

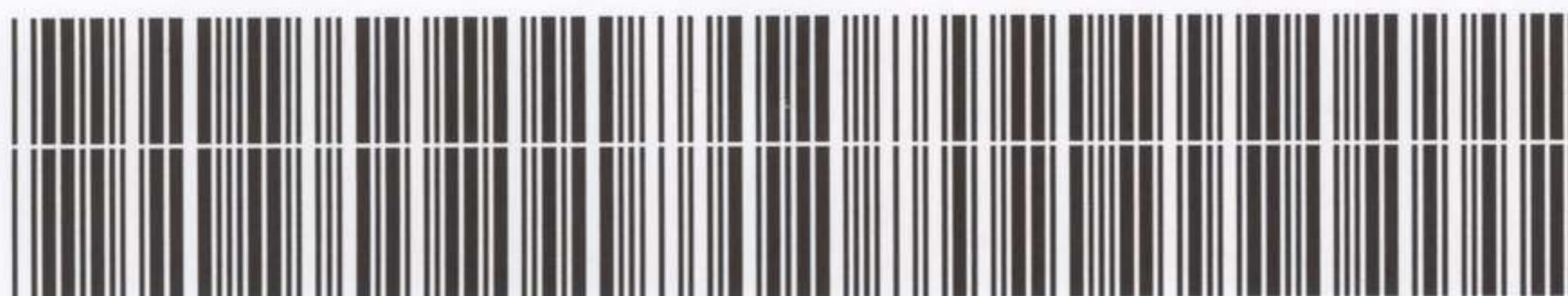
AWM4
Australian Imperial Force unit war diaries,
1914-18 War

Medical, Dental & Nursing

Item number: 26/93/15 Part 1

Title: Australian Army Medical Corps
Training Depot

September 1918



AWM4-26/93/15PART1

WAR DIARY

Army Form C. 2118.

Instructions regarding War Diaries and Intelligence
Summaries are contained in F. S. Regs., Part II.
and the Staff Manual respectively. Title pages
will be prepared in manuscript.

INTELLIGENCE SUMMARY.

(Erase heading not required.)

464

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
Fovant	2nd Sept.		In response to a Circular Memo from the A.A.G., AIF.Depots, a report was forwarded on the "Employment of Home Service Personnel". Copy of report attached as Appendix /	
	3rd	"	Five (5) M.O's warned to hold themselves in readiness to proceed overseas at short notice, viz:- Capt. Oakeley W.G., Love J., McCutcheon A.B., Meagher F.R., Cochrane S.; a series of lectures to them was commenced to be given as rapidly as possible. Lieut. J. Moore No.3 Sea Transport Section with 17 other ranks No.3 Sea Transport Section marched out to Weymouth for duty to Australia.	
	5th	"	Hon.Capt. O.Behrend, A.A.D.S. marched out for duty at No.1 Command Depot, Sutton Veny.	
	9th	"	Capt. F. Dawson, A.A.M.C. marched in from No.3 Command Hurdcott for duty as R.M.O. The following Officers marched out to D.M.S. London for passage to France:- Capt. S. Cochrane; Capt. J. Love; Capt. A.B.McCutcheon; Capt. F.R.Meagher; and Capt. W.G. Oakley.	
	13th	"	Fifteen other ranks A.A.M.C. Casuals marched in from O.T.B.	
	19th	"	A proposal was submitted to Headquarters to send overseas before winter a special draft of 150 other ranks, reinforcements, 10 to each Field Ambulance to replace men who have already spent one or two winters in the Field. Copy of letter attached as Appendix 2 No reply was received to this letter up till the end of the month.	
	23rd	"	Communication received from "A" Branch A.I.F. Depots Headquarters re a special draft of 160 other ranks to proceed Overseas to relieve 1914 A.A.M.C. men in the field who have not been back to Australia since 1914. Major E.B.G.Riley A.A.D.C. marched in from No.4 Command Hurdcott, to be attached to A.A.M.C.T.D. while performing the duties of S.D.O., Hurdcott Area. Draft of 26 other ranks proceeded overseas to France.	
	26th	"	Special draft to relieve 1914 men in the Field was increased to 220 other ranks.	

WAR DIARY

or

INTELLIGENCE SUMMARY.

(Erase heading not required.)

Army Form C. 2118.

Instructions regarding War Diaries and Intelligence Summaries are contained in F. S. Regs., Part II. and the Staff Manual respectively. Title pages will be prepared in manuscript.

464

Place	Date	Hour	Summary of Events and Information	Remarks and references to Appendices
Fovant	26th	Sept.	Capt. F. Dawson marched out to D.M.S. London for passage to France.	
	27th	"	<p>The following Officers marched in from Australia ex H.M.A.Ts. "Borda" & "Marathon" -</p> <p>Major S.L. Kerr, O.C. No.6 Sea Transport Section; Major W.B. Ryan, O.C. No.1 Sea.T. Secn.,</p> <p>Capt. B.A. Veech, AAMC., Capt. R.A. Dart, AAMC., Capt. GJM., Saxby, AAMC.</p> <p>" O.G. Tunks " " F.E.R. Biggs " " J.R. Donaldson "</p> <p>" J.S. Green " " D.G. May " " J. McDonald "</p> <p>" A. Barbeta " H/Capt. C.H. Down, AADS. H/Capt. S.D. Eden, AADS.</p> <p>H/Capt. J.D. Nattrass, AADC., and Lieut T.T. Ferguson, AADS.</p> <p>also 174 other ranks A.A.M.C. marched in ex the above ships comprising 20 other ranks each of Nos. 1 & 6 Sea Transport Section respectively and 134 A.A.M.C. Reinforcements.</p>	
	28th	"	<p>The following Officers marched out as under:-</p> <p>H/Capt. C.H. Down, AADC. to No.4 Command Depot, Hurdcott</p> <p>" J.D. Nattrass " " No.1 " " Sutton Very</p> <p>" S.D. Eden " " " " " "</p> <p>Lieut. T.T. Ferguson " " " " " "</p>	
	29th	"	Measles broke out in the Depot: the number of contacts involved makes it impossible to send the full draft of 220 other ranks as ordered.	
	30th	"	<p>A ten days Officers' School commenced, 11 Officers attending, viz: Maj. Beamish F.B., Captains J.S. Green, J. McDonald, J.R. Donaldson, D.G. May, G.J.M. Saxby, O.G. Tunks, A. Barbeta, R.A. Dart, B.A. Veech, and F.E.R. Biggs. Syllabus is attached as Appendix</p> <p>Notes on the lectures given to Medical Officers at these schools on the subjects xxlaly associated solely with the Medical service in the Field are attached as Appendix</p> <p>Major W.B. Ryan, O.C. No.1 Sea Transport Section and Major S.L. Kerr, O.C. No.6 Sea Transport Section marched out to D.M.S. London.</p>	

FOVANT,
2/10/1918.

A.B. Fraser MAJOR
O.C.A.A.M.C. TRAINING DEPOT.

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C O P Y.

Appendix I

FROM: O.C.A.A.M.C. Training Depot:

AAMCTD 45/9/18

TO: A.A.G., A.I.F., Tidworth:

4767/9

Circular Memo. No. 274 of 26/8/1918.
.....

In accordance with the above circular memo.,
herewith a statement of my opinion on the subject of the
employment of H.S. personnel, please.

FOVANT.
3rd September, 1918.Sgd:- A.C. FRASER, Major
O.C.A.A.M.C. Training Depot.

C O P Y

AAMCTD 4767/9

464

FROM: O.C.A.A.M.C. Training Depot:

TO:- A.A.G., AIF., Tidworth:

Employment of H.S. Personnel. Circ. Memo. No. 274
of 26/8/1918.

Two methods of the treatment of Home Service Personnel with respect to their employment in England suggest themselves:-

(1) The selection of the men best suited for various duties in the Depots and their permanent retention. Any surplus of H.S. men who might be returned to Australia would tend to be those who are useless, incompetent or refractory to discipline. This, the present system, would appear to set a premium on inefficiency.

(2) Require every Home Service man without exception to do a period, e.g. 9 months, of satisfactory work in England with good conduct: when that is done allow him the option of return to Australia, or if his services are no longer desired, send him home.

This offers an inducement to good work and is more equitable as regards return to Australia. I doubt very much, however, if the second method is really conducive to the greatest efficiency; the reasons for my doubt may be best given by examples from this Depot.

(a) A soldier, formerly a Machine Gunner, now Cl, A.A.M.C and employed as a Storeman in the Q.M. Store does 9 months good work, knows his duty thoroughly, and has become valuable. If he wishes to go home, under scheme (2), he would be sent home; the man who replaces him may or may not be equally reliable and willing but in any case he has to learn the job. The efficiency of the Q.M. Staff is impaired.

(b) A naturally lazy or inefficient or mischievous man is put on to work such as nursing or camp carpentering. This may be his civil occupation, but because he is unreliable or unsatisfactory he will never complete 9 months' satisfactory Home Service duty with good conduct. The period of probation would be too long for the inferior man to sustain it, and under scheme (2) this man would either (i) have to be retained for an indefinite period or (ii) be declared satisfactory in order to get rid of him.

If (ii) were not done, and if this scheme were conscientiously carried out, the Depots would tend to become loaded with inferior men.

My opinion is (1) that the capable man has too much self-respect and pride in his work to slur it deliberately in order to secure his return to Australia; however, grudgingly, he continues to do his best. Many of this class would gladly return to Australia, but they do not desire it so long as they feel they are doing a useful job anywhere.

(2) For the sake of efficiency and reputation alone, the A.I.F. in England cannot afford to let its most competent men go or even give them the option of going to Australia, unless there is put forward some urgent family or other private reason.

Similarly there is little use in retaining some Cl men for the duty to which they are allotted or for any duty even if it become necessary to replace them by "A" class men temporarily employed, and regularly relieved when their turn comes to proceed on draft overseas.

I am of opinion therefore that the present system should continue.

FOVANT,
3rd September, 1918.

Sgd:- A.C. FRASER, Major.
O.C.A.A.M.C. Training Depot.

C O P Y.

Appendix II

AAMCTD 270/9/18

FROM: O.C.A.A.M.C.Training Depot:

TO:- S.M.O., Hurdcott Area, FOVANT:

5167/9

A. A. M. C. Reinforcements.

There are in this Depot 280 "A" class Reinforcements who have not yet served overseas, a large proportion of whom have been many months in England. Reinforcements are sent overseas in the order in which they arrive from Australia and those going on present drafts have been over six months in the Depot. The whole 280 are physically of a good stamp, all are anxious to see active service, and several, weary of the long stay here, are transferring to other branches of the A.I.F.

On the other hand there are in the Field Ambulances in the Australian Corps many men who have long service, who have already spent one or two winters in the field, and to whom a change to England for the winter now at hand would be both welcome and beneficial. Some of these, further, will be found to be in the tent divisions, though formerly bearers, because they are no longer fit for the heavy work of bearing; they are not in all cases suitable for nursing duties.

I beg to suggest therefore that a special draft of 150 other ranks be sent to France from this Depot, 10 to each Field Ambulance, to replace men who might be selected for a change to England.

By this means these Reinforcements would be enabled to gain their first field experience during the more quiet winter months and the physical efficiency of the Field Ambulances would be raised by the replacement of worn out men by fresh thoroughly fit men.

This suggestion is forwarded for consideration, please.

FOVANT
20/9/1918.

Sgd: A. C. FRASER, Major.
O.C.A.A.M.C.Training Depot.

SYLLABUS OF SCHOOL FOR MEDICAL OFFICERS.

