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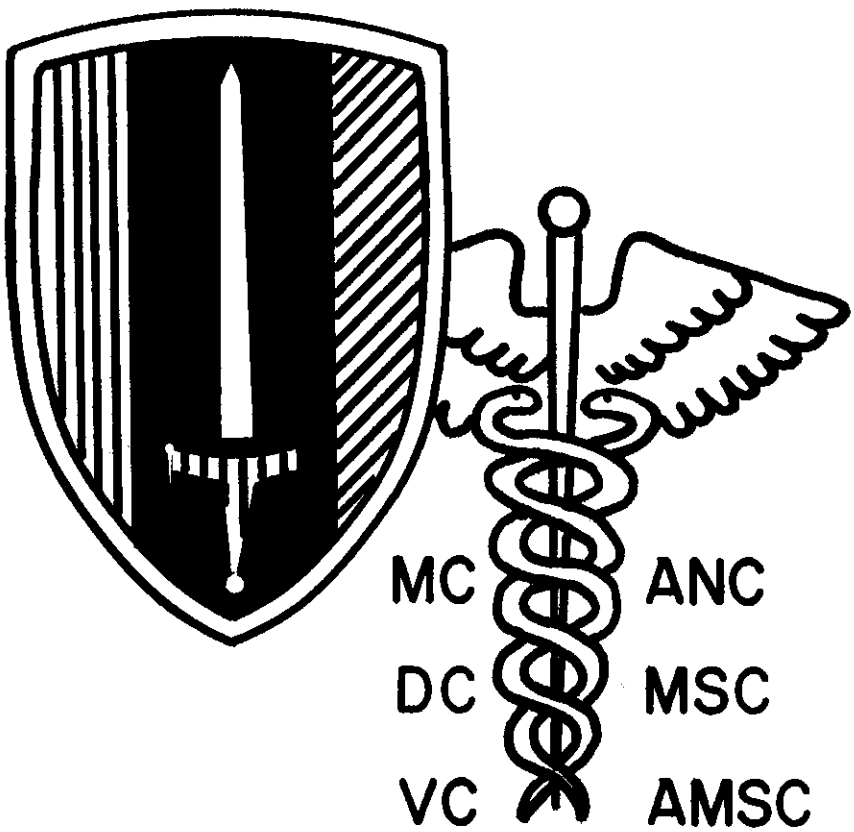

MEDICAL BULLETIN

JUL - AUG
1967

HEADQUARTERS
UNITED STATES ARMY VIETNAM
APO San Francisco 96375

PAMPHLET
NUMBER 40-4

15 August 1967

MEDICAL SERVICE

USARV Medical Bulletin, Jul-Aug 1967

1. PURPOSE: To provide information of interest and assistance to medical services of the US Armed Forces in RVN.

2. GENERAL: This headquarters does not necessarily endorse the professional views or opinions that may be expressed in this pamphlet apart from official notices. The contents of this pamphlet are not directive in force.

AVHSU)

FOR THE COMMANDER:

ROBERT C. TABER
Brigadier General, US Army
Chief of Staff

William H. James
Colonel, AGC
Adjutant General

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HEADQUARTERS, UNITED STATES ARMY VIETNAM
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IN REPLY REFER TO

TO EACH MEMBER OF THE ARMY MEDICAL SERVICE
UNITED STATES ARMY, VIETNAM

The accomplishments of the Army Medical Service Team in Vietnam need no proclamation, for these outstanding achievements stand on their own merit. I am tremendously proud to have been selected as the captain of this team and shall endeavor to guide it in a manner which will continue the high standards established by my predecessor. Success in a venture of this nature is almost totally dependent on teamwork and there is no place for the individual glory seeker. None of us should be satisfied to rest on the past record. Rather, every individual member of the team must strive for improvement in their respective jobs to insure attainment of the goal toward which we strive. Only in this fashion can we completely satisfy the mission of the Army Medical Service, "To Conserve The Fighting Strength," while concurrently assuring each individual member of the fighting forces in Vietnam the very best of medical care and treatment.

Glenn J. Collins

GLENN J. COLLINS
Brigadier General, MC
Surgeon

USARV MEDICAL BULLETIN

CONTENTS

Commanding General, 44th Medical Brigade
and Surgeon, United States Army, Vietnam

MANAGEMENT OF COMBAT REACTIONS

Captain John A. Bostrom*

For the purposes of discussion let us divide combat reactions into three types: Type I -- The Normal Combat Syndrome, Type II -- The Pre-Combat Syndrome, and Type III -- Combat Exhaustion.

TYPE I

The Normal Combat Syndrome consists of a state of anxiety secondary to the emotional and physical stress of combat. The differentiating feature here is that the anxiety is realistic and does not impair effectiveness. On the contrary, it prepares for combat exactly according to Cannon's "Fight or Flight" sympathetic reaction. It is no surprise, therefore, that the "good soldier" accepts these symptoms egosyntonically.

When individuals experiencing this syndrome seek help, it must be suspected that what ideally (from a military point of view) is egosyntonic is becoming egodystonic: "I don't like this feeling" -- "I don't like being scared" -- "Help me."

The essential therapeutic message is aimed at acceptance of the symptoms: "Of course, I'm scared -- this is war -- it's OK to be scared -- everybody else is scared, too."

Let us introduce a concept which should become clearer later on in the discussion of other types of combat reactions. This has to do with the blending of "paternal" and "maternal" messages in reference to combat. The paternal message may be represented as the mythical voice of the General or the President or God: "The battle must be won at any cost--so fight furiously--even unto death." This message translates readily into the vernacular -- "Let's go beat the h....out of them." The maternal message, which often finds substance in letters from home, expresses the infinite worth of the individual and the corruption of violence: "Be careful--don't take any chance--stay alive--just stay alive--you are more important than anything else in the world."

We use these two voices therapeutically with the following stipulations:

1. The paternal message is always kept dominant.
2. The maternal message is kept at a non-regressive level where it aids rather than undermines the paternal mission. For example--"We will give you food, drink, and sleep--so that you can keep fighting."

Returning again to the normal combat reaction, one may keep the paternal message dominant by focusing, for example, on the unit's mission, the current tactics, etc. Almost as an afterthought one may then give the maternal support. "I know how you feel--it's a tough war." The implication is not "you poor thing" (undermining the paternal mission) but rather "It takes real men to put up with all this," (supporting it).

*Division Psychiatrist, 1st Cavalry Division

The normal combat reaction should be handled right at the front. A good sergeant, medic or even a buddy can give the needed message. In three months, at the 1st Cav, only two soldiers with normal combat reactions reached the mental health clinic (about 50 miles to the rear).

TYPE II

The Pre-Combat Syndrome is characterized by the development of significant symptoms, to the point of some impairment in effectiveness. There is no question of psychosis, and hospitalization is not entertained.

Treatment is typically carried out at the battalion aid station. In three months, only eleven of such patients reached the mental health clinic.

Conceptually, the symptoms in the pre-combat syndrome have now become maladaptive. The symptoms can therefore no longer be accepted; they must be reduced. Again the paternal-maternal balance is vital. For example, in the case of a severe insomnia problem it may be advantageous to assert the paternal view before offering the pill. "If you don't sleep better it's going to be a lot harder for you out there." (Notice the message does not even consider the maternal wish that the poor boy be given a few days rest—at least).

Soldiers in this category often come on sick call with a psychosomatic complaint (e.g., nausea or tension headache), often come exaggerating an organic complaint (e.g., sprained ankle), and rarely come malingering. It is imperative that the doctor on sick call see his role as that of helping these people to have an easier time "out there fighting" and not that of eliminating symptoms. This attitude is crucial since it manipulates secondary gain to work toward, rather than away from, alleviation of symptoms. Or to put it another way, it makes Mother work with Father, instead of against him.

TYPE III

Combat exhaustion is here used to mean a state of psychosis or near-psychosis precipitated in a relatively stable individual by the stress of combat. It renders the individual almost completely ineffective and requires hospitalization.

In the 1st Cav over a three month period there were only four such cases.

In our treatment, as always, Father has the first word: "You've really gotten yourself into a horrible rundown condition—we certainly can't allow you to soldier in this state—you'll have to get some rest before you can return with us—hurry up we really need you out there." The patient is thus hospitalized so that he can return to combat as soon as possible.

We have been impressed with the physical as well as emotional weariness of the people in this group. We therefore emphasize "sleep therapy." As

soon as we finish talking with them (typically about fifteen minutes) we start 50 mg of Thorazine p.o. qid. Generally they go right into a deep sleep, regardless of the time of day or the degree of noise. They get up and go to the cafeteria for their meals and typically go right back to sleep after meals.

After 24 hours the patient is usually no longer psychotic and medication is discontinued. The patient is then told when he must return to duty, which in most cases is the next morning. He is then invited to express any feelings he has. Any bids at regression are handled in a firm but sympathetic way.

SUMMARY

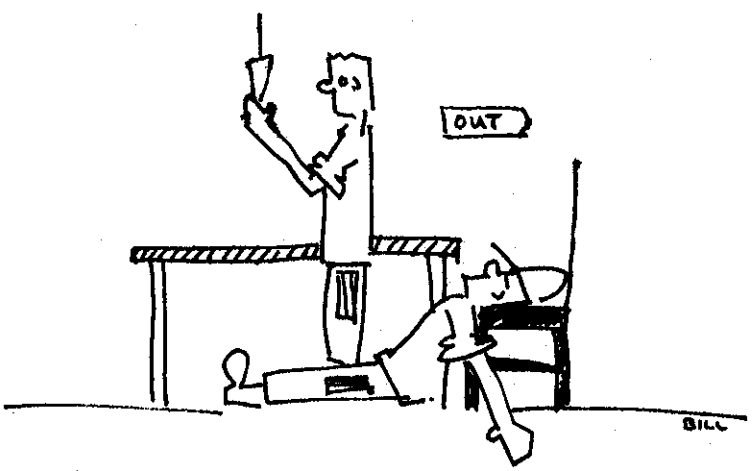
The experience in the 1st Cavalry Division has lent support to the current views of combat psychiatry which emphasize:

1. Decentralization--i.e., treating the soldier as soon and as far forward as possible.
2. Expectancy--i.e., creating an atmosphere in which all forces pull toward the soldier's quick return to combat.
3. Simple treatment--i.e., an emphasis on supportive measures such as food, rest, and sedation (as opposed to uncovering, intellectualizing, etc.).

To these principles we have added the concept of paternal and maternal messages as they reach the soldier. We have tried to emphasize the importance of the quality and balance of these messages. In short, the paternal messages must be dominant and the maternal messages must support the paternal.

REFERENCE

Ranson, Stephen W., LTC, The Normal Battle Reaction: Its Relation To The Pathologic Battle Reaction BULL. U.S. Army Med Dept 9: Suppl. 3-11 Nov 49



"That didn't hurt a bit, did it?"

MED-EVAC AND THE INFANTRY DIVISION

LTC Foster H. Taft, Jr., MC*

Historical background: The Army medical evacuation system has made substantial gains since World War II. In Korea the helicopter was introduced as a means of transportation of wounded in the evacuation chain. During the Korean War evacuation by air of urgent cases was occasionally from the site of occurrence of the casualty but most often from the battalion aid stations. The battalion aid stations held blood in their portable ice chests, and thus could render resuscitative care and stabilization prior to further evacuation to the MASH. Most casualties, however, were movable by litter jeep and ambulance to the clearing stations for triage and stabilization. Ambulance or resupply trucks evacuated to hospitals.

The development of Huey HID and its use of air-medical evacuation brought many variations in the evacuation of casualties. Most casualties now are picked up at the place of occurrence.

Points for discussion:

1. Problem areas resulted from failure to properly use air-medical evacuation along the well proven routes of medical evacuation.
2. Needless deaths occurring because of by-passing division level medical services.
3. Evacuation of patients too far to the rear burdening hospitals and air-medical evacuation unnecessarily.
4. Prolongation of time from casualty occurrence to professional medical treatment.

We may discover that some deaths occurring enroute to a hospital and some deaths occurring during the first 24-hours in the hospital could have been prevented by not overflying division clearing stations. I also believe that the giving of the prerogative as to where the patient will be evacuated to the aircraft commander is contrary to sound medical planning. Whether or not the aircraft commander is an MSC officer makes little difference. Only an MD can properly make the determination of urgency in each case.

Perhaps we should retrace our steps a little and not be fooled into thinking that the present use of the air ambulance is a panacea for battle field casualties. The most important thing is to get the patient to professional medical care as soon as possible. This means specifically to a physician as soon as possible.

In many instances the overflying of division level medical service is defeating this very purpose. When the division medical facility is closer to the casualty than a hospital is, it is obvious that the casualty should go to the division medical facility to get prompt professional medical care.

*Division Surgeon, Ninth Infantry Division

Where professional type medical care could be given in ten to fifteen minutes after injury, the time is extended to that required to by-pass the division level medical services and fly on to a distant hospital. This may be as much as 45-minutes. During this time no professional resuscitative measures are instituted and a significant number of patients arrive DOA. Others arrive in shock or bled out severely; some of these go on to die after surgery because of myocardial ischemia from prolonged shock.

We are continually thinking in favor of time from pickup of the casualty to the hospital. We should be most concerned with the time frame from injury to professional medical care be this at a hospital or clearing station. While the time from casualty occurrence to hospitalization has been shortened in Vietnam the time from casualty occurrence to professional medical care in some instances has been prolonged.

When an injured man might have been seen by the battalion surgeon in previous wars, in Vietnam the situation, employment of troops and terrain prohibit the forward placement of the battalion aid station in most instances thus not providing close professional medical support to the combatant units. This situation is overcome by the use of air-medical evacuation. However, the use of this means of evacuation should be used to increase the speed with which the casualty is seen by a physician.

Overflying division level medical services moves casualties out of the division who otherwise could be cared for by the division level medical service. This results in loss of manpower to the division and also ties up the medical evacuation flights for non-urgent injuries that could otherwise be taken on a short haul to the division clearing station and considerably reduce the burden placed on air-medical evacuation which lacks a sufficient number of aircraft to meet the requirements placed upon it.

The serious delays that we have overcome by the use of air-medical evacuation are in the area between the battalion aid station, division clearing station and the hospital. Previously, because of land transport and the situation, many delays occurred before the patient could finally reach a hospital for definitive care, and many lives were lost that can now be saved.

Have we really made as much progress in saving lives and limbs as we could with what we now have available in the medical chain of evacuation? I think not. We have increased only the speed with which the individual casualty reaches the hospital and in many cases this has been life saving and improved our mortality rate in combat. We have not, however, appreciably increased the speed with which the casualty is attended by a physician. In some instances, in Vietnam, this is not a great problem where the hospitals are close to the area of operation and division medical facilities are in close proximity to the hospitals. In other instances there has been considerable distance from area of operation to division medical facility to hospital.

An IV, blood, albumin, tourniquet, proper pressure dressing or tracheotomy done early following injury may in many instances save more lives. There are still deaths occurring daily from wounds of the extremities. The

man picked up from the field, jungle or rice paddy needs professional care as soon as possible. I do not feel that we are meeting that requirement as well as we could. Many talk about, but few do anything about, the failure to use our division level medical services.

Do we really need our division level medical services? The answer is definitely yes for many reasons. One, the type of warfare may change at any time to more conventional tactics or CBR may be involved, putting a heavy demand on divisional type medical services. Two, there are many units dependent upon the division level medical service for their primary source of medical support. Three, we need the division level medical service to do what it is not now doing; that is to provide immediate professional care to combat casualties.

I propose we reevaluate our air-medical evacuation system and come up with a better working solution to the problem of getting the casualty to professional medical care as soon as possible, whether it is to a hospital or to the division clearing station. Such a solution should incorporate and use to the fullest extent possible the division level medical service, which is in too many cases relegated to a limbo of infrequent use.

If we follow this proposal we shall make greater strides in our never ending effort to improve Army medical care in the field, thus saving mens lives and limbs, and additionally reducing the number of men evacuated out of the division that do not need to be evacuated. This will in several ways insure better performance of our job.

