work." Several officers at the time asked me to publish the lecture; I attempt to do so now.

I will take up various situations in which a field ambulance commander may find himself, and deal with them seriatim. I may say at once that I am not dealing with tactics, choice of sites, requirements of A.D.Ss. and M.D.Ss. These subjects have been fully dealt with by Major-General H. Ensor, C.B., in the April, May and June numbers of the JOURNAL OF THE ROYAL ARMY MEDICAL CORPS, 1924, and in the February number, 1931.
SITUATION No. 1. MOBILIZING.

The assembly of the personnel and the drawing of the equipment and vehicles are done "according to plan."

The equipment may be drawn ready for use or crated for a journey. In the former case you will probably travel with loaded vehicles; in the latter, equipment and vehicles will travel independently. In the former case, if you have a few days before moving, immediately check your equipment in detail. In the latter case your first opportunity of checking will be on arrival in a concentration area. In both cases, if necessary, render immediately a "discrepancy return," i.e., surpluses or deficiencies.

How can the time after mobilization is complete, and before moving, be most profitably spent? In my opinion by a route march; then halt and unpack and lay out an imaginary main dressing station, disengage and despatch your two companies to form advance dressing stations. Practise intercommunication between M.D.Ss. and A.D.Ss.

Remember the essentials of a lay-out of a main dressing station are a large receiving room, with stretchers and blankets at the entrance for exchange with your motor ambulances, leading to a dressing room, and a resuscitation room leading to an evacuation room, and separate arrangements for gas casualties. If evacuation is not as rapid as reception, wards will be required for cases awaiting evacuation. Make arrangements for clerical work and for the supply of hot tea and sandwiches. These are the primary essentials and can be practised in any field, pegging out the floor spaces.

Practise loading; reduce this to a drill if possible.

SITUATION No. 2. ENTRAINING.

During the mobilization period you should have prepared your vehicles for entrainment. Remember that the horsed ambulance wagons must entrain with their hoods telescoped, therefore see that you march to the station with hoods all ready: that poles of all vehicles must be dismantled, and swingle-trees of G.S. limbered wagons wired on. Remember that three axles usually go on each truck; therefore march your transport accordingly.

Remember that the vehicles are all new, and that all bolts, nuts, etc., must be freed and greased. Troops entrain eight to a carriage under N.C.Os., and must be drawn up at the station accordingly. Detail two guards, station them fore and aft of the train with instructions to get out on opposite sides at all halts, and see that troops do not leave the train.

If you are proceeding to a port of embarkation for overseas the personnel will require their sea kit-bags with them. See that each man is in possession of his sea kit-bag before he entrains. On no account allow sea kit-bags to be loaded as baggage, it causes much confusion and delay on reaching the embarkation station.

A small loading party will be required for loading vehicles. Horses must be entrained with their head-collars on and nose-bags available;
watering buckets and the necessary ropes to fasten across trucks to which ropes of head-collars are attached, must be ready. Grooms travel two to each horse truck. The railway staff are always responsible for making vehicles fast after loading on trucks. The height of a load must not exceed nine feet from the ground.

**Situation No. 3. Embarking.**

On arrival at the port of embarkation you will be asked to fall in your men in messes of eighteen under a corporal. It is therefore well to have these groups already detailed and to give friends an opportunity of traveling together. These messes of eighteen are in accordance with Transport Regulations, that a ship's mess table must not exceed fifteen feet long and seat not more than eighteen men.

Train-unloading and ship-loading parties will be required and should be ready detailed.

**Situation No. 4. The Voyage.**

Take the opportunity of instructing all ranks in their duties. I recommend a detailed study of an article written by Captain (now Lieutenant-Colonel G. A. Collier), R.A.M.C., in the *Journal of the Royal Army Medical Corps* in 1926, on movements of troops by sea.