Appendix III

A. A. M. C. TRAINING DEPOT, FOVANT. - 30th September - 9th October, 1918.

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D a y	9 a.m. - 10 a.m.	10 a.m. - 11 a.m.	11 a.m. - 12 noon	2 p.m. - 3 p.m.	3 p.m. - 4 p.m.
Monday	Introductory Lecture-Maj. Fraser:	Squad Drill	Stretcher Drill	Lecture "General Divisions of an Army" - Maj. Fraser	Lecture "R.M.O's duties out of the Line"- Maj. Fraser
Tuesday	Word of Command	Squad Drill	Stretcher Drill	Lecture-"Sanitation" - Maj. Fraser	Demonstration of Water Cart & Water Tester - Capt. Green
Wednesday	Stretcher Drill	Squad Drill	Company Drill	Lecture -"Military Law" - Capt. Green	Lecture-"Lice and Trench Fever" - Maj. Fraser.
Thursday	Issue of Respirators and Gas Drill		Stretcher Drill	Lecture-"Care of Feet & Trench Feet" - Maj. Fraser	Map Reading - Capt. Green
Friday	Word of Command	Extended Order Drill	Company Drill	Lecture- "R.M.O's duties in the Line" - Maj. Fraser	Lecture-"Hygiene of the March"-Capt. Green
Saturday	Gas Drill	Gas Drill	Thomas Splint Demonstration		
Monday		G	A	S	
Tuesday	Stretcher Drill	Company Drill	Field Ambulance Work -Maj. Fraser	"Hints for a Transport Officer in a Fld. Amb." - Capt. Green	"Field Ambulance Work" - Maj. Fraser
Wednesday	Squad Drill	Company Drill	"Field Ambulance Work"-Maj. Fraser	Lecture-"Correspondence in the Field" L.Col. Chapman, DSO.	Lecture-"Duties and Privileges of NCO's." Lt.Col. Chapman, DSO.

FOVANT,
2/10/1918

A.B. Fraser
MAJOR.
O.C.A.A.M.C. TRAINING DEPOT.

VENEREAL DISEASE.

A statistical table is attached showing the incidence of Venereal disease in the Depot during the ten weeks 1/4/1918 to 15/6/1918 and again during the 10 weeks 16/6/18 to 31/8/1918.

The total number of cases sent to Hospital was 12 in each period, the average strength of the Depot being 440 in the first period and 396 in the second.

The interesting feature in the figures is the altogether disproportionate incidence of venereal disease among men who have already served Overseas as compared with the reinforcements newly arrived from Australia. Thus in the first 10 weeks, 8 out of the 12 cases occurred among these Casuals although they formed only 1/14th of the strength of the Depot. Similarly in the second period 9 out of the 12 cases were Casuals although these formed only 1/11th of the total strength.

GENERAL CASES OF SICKNESS.

A review of the general cases of sickness over the same 5 months, analysed in the same way into Casuals and Reinforcements shows that approximately two fifths of the men evacuated to hospital were casuals, in spite of the fact that Casuals formed only 1/12th of the total strength of the Depot. The figures are:-

Cases	Acquired by		Numbers in Depot, average daily strength	
	Casuals	Reinfmnts.	Casuals	Reinfmnts.
140	53	87	33	385

This might at first sight appear to indicate a greater liability to sickness among men who have been sometime on service, but it must be kept in mind that the Casuals passing through a Depot such as this ~~mainly~~ are only those men who have already been wounded or sick enough to require evacuation from France: Numbers of men of long service are not evacuated from France and consequently do not pass through this Depot.

FOVANT.
2nd October, 1918.

A. B. Fraser
MAJOR.
O.C. A.A.M.C. Training Depot.

A. A. M. C. TRAINING DEPOT.

Comparative Table showing occurrence of Venereal Disease from
from 1st April 1918 to 31st Aug. '18.

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Period	Cases	Acquired by		Numbers in Depot		Period	Cases	Acquired by		Numbers in Depot	
		Casuals	Reinfmts	Casuals	Reinfmts			Casuals	Reinfs.	Casuals	Reinfs.
<u>Week Ending</u>						<u>Week Ending</u>					
7th April	Nil	Nil	Nil	23	444	23rd June	2	2	Nil	40	381
14th April	Nil	Nil	Nil	31	382	30th June	Nil	Nil	Nil	34	352
21st April	2	2	Nil	23	375	7th July	1	Nil	1	26	374
30th April	2	1	1	34	385	14th July	4	3	1	25	414
7th May	Nil	Nil	Nil	18	382	21st July	2	2	Nil	36	390
14th May	Nil	Nil	Nil	29	420	31st July	1	1	Nil	56	347
21st May	2	2	Nil	37	426	7th August	1	1	Nil	41	306
31st May	1	1	Nil	42	440	14th August	Nil	Nil	Nil	38	319
7th June	1	Nil	1	33	426	21st August	Nil	Nil	Nil	28	363
15th June	4	2	2	45	411	31st August	1	Nil	1	23	367
Totals and				Average	Average	Totals and				Average	Average
Averages for	12	8	4	31	409	Averages for:	12	9	3	35	361
Period						Period					

FOVANT.
2nd October, 1918.

A. G. Fraser
MAJOR.
O.C. A.A.M.C. Training Depot.

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STATISTICAL SHEET.

A.A.M.C. TRAINING DEPOT. - FOVANT.

Appendix VI

MARCHING IN					MARCHING OUT						
1918	Reinf. Off. from Aust.	Offs. from Elsewhere	Reinf. O/R from Aust.	Casuals O/R.	Offs. proceeded O/Seas	Off. m/o to Depots in U.K.	Drafts m/o O/Seas	Reinf.	Admission to Hospital	Cases of A.W.L.	
September	14	4	142	22	7	7	7	20	10	8	

Transfers from A.A.M.C. to Other Units.

1918	Signal Engineers	Artillery	Pioneers	Infantry
September	1	8	1	2

Comparison of Staff in Camp with weekly numbers in Depot, September, 1918.

Week Ending	Staff		In Depot	
	Officers	O/Rs.	Officers	O/Rs.
7th September	3	10	7	396
14th "	3	10	3	394
21st "	3	10	3	404
28th "	3	10	7	426
Average per week	3	10	5	405

FOVANT,
2/10/1918.

A. B. Fraser
MAJOR.
O.C. A.A.M.C. Training Depot.

*Appendix VII*S U M M A R Y.*Notes for Introductory Lecture to School for Medical Officers*

Field Kit recommended for M.O's proceeding
Overseas.

- Lecture I: General Divisions of an Army and a General
Outline of the Handling of Casualties.
- " II: Duties of an R. M. O. out of the line.
- " III: Lice and Trench Fever.
- " IV: Sanitation.
- " V: Care of the Feet and Trench Feet.
- " VI: An R.M.O's work in the line.
- " VII: Notes on the application of the Thomas knee splint.
- " VIII & IX: Field Ambulance Work.
-

N O T E S
f o r

Introductory lecture to School for Medical Officers.

1. The individual soldiers comprising the A.I.F. in its early days soon proved that they possessed the fighting qualities of courage, energy and determination. Slowly, gradually and painfully, by hard experiences, they have learnt also to work in co-operation and combination, to do all their own staff work, to employ all the best methods at every point, and to devise new methods to meet new circumstances. All this of course has tended only to increase the fighting efficiency and value of the A.I.F. It is able now to secure the best possible results from the fighting qualities it has always displayed.

2. In the early days there were very few M.O's in the A.I.F. who knew anything of war from actual experience and there were many, too many, who did not attempt to be anything but regimental doctors, who were not, and did not attempt to become soldiers.

But the A.A.M.C. has not lagged behind in the general improvement in all branches of the Force. It now has an entirely Australian staff and there are many Officers although its ranks who possess much and varied experience.

3. Medical Officers arriving at this stage (1918) have therefore a long way to catch up. The opinion of experienced M.O's in the field is that newly arrived M.O's are very raw and that they might be given a good deal of helpful training and instruction in England. Hence this School.

It is not a question of professional knowledge. The school aims at providing information which will enable you to most rapidly adapt your professional knowledge to the entirely novel conditions of field work. There is much that is interesting both in medical and surgical work in the field, and, which is much more important, your knowledge and ability to do your work efficiently under field conditions is a matter of vital importance to the wounded. The amount of interest you get out of field work is, as in any other sphere, proportional to the amount of interest you put into it. You cannot do too much for the welfare of the fighting men. Remember that there is plenty of men as good as you in the ranks of combatant units and that you commence relatively very high in rank simply because you happen to be a doctor.

Remember, too, that the experience you will gain of men, and in handling men is of first-rate value. Equally valuable is the first-hand knowledge that you will soon have of the mental and nervous strain involved in battle, the most severe experience in the lives of the men who will be your patients in this generation.

4. When you reach the field, you will spend the first three months (approximately) in a Field Ambulance, the second three months as R.M.O. to a Battalion. Then you may have the choice of Battalion or Ambulance work for a time, but in due course, if you are still a R.M.O. you will be recalled to a Field Ambulance and trained for command (vide A.A.M.C. Standing Orders).

It is necessary therefore to be a soldier as well as a doctor.

5. The Syllabus of the School is in two parts -

(a) Drill. You should be able to handle men on the parade ground and to move them about. You will have to do this as part

NOTES on Introductory lecture to School for M.O's.

of your duties in a Field Ambulance. You require to know your drill also because you will have to train men when the Field Ambulance is out of the line (vide A.A.M.C. Standing Orders). Especial importance should be attached to a good Word of Command. This is the place to learn, before you join your field unit..

(b) Lectures - These cover as far as possible every phase of field work. But it is impossible to convey in words a proper idea of the conditions under which such work is actually done.

As regards trench fever and trench feet, the information given is not exhaustive and is not claimed to be authoritative, but it will afford a working basis of knowledge for dealing with these to you new diseases.

The notes on the treatment of wounds in Regimental Aid Posts and Dressing Stations are largely drawn from articles in the journals by Consultant Surgeons.

Don't think that what you can do for the wounded on the battlefield is only first aid. Within the limits of practical possibilities there is room for the application of surgical principles of vital importance to the man concerned. What you do or don't do to him in your aid post, the exercise of your judgment and skill in other words, is going to decide not only between life and death in some cases, but also, in more, as to what degree of ability to earn his livelihood will remain to the man when he returns to Civil life.

A. B. Fraser Macfarlane

Field Kit recommended for M.O's proceeding Overseas.

A good deal of the following kit may be got at the Officers' Ordnance Store, Horseferry Road, which should be tried before going elsewhere. The rest may be obtained at the Army & Navy Stores, Victoria Street, Westminster.

1. What to take:

Valise	}	Each to have rank and name painted on clearly in white. These should hold all belongings (35 lbs) other than those carried on the person in pack and haversack.
Kit bag		

Sleeping bag - Jaeger - two-ply or three-ply.
 2 pts. issue boots - should be already broken in.
 Field boots - should be got large enough to wear with two pairs of sox in Winter.

Leggings
 Puttees
 Cleaning materials
 3 singlets
 3 prs. underpants
 3 shirts
 Collars & handkerchiefs
 Sox - about 8 prs.
 2 prs. pyjamas. Renewal of all underclothes can be made in French towns.

Air pillow
 Washing gear - including sponge and folding rubber basin.
 2 small towels
 Shaving kit with enamel mug.
 Mirror - glass; it is not necessary to use only a steel mirror.

Holdall - should be of rubber.
 Waterbottle - aluminium - or enamel one may be got from a Q.M. in England or France.