DEPENDENT'S MEDICAL CARE
Message from the Adjutant General
Department of the Army

It has been noted, in recent months, that several instances have arisen whereby dependent parents or parents-in-law have presented dependent indentification cards at civilian medical institutions and received civilian medical care supposedly under the civilian medical care program. Your attention is invited to AR 40-121 and AR 606-5 and to the fact that such services are not authorized at government expense for dependent parents or parents-in-law. They are only authorized medical care at any of the uniformed services facilities provided such services are available. Should a dependent parent or parent-in-law receive civilian medical care at a civilian medical institution, either the individual concerned or the military sponsor is responsible for the full payment of any medical expenses incurred. Your attention is further invited to the importance of issuing identification cards for dependents eligible for medical care immediately upon their becoming eligible for such services and insuring that the date they become eligible for civilian medical care is specified in item 15 b, DD Form 1173 as required by paragraph 47 j (2), AR 6-6-5. The importance of insuring that all Applications for Dependent Identification Card DD Form 1173 are prepared accurately and all priveleges authorized are so indicated cannot be over emphasized.

A SPECIAL MESSAGE TO THE UNITED STATES ARMY MEDICAL TEAM IN VIETNAM

It has been my greatest privilege to observe firsthand the high standards of care, treatment, and recovery measures being rendered to the personnel of the Armed Forces in Vietnam.

Your competence, courage, and dedication have been a source of pride and inspiration to me. I commend you for your brilliant achievements in our commitment to excellence in service to others. You have earned the gratitude and esteem of your patients, their families, and associates in your day-to-day activities.

As I retire from the Army Nurse Corps, I wish to take this opportunity to convey my gratitude to you for your exemplary and lasting contributions to the sick and injured of the Armed Forces and the Vietnamese people. It has been my honor to share with you the challenges and satisfactions through many years. A special salute to you and best wishes for happiness in the future.

Mildred I. Clark

MILDRED I. CLARK
Colonel, ANC
Chief, Army Nurse Corps

PRESENTATION OF PLAQUE TO CHIEF, ARMY NURSE CORPS

Chief Nurse, Office of the Surgeon, USARV

Upon the retirement of Colonel Mildred Irene Clark, Chief, Army Nurse Corps from 1963 to 1967, it was considered appropriate to present a plaque on behalf of the members of the Army Nurse Corps, now serving in the Republic of Vietnam, in appreciation for her dedicated and sincere efforts, as well as her outstanding leadership, which have made possible many improvements in the field of patient care and living conditions for more than 600 Army Nurses here. LTC Sara N. Lundy, former Chief Nurse of the 45th Surgical Hospital, was selected to make the presentation.

BLOOD PROGRAM GUIDE*

1. Purpose: This article has been published in outline format to facilitate its use as a guide to current concepts concerning acquisition and utilization of theater blood stocks.

2. Supply: a. Extra theater sources - normal supply stocks are provided from U.S. military sources IAW AR 40-3, Section X by USARPAC through the PACOM Blood Program Officer.

b. Stock levels - a seven day requisitioning objective is considered optimum with a four day reorder point. The situation is considered critical at the two day level.

c. Emergency sources - the primary source is the contingency reserve (para 8a). Intra-theater collection may be resorted to as the final effort, but should be used only under extreme conditions for blood resupply. The risks from using blood collected in theater are significant. All possible donors 1) are receiving malaria suppressant therapy, 2) usually have high titers of isoantibodies because of frequent immunizations, 3) may have significant immune isoantibody levels or hemolysins, 4) may be syphilis suspects, 5) are at high risk of hepatitis infection or contact. During periods of acute blood shortages, maximum use of microcrystalline solutions, 25 per cent human albumin, and 5 per cent plasma protein solution may be required for volume maintenance.

d. Planning factors - those installations having access to patient estimates may plan their blood requirements on the basis of five units per IRHA admission if they are providing comprehensive resuscitation and/or definitive treatment. This factor is a reflection of theater experience based on incomplete data and is ten times the factor provided by DOD Instruction 6480.4 (8 Nov 63) and extracted in USARPAC Regulation 40-6 (25 May 66).

3. Distribution: 1 AW USARV Regulation 40-26.

4. Storage temperature: a. Optimum - 4-6°C (39-43°F).

b. Limits - 0-10°C (32-50°F). Do not allow to freeze. Large and/or frequent variations in temperature are detrimental to the preserved erythrocytes.

5. Selection for transfusion: a. The most desirable blood for transfusion is the freshest blood available of group and type specific for the recipient which has been completely and accurately processed and completely crossmatched. Such a combination of factors will not always be obtainable.

b. Economical and efficient use of the blood supplies available in this theater requires unlimited acceptance of blood to the 21-day age limit, and limited acceptance to the 31-day age limit. This policy will reduce

*Prepared by Major William B. Fuqua, MC, Commanding Officer, 406th Mobile Medical Laboratory

wastage. The 21-day age period was adopted in accordance with recommendations by the National Research Council based on studies using glass containers. The criterion chosen was 70 per cent 24-hour post transfusion erythrocyte survival determined by radioactive tracer techniques. Similar studies using plastic containers and the same criterion indicate an acceptable shelf life of more than 28-days and less than 35 days.

c. In those instances where the patient is endangered by the time delay necessary for complete compatibility testing, the physician may elect to accept the blood with any amount of testing omitted, to the extreme case of accepting group O blood for use with only verification of the group. All blood banks should maintain a stock of verified group O blood for such occasions. This verification is accomplished by grouping a sample from the "pigtail," and not the pilot tubes. In those instances where group and type specific blood is requested without crossmatch, verification of the blood unit group should be done on a "pigtail" sample before release. Pilot tubes should not be used for group verification.

d. It is recommended that a blood triage team be established consisting of the laboratory officer and a specifically designated member of the surgical staff. Local guidelines should be prepared in advance to aid in deciding when to use uncrossmatched group specific or group O blood. This decision must take into account the functional capacity of the laboratory.

e. All patients receiving four units of group O blood should continue to be transfused with group O blood unless a minimum of two weeks has elapsed since the last transfusion and the minor crossmatch is compatible. If the patient is of blood group other than O, every effort should be made to transfuse him with blood units having isoagglutinin titers against group A1 and group B cells of less than 1:200. This is not to be construed as prohibiting the transfusion of high titer units in the absence of low titer units.

f. Group AB patients should be transfused to the limit of available supplies with the following blood groups in order of decreasing preference and without reverting to a "more preferable" group as supplies again become available--AB, A, O.

g. All Rh O negative blood should be reserved for group and type specific transfusion, and should not be released for patients whose type is unknown. As supplies of Rh O negative blood are exhausted, the patient should continue to be provided blood selected on the basis of blood group considerations only.

h. Blood less than 24-hours old should be requested for those patients receiving more than ten unit transfusions when labile factor depletion is clinically manifest, and released on the basis of one fresh unit after the tenth transfusion and after each subsequent sixth transfusion of banked blood. Group and type considerations should be the same as outlined previously.

6. Compatibility testing: The method is given below in steps 1-14. Discussion and notes are given on the reverse. The various portions of the method are labelled.

1. Set up and label two 12 x 75 mm tubes to contain:

MAJOR: Button of cells obtained from 2 drops of 2 per cent donor cells in saline with 2 drops of recipient's serum.

MINOR: Button of cells obtained from 2 drops of 2 per cent recipient cells in saline with 2 drops of donor's plasma or serum.

Low Protein Phase

2. Suspend cells in the plasma or serum.

3. Centrifuge just enough to obtain a clear supernatant liquid.

4. Examine for hemolysis and/or agglutination.

High Protein Phase

5. Add 2 drops of 22-30 per cent bovine or human albumin. Mix.

6. Repeat steps 3-4.

7. Incubate 30 minutes at 37°C.

8. Repeat steps 3-4.

Anti-Human Globulin Phase

9. Wash cells four times rapidly and without interruption with two-thirds tube volumes of saline.

10. Decant the final wash completely, removing the drop adhering inside the mouth of the tube by absorption into a piece of bibulous material.

11. Add 2 drops of anti-human serum. Mix.

12. Repeat steps 3-4.

Reagent Check

13. On all apparently compatible crossmatchs, add one drop of coated O Rh O cells to each tube. Mix.

14. Repeat steps 3-4. If agglutination is present at this point, the crossmatch must be repeated. The technician can be responsible for readings at all step 12. The laboratory officer or a medical officer must read step 12.

The coated O Rh O cells are prepared by 15 minute incubation at 37°C of 4 per cent cells suspended in saline dilution of anti-Rh O (the dilution will

vary with the titer of the anti-Rh O; one lot gave satisfactory results when one drop was diluted in 6 ml physiologic saline). Free globulins are removed by four saline washes and the cells are finally suspended to 4 per cent suspension. The reaction should be tested for each lot of cells. Store in ice water. Prepare fresh daily.

This method of testing meets contemporary CONUS standards of acceptable and recommended practices if carried to completion. When medical necessity dictates, blood may be accepted by the physician at any step of the procedure at an ever increasing risk. The complete test will require about five minutes after the patient's blood specimen is separated and grouped. Going through step 6 requires two more minutes. Going through step 8 requires about forty minutes.

The minor test is desirable except when testing Group O blood for use with a non-group O patient.

7. Hemolytic reactions: The early detection and therapy of intravascular hemolysis is often life saving. A hemolytic reaction may present as a febrile episode, hypotension, or oozing at wound sites.

When a hemolytic reaction is suspected, the suspect unit of blood should be stopped; a blood specimen obtained immediately by an atraumatic venipuncture, and the patient's plasma examined for pink discoloration.

Hemolysis becomes visually evident at 30-40 mg per cent of plasma hemoglobin, far below the renal threshold of 120-150 mg per cent. If the plasma shows no hemolysis, a hemolytic reaction is unlikely, and no specific therapy is necessary other than that directed at the patient's primary problem. However, if the plasma is discolored by hemoglobin, treatment with osmotic diuretics and other measures to prevent renal shut down should immediately be added to the therapy. The incriminated unit of blood and the patient's blood sample should be sent to the laboratory for confirmation of group, type, and crossmatch compatibility, and a gram stain done on blood from the unit to detect bacterial contamination. The first voided urine should be examined for hemoglobin. If the urine is clear yellow it is reported as negative. If discolored,it should be centrifuged to rule out hematuria. The pertinent clinical history and laboratory data should be included in the monthly blood bank report.

8. Waste: a. A contingency reserve should be established with blood past its 21st day until the end of the 31st day. The size of this reserve should be the maximum compatible within the limits of refrigeration capability and available supply.

b. Blood older than 31 days should be destroyed by incineration or other methods which will render both the blood and the container unsalvagable for any purpose.

c. Blood older than 21 days and less than 31 days, which is not required for the contingency reserve, may be transferred to other Free World Forces of assistance programs if the medical standards and practices of the receiver permit its acceptance and use.

SPECIAL PROBLEMS OF PSYCHIATRIC PATIENTS EVACUATED FROM VIETNAM TO A BACK UP HOSPITAL

Captain Dave M. Davis, MC*

In addition to the improved and informed psychiatric treatment in the area of combat now going on in Vietnam, several hospitals have been established in the Far East area which serve as "back up" for the combat zone hospitals. This means that a patient can be removed from the actual combat zone without being returned to the United States. Some of these hospitals are equipped to provide all types of definitive psychiatric care.

Source of Patients

During the first fifteen months of its operation, beginning in January 1966, the psychiatric section of one of these hospitals handled 155 cases from Vietnam as inpatients. In addition to Vietnam evacuees, the psychiatric staff handled ward patients from Thailand and Japan, provided a consultation service for one 1,000 bed and one 500 bed general hospital, and acted as the mental hygiene consultation division for several small installations in the surrounding area. The diagnostic distribution of these inpatients from Vietnam is shown in Table 1.

Paranoid complaints

The psychotic group included 66 schizophrenic patients. Of this group, 37 per cent were evacuated during the first third, 40 per cent during the middle third and 24 per cent during the final third of their one year tour. The frequency of paranoid schizophrenia in this group was almost half the total. In addition paranoid symptoms (persecutory delusions, ideas of reference and/or delusions of grandeur) were prominent in many of the other schizophrenic patients, so that of the entire group, 48 or 73 per cent had clear cut paranoid symptomatology.

The youthfulness of the patients (average age 24) the rather acute fulminating onset and the obvious stresses encouraging the precipitation of illness were indications that many of these men might have a quick recovery. Only five had previous hospitalization for psychiatric reasons. A total of 30 men or 45 per cent of the schizophrenic population were felt to have recovered sufficiently within 90-days to be returned to duty; none, however, were returned to Vietnam. The average time of hospitalization for the recovered group was 46 days. These men were thereby made available for reassignment to non-combat positions in the Far East area, saving time and expense which would be involved in returning them to the United States. Those patients who did not recover in 90 days were further evacuated to the US for longer term care.

*Psychiatrist, 249th General Hospital, Japan

Somnolence

From observations made on our inpatients, there would seem to be some danger in using phenothiazines on an outpatient basis in Vietnam. It is well known that one side effect of the phenothiazines is somnolence. Since Vietnam is an area endemic for malaria, all patients received at our hospital are routinely continued on the prophylactic anti-malarial medication they were receiving in Vietnam. This tablet, which contains chloroquine 500 mgm and primaquine 79 mgm, is administered once weekly for eight weeks. A marked increase in drowsiness was noted in many patients who took these medications concomitantly. There has been no noted drowsiness from the chloroquine-primaquine tablet except in those patients who were also taking phenothiazines, and the effect does not appear to be directly related to the dose of phenothiazine. Although there is marked individual variation from no effect to marked somnolence preventing participation in routine ward activities, it does appear from week to week in the same individuals. This sleepiness may persist for up to 36-hours. Only limited success in avoiding this has been achieved by decreasing the dose of phenothiazine on the day of concomitant administration and by giving the C-P pill in the evening. Some type of synergism might have been expected, since the chemical structures of chloroquine and primaquine are similar to that of phenothiazines. As this anti-malarial medication is routinely administered to all American troops in Vietnam, the reactions to phenothiazines on an outpatient basis should be observed.

Summary

1. Psychiatric facilities located outside the combat area provide treatment closer to the area of precipitation of the illness, yet are outside the United States. This reduces some of the secondary gain obtained from being sent "home" yet provides relief from the area of intense stress.

2. In schizophrenic patients treated at such a hospital, paranoid symptoms abound but intensive treatment often allows an early return to duty in a less stressful environment.

3. Enhanced somnolence was observed in many individuals concomitantly treated with phenothiazines and the chloroquine-primaquine anti-malarial tablet.

Reference

Tiffany, W. J., and Allerton, W.S.: Army Psychiatry in the Mid-60s, Amer. J. Psychiat. 123:810-821, 1967

TABLE I

Diagnostic Classification Of Patients

	Number	Per Cent
Psychosis (total)	76	49
Schizophrenia (sub-total)	66	43
Paranoid	32	21
Undifferentiated	25	16
Schizo-affective	1	0.6
Catatonic	1	0.6
Other and unclassified	7	5
Psychotic depression	2	1
Psychosis, not otherwise specified	4	2
Organic brain syndrome	4	2
Neurosis (total)	26	17
Depression	7	5
Anxiety	6	4
Conversion	6	4
Dissociative	3	2
Mixed	1	0.6
Psychophysiological reactions	3	2
Character and Behavior Disorder	46	30
Combat Fatigue Syndrome	3	2
No Disease Found	4	2
TOTAL PATIENTS	155	

Communications Concerning the paper on "Special Problems Of Psychiatric Patients Evacuation From Vietnam To A Back Up Hospital

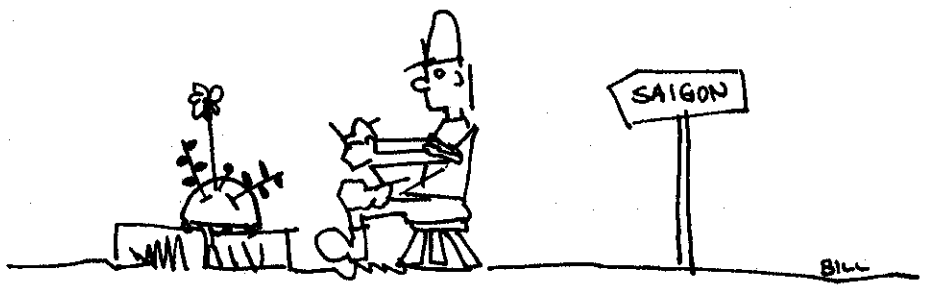
Captain Sanford Jacobson, MC*

"...My experience over the past month in reference to chloroquine-primaquine synergism with Thorazine fails to leave any definite impression. I have seen about twenty outpatients over a period of two to four weeks who are on low dosages of Thorazine, usually 25-200 mg daily. I have asked if they noted any undue drowsiness without probing excessively since I did not want to suggest a positive reply. When asking in this manner I received no replies suggesting drowsiness occurred only for a few nights and that it followed ingestion of this malaria pill.