**Situation No. 5. Disembarking.**

After disembarkation you may possibly be joining up with a brigade in a concentration area, ready to function as a field ambulance clearing sick, or you may be disembarking as an independent unit. The orders for disembarkation will vary in accordance with the method of loading. The transport may have been slung on board loaded, as was done when proceeding to France, or loaded empty with ordnance and medical equipment crated and independent, as was done in the case of the Shanghai Defence Force. In the latter case your orders must be more detailed, especially as you are not likely to be the only unit on board. There is every opportunity of your equipment going astray. Remember the ship may be unloading from holds fore and aft, and you should detail at least three collecting parties for duty at the quayside, one for ordnance equipment, one for medical equipment and one for transport. Remember that the transport authorities usually start unloading as soon as they possibly can, and units are relied upon to collect their own baggage on the quay. This will not be done for you by a permanent embarkation staff such as you are accustomed to in routine peace-time trooping; you have to work out your own salvation and your disembarkation orders should be prepared in detail well in advance, and should be communicated to all concerned.

If any equipment or baggage is lost, dropped overboard, etc., your disembarkation orders will certainly be called for in evidence at the subsequent Court of Inquiry.
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SITUATION NO. 6. IN A CONCENTRATION AREA.

Your field ambulance will now be detailed to clear the casual sick probably of a brigade and such other units as may be allotted to you by the A.D.M.S., and this may be the first time you are actually functioning. The chief point is to arrange a definite hour morning and evening at which you will send your motor ambulance transport round the regimental aid posts of your units; otherwise you will receive a stream of messages throughout the day asking you to collect individual sick. Until things settle down regimental medical officers are always afraid sick may be left on their hands. Get in touch with the regimental medical officers at once and have a personal interview and explain your methods. There is a tendency in billets to talk about medical inspection rooms; see that the term regimental aid post is used and adhered to from the first day of mobilization.

Obtain the confidence of the regimental medical officers. It is a very curious fact that regimental medical officers seem apprehensive that the field ambulance may leave them "in the air," even as the field ambulances are sometimes apprehensive as to the whereabouts of the motor ambulance convoy and the nearest casualty clearing station.

Personal interviews at the earliest opportunity establish confidence all round.

SITUATION NO. 7. MOVE FROM A CONCENTRATION AREA.

This may be by train or by route march. In both cases as we are not discussing tactics we will assume that contact with the enemy is not expected. Entraining has already been dealt with, but there is one point to remember, if you are entraining as part of a brigade group, arrangements must be made to deal with accidents both in entraining and detraining.

I will deal with a move by road in some detail. It is preferable and usual for field ambulances to accompany their brigades. The order will have been given for field ambulances to come under the orders of the brigade commander. The brigade should, and always did, send a "warning order" at the earliest possible moment; detailed orders to follow. This warning order gave you the chance of packing up and disposing of any sick not likely to be fit to travel.

The detailed orders included: (1) Time and place the billeting parties would meet the staff captain; (2) Time an officer would report to the brigade major to synchronize watches; (3) Time of passing the starting point; (4) The route and destination.

Remember the following points when drawing up your march orders: You must collect brigade sick one hour before starting; you must calculate the distance from where you are billeted to the starting point; remember you march one hundred yards a minute, and the time of passing the starting point is the time the head of the unit passes.

You are marching in two parties, personnel and horse transport on foot with brigade, mechanized transport to follow "in bounds." Leave an
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officer with the mechanized transport and remember it is essential for him to know the route. Instruct him as to the time he must start; he can follow "in bounds" every hour, halting when he overtakes the column, or he can start so as to be timed to reach the destination at the same time as the main body, e.g., the march is twelve miles; main body takes four hours. Instruct the officer-in-charge mechanized transport to start three hours after main body and travelling 12 m.p.h. he arrives coincidently with the advance party of the field ambulance.

This is the most economical arrangement. While he is waiting to start this officer has ample time to clear any sick that may have been collected before the march.

An orderly medical officer and stretcher party should be detailed for the march. All men falling out should, as a standing order, fall out on the right of the road, if you are marching on the left. If possible they should be put into one of the horsed ambulances by the stretcher party without halting. If you must halt, pull out of the column to the right side, so as to not hold up the following traffic; that is the advantage of sick being always on the right hand side of the road.

Your horsed ambulance wagons may be full up half way through the march. Do not pre-arrange dumping places; you may, if you do, reach the first dumping place with no sick and be overloaded before you reach the second. In practice it was found better to leave an orderly in charge of groups of sick dumped from the horsed ambulance wagons a occasion demanded. The orderly attracted the attention of the motor ambulances passing on the same route.