Haversack - with leather bottom.
 Electric torch) Officers' Ordnance Store pattern
 & refill) much the best.

Knife, fork & spoon - Get separate articles, not a folding-up combination.

Jack knife - with corkscrew: without corkscrew may be got from Q.M.

Trench Coat with Jaeger detachable lining.
 2 Tunics - 1 Officers' pattern, 1 F.S. pattern (issue)
 2 prs. breeches - including 1 issue pr.
 1 pr. slacks

Gloves - fur lined for winter.
 Spurs - Chains are difficult to keep clean in winter.
 Candle - to be kept always handy for use.

Writing material.
 Books, viz:- F.S. Pocket Book,
 F.S. Regs., Pt. 11.
 R.A.M.C. Manual
 Sanitation in War by Lelean
 Field Notes for R.A.M.C. by Goodwin
 1 favorite author.

2. What not to take:

Blankets,
 Folding stretcher
 Bath
 Mattress for valise.
 Best uniform - leave this in England for use on leave.

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Field Kit recommended for M.O's proceeding Overseas.

(2) Continued.

3 Get in France:

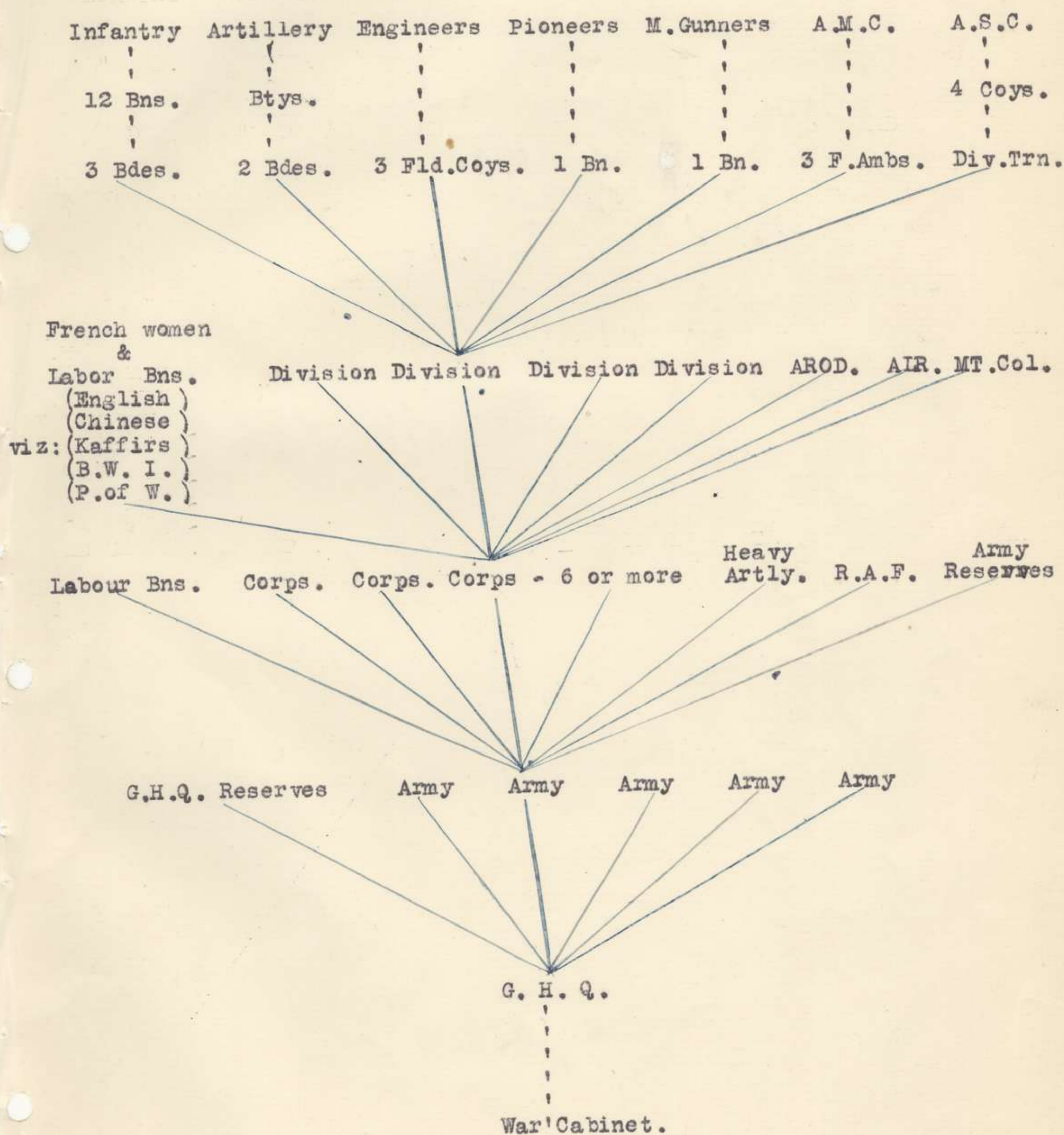
Blankets }
Ground sheet } from Q.M.
Pack from Q.M. in England or France
Cardigan or leather jerkin - when winter is coming on.
Knee Gm boots from Officers' Ordnance Store on
approach of winter.
Field Message Book - from Orderly Room of your Unit.

Excess kit, trunk, etc. may be stored with,

either, O.C.,
A.I.F. Kit Store,
110 Greyhound Road,
Hammersmith,
L O N D O N. W. 6

or Thos. Cook & Sons,
Ludgate Circus,
LONDON, E.C.

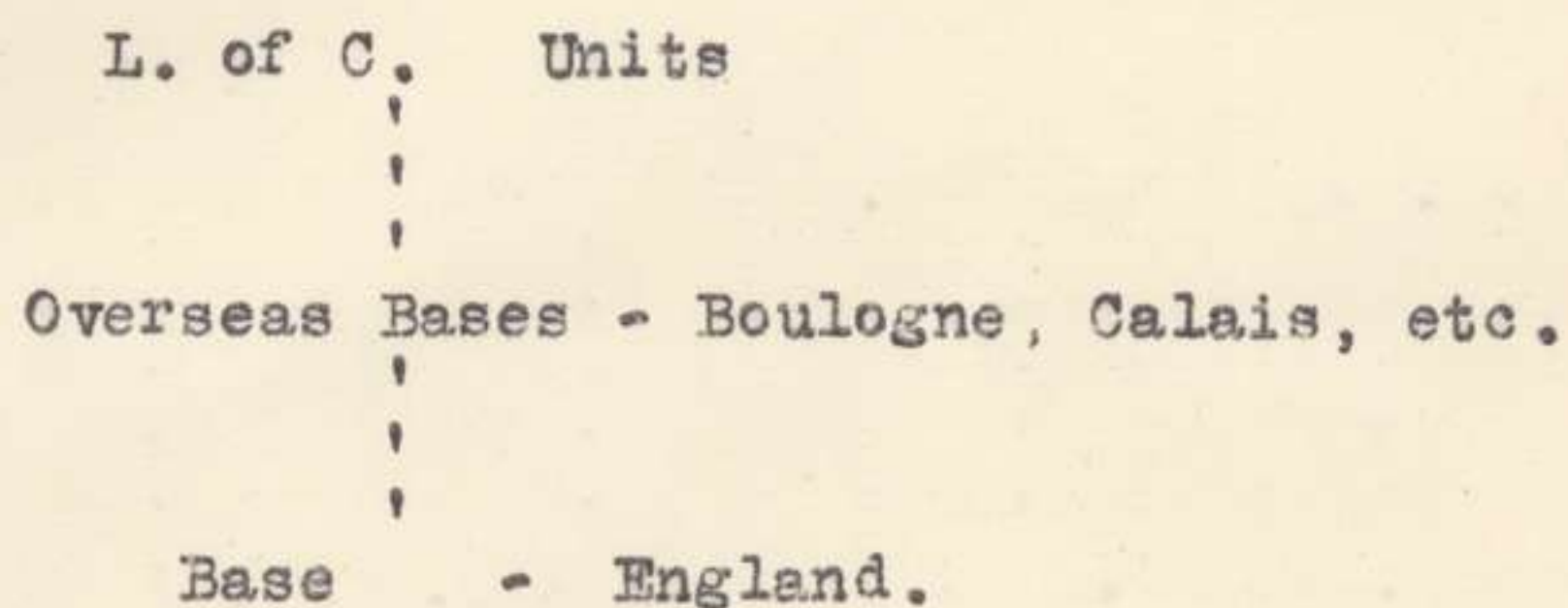
..... R.B. Fraser

LECTURE 1.GENERAL DIVISIONS OF AN ARMYandGENERAL OUTLINE OF THE HANDLING OF WOUNDED AND SICK.

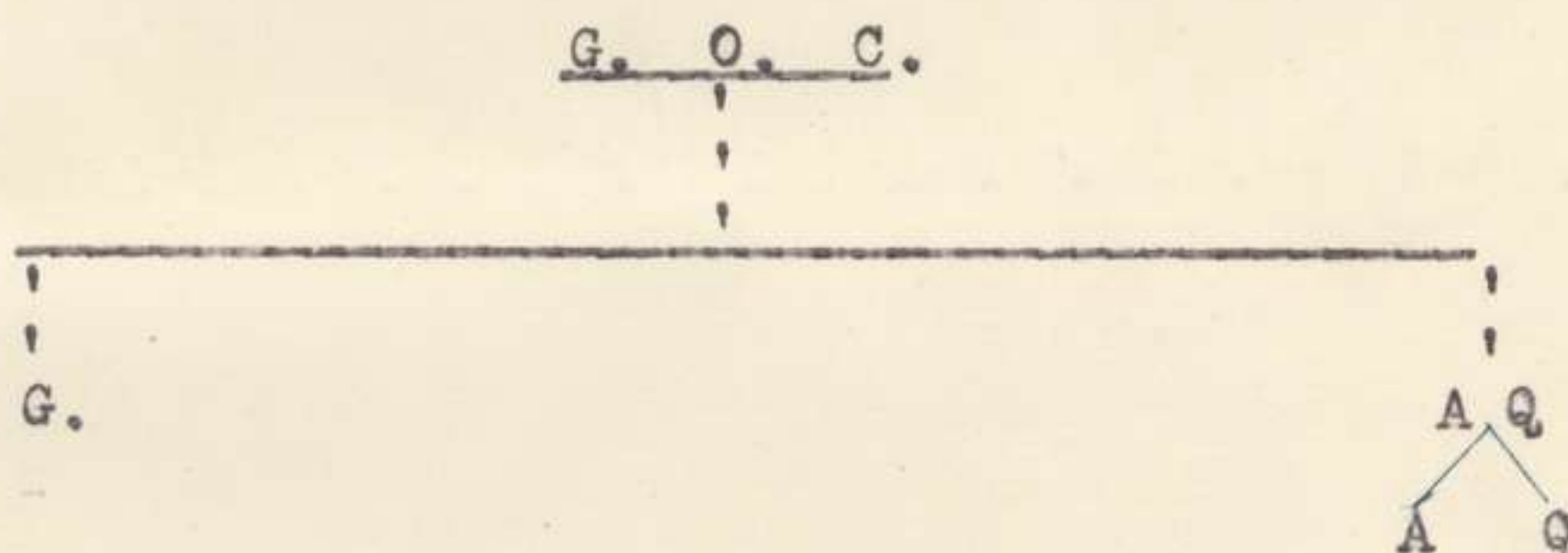
(2)

LECTURE 1 - CONTINUED.