Two patients, however, spontaneously reported they were extremely drowsy and could not work. Both episodes occurred on a Tuesday and both had taken their malaria tablet Monday. Both patients were receiving Thorazine 100 mg. hs. I advised both not to take their Thorazine on the evening of the day they took their malaria tablet.

Obviously these cases lend only minimal support to Captain Davis' report. It is interesting that he reports considerable individual variation in the synergestic response. Any meaningful study would require fixed dosages of phenothiazines, double blinds, etc. If such synergism exist it is not frequent..."

*Psychiatrist, 17th Field Hospital



"How long have you felt that your fox hole was closing in on you?"

IMMOBILIZATION OF FRACTURES AS PRACTICED IN VIETNAM

Captain Richard B. Welch, MC*

INTRODUCTION

The method of treatment of a medical condition is dependent on the goal that one hopes to attain. In Vietnam the care of fractures is concerned mostly with the soft tissue structures and not primarily concerned with the osseous components. Our goal is to achieve a wound that is free of infection or debris when ready for closure without sacrificing vital structures during the initial debridement. This is a very limited but vital goal. Reduction, alignment, and apposition are all of secondary importance in the treatment of battle casualties. A detailed and thorough knowledge of anatomy is paramount.

It is inevitable that during treatment or evacuation of casualties wounds and fracture sites will be disturbed. These disruptions in the immobilization of fractures influence the primary care of the fractures. If the immobilization device will be removed in five to ten days and then again in another week, it is of no use to become overly concerned with anatomic apposition and alignment. One should attempt to maintain length and alignment in long bone fractures but these are of secondary importance. Reduction should be accomplished to the extent that neurologic or vascular structures are not impaired and immobilization should be sufficient to alleviate pain and enhance wound healing.

At times fractures will heal in spite of inadequate treatment but at other times will fail to unite no matter how meticulous the care. The Chinese physicians in Vietnam use a combination of twine and bamboo staves to immobilize a fracture after alignment. Combining this with early mobilization enables them to achieve good functional results. The materials and methods employed in immobilization of fractures are legion, therefore, this paper will be confined to the immobilization techniques used in Vietnam.

Splints

The majority of fractures arrive at hospitals in less than an hour from the time of their occurrence and are unsplinted. The type of splints used in the field are usually crude logs. A rare patient is seen with the extremity immobilized on a Thomas splint or a wire ladder splint. This is due to the peculiarity of this conflict. Helicopter evacuation by-passes the battalion aid station and clearing company. This gives the hospital the responsibility of first echelon care.

The use of plaster of paris splints after debridement is an acceptable method of immobilization. Fabricated splints such as the posterior gutter, wire ladder, and Mason Allen hand splint should not be used because they do not conform to the extremity or immobilize well.

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Stable fractures may be immobilized with a posterior well padded and molded splint. A fracture of the radius with an intact ulna or a fracture of the tibia with an intact fibula, can be immobilized very effectively in a plaster splint. If the fracture is unstable a long leg cast should be used almost without exception.

The splint should be applied with as much care as a cast. The limb should be prepared with sheet wadding and bony prominences need padding. Care should be exercised in applying the dressing to the wound to prevent constricting bandages. The edges of the splint should be rolled to preclude sharp cutting edges. We use an ace bandage to mold the splint to the extremity being careful not to pull the ace bandage. To prevent slipping and render better immobilization the ace bandage is applied directly to the plaster. Failure to take these precautions in the application of a splint may cause disastrous complications; i.e., ischemia, edema, pressure points, and skin ulceration. Splints carried too high on the back of the leg may cause bullae at the buttocks crease.

Advantages of plaster splints over circular casts are 1) ease of application, 2) less tendency to constrict, 3) ease of removal and 4) conservation of materials. One should remember that improperly applied splints may cause any of the complications of circular casts and careful follow up examinations of the patient are required.

The Thomas splint which was reputed to significantly reduce morbidity and mortality in World War I continues to play an important role. Patients with fractures of the femur and concomitant abdominal or chest injuries cannot be treated with a spica. Such cases have been treated by contained skeletal traction from the tibial tubercle to the end of the Thomas splint. The ring must be padded and the buttocks inspected, and cleaned to avoid any pressure complications. We do not use a Thomas splint incorporated in plaster with fixed traction as treatment for fractures of the femur. This technique was complicated by many pressure problems about the ring and is unnecessary.

Casts

The use of casts for immobilization in Vietnam is a standard technique. Routinely splitting the plaster and dating the cast is an excellent rule no matter where one is practicing medicine. If swelling is anticipated or occurs the cast may be bivalved and the extremity left in the posterior shell. This shell is actually stronger than a splint when the posterior shell is of a greater arc than the anterior shell.

We are in agreement with the Eiseman report that hanging arm casts are of little value in the treatment of fractures of the humerous. We initially used hanging arm casts but it was readily apparent that the patient immobilized in a well padded Velpeau dressing were more comfortable. It is difficult to control angulation if Velpeau plaster slabs are used after the

manner of Watson-Jones, but this is of little consequence. The Velpeau also gives the operator the opportunity to apply even compression over the wound and limb. A traction cast with a loop at the elbow has been used for patients with concomitant thoraco-abdominal injuries or requiring a thoracotomy. In patients treated by closed thoracotomy, it has been feasible to use a Velpeau to immobilize the humerous. The use of a shoulder spica cast in the initial care of wounds about the shoulder girdle has not been necessary.

Patients admitted with a fracture of the femur are immobilized in a hip spica utilizing the Army portable spica table. If the fracture is located in the supracondylar or condylar area it is acceptable to use a long leg spical. Fractures of the femur proximal to this level should be immobilized in a one and a half spica. The portable fracture table has been satisfactory for the application of these casts. Surgeons who feel more hardware or applicances are needed do not understand the use the table or the initial care of fractures. The incidence of pin tract infections is significant in the best of circumstances. Pin tract infections seen during World War II with the Roger Anderson devices were catastrophic. We do not feel that a pin in the distal femur or proximal tibia incorporated into a spica cast is necessary or desirable.

The use of the portable fracture table produces certain problems that can be minimized. Excessive lordosis is at times a real problem and can lead to pain in the lumbar spine. This can be overcome somewhat by the use of pads and altering the position of the feet. There is a tendency for posterior bowing of the involved limb to occur. This may cause traction and pressure on the neurovascular bundle with resultant complications. Posterior bowing can be managed by using traction, slings, and applying the cast in sections.

In short, the application of a comfortable, well molded spica cast giving good immobilization is quite feasible with the use of the portable fracture table. There is no reason to employ unnecessary metal in these cases.

Internal Splints

The use of internal fixation of fractures has limited applicability in Vietnam. It is well known that the inert metals employed in the fabrication of orthopedic appliances do not increase the incidence of infection. If an infection occurs in a wound with such a large foreign body as an intramedullary nail, it is difficult for the host to control it. Antibiotics, closed tube irrigation and other adjuncts are helpful but do not eradicate the infection. If the debridement were adequate and the wound were free of infection there would be no contraindication for the use of primary internal fixation. We have limited internal fixation to those cases where the extremity is in jeopardy.

We have also used metallic fixation for unstable hand injuries and long bone fractures with vascular repairs. With blasting cap injuries of the hand there is a large soft tissue defect and unstable fractures predominantly of the radial components of the hand. The thumb may remain with only a tenuous soft tissue bridge of flexor tendon, a portion of the thenar musculature, and a neurovascular bundle. It is important to stabilize the thumb with a K-wire to prevent torsion on the remaining neurovascular bundle and to relieve tension on the skin suture line. We have closed these wounds after thorough debridement, realizing that this is controversial. Occasionally multiple pin fixation in the hand has been used to stabilize the remaining bones and allow closure of joints and tendons without tension. Pins or wires are not used routinely but in cases posing special problems.

The second indication to use internal fixation is for fractures of long bones with an associated vascular injury, notably the upper arm and thigh. If trauma to the lower arm and calf is so extensive that both bones are fractured and the arterial supply is interrupted amputation is usually necessary.

The femur and femoral artery is the most frequent location of this injury. The Kutscher nail has been used to stabilize these fractures and, if properly inserted will accomplish this. The use of an intramedullary nail in fractures caused by high velocity missiles is not without pitfalls. The first concern should be the prevention of infection by meticulous, thorough debridement.

These fractures are very comminuted with many pieces of free or loosely attached bone. The comminution will allow shortening to occur. In the upper extremity this is not necessarily disabling but in the lower extremity more than two inches is unacceptable. It is better to allow some distraction and plan for subsequent bone grafting than to shorten the leg by more than two inches. Selecting the proper length nail is important in preventing excessive shortening.

The Rush rod has not achieved rigid immobilization of the fractured humerus. It is easily placed and controls alignment but it has little effect on torque. The rod will not prevent migration of the distal fragment with resultant distraction at the fracture site. The tension of an arterial repair is likely unless additional support of a well fitted Velpeau is applied. We prefer a slotted plate; others have used a small Kuntscher rod.

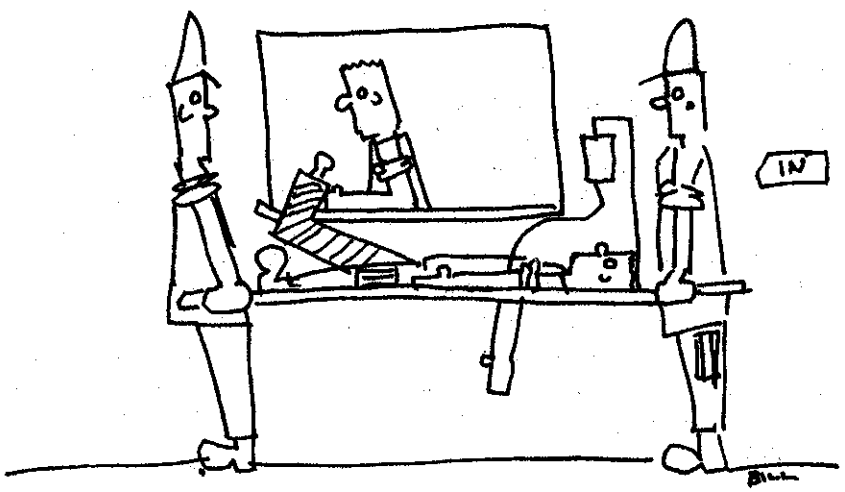
Because of inadequate follow up our results are not known. There have been reports that combined procedures of intramedullary nailing and vascular repair are frequently complicated by infection and amputation becomes necessary. Two recent cases have been reported to have had amputation and one is draining at the fracture site. It is felt that inadequate debridement and/or unwarranted attempt at limb salvage is the problem rather than the metal implant.

One patient had a popliteal artery injury and a fracture of the mid-shaft of the femur. These were separate wounds and it was demonstrated at surgery that with traction on the leg no excessive tension was placed on the artery. A spica cast was acceptable in this case without compromising the arterial repair.

The powerful muscular forces on the proximal fragment of a fracture can be seen as these muscles go into spasm. Excursion of the proximal fragment is not controlled by the plaster cylinder and the arterial repair may fail. In this setting, internal fixation may be the only method of saving the extremity.

CONCLUSION

A discussion of the management of the more serious fractures occurring in Vietnam has been presented. Opinions are based upon a nine months experience in a busy surgical hospital. It is hoped that this paper will benefit others engaged in this work.



"Does he have his health records?"

THE PROBLEM OF BEING FROM IOWA*

LTC Matthew D. Parrish, MC**
LTC Ralph W. Morgan, MC***

The patient organism considered in this case is that of a military unit. As with individual patients, an organ or a symptom is presented as the problem and often the patient does not want his "whole person" treated. It is only occasionally effective to treat a single symptomatic organ in a person or a single symptomatic individual in a unit. Every individual psychiatric case referred to the NP Service is therefore logged in as a member of a unit; then at least the unit's rate of psychiatric complaint is considered. That which is seen in the group as a rate is seen in the individual as a probability or in other words, as a prognosis. A small group like a company, however, can behave as a single organism with its own prognoses.

BACKGROUND

During the psychiatric service's routine visit to a dispensary, the dispensary surgeon supporting the nth QM Company reported that sick call rates were double that of comparable companies. In the past four months there had been one suicide and three divorces. The surgeon felt that a human relations consultation would help the unit and told the CO that he wanted to call in a command consultant for one afternoon. The consultant was a psychiatrist assisted by an E-5 Social Work Specialist.

The QM Company, in its chronic, somewhat under-strength, state consisted of a Captain, three Lieutenants and 150 EM. The officers and especially the Commander talked at length with the psychiatrist while the NCO's and some privates talked with the Specialist. The Commander was from Iowa, age 32, unmarried and showed prodigious energy and extreme meticulousness about details. He had had long service as an EM and considered himself a member of the old "brown shoe" Army. The Army and his unit's mission was the central focus of his life, and his Lieutenants felt he was always way ahead of them. He maintained a very detailed card file on every member of his unit and often worked until 2200 keeping up these records, interviewing complainers, etc. He felt he had been placed in command by his headquarters in order to "straighten out" the unit. He laid out, for the psychiatrist, the difficulties as he saw them:

1. The membership of the company was too largely "poor material." Many of his men had medical profile restrictions and were assigned to the Quartermaster because it was felt that Combat Arms would be too demanding upon them.

*Reprinted from Med Bull US Army Europe, 22:467-468, Jan 1965.

Ed. Note: While this case occurred in another theater its unit-centered method is not inappropriate in Vietnam.

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2. The NCOs took less than average initiative and responsibility.

3. The Lieutenants were inexperienced and not to be trusted far.

The commander had tried to meet the growing problem of his unit by increasing suppressive measures. When the sick call rate rose, he required each man to check in all his equipment before going to the dispensary. On return from sick call, members had to redraw their equipment. The troops were marched to and from sick call by an NCO, specially detailed by roster. This and similar measures of close supervision had required longer work hours for NCOs.

The troops had met the CO's effort with increasing passive resistance. The most flagrant example was a recent one on which the commander dwelt at length:

A tank truck driver in the unit had brought a load of 5,000 gallons of gasoline to a storage depot. When a civilian employee had pointed out the storage tank to him, the driver knew from the color of the intake pipe that this tank contained Diesel fuel. He did ask the civilian employee once more if he were sure that this was the correct tank. On being cursorily reassured, the driver put the whole 5,000 gallons into the tank of Diesel fuel, thus rendering useless both gasoline and Diesel fuel. In the subsequent investigation, which was still going on, it seemed that the commander would be held financially liable for this "mistake."