The officer commanding a field ambulance is now provided with a motor car, which is most essential. On the march his place is with the main body, and for this he requires a horse.

Always instruct your billeting officer to meet you well outside the billeting area; this will save much confusion and enable you to clear the road quickly instead of halting and perhaps blocking the road while you are waiting to have the area pointed out to you.

If the march is at night and you come to a forked road, always send an officer to see that each vehicle of the unit takes the correct road; drivers go to sleep, and I have known a unit divide into two from neglect of this precaution.

Situation No. 8. Supply of Drugs and Dressings.

The field ambulance of the Great War contained in its mobilization equipment sufficient dressings for about 4,000 cases. At the taking of the Messines Ridge in 1917 my field ambulance, acting with the assistance of four tent subdivisions of the New Zealand field ambulances as one of the Corps main dressing stations, attended 5,000 cases in fifty-seven hours. From such figures it will be seen how important the question of replenishment becomes. We must not forget that owing to the stabilized condition
of the fighting we were always in close touch with the advanced depots of medical stores, but in open warfare we must be more self-dependent.

It was found possible by filling all ambulance wagon boxes and by constructing a box to fit under the orderlies' seat in all motor ambulances to increase our mobilization equipment by 3,000 dressings. I recommend this course as soon as possible. It is usual to allow one $\frac{1}{2}$ ounce wool, one $\frac{1}{2}$ yard gauze, and a bandage for each dressing; a practical point when you are told to deal with 10,000 casualties.

On a march of some days' duration it is annoying to receive large indents from regimental medical officers. You may have arrived late after a long march and again have to make an early start next morning, and to comply with these indents means much unpacking. To obviate this, we always impressed on regimental medical officers to fill up during quiet periods. We also fitted a large box, known as our travelling dispensary, which was carried in one of the horsed ambulances. We filled this box with dressings and tablets, and found this usually sufficed for a brigade march of four or five days and saved unpacking. It appears to me that one motor vehicle fitted as a travelling dispensary would be a luxurious but valuable addition to a field ambulance.

**Situation No. 9. INTERCOMMUNICATION.**

Communication between advanced dressing stations, main dressing station and A.D.M.S. is simple, as you have motor cycles, and all should work well. But the forward communication with regimental medical officers may be difficult. Remember the wide frontage that may be expected. The field ambulance commander has to keep in touch with the brigade units just as much as the brigadier; the former has to work out his own salvation; the latter has a staff of signallers with all their impediments.

When an engagement is expected, always attach at least one squad from your companies to each regimental aid post. The first casualty establishes communication with the advanced dressing station, and you relieve the mind of the regimental medical officer that he is not "in the air" so far as the field ambulance is concerned.

Train every bearer to bring in intelligent information, such as "three stretcher and six walking cases still remain at the R.A.P." Having a proper understanding with the regimental medical officers so that they know you are keeping in touch and doing all you can. The other side of the picture is: the regimental medical officer receives casualties; no field ambulance bearers are on the spot; regimental medical officer informs battalion commander, who signals brigade. Consternation is caused, and usually a message comes through that "all available" bearers are required. If possible, keep medical communication "within the family," and avoid that most unsatisfactory "all available" message. I know of no better channel than through the medium of the stretcher-bearers.
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Situation No. 10. Supply of Extra Stretchers and Blankets.

It is common knowledge that stretchers disappear in war in an astonishing manner. Every medical appreciation I have seen recommends that a divisional reserve of stretchers and blankets must be maintained. These extras are not available in the first instance, but later are collected from casualty clearing stations and ambulance trains, strictly speaking without authority and, “low be it spoken,” usually by means more foul than fair. Should not this reserve be carried and definitely provided for? A three-ton lorry would carry, say, 150 stretchers and 150 blankets and might be under the orders of the A.D.M.S.

As regards the carriage of the authorized stretchers, the G.S. limbered wagons of the field ambulance companies are awkward for the carriage of stretchers, and Major G. G. Drummond, R.A.M.C., Adjutant 43rd Wessex Division, T.A., suggested that if the rear half of one G.S. limbered wagon was of the long pattern it would facilitate packing. I quite agree.

Situation No. 11. Recording Casualties.