Behind G. H. Q. are L. of C. Units



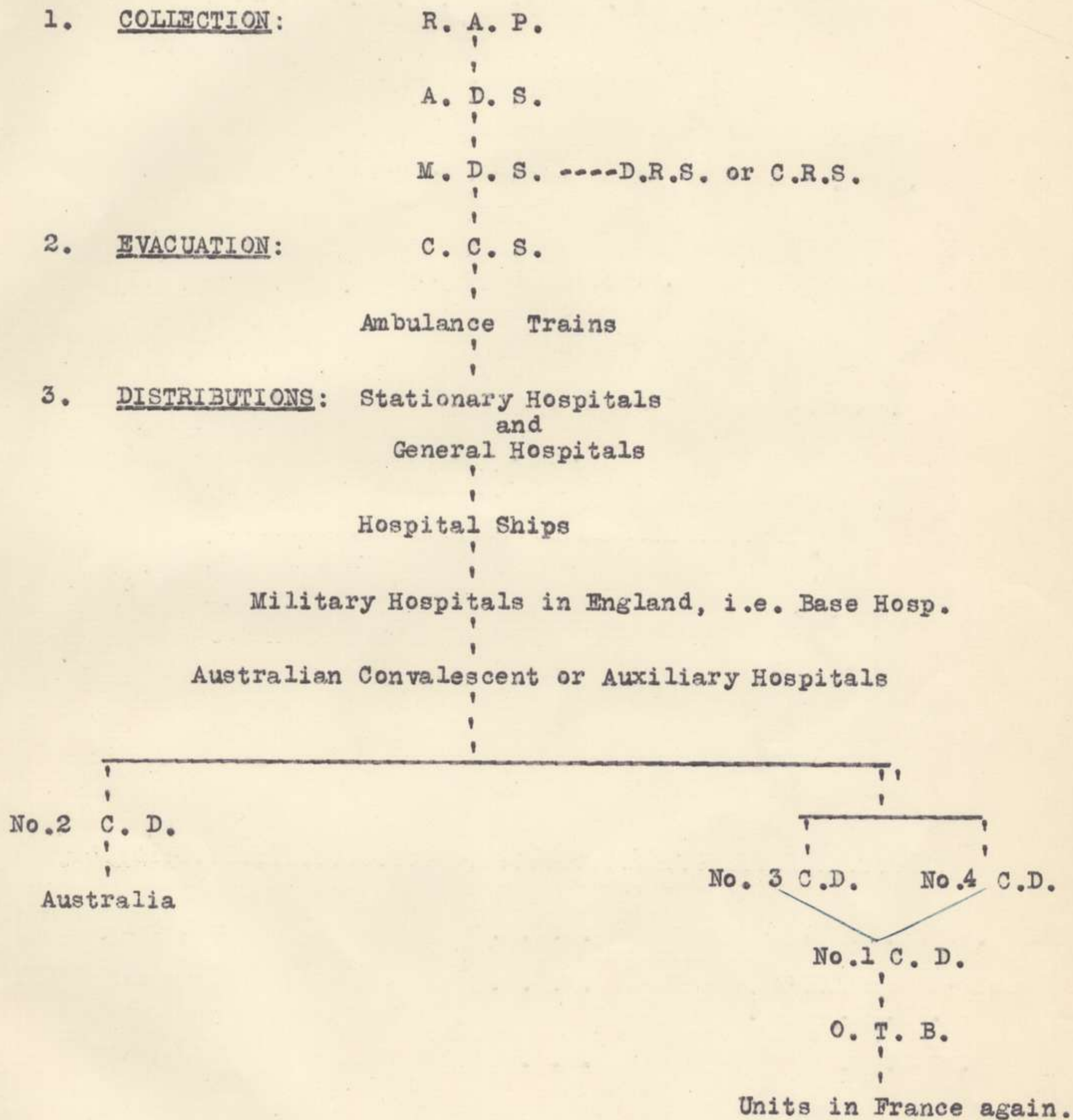
Branches of a Divisional Headquarters.



<u>Formation</u>	<u>Administrative Officer</u>	<u>Units</u>
Division	A.D.M.S.	3 Fld. Ambs.
Corps	D.D.M.S.	{ Sanitary Sections M. A. C.
Army	D.M.S.	C. C. S's.
G. H. Q.	D.G.M.S.	
L. of C.	D.M.S. (with D.D's M.S. of Areas, e.g. Rouen, Boulogne) .	General Hospitals



(3)

LECTURE 1 - CONTINUED.Handling of Wounded.

A. G. Fraser

LECTURE No. 2.DUTIES OF R. M. O. OUT OF THE LINE.Establishment:

- 1 N.C.O.) formerly A.M.C. now Infantrymen
- 4 Ptes.) 4 Ptes. are water details.
- 2 Orderlies - Infantrymen - 1 clerk
- 1 driver of Maltese Cart.
- 16 Stretcher Bearers & 16 reserve S.B's.
- 1 N.C.O.) Battalion Pioneers
- 9 Ptes.)
- 1 Maltese cart - carries stretchers, drugs, dressings, Medical Companions & Surgical Haversacks, Water-tester and M.O's kit.

Work of a R.M.O. out of the line is largely preventive. There are 5 chief groups of diseases to which soldiers are liable and which must be kept in mind:-

- (a) Intestinal - Typhoid, Dysentery, Cholera
- (b) Respiratory - Influenza, Bronchitis, Measles, etc.
C.S. M.
- (c) Venereal
- (d) Vermin-carried - Bubonic, typhus, trench fever.
- (e) Results of exposure - Trench feet, rheumatism, etc.

Duties of R.M.O. out of the Line:

1. Sick parade, N.B. -
 - (a) Continually watch for malingerers especially with new R.M.O. or when about to go into the line.
 - (b) You must harden your heart and not evacuate men till really useless.
 - (c) A practical interest in the condition of boots and clothes is sometimes required.
 - (d) In respect of fighting efficiency of a Battalion, the R.M.O. is the second most important Officer of the Battalion.
2. Inspection of Quarters with the Second in Command or the Orderly Officer.

As regards Sanitation N.B. spheres of work of Company Sanitary men and Battalion Pioneers.

If you have to suggest improvements, do so first to the Orderly Officer; then, if necessary, to the Company Commander concerned, then to the Adjutant or C.O. If your advice is still disregarded and you consider the matter sufficiently serious to warrant its being pushed, place it in writing before the C.O., send a copy of this letter to the A.D.M.S. and retain a copy. This ends your responsibility in the matter.

Your relation to the C.O. in this and in all other technical matters is that of an adviser only.

The R.M.O.'s advice is practically never disregarded. Use tact.

The following subjects are dealt with in separate lectures or demonstrations.

 - (a) Flies in regard to sanitation.
 - (b) Lice - the agents in the spread of Trench Fever.

LECTURE 2 - CONTINUED.Duties of R.M.O. out of the Line.

(c) Water Testing and Purification of Water.

A knowledge of these is necessary for the proper carrying out of the daily inspection.

- (3) Training of S.B.'s in first aid of all kinds.
- (4) Prophylaxis against Venereal disease - the provision of these measures is compulsory and universal.
- (5) Anti-typhoid inoculations are to be kept up to date.
- (6) Care of men's feet, especially in winter, and Trench feet - dealt with also in a separate lecture.
- (7) Reports, Two - both to the A.D.M.S.
 - (a) Daily Sick Return showing -
 - No. on sick parade
 - No. sent to Hospital
 - No. of light duty
 - No. off duty
 - The three chief complaints with the number suffering from each.

These, received from every Unit in the Division, enable the A.D.M.S. to know at once anything unusual about the health of the Division.

(b) Weekly health and sanitation report. Concerns chiefly measures being taken for the prevention of disease, e.g. Nature of latrines and ventilation of quarters: a note can also be made of anything unusual in the week's work.

(8) Relations of R.M.O.

- (a) to C.O. - Under C.O. for discipline, movements, etc. Adviser to C.O. on all professional matters.
- (b) to A.D.M.S. Is responsible to A.D.M.S. for the medical care of his battalion: renders returns to A.D.M.S. and receives from him orders on technical matters.
- (c) to Field Ambulance. A Field Ambulance is detailed by the A.D.M.S., by which the sick are evacuated and from which supplies of drugs, etc. are obtained.

Cultivate the acquaintance of Field Ambulance M.O.'s. It is well to know the Officers with whom you have to work when in the line.

A.B. Fraser Macrae

LECTURE 3.

LICE & TRENCH FEVER.

L I C E: Three (3) varieties, each of which has its own habitat.

- (a) Pediculus capitis - 50 ova may be laid by 1 female. The ova are attached to the hairs by stalks, hatch in a week, and mature in 3 weeks.

Treatment:- (i) Hair cut short
 (ii) Kerosene and olive oil in equal parts applied over the head and left on for 24 hours.
 or (iii) 10% Ac. acetic, applied to head dissolves the stalks and fine tooth comb will then remove the ova.
 (iv) Ungt. Hydr. Ammon.

- (b) Pediculus pubis - resemble body-louse but they are seldom found on clothing: they stick to pubic hair.

Treatment:- Clean shave and Ungt. Hydr. Ammon.

- (c) Pediculus Vestimenti or body louse - lives in clothing not on the body; especially under the folds of clothing next the trunk; woollen clothing provides the best home. The adults are delicate and easily destroyed, but they are very shrewd at hiding and it is difficult to find them all.

The ova are attached to the clothing by a stalk; these stalks and the egg-shells are of tough, resistant chitinous material. The ovum is consequently very resistant to attempts at its destruction.

N.B. the appearance of live and dead ova.

The live ovum is opalescent, smooth and shiny, in size less than half a pin's head. The dead ovum is darker in colour, wrinkled and has lost its shine.

The newly hatched louse breathes through stigmata at its anterior end - an important point with regard to treatment.

The female lays from 3 - 5 eggs a day. The eggs hatch and the louse is an adult in about 20 days, and there are 25 days of adult life. Total life is therefore about 6 weeks; it is calculated to be possible for one female to see 8,000 of her own progeny.

The body-louse is much the commonest variety found in France: it produces great irritation, the loss of sleep from which may alone impair a man's efficiency. The bites may become infected and form suppurating or impetiginous sores.

Treatment: of infestation with body-lice is almost entirely a question of the treatment of clothing; the difficulty is to get rid completely of the ova.

Adults: Greasy preparations were formerly used, applied continuously for 6 weeks to the folds of the clothing: as the eggs hatched out the young louse was asphyxiated by the closing of its stigmata by the grease.

Tedious and inconvenient method. Keatings and other powders are useless against eggs and even against adults (vide "The Louse Problem on the Western Front by L/Cpl. Peacock, R.A.M.C.) .

LECTURE 3 (CONTINUED)LICE & TRENCH FEVER.Present modes of treatment:

(a) of the body. Man goes to the Divisional baths; hands in his lousy underclothes and has a thorough scrub and bath. He receives clean lice-free clothing.

(b) of clothing, blankets, etc. Boiling alone does not destroy the ova. Hot ironing of the seams is effective if carried out thoroughly. Boiling and ironing are sometimes employed at the large laundries where the underclothes are washed. The difficulty is to ensure always thorough application of the hot iron to every seam of every garment.

Ironing is also sometimes done in the Battalions.