GROUP DATA GATHERING

In order to gain further data, the command consultant and his enlisted assistant obtained permission from the CO to talk with members of the company individually and in groups. The group interviews with the troops allowed one member to stimulate another so that a kind of "group memory" was tapped regarding group behavior. Thus many of the ramifications of the unit's attempts to manage the CO were brought to light. Although there were several examples of bright NCOs who had special profiles for orthopedic difficulties or allergies, the general intelligence level of the lower grades seemed somewhat below that of the average infantry company. Most significant, however, was the manifestation of a facile but covert cooperativeness among the troops, which no one member was fully aware of. In general, the troops were developing a cache of tradition concerning their struggles with the commander. It appeared that the commander himself had interpreted this response as a meaning that the unit had been assigned "poor material." After one incident which had particularly irritated the commander, he addressed his men to the following effect: "I know that I am having trouble with you men, but I will tell you one thing. In all my long experience I have never had trouble with a man from Iowa." Within the week, another incident occurred. The picture of the commander was removed from the "Chain of Command Gallery" and defiled in a particularly disrespectful way. The culprit, a member of the company, was found with surprising ease. He turned out to be a bright and willing worker who had always been cooperative and never in trouble, but surprisingly he hailed from the state of Iowa.

In group interview with the consultant, the troops brought out that right after the commander had made his pronouncement about men from Iowa, they had quickly pooled and searched the company memory in a manner which seemed reminiscent of a digital computer with human parts. There was only one man from Iowa, and regardless of his former desires to remain meekly in the background, he was the only pawn in position to check the King. He had to like his role, because all of his social world liked him in it. Several made him happily drunk and inspired him to desecrate the commander's picture.

COMMAND CONSULTATION

In the consultant's interviews with the commander, no advice was given, but rather, the commander was led to review in his mind and to explore the possible meanings of all that had happened. The commander then concluded:

1. That he was trying to do all the work in the unit himself, and was failing at this impossible job.
2. His officers and enlisted men were probably no different from those which any other Quartermaster unit was getting.
3. That when the commander defined a group as an incapable one, it usually responded as if it really were.
4. The troops were showing, indeed, a good deal of energy and ingenuity in working with what they considered their real problem.
5. The mission could not be accomplished well unless the commander could induce in his men the motivation to use most of their collective ingenuity, aggressively toward the formal mission and not toward the hidden mission of obstructionism.

In the presence of the consultant the commander laid out the following plan:

1. He would reduce all non-essential duties which took up the time of the personnel, e.g., NCOs would stop marching men to sick call.
2. He would encourage and secure continual suggestions from his officers and NCOs, how the mission of the unit could be better accomplished and would allow them, as far as possible, to work through these suggestions, with responsibility of their own.
3. Place the responsibility for already defined sections of the unit mission upon his officers and NCOs and allow them to carry out these responsibilities in their own ways—falling, if necessary, on their own faces.

In the ensuing weeks the dispensary physician reported that the sick call rate had fallen below the average. Occasional members encountered by workers of the psychiatric section reported changes for the better to the point that no further formal contact was considered necessary by the consultant and the unit's health was merely followed through the surgeon.

DISCUSSION

Much the same consultation attitude and techniques employed in this case are described in an extensive civilian [1,7] and military [3,4,5] literature. There is no particular diagnosis in this case; the initial problem is to delineate the disturbed social organism.

The treatment of the community organism as a whole (the so-called Third Psychiatric Revolution) has its concurrent "revolutions" in Industry and Management[6]. This concurrence has increased the usefulness of human relations consultants to command managers. In this work the medical profession has great advantage in that society does not question the prerogative of the doctor to communicate intimately with all echelons. In most military cases, the consultant simply enters the unit along the lines of communication and the good will already established by the battalion surgeon.

While most managers will agree that other people's units should be looked at as a whole, they tend to see crises in their own units as due to the acts of some particular individual and they may try to induce the doctor to treat certain individuals and carefully to neglect the rest of the group organism. Because the military commander is responsible for the mental health of his unit and its individual members, it is relatively easy for the surgeon to involve the commander and the unit as a whole. This is done routinely in Preventive Medicine. Psychiatry which examines many "stylish" symptoms and "faddish" behavior influenced by the prevailing social outlook, is often a form of Preventive Medicine.

SUMMARY

A case is described in which the behavior and symptoms of certain individuals were seen as communications symptomatic of a disturbance of the total unit as an organism.

BIBLIOGRAPHY

1. BUSHARD, Bruce L.: The U.S. Army's Mental Hygiene Service in Symposium Preventive and Social Psychiatry, Washington, D.C., Walter Reed Army Medical Center 1957.

2. GLASS, A. J. et al.: The Current Status of Army Psychiatry, Am. J. Psychiatry 117: 673-683, February 1961.

3. CAPLAN, Gerald: Principles of Preventive Psychiatry, London, Tavistock Publicatinns 1962.

4. WESTMORLAND, William C.: Mental Health - An Aspect of Command, Military Med 128: 209-214, March 1963.

5. PARRISH, Matthew D.: Consultation Concepts in Military Mental Hygiene, Med. Bull. U.S. Army Europe, 21: 18-20, January 1964.

6. HART, B.J.: Dynamic Systems Design, London, Business Publications 1964.

7. MERTENS de WILMARS, Charles: L'Intervention sur les Organizations, Centre d'Etudes Psycho-Medico-Sociales, Univ. of Louvain, Belgium 1964.

MALARIA DISCIPLINE

Major Taras Nowosiwsky, MC*

The issues raised in the article, "A Comparison of 300 Malaria Patients and 300 Non-Malaria Servicemen," by LTC Edward R. Murray, MSC, (USARV Medical Bulletin, Vol II, No. 3, May-June 1967) are of considerable interest, both to AMEDS and to command readers of the Bulletin throughout the U.S. Army. While the idea of the study and the effort are commendable, I question the validity of some of the author's findings. To be specific, I have serious reservations about the following main points:

1. The study control. The selection of this group was based on rather ill-defined criteria. Cross-sectional composition of the group by unit appears adequate. However, there is no mention of group composition by type of duty performed within a unit and by degree of exposure to malaria. These variables are very critical since they can profoundly influence the individual's risk for acquiring malaria. Another consideration is the manner in which the control group was chosen. This invites bias by "selection", in that these individuals may possess certain biological and/or other attributes which would result in malaria risk factors different from those found in an average group of soldiers. For example, it is known that many individuals do not get bitten by mosquitoes as often as others, and some are bitten only very seldom. This fact led to the currently held hypothesis that the cutaneous secretions of some individuals possess repellent action.

2. Subjective responses. The truthfulness of the responses of the control group may be quite different from that of the malaria group. The soldier who has successfully completed his tour in Vietnam without getting malaria may well be inclined to admit his poor participation in the program for malaria prevention. On the other hand, fear of possible punishment may tempt an individual with malaria to conceal his poor practice of preventive measures. This type of difficulty may best be avoided by studying this and similar problems in a prospective fashion.

3. Chloroquine-primaquine and dapsone prophylaxis. The author's statement on p 9, para 2, lines 3 and 4, "...Since Dapsone is designed as a protective measure against Falciparum and C-P against Vivax...." is certainly incorrect. The chloroquine-primaquine drug combination is used as prophylactic against both species of malaria; however, its effectiveness is relative in those areas where drug refractory strains of P. falciparum are encountered. In order to improve the effectiveness of chemoprophylaxis against these resistant strains, dapsone was added during the summer of 1966 as an additional prophylactic drug. Prior to that time a field trial was conducted which showed that the addition of dapsone to standard chloroquine-primaquine prophylaxis (when adequate malaria discipline is present) would cut the incidence of symptomatic disease by almost one-half. However, this

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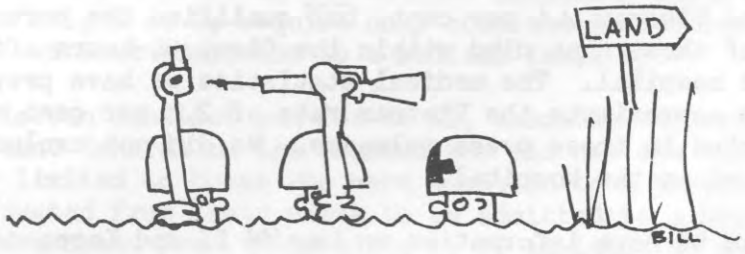
study had one important weakness, namely, that the dapsone and the placebo group were randomized by companies rather than by individuals. A second dapsone trial which was conducted among the Korean soldiers in Vietnam and which employed individual randomization, has fully supported the findings of the former study. Both inquiries were prospective in nature and were specifically designed so as to elicit the degree of effectiveness of dapsone as an adjunct prophylactic drug against falciparum malaria. The few methods described in LTC Murray's paper do not possess sufficient discriminatory ability for the satisfactory evaluation of drug effectiveness. The presence of a flaw in this aspect of the study design is suggested by the fact that his data imply that chemoprophylaxis predisposes an individual to malaria.

A truly controlled study concerning the practice of individual protective measures (including chemoprophylaxis) against malaria in Army units would, to say the least, be timely and certainly very important. A good documentation in this area may provide useful information which could serve as the basis to improve our present preventive program for malaria. I feel that while the study reported by LTC Murray contributes some worthwhile information, it was not sufficiently well controlled to provide data upon which solid conclusions could be based.



"He wants to know if you took your C-P pill this week."

COMPARISON OF CASUALTIES - WW II-KOREA-VIETNAM

Office of the Surgeon, USARV

In recent months a number of questions have arisen over certain comparative medical statistical data presented in press releases. Especially noted was an apparent adjustment in the ratio of killed to wounded in World War II and Korea from that previously reported. In addition, the correleation of statistics presented in the press releases and those published in FM 101-10-1 was not clear. As a result, much confusion has resulted in attempting to interpret these ratios and explain the variance.

In an effort to clarify this statistical data, this office queried Office of the Surgeon General. This query along with the answer received are reprinted on the following pages for your information should further questions arise.

To Surgeon General's Office from Surgeon, USARV

"...An ever increasing need has arisen in recent weeks to provide comparative medical statistics to various elements of the command here in USARV.

FM 101-10-1 has estimated the ratio of killed to wounded in WW II as 1:4 and Korea as 1:4. The per cent of died of wounds is estimated in WW II as 4 per cent and Korea 2 per cent. Recently, several press releases have been received over here that have increased the per cent of DOW in WW II to 4.5 per cent, Korea as 2.5 per cent and Vietnam 2.4 per cent, but qualified the percentage as exclusive of those that died within the first 24-hours after admission to the hospital. The medical statistics we have prepared in this office approximate the Vietnam rate of 2.4 per cent which has been presented in those press releases. We did not exclude any one that died in the hospital.

I would like to have information on how WW II and Korea data have been and are being compiled. Specifically, I would like to know the following:

1. What has caused the perecntage of DOW to rise above that previously reported?
2. What is included or excluded in the ratio of killed to wounded data presented in FM 101-10-1 as well as the current press releases?
3. What is included or excluded in the percentage of DOW data presented in FM 101-10-1 as well as the current press releases?
4. When the data is presented as a comparison between WW II, Korea, and Vietnam, is there any qualification that should be made?....."

s/James A. Wier
Brigadier General, MC, Surgeon

To USARV Surgeon from Office of the Surgeon General, Washington, 27 Jun 67

"...General Hayes has asked me to reply to your letter regarding comparative statistics for WW II, Korea, and Vietnam on the wounded, died of wounds, and killed. It is indeed unfortunate there have been so many errors, incomplete and inaccurate descriptions of the data covered and failures to provide necessary qualifications in news stories and even sometimes in press releases on this subject. I hope that we can provide some clarification of this somewhat complicated matter.

First, it should be noted there are several kinds of case fatality rates for wounded which can quite legitimately be computed, with the choice depending upon the purpose for which the computation is done. For example, some of them are:

a. Per cent died of wounds among all the wounded reported on casualty reports to The Adjutant General.
b. Per cent died of wounds among all wounded admitted to medical treatment facilities.
c. Per cent died of wounds among all wounded admitted to hospitals.

For a proper comparison with earlier experience, it is necessary to compare like with like. It is clearly improper, for example, to compare a above for Vietnam with b above for Korea, since in Vietnam, for the first time in any conflict, TAG requires casualty reports on <u>all</u> wounded including those with wounds so slight as to require only outpatient treatment or treatment without admission to a medical facility.

For the Korean conflict and for WW II, casualty reporting to The Adjutant General on the wounded who did not die was intended to be limited to those who were admitted to a hospital or were evacuated from their units to be admitted to a hospital or were evacuated from their units to be admitted to a hospital. In practice this did not work perfectly and the resultant totals from TAG sources for wounded and for died of wounds are closer to the figures from the medical reports for the wounded admitted to all medical treatment facilities than to the figures for hospitalized cases.

Responses to your specific questions are as follows:

Question 1. What has caused the percentage of DOW to rise above that previously reported?

Answer: The "about 4 per cent" for WW II and the "about 2 per cent" for the Korean War cited on page 6-3 (para 6-4f(4)) and (5) of FM 101-10-1 are specified as pertaining to "the wounded who reached hospitals" whereas the 4.5 per cent for

WW II and the 2.5 per cent for Korea have been characterized as the case fatality rates for the wounded admitted to medical treatment facilities (that is, not limited to those admitted to hospitals). For Vietnam the case fatality rate for the IRHA admitted to all types of medical treatment facilities (from Morbidity Reports) for the period of July 1965 through January 1967, is 2.4 per cent (actually 2.38) and the case fatality rate for the IRHA admitted to hospitals (from the beds and patients report) for the period of July 1965 through January 1967, is also 2.4 per cent (actually 2.44). Extending the period through the latest available date changes this is little, however, and for January 1965, through April 1967, the case fatality rate for those admitted to all types of medical treatment facilities is 2.3 per cent and for hospitals 2.5 per cent. The only source we know of for a statement about the case fatality rate for hospitalized wounded in Vietnam excluding those who died within the first 24 hours after admission to hospital is the Surgical Consultants reports prepared in Vietnam and as you know, of course, any statement that this rate is at the 2.4 per cent level is simply wrong.

Question 2. What is included or excluded in the ratio of killed to wounded data presented in FM 101-10-1 as well as the current press releases?

Answer: The table presented on page 6-3 of FM 101-10-1 does not give the overall ratio of killed to wounded for either WW II or Korea. You will note that the WW II section is labelled "Infantry" although it also has insert lines giving the ratios for Air Forces, Armored, and Artillery as well as Infantry. The Korea section provides the ratios separately for Infantry, Armored, and Artillery. The overall ratio of killed to wounded for WW II as computed from the Final Report of Army Battle Casualties was 1 to 3.1. (It is principally the inclusion of the Army Air Forces experience that caused this to be lower than the 1:4 for Infantry.) The corresponding overall ratio for the Korean War was 1:4 (actually 1 to 4.1) the same as the separate ratios for the ground Arms listed on page 6-3 in FM 101-10-1 (during this period you will recall the Air Force was a separate department). Similar ratios computed from medical report data based on admissions of wounded to medical treatment facilities (that is "admissions to hospital and quarters" as it is often labelled and the Killed in Action as reported to TAG are 1 to 3.1 for WW II and 1 to 4.0 for Korea. The corresponding ratio for Vietnam based on medical reports data for IRHA for July 1965, through March 1967 is 1 to 5.1 and through April 1967, 1 to 5.2. I have cited these because the ratio which would be derived using TAG casualty report data for wounded for Vietnam for this period is 1 to 7.2 which is not comparable to the WW II or Korea data from this source because of the changed coverage for TAG casualty reporting of wounded as described above....

Question 4. When the data is presented as a comparison between WW II, Korea, and Vietnam, is there any qualification that should be made?

Answer: The point of overriding importance in this regard is the avoidance of inappropriate comparisons, that is, being sure that the rate or ratio being compared has the same coverage and is computed in the same way for all of the war periods being considered or compared. Of almost equal important is the need to be sure that the rate or measure under discussion is accurately and completely labelled or described. In this way one can be certain of being able to differentiate "hospital" rates from "all treatment facilities" rates from "casualty report" rates. The case fatality rate for wounded for Vietnam from 1 January 1961 to the present from TAG casualty report data is about 1.5 per cent but, unfortunately perhaps, there is no counterpart to this rate from casualty report data for WW II or Korea - hence no proper comparison with earlier experience can be made.