This, as far as a field ambulance is concerned, is a necessary evil. It is essential that the Divisional Commander be told at frequent intervals the numbers of casualties. It helps him to gauge the nature of the fighting and decide on the question of reinforcements. Remember punctuality overrules accuracy in furnishing this information.

The following system was successful in keeping records of 2,888 casualties which passed through my Corps main dressing station in the first sixteen hours of the taking of the Messines Ridge in 1917, already alluded to.

At the door of each receiving room was stationed a clerk who jotted down the number and unit of each case, walking or stretcher, as it passed; thus at any moment the numbers could be checked. Thousands of field medical cards (for recording casualties—A.F.W. 3118), in their envelopes, were prepared beforehand, with a buff slip gummed to the envelope by one corner of the counterfoil.

While the case was being dressed the field medical card and also the buff slip were filled in. When the case passed into the evacuating room the buff slip was torn off, leaving the counterfoil, and passed to the A. and D. Book clerk who entered all particulars in the A. and D. Book at his convenience.

When the case was loaded on an ambulance the counterfoil of the buff slip was torn off and passed to the A. and D. clerk as a sign that the case had been evacuated.

To sum up:—

Case 1.—If the clerk at the receiving room has recorded 200 cases, and the A. and D. clerk has 200 buff slips you will know that 200 cases have been admitted, are dressed and await evacuation.
Case 2.—If the clerk at the receiving room has recorded 200 cases and the A. and D. clerk has 200 buff slips plus 180 buff slip counterfoils you will know that 200 cases have been admitted and dressed; 180 evacuated and 20 await evacuation. The A. and D. clerk arranges his buff slips by units and the telegrams are made out quite easily, recording casualties by units. Further, a circle on the buff slip indicates lying cases, and a cross, walking, you thus get your classification into “lying” and “sitting.”

This simple method, I found, stood the test of time, and a very searching test in the case of the 2,888 casualties referred to. I recommend it to those who may not have a better one of their own.

GENERAL.

Any remarks one may make concerning field ambulances leave a feeling of incompleteness, inasmuch as we are considering only one type of unit, i.e., one suitable for a country with good roads, which, speaking generally, means a civilized country. It is true that general principles may be the same, but one would like to see a standard “Pack Field Ambulance,” suitable, say, for bush or mountain warfare, and a standard “Desert Field Ambulance” suitable, as its name implies, for desert warfare.

The history of the medical arrangements for expeditions off the beaten track is a history of improvisation. If there is no time for improvisation and material is not ready the results may be awkward.

The article by Major-General P. H. Henderson, D.S.O., on ambulance transport in different theatres of war, gives much food for reflection and impresses one with the incompleteness of any article concerning field ambulances which does not make some allusion to this subject.

Then there is the question of aeroplane ambulance transport. My view, shortly, is that the more civilized the country in which operations may be taking place, the less need there is for the latest and most up-to-date aeroplane ambulance method of evacuation. I cannot imagine that aeroplanes would have hastened the evacuation from my Corps main dressing station at Messines. On the other hand, in roadless mountainous countries such as Kurdistan we pass from the ridiculous to the sublime, and casualties which could not be evacuated by donkeys were evacuated by aeroplane.

It is in such countries, in my view, that evacuation of casualties by aeroplane ambulance transport is the method of election. A further argument in support of this view is that the more uncivilized the country and in all probability the enemy, the fewer are the casualties, and aeroplanes are better suited for dealing with small than with large numbers of wounded.

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CONCLUSION.

I feel a short explanation is necessary to try to justify the detailed nature of this article. Doubtless without attention to detail a unit will, as I once heard Mr. Atkins say, get there somehow, but you will get there with the maximum of confusion. You must remember that you are in the first instance dealing with a unit in its infancy. Officers, N.C.O.'s and men are unknown to each other, and you have to stand the test of comparison with units whose everyday work for years as a formed body may have included what your unit may be doing for the first time in its life. If you do everything at first with the maximum lack of law and order you will establish a feeling of inferiority complex; conversely, if rigid attention to detail is enforced from the outset, a corresponding feeling of confidence and superiority complex, so important for morale and smooth working, is established. Any lessons I may have learned have been taught in the best and hardest school, the school of practical experience.

I endeavour to pass these lessons on to those who may not yet have had their opportunity.