Superheated steam: Each Division has a Thresh disinfecter on a Foden lorry. The steam is turned into the disinfecting chambers. The conditions necessary to ensure destruction of all lice and ova are:-

- (i) The clothes and blankets must be put in loosely.
- (ii) The temperature must be 220° F.
- (iii) There must be a pressure of 5 lbs of steam.
- (iv) When (ii) & (iii) are established, the clothes must be left in the chamber for 40 minutes. When the chamber is opened, a sample of the clothing should be examined and if the ova are not dead, a further 10 minutes sterilisation should be carried out.

T R E N C H F E V E R.

Achology - A spirochaete has been found in the blood and urine of persons suffering from the disease. American observers claim to have found this spirochaete also in smears taken from the fossa navicularis of healthy persons. These persons may, however, be carriers.

Mode of spread - The louse ingests the spirochaete with blood from the infected person. If he then gets on to a healthy person, he bites and also defaecates on the skin beside the bite. The spirochaete is passed unchanged through the louse on to the skin and when the bite is rubbed the spirochaete is rubbed in.

Pathology: As there are no deaths in the acute stage, no opportunities are available to study the pathology post mortem. When the tibiae are painful and tender there is often a slight oedema, presumably inflammatory over that bone. This may be a periostitis and can be dented with the nail. In the later stages of the longer form of the disease the spleen becomes enlarged.

Incubation period is said to be 16 - 24 days.

Signs and Symptoms:

There are two forms of the disease, short and long or periodic.

- 3 -

LECTURE 3 CONTINUED.TRENCH FEVER.

- (a) Short form: Onset with pyrexia, general malaise, headache and pains in any part of the body. The temperature rises to 101° F., occasionally 103° F. Pulse does not rise quite in proportion to the temperature. The locomotor system is affected; any bone or any muscle may become painful and tender: pain in the tibiae is always present and is pathognomonic; it may be severe enough to keep the patient awake, but the bones and muscles of the back, shoulders or thighs may also be involved. After 5 - 7 days the temperature subsides, the patient feels better and there is an apyretic interval lasting from a few hours to two days. A relapse then follows shorter and milder in degree. This relapse is pathognomonic also. At the end of a fortnight the patient is convalescent and in three weeks fit for duty. A great many of these patients are not evacuated beyond Field Ambulance Rest Stations.

- (b) Long or periodic form: The clinical picture is similar to that of the short form, but each attack lasts longer and the symptoms are more severe. The temperature may rise steadily to 103° or 104° F., the pulse is relatively slow and the tongue may become dirty and brown. The pains may persist through the interval of apyrexia. In this form the spleen becomes enlarged. The temperature does not fall to normal after the relapse till towards the end of the third week after onset.

Types of this longer form are -

- (i) Recurring: The patient is liable to rises of temperature to 100° or 101° F. in the evenings and feels out of sorts. This occurs at irregular intervals and may continue for a long time. Pain in the shins may be persistent or present only with the rises of temperature.

- (ii) Typhoid: The symptoms as described above may lead to confusion with typhoid fever. To differentiate, the diagnostic test by means of 3/100 of a grain of Atropine injected hypodermically may be used; but the presence of pains in the shins and later the characteristic relapse will usually be sufficient.

- (iii) Septicaemic: The temperature may be septic in type, but the pains and the shorter duration assist in diagnosis.

After effects which may last some time are -

- (i) Recurring temperature.
(ii) Persistent shin pains with or without a temperature. I do not know of any cases of these pains persisting in any other part than the shins.
(iii) "Effort Syndrome".

TREATMENT:

Acute Stage - Aspirin or Salicylates. Occasionally a Dover's powder.

Locally the application of an ointment containing a drachm of oil of wintergreen to the ounce of adeps lanae or vaseline almost invariably gives some relief from the pains at once and complete relief in a few days. The ointment should be spread on lint and applied hot. At the end of each 24 hours, a thin additional layer of the ointment should be spread on the same lint, and the lint re-heated and re-applied covered by wool.

Convalescence should be slow. Patients suffering from the longer form are usually evacuated to England.

Persistent pains are perhaps best treated by gentle exercise, which also gets the patient's mind away from them.

The "effort syndrome" is treated by graduated exercises and training. Tonics appear to be of little value.

A. B. Fraser Maj.

LECTURE 4.

S A N I T A T I O N.

For the purposes of this lecture, sanitation is considered in the more limited sense, of the prevention of the intestinal infectious typhoid, dysentery and cholera. The very important practical part of the subject, the making and improvising of sanitary appliances is thoroughly understood by the Battalion Pioneers. The objects of a lecture on this subject are to make you realise its vital importance to an Army and by a short consideration of the two ~~main~~ chief means of spread of these infections, viz: dust and flies, to enable you to tackle on scientific lines the problems that will be referred to you.

In the Chino-Japanese War (1894-5), 12 out of every 13 Japanese casualties were the result of disease and only 1 due to enemy action. The Japanese tackled the problem and improved their sanitary methods so successfully that when some years later they fought the Russians, only 1 out of every 3 casualties was due to disease.

In the South African War, admissions to hospital from disease were four times as many as from wounds or injuries. Of deaths, 7000 were due to wounds and 14000 to disease, of which 8000 were due to Typhoid alone. There were 57,000 cases of Typhoid infection and 38,000 cases of dysentery, of which latter 1,342 died.

The following points illustrate further the importance of the subject:-

(a) In an Army men are crowded together for shorter or longer periods. Even if it is only for a short period it must be remembered that the position of advancing troops to-day is on the lines of communication to-morrow.

(b) Each 1,000 men produce 1/4th ton of faeces and urine daily. This must be safely dealt with as it is estimated that there is one typhoid carrier to every 10,000 men. Urine may be infective as well as faeces.

(c) Arrangements for the protection of food in front line units are always made under difficulties.

DUST:- Without proper latrine discipline the dust on either side of a trench latrine will become soiled and sooner or later infected by a carrier. This dust when thoroughly dry may be blown over the cookhouse and camp or whatever sort of quarters troops are occupying on to food and eating utensils.

Or the boots of men using the latrine pick up some of the infective dust, which then gets on to the hands when the boots are taken off. Or the dust is carried thus to the cookhouse and then gets on to dishes when the dust is used for cleaning purposes.

N.B. (i) Latrine trenches if used should be narrow and men taught to stand with one foot on either side so that all the urine and faeces go into the trench and none on the sides.

(ii) Dust should never be used for cleansing purposes in the cook house.

FLIES: The common house fly, the chief disease carrier, is alone dealt with. It is essential to be acquainted with its life history because this shows (i) why the fly is a natural and unconscious disease-carrier; (ii) at what points and by what means fly-destruction can be best tackled.

The life-history of the fly comprises 4 stages

A.B. Fraser

SANITATION - Continued.

- | | | | |
|-----|----------------------|---|-------------------------------|
| (a) | The ovum or egg | - | lasting $\frac{1}{2}$ - 1 day |
| (b) | Larva or maggot | - | " 6 days |
| (c) | Pupa or chrysalis | - | " 4 " |
| (d) | Imago or young adult | - | " |

(a) One female fly lays 100 - 150 eggs at a sitting; 90% are laid in horse dung and the remainder in human faeces or other decomposing organic material. The warmth required to hatch the eggs is provided by the chemical changes of decomposition going on in organic material.

(b) The maggot has no digestive glands at all, and therefore requires all its food to be pre-digested. This predigested food is got in the faeces of horse or man - another reason for the fly's preference for laying its eggs in faeces.

At the end of this stage the maggot migrates from the manure heap to the surrounding earth because for the chrysalis stage a dry and cooler spot is necessary. The heat of manure is too great for the chrysalis. The maggot can burrow rapidly if necessary, e.g. if alarmed.

(c) The chrysalis appears from the maggot in the dry ground. It starves throughout its 4 days, so that when it does change to the young adult, that young adult is ravenously hungry, and correspondingly dangerous; at its first meal it may eat up to 70% of its own weight. The young adult can also burrow - through six inches of ordinary soil or up to six feet through loose sand.

(d) The adult fly has only one set of digestive glands, viz. the salivary. The secretion of these, like human saliva, acts only on carbo hydrate. The fly can ingest fluid foods only; the saliva is therefore secreted from the mouth on to food and dissolves sugary and starchy substances which are then sucked in with the saliva again. This carbo-hydrate food is got in cook-houses, mess huts, and in swill tubs - wherever food is exposed.

For protein food, the fly has no digestive secretion; it must secure it predigested in another intestine, and goes to latrines, horse lines and manure pits for this purpose.

It is obvious, therefore, that the fly goes for half its diet to the latrine, and for the other half to kitchens and mess-huts. It visits these alternately and also frequents the lips, mouths and eyes of typhoid and other helpless patients, dead bodies and unprotected wounds.

Mode of carriage of germs:

(1) By feet and legs. The body and especially the legs of the fly are hairy. The feet also are hairy and at the ends, on the "soles", there are sticky pads, i.e. the surfaces are covered with many fine hairs and moistened by a sticky, glairy substance. It is by this means that the fly is enabled to walk inverted.

When a fly settles on faeces, the germs therefore naturally stick in millions. A culture plate over which a fly has walked shows on incubation parallel lines of colonies. When the fly settles on food, the germs are deposited or are scattered broadcast in milk or tea.

(2) By gastro intestinal tract. When food is taken by the fly at the latrine, it is sucked in to the crop, which the fly possesses as well as a stomach. The fly then makes for the kitchen or other place where carbohydrate food is exposed and there secretes its saliva on to the food to dissolve the carbohydrate. With the saliva, the contents of the crop also are regurgitated, and the whole presently sucked in again. If the fly is alarmed the drop of crop contents, i.e. faecal material, is left on, e.g. bread, jam or sugar.

Further, germs are unacted on in the fly's intestine:

(3)

LECTURE No. 4SANITATION - Continued.

they pass unchanged and it is estimated that a well-fed fly defaecates once every five minutes. Comment is unnecessary.

TREATMENT:

Three problems have to be dealt with -

(1) Destruction or protection of infective material.

All human urine and faeces must be looked on as possibly infective.

If quarters are to be occupied for a short period only, trenches 9 inches wide may be used, proper latrine discipline insisted on, cresol or lime used to keep flies away while latrine is in use, and the trench finally filled in so that there is at least 9 inches of earth, well beaten down over the excreta.

Whenever possible, however, an incinerator should be built or dug and faeces burnt. Latrine buckets are used and may be arranged so as to separate the urine and faeces. Such latrines are made entirely fly-proof by box seats, so that at no time do the flies have access.

For the protection of urine, the best method by far is the urine pit. This is in general use in billets and hutment camps in France, and is fully described in Major Lelean's "Sanitation in War".

(2) Protection of Food. - serves two ends:-

- (i) protects the food from infection
- (ii) starves the flies.

Measures to be taken include:-

- (a) Screening of cookhouses, butchers' & bakers' shops, mess-pantries, etc. so as to make them fly-proof.
- (b) Covering of food during storage and during conveyance from cookhouses to mess rooms, e.g. closed dixies.

(3) Check fly breeding.

(a) Destroy adults by -

- (i) Mechanical means - fly traps, tanglefoot.
- (ii) Poisons - Solution of Sodium arsenite, carefully used, is best for use on a large scale. Spray on to manure heaps.

In mess rooms, etc. 3% formalin in sweet milk or sugar exposed at night, when all other food is covered, is effective.

- (iii) Kerosene or dry lime keeps flies at a distance in the open. In rooms the attraction to light overcomes the fly's dislike to kerosene on the windows. Smear kerosene on the window panes; the flies are stupified and fall; if a small gutter of water is placed at the bottom of the pane, they will fall in it and drown.

(b) Treat the breeding places, i.e. stable manure and litter.