It is hoped that the forgoing has provided useful answers to your questions. There are certain other rates which may be helpful in maintaining perspective on the experience in Vietnam. For example the total number of battle deaths (killed in action, died of wounds and died while captured or missing) per thousand average troops per year for Army personnel in the European Theater of Operations for the period June 1944 through May 1945, was 51.9. For Korea for the period July 1950 through July 1953, the corresponding rate was 43.2 and for Vietnam for July 1965 through April 1967, it was 20. The number of Wounded in Action per thousand average Army troops per year in ETO for June 44 through May 45 was 152. The corresponding rate for Korea was 121.1. For Vietnam the rate most closely corresponding, that is the rate of IRHA admitted to Army medical treatment facilities, in the period July 1965 through April 1967, was 84.7. Thus, it is seen that the rate for wounds incurred in action in Vietnam is a little more than half of the cited ETO rate and about 70 per cent of the rate for Korea. And, as you know, the case fatality rate for the wounded admitted to medical treatment facilities in Vietnam, even with the rapid helicopter evacuation bringing more of the mortally wounded into treatment facilities alive, has still be slightly below that experienced in Korea...."

s/ Eugene L. Hamilton, Director
Medical Statistics Agency

44th MEDICAL BRIGADE NEWS

New Commanding General: Effective 10 August 1967, the 44th Medical Brigade was reassigned from the 1st Logistical Command to USARV. Brigadier General Glenn J. Collins was assigned as the Commanding General, 44th Medical Brigade while continuing his position of Surgeon, USARV.

Redesignation of Units: The designation of the 1st Platoon of the 568th Medical Company Clearing and the 2d Platoon of the 563d Medical Company Clearing have been exchanged. The 1st of the 568th is now located at Ban Me Thout and the 2d of the 563d is at Nha Trang.

Unit Relocations:

a. The 229th Medical Detachment (MC) dispensary and the 2d Medical Detachment (MA) dispensary moved from Saigon to Long Binh on 13 July.

b. The Pet Clinic moved from the 4th Medical Detachment (VSL), 13 Ho Bien Chan, TSN to the 936th Medical Detachment (small animal hospital), TSN (across from helipad).

New Units:

a. The professional complement of the 518th Medical Detachment (Dental Service) arrived in-country 16 July. The unit has its headquarters at Qui Nhon and is fully operational.

b. The main body of the 45th Air Ambulance Company arrived in-country 18 July to join the advance party at their location in Long Binh.

Flight Number Changed: In-country evacuation flight number 719, which serves the northern part of South Vietnam, has been changed to flight 760. Flight 660, which has the same mission in the central part of South Vietnam, remains unchanged.

Hospital Beds Increase: Effective 15 July the 91st Evacuation Hospital, Tuy Hoa, increased its bed capacity to 400, an increase of 100 beds.

Medical Supply:

a. A satellization program for medical supply support was inaugurated 1 July. It is expected that this program will expedite the flow of medical supplies from depot units by reducing the number of small customers.

b. Effective 1 July, the 32d Medical Depot became the supplier of MEDCAP II Supplies. This mission was previously performed by the ARVN Depot System. The transfer of MEDCAP stocks from ARVN depots to the 32d Medical Supply Depot's 3d Platoon at Qui Nhon and its Base Platoon at Cam Ranh Bay is currently in progress. Transfer of stocks to the 1st Platoon in Saigon will commence after the completion of its relocation at Long Binh.

KJ Commanders Meet: On 6 July the 932d Medical Detachment, Headquarters, Dental Professional Services, hosted the Quarterly Dental Service Commanders Meeting. The meeting was attnded by commanders and their administrative officers, and was convened at 1st Logistical Headquarters.

MEDICAL HISTORY IS BEING MADE IN VIETNAM

Major Norbert O. Picha, MSC*

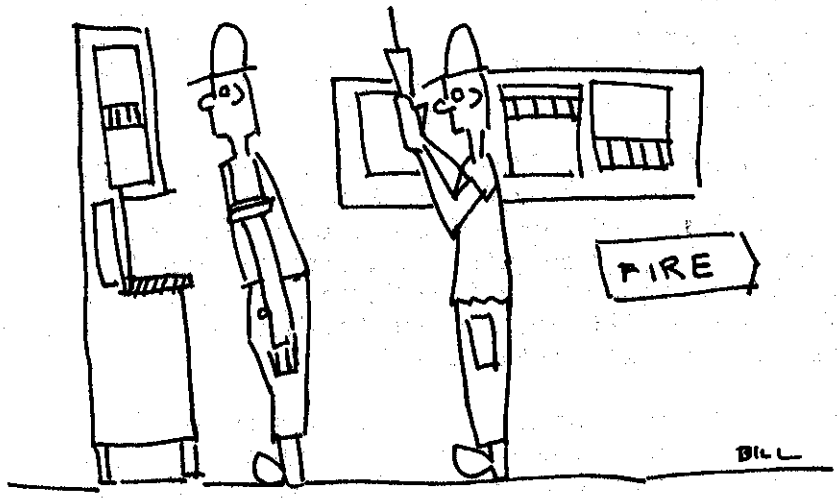
Medical history and historical data should be considered more than just reading material for entertainment and scholastic achievement. Medical history is a basic source of knowledge for the solution of problems and the attainment of advances in the theory and practice of military medicine. Hence, the accumulation of historical data, through the proper maintenance of historical records, should be of primary concern to all commanders, excecutive officers, and staff members of all medical organizations from medical staffs at major headquarters down to and including separate medical detachments and companies.

The 27th Military History Detachment has been assigned to this command to assist medical units in the proper maintenance of historical files and to encourage completeness and adequacy of such files.

In addition to complete and adequate files, medical history may be expanded upon and refined through the accumulation of certain details, little "extras" which add to or better explain a situation or incident from which history is made. Newsletters, commander's notes and conferences, unrequired or optional reports, interviews, memoranda for records, photographs, etc., some of which may not become a part of the permanent record, are significant and should be forwarded to the unit historian who may then send them on to the 27th Military History Detachment for incorporation into the historical record.

The cooperation and consideration of all medical service personnel is most heartily solicited in the continuing effort to improve upon the Army Medical Service and the combat service support which it provides. History does play a major role in this effort.

*Commanding Officer, 27th Military History Detachment



"My buddy tells me you have a new pill for VD."

THE ARMY NURSE CORPS IN THE REPUBLIC OF VIETNAM

LTC Jennie L. Caylor, ANC*

This is a brief resume of a few facts concerning the Army Nurse Corps in the Republic of Vietnam. It is anticipated that in the future the Army Nurses will contribute articles of an informative nature concerning their varied experiences to the USARV Medical Bulletin.

The Army Nurse Corps, the oldest military nurse corps in the world and the first womens component of the US Armed Forces, has contributed significantly to the finest medical care available to the sick and wounded in the battle fields of every major conflict since the Spanish-American War. Today more than 630 Army Nurse Corps officers are serving in this area from Chu Lai to Dong Tam, from Tay Ninh to Vung Tau in seventeen surgical, field, convalescent, and evacuation hospitals. They may be found in the divisions, clearing companies, and on the specialized medical teams rendering support to the active tactical operations being waged. Their off-duty time is volunteered in assisting the doctors in villages, orphanges, and leprosariums as well as conducting training of Vietnamese medical workers. In many ways the men and women of the Army Nurse Corps represent the Medical Service in its dedicated contributions toward pacification.

The first Army Nurse Corps officers arrived in the Republic of Vietnam in March 1962, and were assigned to the 8th Field Hospital at Nha Trang. In May 1965, the 8th and 9th Field Hospitals were combined.

LTC Margaret G. Clarke became chief nurse of the 8th Field Hospital in February 1965, and was given an additional duty as Chief Army Nurse in Vietnam. At this time there were 25 Army nurses here. As the number of nurses increased and the Office of the Surgeon was organized, the additional duty of Chief Army Nurse became a full-time responsibility. Colonel Clarke arrived in Saigon, 15 September 1965, to assume the position as Chief Nurse, USARV Surgeon's Office. At the time of Colonel Clarke's departure in March 1966, there were five hospitals in operation and more than 300 Army nurses. She was selected as "US Army Nurse of the Year" for 1965, and received the Legion of Merit and the Air Medal for service in Vietnam and has since been promoted to the rank of Colonel.

The second chief nurse, USARV, was LTC Marian A. Tierney, who arrived in March 1966. With the arrival of the 44th Medical Brigade, she assumed an additional duty as chief nurse of the brigade. At the time of her departure in March 1967, 17 hospitals had arrived with fourteen of these operational. The strength of the Army Nurse Corps here at that time was more than 500. Colonel Tierney received the Legion of Merit and the Soldier's Medal for service in Vietnam.

LTC Jennie L. Caylor replaced Colonel Tierney as USARV Chief Nurse in March 1967. At that time it was deemed advisable to assign a full-time chief nurse to the 44th Medical Brigade, a position now filled by LTC Rose V. Straley.

*Chief Nurse, USARV

As of 30 June 1967, there were seventeen hospitals in operation with 636 Army Nurse Corps officers assigned. Of these 139 ANC are men. In addition to the hospitals, ten Army nurses are assigned or attached to the 2d Platoon of the 616th Clearing Company at An Khe, two are with the 2d Platoon of the 563d Clearing Company at Duc Pho and one airborne qualified anesthetist supports the 1st Brigade of the 101st Airborne Division.

EDITOR'S NOTE

Why Publish in USARV Medical Bulletin

The value of the USARV Medical Bulletin over stateside professional publications is that a practical article about work in Vietnam gets rapid professional comment, correction, and pertinent additions from other pratical professionals faced with similar tasks in Vietnam. Some of these comments are published, others are passed directly to the author. This increases the value of any article later expanded for publication in the international medical literature.

VASCULAR REPAIRS

Captain George D. Williams, Jr., MC*

The 93d Evacuation Hospital received many casualties as direct admissions which have fresh arterial injuries. To date 78 arterial and 7 venous repairs have been done. Fifteen other cases presented with pulseless extremities, and were explored for arterial injury but only spasm was found. It is felt that a discussion of our experience may be beneficial to others.

FIRST AID AND EVACUATION

When the majority of cases were first seen a pressure bandage was present over the wounds. This had adequately controlled the bleeding. The extremities had fair color and retained sensation despite the arterial injury. A few cases are being received with occlusive tourniquets of belts or ropes and the distal extremity is invariably cold, blue, and anesthetic. Fortunately such cases have been received before permanent damage resulted. Interestingly when the tourniquets are removed on arrival and pressure bandages applied, adequate hemostasis is present and the limbs soon regain their color and sensation. Except for complete traumatic amputations the use of tourniquet is to be condemned.

THE PROBLEM OF SPASM

Fifteen cases presented with cold, pulseless extremities having wounds located near arterial channels. All of these were explored for suspected arterial injury but none was found. The missiles had passed near the vessel resulting in severe local and distal arterial spasms. Sympathetic blocks were performed in many of these patients (primarily to reassure the surgeon) with rapid return of pulses and warm skin.

Arterial Reconstruction:

Without arteriograms there is no completely reliable way to predict spasm prior to exploration. Bleeding from the wound of entrance is not a reliable sign of a major arterial injury because severed arteries may not bleed but conversely brisk bleeding from a muscular artery may mimic a major vascular injury.

Preoperative arteriograms on suspected arterial injuries is not practical. The soft tissue wounds must be properly debrided and direct examination of the artery can be performed, consequently, we explore all suspected arterial injuries. A direct examination of the artery must be made to determine the pathology of ischemia.

The presence of distal pulses in an extremity should not prevent one from exploring an artery if the missile tract is near the vessels. We have seen several cases with good distal pulses in the presence of penetrating wounds of the proximal artery. In the Korean experience, these arteries invariably "blow out" if left unrepaired.

*Member of the Surgical Staff, 93d Evacuation Hospital

Disruption of the intima with intact media and adventitia may be difficult to detect but should be considered in all cases. We have seen two of these in which arterial pulsation stopped abruptly at a ring of slight bluish discoloration of the artery. Inspection after resection of this segment revealed intact adventitia and media but a disrupted and turned down intima with thrombus formation. Graft repair was successful in both cases.

OPERATIVE TECHNIQUES

The patients are taken to surgery with pressure dressing in place and, where possible, pneumatic tourniquets proximal to the wound. For inaccessible locations (i.e., the proximal femoral artery or axilla) the assistant may need to control bleeding with direct pressure over the wound during prepping and while attaining proximal control. The artery is then exposed for at least 5 cm. proximal and distal to the injury and non-crushing arterial clamps applied. The tourniquet is then deflated.

Gross inspection does not reveal the true extent of the pathology. It has been found that resection of 1 cm. of vessel on either side of the injury is necessary. Failure to adequately debride an artery prior to reconstruction inevitably results in postoperative suture line disruption. (As proven in Korea).

The decision for primary anastomosis or grafting rests upon tension of the suture line. Unfortunately, this can be judged only through experience. As a general rule if the vessel is so taut there is no discernible pulsation or if the sutures appear to be cutting into the arterial wall, it is too tight, and a graft must be used.

It has been found that few primary anastomosis are satisfactory following adequate debridement. An exception is the brachial artery which usually can be freed enough to provide the length that is necessary, accordingly, we have performed twice as many grafts as primary anastomosis.

A portion of saphenous vein has been used in all cases requiring a prosthesis. Vigorous dilatation of the segment is very important to prevent postoperative spasm and clotting. The technique for this follows: The proximal end of the graft is clamped; a needle is then inserted well into the lumen of the distal end and the vein is clamped over the needle. Using saline in a 5 cc syringe dilatation almost to the bursting point is accomplished and held for two to three minutes. The vein will then remain flaccid and well dilated during the anastomosis. The arterial ends may be in spasm following trimming and such vessels cannot be sutured easily. Dilatation is done by grasping the arterial end with a sponge and gently stretching it with the "nose" of a small hemostat or needle holder. This greatly facilitates accurate suturing and prevents postoperative narrowing at the suture point.

Prior to the anastomosis good back flow from both ends of the artery must be obtained. Sluggish flow from the distal end can sometimes be improved by vigorously massaging the limb centripedally. If flow is still poor the distal artery must be irrigated with a small catheter, or better, with the Fogarty catheter. Good distal flow MUST be obtained before the repair is attempted.

All anastomosis are done with 6-0 Merselene suture. The ends are held with two initial sutures spaced 180° apart and the anastomosis is completed with a continuous suture, placing the stitches one millimeter deep and one millimeter apart. The adventitia should be carefully trimmed from the ends of the vessels to preclude entanglement of the suture or stenosis of the anastomosis.

Following the anastomosis a good pulsatile flow should be present through the suture lines and distally.

Prosthetic materials such as Dacron and Teflon should never be used in these contaminated wounds. Meticulous debridement of the surrounding tissue at the time of vascular repair is extremely important to prevent infection. Following repair the artery is completely covered by approximating adjacent muscle and/or fascia. The skin is left open for subsequent DPC.

Frequently distal pulses (i.e., radial or pedal) will not be palpable immediately postoperatively; if due to spasm the pulse will return within a few hours. When signs of ischemia are present after 4-6 hours the artery should be reexplored.

The patients are returned to the operating room for DPC within four or five days. The wounds are closely inspected for infection or inadequate debridement; following irrigation with saline they are closed. The patient is observed for seven days for loss of distal pulses or evidence of infection in the wound. Either finding warrants exploration.

SUMMARY OF CASES

The 78 arterial and 7 venous cases are presented in the accompanying chart.

There were 29 femoral artery repairs, 8 primary anastomosis and 21 saphenous vein grafts. Three of the primary anastomosis clotted post-peratively. This was due to tension and all were successfully salvaged by vein graft. The one graft that thrombosed was too long and developed a "kink" at the distal anastomosis. The graft was successfully shortened.

There were eleven grafts and six primary repairs of the popliteal artery; one failed due to kinking; it was successfully shortened. All of these anastomosis were done from 0.5-3 cm. proximal to the bifurcation. We explored four cases in which the bifurcation was destroyed and multiple injuries of the posterior and anterior tibial arteries precluded a repair.

There were sixteen primary repairs and ten vein grafts of the brachial artery. One primary repair failed due to inadequate debridement of the artery and excessive tension. This was successfully corrected with a vein graft. The one graft failure was caused by a poor proximal anastomosis using interrupted sutures of 5-0 Merselene. This was successfully reconstructed using continuous sutures of 6-0 Merselene sutures. As noted, the brachial artery is easy to directly repair end-to-end. This is apparently due to its pliability and ease of freeing to obtain length.

Six axillary arteries were repaired; five with grafts and one direct anastomosis. The only failure was the direct anastomosis; and again it was due to excessive tension. Craft repair was successful in all cases. Eight of 78 arteries developed thromobisis following initial repair. This 10 per cent figure is disheartening but most failures occurred early in our experience.

Seven venous repairs were performed; two axillary and five common femoral veins. The two axillary and three common femoral repairs were debridements and suture of "Missile cuts" of the veins. The other common femoral injuries required resection with end-to-end anastomosis. The extremities remained edema free and without visible venous engorgement; postoperative venograms were not obtained. Prevention of the phlebitic sequele of a ligated axillary and common femoral vein motivated us to attempt their repair.

SUMMARY

Surgical repair of 78 arterial and 7 venous injuries is presented. Discussion included first aid, techniques of repair, and management of complications.

EDITOR'S NOTE

It is recommended that Heparin be injected into the distal artery to decrease the tendency of thrombus formation in the vascular bed.

VASCULAR REPAIRS

	No Cases	Primary Repair	Vein Graft	Number Complications	Cause of Complication	
ARTERIAL						
Femoral	29	8	21	4	Tension	3
Popliteal	17	6	11	1	Kink	1
Brachial	26	16	10	2	Tension	1
Axillary	6	1	5	1	Poor repair	1
TOTAL	78	31	47	8		
VENOUS						
Axillary	2	2				
Femoral	5	5				
TOTAL	7	7				

FIELD DENTAL CARE IN BIG RED ONE

Captain Mark E. Davis*
Captain Herndon A. McConnell**

It is the mission of the four dentists assigned to the 1st Infantry Division to provide preventive and restorative dental care on an area basis for their supported brigades. Due to the tactical demands of an infantry division, this care cannot be adequately administered from static base camp facilities. Therefore, the 1st Infantry Division has brought the dental facility to the men in the field and has sought continuously to improve.

In the early part of the summer of 1966, it became our policy to include a dental team consisting of a dental officer and technician on all combat operations of sufficient size to warrant forward deployment of a medical clearing section. Prior to this time, dental patients were evacuated to base camps for dental treatment, resulting in unneded suffering and particularly unnecessary loss of manpower. Treatment in this manner was often delayed for several days due to the unavailability of routine air transportation. Evacuation for dental treatment tied up space on medical evacuation aircraft and the man was lost from the front line unit for days due to the difficulty of obtaining return transportation. Of course, with this method, patient evacuation was limited to emergency cases, and the men

*Company C, 1st Medical Battalion
**Headquarters and Company A, 1st Medical Battalion

in the field could not take advantage of the preventive and maintenance dental services available in the base camp. It was soon found that the inclusion of the dental team in the Admission and Disposition tent of a forward clearing section boosted the morale of the men. The standard field operating chest and chair were air transported with the other medical equipment. Emergency dental treatment consisting of extractions and the placement of sedative fillings was then carried out.

It soon occurred to those in the field that modern ultra-speed cutting instruments could provide a much broader scope of dental treatment under field conditions. This requirement could be met by including the field portable ultra-speed dental unit (now in Army Medical Supply channels) to our field equipment. The main problem was to provide sufficient electricity for the air compressor unit which powers the drill. This unit, draining nearly the entire output of a 1.5 KW generator, would tax our already heavily loaded clearing section generators. You might say our patients solved our problem. Their tactical and pacification achievements obtained greater road security enabling us to employ road convoy travel. This meant that we could now take along the extra generator necessary to power our unit.

On Operation Junction City, in February of this year, Co C, 1st Medical Battalion, took their complete field dental facility to the field for the first time. The delicate ultra-speed unit had to be protected from the extreme heat and dust in the operational area at Suoi Da, northeast of Tay Ninh. This protection was provided by setting the operating unit and compressor on a platform two or three feet off the ground. The platforms were made from available material such as old ammunition boxes or loading pallets. The compressor and unit were also covered with a ponche or shelter-half when not in use. The temperatures inside our Admission and Disposition tent approached 120°F during the day, but the unit continued to operate efficiently. Thus we were able for the first time to provide permanent dental restorations for our patients in the field. The suction capability of the unit greatly aided oral surgical procedures, and the trooper in the field received the comfort of modern, efficient, ultra-speed tooth reduction.

On Operation Manhattan, near Dau Tieng, we found ourselves in a completely different type of environment. Here the medical clearing section was located under rubber trees, with constant high humidity and daily rain. The same setup protected the unit, with the addition of a platform to keep the delicate foot controls off the moist forest floor. Again the unit functioned without a hitch. A dental service was provided which included permanent restoration, prophylasis, oral surgery, denture repair, and temporary crown and bridge work.

Another method the Big Red One employes to bring dental care to the infantrymen in forward deployment areas is the dental "GO" Team. This is a mobile dental team consisting of a dentist, a dental assistant, and another dental assistant trained to perform prophylactic treatment. The

team works from the back of a two and one-half ton truck which is slightly modified to accommodate our dental equipment. The team is highly mobile and can be utilized in almost any tactical situation. It can be air lifted into any of our forward areas by C-130 aircraft, and become operational within fifteen minutes after landing. The team is self sustained, and only needs to be resupplied with dental supplies every two weeks.

The "GO" Team utilizes two dental chairs: one used for prophylaxis, employing the slow speed electric dental motor; and one used for operative procedures, employing the field portable ultra-speed dental unit. A three KW generator is used to supply power for the ultra-speed unit, the slow speed electric dental motor, two dental lights and a small lighting set. The unique modification to our 2½ ton truck was the adaption of an air filter and line to the air compressor, organic to the truck's engine, so that compressed air to operate the ultra-speed unit would be available from another source in case of generator or compressor failure. Because of the lack of sufficient TOE field dental chairs to perform the "GO" Team mission, we constructed a dental chair from a 50-gallon drum and parts from an ambulance that had been destroyed by mortar fire.

Thus we have found that the same high level of dental care obtained in the base camp can be provided in the field. In the future, we would like to see a portable field x-ray machine added to our equipment list and a more efficient compressor unit adopted for the field portable ultra-speed unit.

With these improvements in field dental service, the men of the Big Red One are receiving the best in modern dental treatment no matter how remote their location.

REASSIGNMENT INSTRUCTIONS

Office of the Surgeon General normally begins planning assignments for overseas returnees four or five months before DEROS. Reassignment instructions are normally forwarded to the Adjutant General, Department of the Army, about 90-days before DEROS. The Adjutant General then transmits these instructions to Headquarters, USARV, which in turn forwards them through command channels to the unit concerned. If reassignment instructions have not been received thirty days before DEROS, an inquiry should be made to the unit Personnel Officer having custody of your personnel records. Writing to the Office of the Surgeon General serves no worthwhile purpose, in fact, due to the administrative burden created it may tend to further delay other instructions. Your cooperation in this matter is uregently requested.

EXTRACTS FROM QUARTERLY NEWSLETTER
93d Evac Hosp, July 1967

CONTUSED LUNG SYNDROME

Captain George D. Williams, MC

High velocity wounds of the lung present a continuing therapeutic enigma. Despite our best efforts, a consistent percentage of patients, even those with initially small x-ray evidence of contusion have died with respiratory insufficiency. Following treatment and close observation of many patients, we are regretfully uncertain what this syndrome exactly represents and whether our current therapeutic approach is adequate within the limits of our present knowledge. We should like to present our thoughts and treatment in a general fashion to perhaps aid others in their approach and most importantly to stimulate closer observation and new ideas in the care of these patients.

The typical case of contused lung syndrome has received a high velocity fragment or bullet wound of the chest which has either passed through the lung substance itself or has transmitted its high velocity effects to the lung via a tangential chest wall passage.

The diagnosis is primarily based on x-ray evidence of a ground glass appearing density in the region of the wound. Its severity is judged by the amount of pulmonary change initially present and the rapidity of its increase on serial films. Varying degrees of hemo and/or pneumothorax may be present and appear to add little to morbidity and mortality provided they are quickly removed via tube with waterseal drainage.

Our evaluation and therapeutic approach is as follows:

Regardless of the amount of "contusion" all cases with hemo or pneumothorax receive a large (45) chest tube with water seal drainage. If more than 50 per cent of one lung appears contused or cuffed trachaeostomy tube is installed for tracheal toilet and IPPB. When portions of both lungs are involved we install the trachaeostomy regardless of the per cent of contusion.

The patients are then maintained on large doses of IV Penicillin and Chloromycetin. The severe cases receive positive pressure (30 cms. water) Bennett breathing for three hours of each four. During the fourth hour vigorous coughing and tracheal suction is employed. The patients are maintained on this regimen until the process is almost completely resolved, both by clinical and x-ray evaluation. Hemoptysis as well as thick tenaceous secretions is common in these patients and frequent bronchoscopy for suction and saline washing has been necessary in several patients to relieve atelectasis.

We have had no deaths due to lung contusion when the amount of lung involved is less than 50 per cent. However, when the amount exceeds 50 per cent our mortality rate is approximately two of every ten. These patients have all shown a progressive respiratory insufficiency (with marked decrease in O_2 saturation) and a progressive enlargement on the x-ray of the contused

area - sometimes (inexplicably) to the contralateral lung. The clues of the fatal course include a progressive rise in systolic blood pressure (180-200 mm Hg), clinical cyanosis, rapid pulse and absence of increase in venous pressure. The EKG's have remained essentially unchanged. When such a course is assumed by a patient, we have increased Bennett positive pressure to maximum, used 100 per cent oxygen and been even more vigorous in coughing and tracheal toilet. Regardless, two of ten will progress to fatal respiratory insufficiency.

One possible solution, based on two patients, is suggested. These patients presented with large high velocity (M-16) wounds of the right chest with a great deal of bleeding from the shattered right middle and lower lobes, in the course of debridement of the chest wall wounds the lower lobes and the major portions of the middle lobes were removed in both patients to control bleeding. Postoperatively both were expected to develop severe symptoms of the contused lung syndrome, but neither did and in fact they both underwent an uneventful postoperative course as one would expect from elective lobectomies.

PREPARATION OF MAXILLO-FACIAL CASUALTIES FOR EVACUATION

LTC Henry Zak, DC

Maxillo-facial casualties with intermaxillary fixation are instructed and advised on self care prior to air evacuation. Dental floss "rip cords" are attached to the intermaxillary elastics as a means for emergency removal of intermaxillary fixation. This eliminates the need for scissors which often create a supply problem through loss or misplacement at the receiving installation. It also greatly facilitates emergency removal of the intermaxillary fixation by the patient.

GENITAL INJURIES

Captain Jasper B. Becker, Jr., MC

Due to the large scale use of mines and various explosive fragmentory devices by the enemy, fragment wounds of the genitals account for a high percentage of injuries treated by the urologist. The original appearance of these wounds may be misleading, and adequate evaluation often cannot be made until the patient is anesthetised and the genital area cleaned and shaved. Due to the usual rising trajectory, fragments which strike the genital-perineal area frequently enter the bladder or peritoneal cavity and may cause extensive intra-abdominal injury, sometimes with minimal physical findings. Pelvis and abdominal x-rays are therefore a standard part of the preoperative evaluations.

Extensive bleeding is a problem in wounds of the corpora cavernosa and for control of this, bucks fascio is sutured primarily. The skin defect is usually left open and reapproximated by DPC. The remarkable elasticity of the penile skin and frequent presence of a redundant foreskin allow for quite satisfactory reconstruction of defects without marked deformity.

Suprapubic cystostomy diversion of the urine is used routinely in handling urethral injuries. Primary repair of urethral defects is accomplished, where possible, but extensive urethral injury is treated by urethostomy with secondary reconstructive procedures after evacuation and adequate healing.

Fragment wounds of the scrotum are explored, debrided, and the scrotal contents examined. The testuli, more often than not, will be perforated or even completely shattered. Small lacerations of the testicular capsule are sutured, and even with severe destruction of the testicle there is usually some viable tubular tissue which can be enclosed in remaining remanents of the capsule. The opposite testicle is carefully palpated and if there is evidence of injury the scrotal compartment is opened also, especially if orchiectomy seems indicated on the primarily affected side. Quite often both testicles are ruptured even though the missile has entered only one scrotal compartment. In only one patient here, during the past eleven months, has there been such severe bilateral injury that the patient was left with no testicular tissue.

HEPATIC AMEBIC ABSCESS

Captain Arnold M. Goldman, MC

An interesting disease which will probably be seen more and more in Vietnam as the number of troops increase is that of hepatic amebic abscess. Patients with this disease are frequently admitted to the hospital with the initial impression of "FUO." The history usually reveals non-specific complaints consisting of fever, nausea, malaise; but, direct questioning will usually reveal severe epigastric and right upper quadrant pain and tenderness elicited on moving, touching, or hitting the area. One may not be able to obtain a previous history of severe diarrhea or bloody diarrhea.

The physical examination is striking in that the patient usually appears acutely and chronically ill, has an axious facies, and appears very pale. Temperature is usually elevated to 103-104° and may be spiking in nature. Exam of the abdomen is most revealing in that the patient is so tender over the right upper quadrant and epigastrium (if left lobe is involved) that he may resist even the lightest palpation of the abdomen. He will consciously guard his upper abdomen, where as the lower abdomen is soft. One may also observe an associated high right diaphram and decreased breath sounds at the right lung base.

Laboratory data usually reveal a leukocytosis of 15-20,000 with a left shift. Liver function tests all demonstrate mildly elevated SGOT (150-200), elevated alkaline phosphatase and normal bilirubin. Stool exam, at this stage, may be negative for enderomeoba histolytica and sigmoidoscopy may or may not demonstrate the classical punctate ulcers.

The patients course is part of continuing toxicity. Needle biopsy of the liver can be dangerous and biopsy of the left lobe is definitely discouraged. Patients presenting the above picture should be given a therapeutic trial as follows:

Emetive 65 mgm deep IM injection O.D. x 3.5 days, Chloroquine 500 mgm BID x 2 days, then Chloroquine 500 mgm O.D. x 14 days, Diodoquin 650 mgm, TID x 21 days, and tetracycline 500 mgm QID x 10 days. If they have hepatic amoebic abscess they will respond dramatically in 48-72 hours. They will become afebrile, their epigastric pain will decrease dramatically, their appetite will return, and the anxious facies will disappear.

MASS CASUALTIES

Major John E. Major, MC

When waves of patient IRHA flood this hospital, they teach lessons in efficient processing of mass casualties. Though most of these lessons are new or startling there seems to be some natural tendency to neglect them if there are long periods between encounters with mass casualty problems.

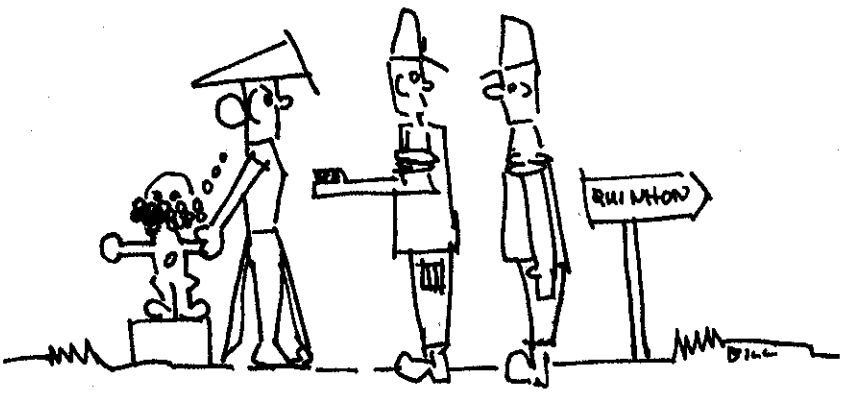
Between 1630 and 2300 on 17 June 1967, 74 patients, IRHA, were admitted. Forty-one of these patients required procedures in the operating room, seven undergoing laparotomies and three having arterial repairs. By 0300 all patients were admitted, treated and on the wards. Twenty-two elective cases were done during the mornings of the 18 and 19 of June. At 1800, 19 June, another large group of patients were admitted. Thirty-seven of these underwent treatment in the operating room during the night and early morning hours of 19-20 June. Five had laparotomies and two arterial repairs. By 0800, 20 June all of these patients had been returned to the recovery room. There was no mortality and minimal morbidity in caring of these patients.