- (i) Close packing - see Lelean's "Sanitation in War"

This method is in general use in France. The heat of chemical decomposition is so great that the eggs are destroyed and sometimes the manure heap is even set alight by spontaneous combustion. If any do hatch into maggots, the maggots cannot burrow out, or the young adults cannot burrow out and so none survive. Quite effective and also saves the manure.

- (ii) Other methods such as burial, burning or treatment with lime, cresol, kerosene or borax have been abandoned in favour of close packing.

A.B. Fraser Maj.

CARE OF THE FEET & TRENCH FEET.

CARE OF THE FEET: Each soldier has one pair of boots and three pairs (at least) of sox.

Soldiers should be encouraged, as far as is possible, to conform to the following rules:-

- (a) Keep the toe nails short and clean.
- (b) Thoroughly wash the feet daily in the evening and put on a pair of clean, dry sox.
- (c) Rinse out and dry each evening the pair of sox used during the day.
- (d) Don't wear sox with holes in them.

Boots:- New boots are best broken in by thoroughly soaking them in water, and wearing them for the first time when they are still damp and soft.

If a man is not able to wear issue boots and to march in them, he is not fit for active service. "Surgical" or light made-to-measure boots are not to be ordered for "A" class men.

Each Battalion has a regimental bootmaker, who can often make minor alterations under the direction of the R.M.O.

Corns:- May be hard or soft. Treatment of hard corns is as usual by paring and salicylic ointment. Soft corns may be treated by thorough daily cleansing and drying, and the application of dusting powder and a little cotton wool, e.g. between the toes. There should be a regimental chiropodist in each battalion, specially trained in the care of the feet.

Ingrowing toe-nails)	The attitude of the R.M.O. to these conditions should be:- that surgical treatment for them is not possible in the field, nor is it, usually, advisable at all in the army. Men suffering from these complaints are to be retained and kept at work as long as possible. When they become useless, they should be recommended for board, as unfit for general service.
Bunions & Hallux valgus		
Flatfoot		
Ankylosis of 1st metatarsophalangeal joint		
Varicose veins		

TRENCH FEET:Definitions:

True frostbite is a condition leading to dry gangrene due to exposure of any part to a temperature below freezing-point.

Trench foot is a condition leading to moist gangrene due to exposure for a more prolonged period to a temperature just above freezing point, and more particularly to exposure to wet cold.

Achology:

(i) English theory is as just stated that trench foot is due to prolonged exposure of the whole body and especially the feet to wet cold at a temperature just above freezing point. "Prolonged":- If men are in bad trenches for 4 days in succession, the number evacuated with trench feet will show a great increase on the 4th day.

"Wet cold". Even if a man wears gum boots his feet may still be affected by the chilled sweat which is unable to escape by evaporation through the gum boots. There is no ideal boot.

An accessory cause is any interference with the circulation such as by tight puttees or breeches or by a position

CARE OF THE FEET & TRENCH FEET - CONTINUED.TRENCH FEET (Continued) .

as in motor driving, which may make them tight.

(ii) French theory. That the cause is infection by a fungus found in the mud of Flanders, which can also be isolated from the gangrenous blebs on the feet of patients. It is more probable that any infection there is, is a secondary condition.

Pathology:

The maintenance of the temperature of the feet is to some extent bound up with that of the general body temperature.

The maintenance of an even body temperature is effected by a balance between heat production and heat loss.

Heat production is due to (i) muscular tone and contractions and (ii) the intake of hot food.

Heat loss takes place from the skin by radiation, conduction and evaporation.

The rapid and repeated removal of the layer of air next the body means loss of heat. The ruffling of a bird's feathers, the thick winter coat of animals, the wearing of additional and thicker clothes by man in winter all aim at increasing the depth of the stationary air layer next the body.

Under the conditions of trench warfare, heat production is reduced to a minimum and heat loss, especially from the feet, is very great.

A lowered temperature of the feet results from these abnormal conditions, and there follows a devitalisation of all the tissues.

(a) Judging from the symptoms, the nerves feel the effect first and some degree of interstitial neuritis appears to be set up.

(b) The walls of the capillaries and venules suffer so that they allow the escape of serum into the tissues. The foot becomes oedematous and the circulation gradually stagnates.

(c) In the later stages blebs, patches of moist gangrene appear, and an infection commencing where the skin is broken may follow. Or areas of skin may become gangrenous without becoming detached at once from the subjacent tissues.

Symptoms & Signs:

1. Pain - which persists after the man has been removed to warmth and comfort.

2. Oedema of the feet.

3. Gangrene at first local about the toes or at a point of pressure, later general of the skin of the foot. With this, there is loss of all sensation and power.

Prevention:

(a) Out of the line, the following measures should be adopted -

(i) Daily inspection by the platoon officer of the feet of all his men.

(ii) Daily thorough cleansing of the feet.

(iii) Daily rubbing of the feet with a powder composed of

powdered camphor	-	3 parts
powdered borax	-	3 "
Talc	-	94 "

A teaspoonful is issued to each man daily and each foot should be rubbed for 15 minutes.

CARE OF THE FEET & TRENCH FEET - CONTINUED.TRENCH FEET (Continued) :

- (iv) Dry sox daily. The supply of these may be arranged by Division or it may sometimes be necessary to start a battalion drying room.
- (v) Exercise, especially of the feet.
- (vi) Provision of hot food.
- (vii) Withdrawal of puttees from troops. These shrink when wet and impede circulation. They are replaced by sandbags tied loosely round the legs.
- (b) In the Line
- (b) To provide heat, -

Every attempt must be made to provide facilities for some exercise of the feet daily on a dry part of the trench or dry duck board. The feet must be rubbed daily with the powder.

Every man must receive one hot meal a day and a hot drink three times a day. The hot meal is sent up from the Cookers in food containers; the tea is sent up in petrol tins and warmed in the trenches by tommy cookers.

These measures may not be always attainable but they must always be aimed at. Trench foot can be prevented more easily than cured.
- (ii) To diminish heat loss,

All possible clothes should be worn and will be worn. The men should be provided daily with dry socks sent up with the rations. Drying may be carried out by Division or by the Battalion.

Wet socks to be returned.

Even if dry socks are not provided, men should, if possible, take off boots and socks and rub the feet.

Treatment:

1. Don't keep a man who definitely has trench feet at the Regimental Aid Post. Don't keep him at the Transport lines even, unless it is an early stage.
2. In Rest Stations & Hospitals, the first and second stages are treated by rubbing each foot with the powder for 20 minutes twice daily after washing.

The skin over all blebs is cut away.

Septic blebs are treated by fomentations of

Camphor	-	3 parts
Borax	-	3 "
Water	-	94

till clean, and then dressed with gauze soaked in the same lotion.

At the same time the rest of the foot is rubbed twice daily; if all the skin is gangrenous it is simply kept clean and protected from infection.

- N.B. (i) Healing of the clean sores left is extremely slow, due apparently to the damage done to the blood vessels.
- (ii) There is a liability to recurrence of the pain in cold weather.

A.B. Fraser Maj.



LECTURE NO. 6.

R. M. O'S WORK IN THE LINE.

1. See the R.A.P. you are going to occupy; go up a day or two before with the C.O. and other officers of the battalion. If for any reason the R.A.P. in use is not in the right position or not suitable, go over the ground, and select a position. If necessary, ask the C.O. to have cover made.

You should not go alone about the battle-field; have a companion in case of accidents. Note the map reference of the R.A.P. and when you get back, let the A.D.M.S. and the Field Ambulance which is to be in charge of the forward evacuation know where it is.

In taking over, the R.M.O. who is being relieved, will wait till you arrive and will go over the stock of dressings, splints, comforts, etc. with you before he leaves.

Similarly when you are handing over, you go over the stock with the M.O. relieving you.

The selection and building or the improvement of an Aid Post is the responsibility of the R.M.O. in conjunction with the C.O. of his Battalion.

2. What to have in an Aid Post:- (a) Drawn from Fd. Amb. are -
 Stretchers) These are brought up by the Field
 Blankets) Ambulance Stretcher bearers.

Comforts) For the use of wounded and exhausted;
 Cigarettes) not for casual visitors.

Dressings - shell & ordinary with wool and bandages.

Methylated Spirit:

Stout scissors for cutting clothes.

Morphia and syringe with several needles.

Splints - Thomas, back with footpiece, internal and posterior, angular arm splints, short arm splints.

A.B. 166 red and white labels: heels also to be filled in, so that after an action you can send to all units concerned a list of their men who passed through your Aid Post.

(b) Drawn from the Battalion Q.M. are -
 Rations,
 Water - in petrol tins
 Rum - for the wounded and exhausted.
 Primus and fuel
 Lights.

All these stores, except stretchers and blankets, are taken up by Battalion A.M.C. men in sand-bags, together with surgical haversack, containing scissors, pins, etc. as well as a supply of compressed dressings.

Preliminary visit may show ample splints and dressings in the Aid Post, which would save you taking more up.

3. The Aid Post is approximately half a mile from the front line. The carrying of wounded to the Aid Post from the area in front of it and the work at the Aid Post are the responsibility of the Battalion alone. If in any difficulty as to this area, e.g. from casualties occurring among the Battalion S.B's apply for help to your own C.O., and to him only.

There are Field Ambulance S.B's at the Aid Post; their duty is to evacuate the wounded from the Aid Post, and they are not to be used in front of it.

If the Aid Post is moved forward, take these Field Ambulance bearers with you, they are under your orders to

(2)

LECTURE NO. 6.S. M. O's Work in the Line (Continued) .

that extent; if you don't, you will be left without anyone to move the wounded from your new post.

In the evacuation of wounded then, the sphere of the Battalion is the area in front of the Aid Post and the Aid Post; the sphere of the Field Ambulance is from the Aid Post backwards.

4. Messages to the Field Ambulance.

To get further supplies of dressings, etc. ~~from~~ requisition on the Field Ambulance in good time for them; it will take some hours from the time you despatch your message till you receive the dressings.

When in difficulties as to technical stores, stretchers, blankets, etc. or when the Ambulance bearers at your Aid Post require to be relieved or reinforced, send your message to the Field Ambulance, not to the Battalion C.O. or Brigade H.Q.

In sending messages, always give map reference, date and hour of despatch and keep a duplicate. When you ask for additional bearers, be exact; give the number of wounded at the Aid Post and the length of time they have been waiting for evacuation. "Windy" messages are useless.

If the R.A.P. is to be moved, notify the Field Ambulance, if possible in advance, giving the map reference of the new post.

5. The R.M.O. is expected to be at the Aid Post, to have meals there and to sleep there. He is not to go forward unless when in search of a new Aid Post during an advance or by direct order from the C.O.

During an action Padres are usually posted at Ambulance Dressing Stations, not at the Aid Posts. Visitors to be expected at the Aid Post are:- Field Ambulance Bearer Officers or Field Ambulance C.O.; the A.D.M.S. or D.A.D.M.S.; the D.D.M.S.

6. The Amount of dressing to be done at the Aid Post. One dressing, properly done, is sufficient for most wounds till the man reaches the C.C.S. Each re-dressing means fresh oozing and loss of blood. It is not possible in an Aid Post to render any wound completely aseptic; the object of dressings at the Aid Post is to prevent the entry of further sepsis to the wound.

The first field or shell dressing put on by the stretcher bearers will often suffice. The usual dressings at the Aid Post is a shell dressing or plain gauze and wool.

Iodine is not used.

Penetrating chest wounds must be closed to the entry of air. As a bandage round the chest interferes with respirations, the wound is plugged with gauze, which is fixed in position by strapping. Or in suitable cases, silkworm gut sutures may be used to draw the edges of the wound temporarily together. Head wounds are to be shaved and dressed only.

Fractures are to be invariably splinted at the Aid Post (Splints are often applied also to severe lacerated flesh wounds).

The Thomas knee splint with continuous extension is used for fractures from high in the femur to just below the knee and to penetrating wounds of the knee even if there is no fracture.

A long Liston splint or its equivalent may be used for fractures high in the femur where the ring of the Thomas would press on the wound.

For fractures of the upper and middle third of the humerus

(3)

R. M. O's Work in the Line (Continued) .

a pad in the axilla and bandage round the chest and arm are ~~sufficient~~ effective and simplest, the wrist being supported by a sling. Below that use angular wooden splints.

Tourniquets: Owing to the danger of gas gangrene if the circulation is completely stopped for more than half an hour, tourniquets should be used only if forceps or ligature is not possible and if the haemorrhage cannot be stopped by packing. If necessary, a small entrance wound may be slit up, enlarged, to allow of accurate packing; no anaesthetic is necessary.

If a tourniquet is applied, the time of its application should be marked on the man's ticket.

Morphia: More than quarter of a gram is seldom necessary. Enter the amount and the time of administration on the man's ticket.

Shock: If a man is severely shocked, it is better to hold him a short time at the Aid Post and do what is possible to overcome his shock than to hurry him on immediately.

Hot drinks can be given and a drachm of sodium bicarbonate may be added to each cup to correct the acidosis caused by shock.

Wet clothes can be removed and the patient properly blanketed, especially underneath. Sometimes it is possible to have hot bricks to put among the blankets, even if only while the man is held at the Aid Post. If nothing else is possible, some improvement can be effected by removing the wet clothes and giving the man a vigorous rubbing with a rough towel, before blanketing him.

7. Sundry points:

(a) The kit taken to a Regimental Aid Post by an M.O. is only his water bottle, full, and what can be carried in his haversack.

(b) The first opportunity should be taken of rendering the Aid Post gas-proof.

(c) Ammunition and especially bombs should be removed from wounded. The magazine of a rifle used as a splint must be empty.

(d) Moribund patients should be treated for shock, kept and watched. It is only justifiable to risk the lives of stretcher-bearers with such patients, if they are showing signs of recovery from shock.

(e) Corpses. All personal effects, and one of the two identification discs should be removed from the body, tied up in a handkerchief or triangular bandage, and labelled with the man's particulars. These bundles should be handed later to the Battalion Q.M.

If possible, arrange for the burial of the bodies of our own men at least.

A. B. Fraser Maj.


LECTURE 6.

(4)

Regimental Medical work during a rapid advance.

The following notes are based on F.S. Regulations
Part 11. Chap. XI.

Regimental Stretcher-Bearers:

1. Afford first aid to the wounded on the field.
2. Collect the wounded into as small a number of posts per battalion as possible. Posts to be selected with a view to cover, and marked, e.g. by a rifle stuck upright in the ground with a piece of bandage tied to it.
3. Put a slightly wounded man in charge of each of these posts.
4. Direct the remainder of the walking wounded to the rear.
5. Report the positions of posts, with their land-marks and the signposts made to the R.M.O's; also report the number of wounded at each post.

Regimental Medical Officer with A.M.C. Details -

1. Is behind the Regimental stretcher-bearers.
2. Must keep moving at the same rate as his Battalion so as still to be close in their rear at the end of each day.
3. Is therefore hardly able to give full attention to all wounded at all posts, but attends to all serious cases.
4. Gives a list of the posts or dumps of wounded, their map references, landmarks and signposts with the number of wounded at each, to the N.C.O. i/c of Field Ambulance bearers, to be taken to the Field Ambulance Bearer Officer, as often as may be necessary.
5. When he moves forward, takes the bulk of the Field Ambulance bearers ^{attached to R.A.P.} with him; in the recent fighting, the Ambulance bearers with the R.M.O. were attached to the Battalion for rations.

A. Fraser May

LECTURE NO. 7.Notes on application of Thomas
Knee Splint.

Requirements are -

- 1 Thomas Knee splint
- 5 12-inch lengths flannel bandage
- 1 9-foot " " "
- 10 Safety pins
- 3 triangular bandages
- 1 piece Gooch splinting 14 inches x 6 inches
- 1 " " " 10 " x 6 "
- Adhesive plaster - broad
- Scissors
- Dressings for wound
- Stretcher suspension-bar.

Procedure:-

The splint is applied first over the boot and clothes with continuous extension; when the limb is fixed the clothes are cut away and the wound dressed.

1. Extension is applied manually -
 - (a) If the fracture is well above the knee, slightly flex the hip and knee joints and pull with the left hand behind the knee if it is the right thigh or with the right hand if it is the left thigh.
 - (b) If the fracture is about the knee or it is a penetrating wound of the knee joint the dorsal surface of the foot is gripped by the left hand and the heel taken in the right and extension applied.
2. A clove hitch is made with the 9-foot bandage so that one end is twice as long as the other. The loop is passed by an assistant over the foot and heel, the operator in 1 (b) releasing his hands alternately but maintaining continuous extension. The ends are on the outside of the foot; and the long end is brought under the sole and through the loop on the inner side of the foot; extension can then be applied by the flannel bandage. If the boot is off, apply a thick pad of wool round the ankle before applying the clove hitch.
3. Assistant applies the splint over clove hitch boots and clothing and the ring is fitted firmly against the ischial tuberosity.
4. The ends of the clove hitch are tied with firm extension to the notch in the foot of the splint, crossing twice from side bar to side bar en route.
5. The 5 12-inch pieces of flannel bandage are already fixed at one end to the inner side bar by safety pins. They are now brought under the limb and secured to the outer side bar in this order and position: The middle one behind the knee, the lowest immediately above the heel, the second one behind the calf, and the fourth and fifth behind the thigh, one above and one below the site of fracture. The limb now lies in a gutter formed of the five short pieces of flannel.
6. One triangular bandage is passed under each side bar and over the front of the leg, between the calf and heel and tied off on the outer sidebar.
7. Cut away clothes from the wound, dress and apply wool and roller bandages round the thigh inside the side bars.
8. Apply 14-inch Gooch behind the fracture and, to prevent it slipping, fix with adhesive plaster to the side-bars.
Apply 10-inch Gooch anteriorly and tie down with second triangular bandage outside the sidebars.

Notes on application of Thomas Knee Splint (Continued) .

9. Place a roller bandage as pad between the outer side of the hip and the ring to prevent the ring slipping off the ischial tuberosity.
10. Apply the third triangular bandage as a figure-of-eight round the foot and side-bars to keep the foot from wobbling.
11. Fit the stretcher suspension bar to the stretcher and suspend the splinted limb from it.
12. As the muscles relax about the fracture extension may be increased at any time during transport by a triangular bandage drawing down the crossing of the clove hitch ends to the notch.

A. B. Fraser Maj.

LECTURES 8 & 9Field Ambulance Work.

Establishment	}	These are detailed. See Goodwins' "Field Notes for the R.A.M.C."
Transport		
Equipment		

Field Ambulance Work in the Line.

Each of the 3 Field Ambulances of a Division takes it in turn to be responsible for the collection of wounded from Regimental Aid Posts, for their transport to the rear as far as the Main Dressing Station, by bearers and by horse or motor ambulances, and for the professional attention they require till they leave the Main Dressing Station for the Casualty Clearing Station.

The collection from Aid Posts and conveyance to the M.D.S. are the work of the bearer division in conjunction with the horse and motor transport, while the tent division works at the Main or Advanced Dressing Station and supplies most of the professional attention.

To cope with the stretcher bearing, the bearer divisions of the other two Field Ambulances are attached to the one running the forward evacuation, whose headquarters are at the Main Dressing Station.

(A) Evacuation from fixed R.A.P's.

Work of the Bearer Division:-

Walking cases are simply directed to the rear, usually without a guide. Stretcher cases are carried by squads of four each - the stretcher being carried on the shoulders. The advantage of this method is that the bearers at the rear end of the stretcher can see the ground where their footsteps are going, no small advantage both to bearers and patient in country full of shell holes, or on slippery duckboards.

(a) Posts:

R. A. P's.

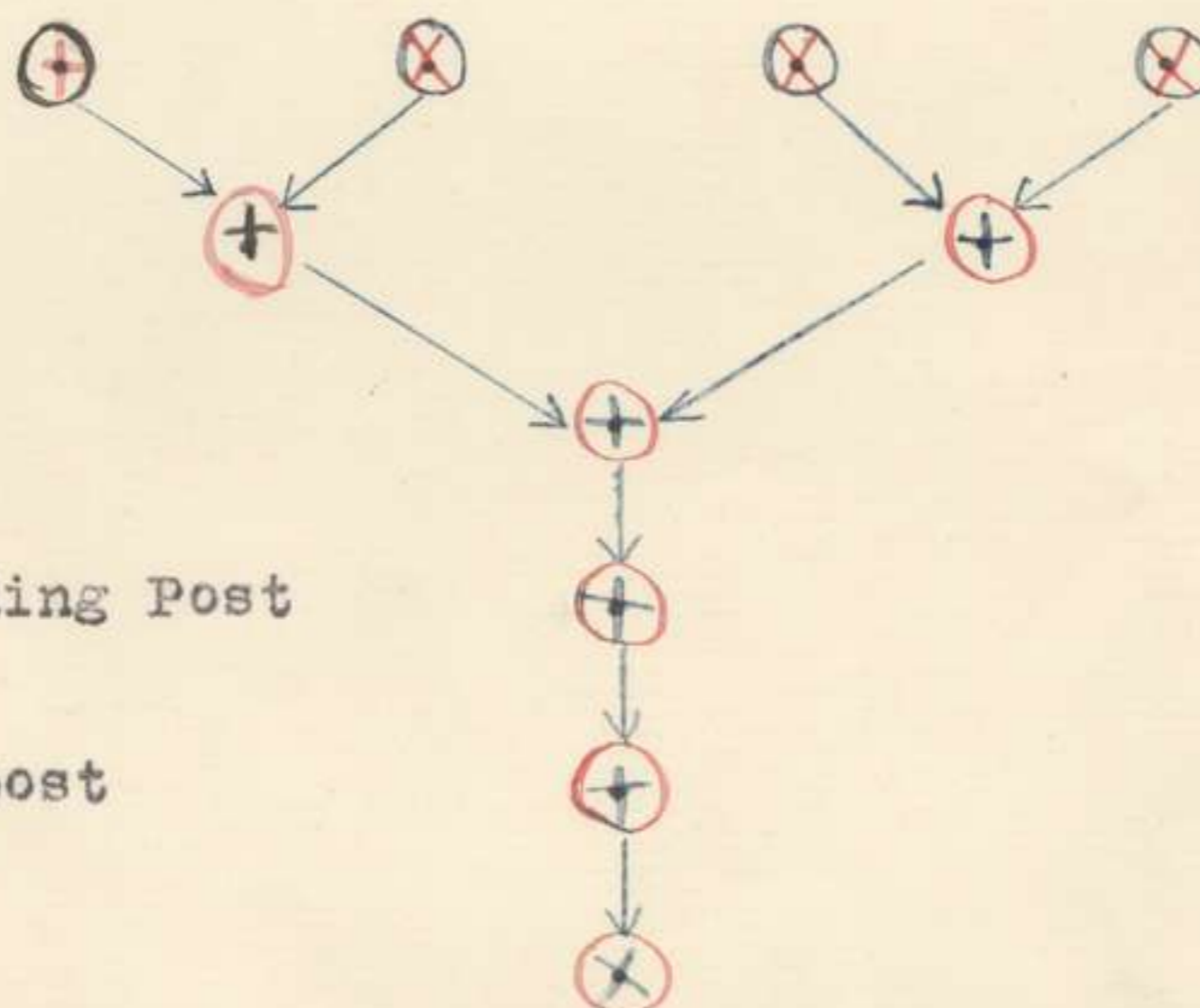
Relay Posts

A. D. S.

Horse Amb. Loading Post

Motor Loading post

M. D. S.



The average distance between posts, i.e. the average length of a carry, is half a mile. The making or improvement of Ambulance posts is the responsibility of the A.D.M.S. and the C.O. of the Field Ambulance. The Bearer Officer, however, being on the spot, is often able to make many minor improvements and to suggest others to his C.O. Or, if it is necessary, he can alter the bearer route entirely, selecting fresh positions for his relay posts.