The first principle is that there must be a total and rapid response of the entire professional staff of the hospital. Men from the medical service were invaluable in filling the roles of surgeons in treating minor cuts, assisting in the operating room, and performing initial histories and physicals on many patients. Two fully trained radiologists were standing by the developing tanks reading the films and making written reports as soon as the films came out of the water. A detail from the laboratory drew blood from hemotocrits, typing, and cross-matching as soon as the patients entered the receiving area. The Registrar's Office called in all assigned personnel to fill out admission forms as the patients were being examined. All nursing personnel, to include enlisted men were summoned and the admitting room nursing staff heavily augmented. All other personnel acted as litter bearers.

The key to the entire system is the triage officer. This man must be a general surgeon and should be the most experienced man on the surgical staff. He must have absolute authority on the disposition of patients. He must know the capabilities of the teams in the operating room. It is most important that he should not become tied down doing operative procedures, because the entire system will break down if he leaves the triage area.

We have used a simplified triage system and found that it works well in practice. The walking wounded and those with small extremity wounds are met at the door to the admitting room and dispatched to the PT Clinic which is adjacent to the preoperative ward and serves as our delayed and minimal treatment area. We have no expectant class of patients. The rest are brought into the admitting room and examined and resuscitated. The triage officer then established an operative priority, keeping in mind the available OR tables, the surgical capabilities of the operating teams, and the progress of the cases already in the OR. This priority is also used to determine

which patients get x-rayed first. The order for operation form is on each patient's chart and once necessary films have been taken, the necessary operation as well as the name of the surgeon is written on this form by the triage officer. There must be enough trained men to perform resuscitation in the triage agea. The operating teams must be aggressive and must operate with a sense of urgency and without compromising surgical care. We generally use three to four general surgery teams and two to three orthopedic teams in the OR, depending on the load.



"Can someone tell mama-san that soap is for baby-san to wash with?"

USARV MEDICAL BULLETIN

The Surgeon, USARV, invites all members of the Army Medical Service including the Medical Corps, Dental Corps, Veterinary Corps, Medical Service Corps, Army Nurse Corps, Army Medical Specialist Corps, and enlisted personnel, as well as other members of the medical professions in Vietnam, to submit articles to be considered for publication in the Bulletin.

Items submitted for publication should be typed single spaced in final corrected form and addressed to the Editor, USARV Medical Bulletin, HQ, USARV, Office of the Surgeon, APO 96307. If typing is not available your legibly handwritten manuscript will be considered. Accepted manuscripts become the property of the Bulletin. Authors are urged to retain a carbon copy of each manuscript. The editors reserve the privilege of review and editorial modification. Photos submitted to illustrate your article or to depict some aspect of AMEDS in Vietnam should be good quality, good contrast, black and white glossy prints. Photographs of patients should be accompanied by a witnessed signed release. Photos used are US Army photos unless otherwise credited.

VIVAX MALARIA

Captain Michael J. Carbon, MC*

At the 6th Medical Center, we observed a marked increase in vivax admissions over the period 1 December 1966 to 1 May 1967, and a sharp rise in the relapse rate after we changed our treatment regimen on 1 December 1966.

Vivax malaria differs from falciparum in two important aspects. First, vivax has an exoerythrocytic phase in which the parasites persist in the parenchymal cells of the liver. These can, after a latent phase, reinvade erythrocytes, thereby causing a relapse. Second, vivax organisms invade only reticulocytes, whereas falciparum invades erythrocytes of all ages and thus has no limit on the degree of parasitemia developed. Falciparum certainly is the more dangerous infection of the two, causing higher morbidity and potentially more serious complications (i.e. cerebral malaria, black water fever). In order to prevent a relapse of vivax malaria the exoerythrocytic phase must be treated as well as the erythrocytic.

On 1 December we changed the vivax malaria treatment schedule. Previously chloroquine base 1500 mgm was used to arrest the erythrocytic phase and primaquine 15 mgm daily for fourteen days for the exoerythrocytic phase. In the new schedule chloroquine was unchanged, but weekly C-P tabs (45 mgm primaquine and 300 mgm chloroquine base) replaced the daily primaquine. In an effort to evaluate the effect of the new treatment schedule the following study was conducted from 1 December 1966 to 1 May 1967.

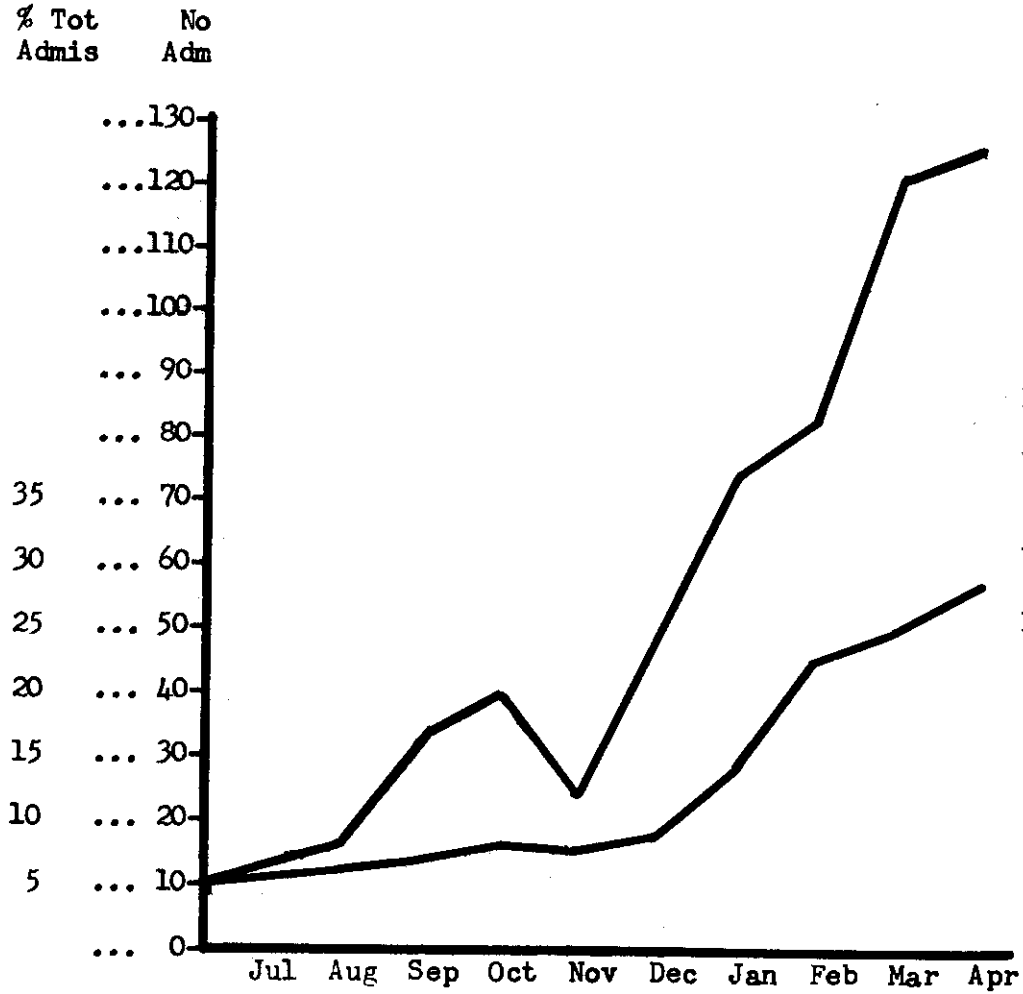
All patients with the diagnosis of vivax admitted to the 6th Medical Center were included in the study and were treated on separate wards. Field slides were reviewed to confirm the diagnosis. All had admission malaria preps and complete blood counts as well as weekly malaria prep and complete blood count until discharge. They were kept thirty days after the beginning of therapy for physical reconditioning, convalescence and observation. Those patients returning to CONUS or who had relapses were given the 14-day course of primaquine. A patient was considered to have a relapse when he developed parasitemia during the hospital course or within fourteen days of discharge.

Figure 1 indicated there has been a continuous rise in total number of vivax patients from 1 December 1966 to 1 May 1967. Figure 1 graphically illustrates a rise in per cent of total malaria patients from 5.4 per cent in December 1966 to 25.4 per cent in April 1967. The overall relapse rate for vivax malaria at the 6th Medical Center for 1 December 1966 to 1 May 1967, is 6.6 per cent compared to 1.3 per cent for 1 June 1966 to 1 December 1966, before the treatment regimen was changed. This compares with an overall relapse rate for falciparum malaria, in this hospital, of 1 per cent. In addition, as figure 2 shows, 11 per cent of vivax admissions have mixed infections and an additional 10 per cent go on to manifest a falciparum infection. Thus, nearly 28 per cent of all vivax patients admitted to this hospital do not have simple, uncomplicated vivax infections. The relapses

*6th Convalescent Center, Cam Ranh Bay

VIVAX MALARIA ADMISSIONS
6th Medical Center (Conv)

(For the Period 1 July 1966 - 30 April 1967)



	1 June 66 to 1 Dec 66		1 Dec 66 to 30 Apr 67	
Total Adms		2526		2706
Vivax Adms	(5.8%)	155	(17%)	470
Mixed Infec	Data not Available		(11%)	51
Vivax, then Falciparum	Data not Available		(11%)	50
Vivax Relapse	(1.3%)	2	(6.6%)	31
Negro	(11%)	18	(11%)	51

and those with second infections tend to show up primarily during the second and third weeks of treatment, the average day of relapse being twenty days after the initial treatment was begun. One of the patients with vivax had a hematocrit of under 35 per cent without an associated falciparum infection.

Of the 31 relapses noted only two had received daily primaquine. Both responded to a second course of chloroquine base. We have observed only one patient who failed to respond to initial chloroquine therapy. He demonstrated persistent parasitemia and fever despite two consecutive courses of oral chloroquine; he finally cleared the parasitemia and became clinically well after a course of intramuscular chloroquine.

Eleven per cent of the vivax admissions were Negro. This compares with 11 per cent Negro also in 147 consecutive falciparum charts reviewed. According to the National Advisory Commissions on Selective Service 22.8 per cent of the enlisted men in combat units in Vietnam were Negro. Since malaria is an infection predominantly found in combat troops, this disparity suggests that the Negro is afforded some degree of immunity against malarial infection. No attempt was made to evaluate the incidence of glucose-6-phosphate dehydrogenase deficiency or sickle cell disease in these patients.

It is difficult to separate the many factors which could account for the increased percentage of vivax admissions, to this hospital, or the increase in the relapse rate. However, it is most likely that a combination of factors are responsible. One factor is poor malaria discipline. Colonel E. Murray has shown in a study, in this center, that 30 per cent of vivax patients admitted to missing one to four C-P tabs during the month prior to contracting malaria and 65 per cent admitted failure to use nets, repellents, and other personal protective measures. A second major factor would be shift in troop strength into more highly endemic vivax area. While there is no experimental evidence available, at present, perhaps a strain of vivax has developed which is relatively resistent to the present C-P prophylaxis.

These studies demonstrate that nearly 28 per cent of all vivax admissions develop complications during the several weeks following initial chloroquine therapy. Furthermore, the relapse rate on the weekly primaquine regimen is 6.6 per cent compared to 1.3 per cent in the 155 patients treated with daily primaquine prior to December 1, 1966. We are at present conducting a controlled study in an attempt to evaluate better the apparent increase in vivax relapse rate. It is of note that 21 of the 31 patients who relapsed did so in the hospital while getting their C-P under controlled conditions. This leaves little doubt as to their being relapses, as malaria is not known to exist on the Cam Ranh peninsula. Only two of these had received daily primaquine. No patient has relapsed a second time after being given primaquine in the daily dosage schedule. These figures raise a question as to the efficacy of using the weekly C-P tabs in effecting a radical cure or even maintaining suppression of the parasites. Furthermore,

these men, at least in significant numbers, appear to be contracting vivax malaria because of failure to take C-P. Since in most instances the patient is discharged with the infection only suppressed, it obligates him even more to taking the medication to prevent new infection as well as to suppress or cure the old one.

Relapse appears to be occurring because of the failure of C-P to suppress the exoerythrocytic phase. It cannot be determined whether this is due to failure to complete the course of medication or the failure of the medication. The entire question has serious implications in the prevention of infections in the troops returning to CONUS. Furthermore, because of the high incidence of relapses, mixed infections, and second infections these figures indicate that a period of observation beyond the initial treatment period for the erythrocytic phase is required.

Since the completion of this study, the USARV Surgeon's Office has established a theatre-wide policy of treatment for vivax malaria consisting of 1.5 gm. chloroquine base over three days and the concurrent administration of 15 mg primaquine base per day for fourteen days. We anticipate a decrease in relapse rate.

SUGGESTED ORIENTATION FOR INFANTRY BATTALION SURGEONS

Captain Edward H. Wagner, MC*

1. Medical poblems specific to Vietnam

a. Because of the helipcoter this battalion finds itself deployed in four different areas simultaneously; with the line units in the country side, the tactical command post, a logistical base, and a clerical contingent in An Khe all getting their medical care from the medical platoon.

b. Combat in Vietnam is basically company and platoon operations. The bulk of medical treatment therefore falls on the aidman, and it becomes imperative that the battalion surgeon support his aidman in every way possible - professionally, logistically, and emotionally.

c. Medevac is an important factor in patient care. The battalion surgeon must, however, be aware of the capabilities and limitations of helicopter evacuation and closely monitor the use of medevac to prevent needless or unnecessarily dangerous missions.

2. Location of the battalion surgeon

a. The optimal location of the battalion surgeon is at the forward command post. Here he can simultaneously provide medical care, serve as an advisor to his commander, and function as the leader of his medical platoon.

b. The reasons are as follows:

1) There are more potential patients in the forward area - both soldiers and Vietnamese civilians.

*Captain Wagner was awarded the Silver Star in February 1967. His medical platoon was the most decorated platoon in the 1st Air Cav Div.

2) Sick call visits, emergency visits, and radio communication are facilitated through close contact with the line soldier.

3) The battalion surgeon determines more accurately the general medical problems affecting a command when he is near to the problem, and he defines a clearer course of action.
4) The battalion surgeon cannot serve actively as an advisor to the commander if he is separated from his command element.
5) In the capacity of medical platoon leader the battalion surgeon is obligated to be in close contact with the aidmen, where he can deal rapidly and effectively with medical, personal, and supply problems thus enlivening the morale of aidmen.
6) Transportation to fulfill medical commitments is easier to obtain at the forward area.
7) The forward battalion surgeon perceives more clearly the tactical situation and allocates more wisely its medical resources.
8) Time passes faster.

3. Patient care

The surgeon's role of determining fitness for field duty is extremely difficult since many medical and other factors are involved. The physician must achieve a realistic balance between his compassion and the demands upon him to preserve foxhold strength.

4. Support of aidmen

a. The physician must provide the maximum support to his aidmen if he wants to afford optimal medical care to his battalion.

b. No aidman should go to the field without sufficient resources to perform his most responsible and demanding mission. Necessary resources include emotional stability, physical stamina, and adequate medical skills. Aidmen must be screened and given training in the specifics of their job.

c. The aidman's task becomes more pleasant and better medical care is given when the surgeon provides adequate professional backup by means of field visits or radio communications as the case dictates. This close contact with the doctor heightens the aidman's skill and morale.

5. Advising the commander

The keystone in being a useful adviser to your commander, is adequate information sources. The interested, enthusiastic surgeon will find he knows more about his battalion and its people because of his constant communication with patients. His professional evaluation of information obtained about such things as morale, disciplinary problems, emotional and health problems, etc., can be of great value to a commander.