Field Ambulance Work - Continued.

The Advanced Dressing Station is usually the first point on the line of evacuation through which the wounded from all R.A.P.'s pass. The Bearer Officers ~~xxxx~~ live at the A.D.S. with a Major or Senior Captain in charge. One Officer will always be on duty at the A.D.S. to attend to men wounded in the vicinity and to deal with messages from the R.M.O's etc.

The position of the Loading Posts, i.e. how near the horse and motor ambulances can be pushed up towards the A.D.S. depends on local conditions, such as the quality of the roads, shelter from observation, etc. Sometimes the horse ambulances can be pushed up in front of the A.D.S.

Each Division has also 20 wheeled stretcher carriages, which in an action are at the disposal of the Field Ambulance carrying out the evacuation. They are pushed and pulled by two men and can often be used in front of the horse ambulances.

The number of bearers stationed at each post may be as under, but will vary, of course, with the number of wounded, nature of the carries, etc:-

Each R.A.P.	12 bearers	-	3 squads
Each Relay Post	24	"	6 "
A. D. S.	36	"	9 "
Each loading post	6	"	to load stretchers on to horse or motor ambulances as they come up from the M.D.S.

The total number of bearers thus employed at a time is 144. A second 144 will be wanted to relieve these in turn, and will be kept resting at or near the M.D.S. The 288 bearers are found thus -

3 Bearer Divisions of 108 men - 324 available bearers, which provides the 288 and a good margin for casualties, men temporarily unfit, etc.

Posting: Before the Field Ambulance takes over, the Major or Senior Captain who is to be in charge of the A.D.S. will have gone over the ground, and noted the various posts with their map references and the accommodation and number of bearers at each.

When an Ambulance is taking over the bearer posts, the Senior Bearer Officer should see that the number of bearers required for each post is told off, and N.C.O's put in charge of each party before leaving the M.D.S. These parties should then be arranged in the same order as the posts to which they are allotted, squads going to the R.A.P.'s being in front, those going to the Loading posts in rear. Attention to these details is essential and saves time and casualties which may occur if there is unnecessary delay at exposed posts.

Every man should have his greatcoat or ground sheet or both, according to the time of the year, his water bottle, full, his dixie, and his haversack containing 24 hours rations and his eating utensils and a change of socks.

Before the bearers reach the place where they come under enemy observation, or at any time if shells are falling near them, they should move in single file in parties of five with an interval of 50 yards between parties.

A Bearer Officer must personally see that his men are correctly posted and know their carry.

Field Ambulance Work - Continued.Duties of Bearer Captains.

Bearer Captains live at the A.D.S. and their duties may be noted from the point of view of the Senior Bearer Officer who is in charge. Thus he is responsible -

- (a) That men who have been wounded near-by and are brought first to the A.D.S. have their wounds dressed.
 - (b) That all bearer posts are visited by an Officer once in each 24 hours.
 - (c) That rations and water reach the bearers at their posts.
 - (d) That the number of casualties coming down is noted and that the C.O. of the Field Ambulance is advised, if the bearers are becoming exhausted, so that they may be relieved.
 - (e) That when an R.A.P. is visited, the R.M.O. is seen and his requirements as to dressings, extra bearers, etc. noted.
 - (f) That communication is constantly maintained with the R.M.O.'s in front and the M.D.S. behind him. He should send a written report to the Ambulance C.O. at least once each day; even if everything is going well, a note to that effect is of value to the C.O.
 - (g) That all messages from the R.M.O.'s are opened, and, as far as possible, requests for dressings, stretchers, etc. are supplied. The message should then be sent on to the Ambulance C.O. with a note of the action taken at the A.D.S.
- If an R.M.O. asks for additional bearers and the Bearer Officer is doubtful of the necessity for them, he should at once visit the R.A.P. and investigate for himself.
- (h) That an Officer is at once sent from the A.D.S. to replace any R.M.O. who has become a casualty.
 - (i) That the evacuation of wounded is continually maintained, when Regimental Aid Posts are moved forward, and that the Ambulance C.O. is advised when it becomes possible to advance loading posts.

Light Railways: Often in stationary trench warfare, systems of light railways are pushed up over the battlefield and it is sometimes possible to arrange for the trucks which bring up supplies and ammunition to take wounded on the return journey either to the M.D.S. or even at times direct to the C.C.S.

Work of the Tent Division & Duties of Tent Captain.

The tent division of an Ambulance works at the Main Dressing Station, situated usually some three or four miles behind the front line and accommodated either in the remains of some building or in marquees or huts.

Arrangements are usually made to handle walking cases and stretcher cases separately.

(i) Walking cases:-

When the M.D.S. is housed in marquees the arrangements are such that the patients first receive a hot drink, if they wish it, and cigarettes, then have their particulars taken by the Clerks and receive their Field Medical Cards; next get their anti-tetanic serum injected, and finally see the M.O. who, if necessary, orders the wound to be redressed or resplinted. Much that was said about the dressings at the Aid Posts applies also to the Main Dressing Station. In very many cases re-dressing is unnecessary. Eusol is universally used. When casualties are heavy, and cases are dealt with very rapidly at the Aid Posts, many points may be missed, which can be attended to at the M.D.S.

LECTURES 8 & 9.

-4-

Field Ambulance Work (Continued).

A proportion of wounded who have walked down to the Loading Post from the field, by the time they reach the M.D.S. have become weak and their wounds painful and stiff so that they must be made stretcher cases from the M.D.S. on.

(ii) Stretcher cases are dealt with in the same systematic way. Patients with penetrating abdominal wounds do not receive food.

Tourniquets: No patient must be allowed to go beyond the M.D.S. with a tourniquet on. It must be replaced by forceps or ligature or packing.

Fractures: Are resplinted if necessary. Side clines should be added to the back splint to prevent rotation of the lower fragment. No further operation beyond splinting is performed on fractures at a M.D.S.

Shock is treated by removing the wet clothes, placing the patient in warmed blankets (The method of warming stretcher and blankets is demonstrated) and applying hot water bottles. Hot saline infusion may be given, but its effect tends to be only transitory. Quite recently Divisional resuscitation teams have been formed consisting of one Major, one Capt. one Corporal and three Privates. The team works at the M.D.S. removing all shattered limbs, treating all cases of haemorrhage, giving saline and other infusions and also blood transfusions.

Apart from the removal of shattered limbs, no major operations are undertaken at the M.D.S.

Wounded are evacuated to the C.C.S. by motor lorries and railways (walking cases) and by M.A.C. cars. In the motor ambulances the exhaust pipe passes through the interior of the car and so heats it.

(B) . Evacuation of wounded during rapid open fighting.

These notes are based on F.S. Regulations Part 11, Chap XI and on information received from an Officer taking part in the recent rapid fighting. They are to be taken in conjunction with the notes on R.M.O's duties during a rapid advance.

(a) Work of the bearer ~~divisions~~ divisions:

The duties of the bearer divisions are two -

- (i) To maintain communication uninterruptedly with R.M.O's and with the Ambulance C.O.
- (ii) To collect the wounded to dumps beside roads which are accessible to horse ambulances.

To maintain communication, in the recent fighting, 12 Ambulance bearers were attached to each R.M.O. and moved with him, under his orders, and drew their rations from the Battalion. The balance of the Ambulance bearers remained under Bearer officers. Various points are noted in detail as follows:-

(1) N.C.O's should have message books and pencils and in sending messages should give the place, date and hour of despatch.

(2) N.C.O. in charge of the bearers attached to the R.M.O. should send a duplicate of the list of dumps of wounded given him by the R.M.O. to the nearest bearer Officer behind him. The messenger taking this list should have, if possible, been personally to all these dumps so that he can act as guide to the Bearer Officer or the Ambulance squads.

(3) The Bearer Captain sends squads to these battalion dumps of wounded, with stretchers, as the wounded will have had to be left lying on the ground by the battalion bearers who must take their stretchers on with them.

(4) These wounded are brought handy to roads ready for evacuation by horse or motor ambulances. Ford cars were largely used for this work recently and went as far up some-times as the R.A.P. Such roadside dumps should be on the

Field Ambulance Work - Continued.

left side of the road (i.e. facing the enemy) so that they may be loaded on to vehicles with the least delay to the traffic. The wounded will again probably have to be left lying on the ground.

(5) The bearer Captain must also arrange for a thorough search of the whole field so that no one is missed and must see that all battalion dumps are found and cleared.

(6) There is little actual stretcher bearing: what there is consists in centralising dumps handy to roads and in loading.

(7) Any N.C.O. making any change in the position of posts must report it to the Bearer Captain coming on in rear of him.

(8) Any slightly wounded man left in charge of a dump of wounded, who thinks that his dump has been overlooked by the horse or motor ambulances must take steps to get into touch with the bearer Captain or the transport.

(9) Any N.C.O. in charge of a party which is searching a portion of the field or moving a dump of wounded, when his job is completed must send a runner to the bearer Captain under whose orders he is, for instructions. If this is not done, the bearer Captain will be unable to keep control of the movements of his men.

(10) Any post, no matter how temporary, must be improved, and conditions for the wounded made the best possible.

(11) Rations. The bearers attached to the R.M.O. are rationed by the Battalion. For the remainder, rations will be brought up by the Ambulances as far as possible and then distributed by hand. Water may be similarly brought up in petrol tins, or may be drawn from sources in the newly captured country. The latter course must not be adopted until the water has been tested and declared free of organic impurities and of metallic poisons.

N.B. Always leave a good water point with the thirst quenched and the water bottle full.

(b) Work of the tent sub-divisions.

These will work separately - A., B., & C. If A tent subdivision forms the M.D.S. at the commencement of the advance, and B tent subdivision, a mile or two further on forms the A.D.S. C. tent subdivision stands by beside A, with equipment loaded on its transport, ready to move. When a sufficient advance has taken place, C moves up and opens a new A.D.S. in front of B., B becomes the M.D.S. while A strikes tents, packs up and moves up to B., where it stands by till its turn again comes to act as the A.D.S.

For the plan of a tent subdivision dressing station, see Goodwin's Field Notes for the R.A.M.C.

Field Ambulance Work out of the Line.

A Field Ambulance out of the line may be in charge of a Divisional Rest Station of any number of beds from 50 upwards, or in charge of a Scabies or Mumps or Trench Fever Isolation Hospital. Its cars will have to collect the sick daily from the battalions, to which also it supplies drugs, etc. as necessary.

And when opportunity offers a Field Ambulance out of the line does a fortnight's training per annum (vide A.A.M.C. Standing Orders).

A. B. Fraser