6. Suggested operational tips

a. Personnel

1) Find an intelligent, capable clerk and you will find your records in order, immunizations up-to-date, supplies adequate, and your time to practice medicine increased.

2) The tremendous responsibility of being a medic in Vietnam wears heavily on these young men. After six or eight months in the field many become lazy or careless. If possible rotate medics so they have only six or eight months field time.

3) Generally, a rifle company has one medic per platoon and a senior aidman with the company headquarters. Choose the senior aidman carefully as he can promote much greater depth of service and support for his platoon medic.

b. Hospitalized personnel

1) It is of great interest to the unit to know the disposition of evacuated personnel. By closely monitoring A & D sheets and checking the hospitals one can keep reasonably abreast of evacuations.

2) The profile is a vital document which must be carefully scrutinized (forgeries are common) and filed for proper follow-up care.

7. Conclusion

A year as a battalion surgeon in combat can be a fruitful, demanding, and richly rewarding one. However, if one relies on aidmen and medevac and insists on his own uselessness, he does a grave disservice to himself and to 800 young men.

REPAIR OF SPECTACLE FRAMES

Chief, Plans & Operations
Office of the Surgeon, USARV

Recently a selection of Division and Brigade Surgeons were queried about the capability of repairing spectacle frames at the aid station level.

The most common failure of spectacle frames appears to be the loss of the temple screws holding the ear pieces. With a supply of these screws and the small screwdrivers, these simple repairs could be accomplished at the battalion level and would decrease the non-effective rate among combat troops wearing spectacles, and help to return them to duty with the minimum of delay.

The medical supply catalog lists spectacle screws as an item of medical supply. The Federal stock number is 5305-655-9513 and 100 screws are in each package. Screwdrivers are available through general supply channels under Federal stock number 5120-240-1544.

ITEMS OF INTEREST TO COMMANDERS AND MEDICAL SUPPLY OFFICERS
Medical Branch, USARV, G-4

1. ADVANCE MEDICAL SUPPLY SCHOOLING

A. Interested 4490's are encouraged to apply, in accordance with DA Circular 35-46, for the following medical supply courses:

Medical Depot Inventory Management, Phoenixville, Pennsylvania
Medical Depot Storage, Atlanta, Georgia

2. HEARING AID BATTERIES

Commanders of primary medical treatment facilities should screen health records of all newly arrived personnel to identify those equipped with government furnished hearing aids. The following data should be furnished the CO, 32d Medical Depot for each such individual:

a. Name, rank, service number
b. Organization, geographical location and APO
c. DEROS
d. Name of manufacturer of the hearing aid
e. Model number, serial number
f. Type, stock number and size of battery required
g. Name of manufacturer of battery used
h. Quanity needed for three month supply.

This data is required for proper stockage at the medical supply point so batteries will be available when needed. This is a continuing requirement.

3. MEDICAL OXYGEN CYLINDERS

The supply of medical oxygen is dependent on the numbers of empty cylinders available for refilling. There is a world wide shortage of cylinders for medical oxygen. Medical supply officers are urged to insure that empty cylinders are promptly returned to the servicing medical supply point. Your cooperation is necessary to insure adequate stocks of oxygen in-country, and to preclude costly and critical airlift of oxygen from Okinawa.

4. MEDICAL MAINTENANCE

USARV Maintenance Information Summary, NR 14, dated 20 July 1967, contains information regarding maintenance of the Portaclave Sterilizer, FSN 6530-000-0011. It is the intent of the Medical Branch, USARV G-4 to use the USARV Maintenance Information Summary, which is a periodic publication to make publicity on medical maintenance items. You are invited to furnish the USARV Medical Branch with similar medical maintenance items that you feel might have a command wide interest. Address your medical maintenance suggestions to Chief, Medical Branch, Materiel Division, USARV G-4, APO 96375 for publication.

5. PICK UP OF SUPPLIES

Prompt pick up of filled requisitions from the medical supply point is no less important than prompt submission of requisitions. Some units, on occasion, fail to make timely pick up after notification that the requisitions have been filled. Some units have entered complaints of the lack of certain items when, in fact, those items had been available to them for pick up at the supply point for some period of time. Each medical supply point has only limited storage space for filled orders. MSO's are requested to offer full cooperation in the timely pick up of medical supplies.

6. RELOCATION OF 1st ADVANCE PLATOON, 32d MEDICAL DEPOT

The 1st Advance Platoon of the 32d Medical is now operational in its new location at Long Binh Post (YT 091072), APO 96491. The Platoon may be reached by telephone at Long Binh 4565. You are invited to come out and see a model medical supply point.

7. STRYKER FRAME COMPONENTS

Hospitals in Japan report a shortage of components of Stryker Frames evacuated with patients from Vietnam. All hospitals which evacuate patients on Stryker frames are requested to include the following components:

a. Face support piece
b. Wheels for carts
c. Traction pullies.

The components, if not in use, should be secured to the frame or cart for evacuation.

8. BLEEDING OF COMPRESSED GAS CYLINDERS

All are advised that compressed medical gas cylinders of all types are NOT, repeat NOT, to be completely exhausted of the gas they contain. At least 25 pounds of pressure is to remain in this cylinder. The purpose for this is to preclude the entry of foreign substances such as dust, and insects into the tank and prevent contamination upon refill. Local in-country compressed gas sources refuse to refill cylinders which are completely exhausted thereby necessitating the medical depot to ship these cylinders to Okinawa for decontamination and refill.

Remember - Do not bleed gas cylinders completely empty. Twenty-five pound pressure at least is to remain in the cylinder. Your cooperation is necessary to insure that adequate stocks of compressed medical gasses are maintained in-country.

NEW ARRIVALS

NAME	GRADE	BRANCH	ARRIVED	ASSIGNED
Allen, Samuel M.	LTC	MC	8 Aug 67	12th Evac Hosp
Allgood, Gerald P.	MAJ	MSC	29 Jun 67	85th Evac Hosp
Atchison, Junanita M.	MAJ	ANC	21 Jul 67	2d Surg Hosp
Baker, Floyd W.	LTC	MC	8 Jul 67	1 FFV
Benson, James	MAJ	MC	27 Jul 67	45th Surg Hosp
Bentley, Richard E.	LTC	MSC	19 Jul 67	HQ, USARV
Bischoff, Neil E.	MAJ	MSC	2 Jul 67	32d Med Dep
Bond, Margaret M.	MAJ	ANC	10 Aug 67	3d Fld Hosp
Borden, Regginnal	MAJ	MSC	21 Jun 67	497 Med Co
Borsen, Alexander M.	COL	MC	21 Jun 67	55th Med Gp
Bowers, Bruce T.	LTC	MC	2 Jul 67	8th Fld Hosp
Brown, John S.	MAJ	DC	31 Jul 67	24th Evac Hosp
Brudvik, James S.	MAJ	DC	4 Jul 67	36th KJ
Bubnis, Bernadette J.	MAJ	ANC	23 Jun 67	93d Evac Hosp
Burton, Robert W.	MAJ	ANC	10 Aug 67	93d Evac Hosp
Bush, Donald C.	MAJ	MSC	24 Jun 67	498th Med Bn
Bushwell, Arthur W.	LTC	MC	18 Jun 67	1st Inf Div
Carr, Mary J.	MAJ	ANC	9 Aug 67	24th Evac Hosp
Christman, Peter D.	MAJ	DE	3 Aug 67	229th Med Disp
Church, Roy S.	LTC	MSC	18 Jun 67	HQ, USARV
Clark, Harry N.	MAJ	MSC	21 Jun 67	1st Inf Div
Colhran, Robert M.	LTC	DC	18 Jul 67	56th Med Det KJ
Cohen, Merlin L.	MAJ	DC	25 Jul 67	56th Med Det
Cole, Norman J.	LTC	MC	25 Jun 67	85th Evac Hosp
Conte, Nicholas F.	LTC	MC	15 Jun 67	HQ, USARV
Cooper, Neil S.	MAJ	MC	3 Aug 67	67th Evac Hosp
Corn, Poe R.	MAJ	MSC	12 Jun 67	4th Inf Div
Davis, John J.	MAJ	MSC	9 Jul 67	68th Med Gp
Davis, Robert	LTC	DC	4 Aug 67	36th Med Det
Davis, W. Rex	LTC	MC	18 Jun 67	1st Cav Div
Deaven, Anne C.	MAJ	ANC	2 Aug 67	67th Evac Hosp
Del Grosso, John E.	MAJ	ANC	14 Jul 67	36th Evac Hosp
Dirks, Kennth R.	LTC	MC	30 Jun 67	3d Fld Hosp
Dowery, Gordon K.	MAJ	MSC	14 Jul 67	71st Evac Hosp
Ehon, Richard	LTC	MC	30 Jul 67	85th Evac Hosp
Englehardt, Herbert	MAJ	DC	15 Jul 67	518th Med Det KJ
Evans, O. N.	MAJ	MC	3 Aug 67	78th Med Det
Fechner, Ruben F.	MAJ	MSC	6 Jul 67	HQ, USARV
Fisher, William C.	LTC	MC	15 Jul 67	6th Conv Center
Franklin, Charles	LTC	MSC	14 Jun 67	HQ, USARV
Galloway, Katherine F.	MAJ	ANC	22 Jul 67	85th Evac Hosp
Garland, William B.	MAJ	MSC	14 Jul 67	25th Inf Div
Green, Bruce E.	MAJ	MSC	2 Jul 67	68th Med Gp
Green, Grant	MAJ	MSC	3 Aug 67	68th Med Gp
Gottlieb, Lawrence	MAJ	MC	14 Jul 67	3d Fld Hosp
Hahn, Jerry D.	MAJ	MSC	27 Jul 67	15th Med 1st Cav

NAME	GRADE	BRANCH	ARRIVED	ASSIGNED
Hanson, Chester A.	LTC	MC	16 Jul 67	70th Med Bn
Healey, Richard W.	MAJ	MSC	29 Jun 67	15th Med Bn
Heldmyer, Harry F.	MAJ	MSC	15 Jul 67	68th Med Gp
Heyman, Robert L.	MAJ	MC	21 Jul 67	85th Evac Hosp
Hughes, Lois K.	MAJ	ANC	19 Jun 67	67th Evac Hosp
Jenkins, William N.	MAJ	MSC	2 Jul 67	9th Inf Div
Jezouit, Helen	MAJ	ANC	2 Aug 67	93d Evac Hosp
Johns, Lois A.	MAJ	ANC	7 Aug 67	629th KP Team
Kaku, Michio	LTC	MC	16 Jul 67	18th Surg Hosp
Kern, William A.	MAJ	MC	8 Aug 67	24th Evac Hosp
Kirk, George A.	MAJ	DC	8 Jun 67	934th Med Det KJ
Leary, John B.	MAJ	MC	11 Jun 67	25th Inf Div
Lemay, Sonley R. (Jr.)	LTC	MC	3 Aug 67	24th Evac Hosp
Luce, Nelson	MAJ	MSC	26 Jul 67	658th Med Co
Massey, Robert A.	MAJ	MSC	14 Jul 67	18th Surg Hosp
MacNicol, Helen	MAJ	ANC	30 Jun 67	8th Field Hosp
MacDonald, Bruce	MAJ	MC	3 Aug 67	196th Inf Div
MacLennan, Robert J.	LTC	MSC	18 Jun 67	44th Med Bde
McBride, Dan J.	MAJ	MSC	16 Jul 67	658th Med Bde
McFarland, Joseph	MAJ	MSC	27 Jul 67	55th Gp
Nichie, James L.	MAJ	MC	11 Aug 67	67th Evac Hosp
Miekli, Virgil C.	MAJ	MSC	9 Jul 67	658th Med Co
Molli, Louis	LTC	MSC	11 Aug 67	44th Med Bde
Moore, Alice K.	MAJ	ANC	14 Jul 67	85th Evac Hosp
Moreau, Rudolph	MAJ	MSC	30 Jul 67	68th Med Gp
Morgan, Virginia R.	LTC	ANC	14 Jul 67	24th Evac Hosp
Murata, Sunao	MAJ	MSC	28 Jun 67	98th Med Det
Naito, Roy M.	MAJ	DC	16 Jul 67	518th Med Det KJ
Nitz, Robert E.	COL	MC	8 Jun 67	HQ, USARV
Ohlenbush, Robert E.	LTC	DC	25 Jul 67	40th Med Det
Osbon, Donald B.	LTC	DC	6 Jun 67	104th Med Det
Parks, Madelyn	LTC	DC	23 Jun 67	85th Evac Hosp
Parrish, Matthew D.	COL	MC	16 Jul 67	HQ, USARV
Paquin, Mary J.	MAJ	ANC	5 Jun 67	91st Evac Hosp
Pecukonis, Edward	MAJ	ANC	5 Aug 67	67th Evac Hosp
Peppe, Isdore O.	LTC	DC	23 Jun 67	518th Med Det
Perry, Lawrence B	LTC	MC	21 Jul 67	93d Evac Hosp
Pfoertner, George B.	MAJ	MC	23 Jun 67	24th Evac Hosp
Picha, Norbert O.	MAJ	MSC	31 Jul 67	27th Mil Hist Det
Quinn, Mary C.	MAJ	ANC	16 Jun 67	85th Evac Hosp
Reed, William A.	MAJ	MSC	9 Jul 67	9th Inf Div
Richardson, Berman	MAJ	MSC	19 Jun 67	1st Inf Div
Ritchey, John P.	MAJ	MC	21 Jul 67	1st Bde 101st ABN
Robbins, Charles H.	MAJ	MSC	9 Jul 67	32d Med Dep
Ruff, James M.	MAJ	DC	26 Jun 67	101st ABN
Russell, James L.	MAJ	MSC	9 Jul 67	935th Med Det
Sater, Corinne M.	MAJ	ANC	21 Jul 67	12th Evac Hosp
Schwartz, Roy S.	MAJ	DC	25 Jul 67	518th Med Det
Scheerer, Marjorie	MAJ	ANC	30 Jun 67	93d Evac Hosp

NAME	GRADE	BRANCH	ARRIVED	ASSIGNED
Shannon, Charles J.	MAJ	DC	24 Jun 67	85th Evac Hosp
Sheaffer, Harold C.	MAJ	MC	18 Jun 67	67th Evac Hosp
Shimerda, Joan L.	MAJ	ANC	13 Aug 67	6th Conv Center
Singer, Lawrence R.	LTC	MC	8 Jul 67	4th Inf Div
Slewitzke, Connie L.	MAJ	ANC	8 Jun 67	36th Evac Hosp
Smith, Joseph J.	LTC	MC	18 Jul 67	20 PMC
Spiegle, Hardy L.M.	MAJ	MSC	25 Jun 67	32d Med Dep
Summitt, William	MAJ	DC	30 Jul 67	38th Med Det
Thomas, William	LTC	MSC	22 Jun 67	HQ, USARV
Tisdale, Patrick D.	LTC	MC	24 Jun 67	1st Inf Div
Todd, Phillip E.	MAJ	MSC	29 Jun 67	HQ, 44th Med Bde
Ungar, Ralph F.	MAJ	MSC	10 Jun 67	406th Med Lab
Veatch, William M.	MAJ	MC	5 Jun 67	24th Evac Hosp
Wallace, John	MAJ	DC	3 Aug 67	12th Evac Hosp
Walker, Jackson K.	LTC	MC	16 Jul 67	93d Evac Hosp
Waterfield, William	LTC	MSC	29 Jul 69	44th Med Bde
Weaver, Joseph	MAJ	MSC	2 Jul 67	1st Cav Div
Welle, Floyd B.	COL	MSC	30 Jul 67	320th Med Dep
Wells, Ralph F.	LTC	MC	25 Jun 67	61st Bn
Young, John W.	MAJ	MSC	29 Jun 67	68th Med Gp
Zbylski, Joseph R.	MAJ	MC	20 Jun 67	3d Fld Hosp
Ziebell, Earl L.	MAJ	MSC	2 Jul 67	68th Med Gp
Zone, Robert	LTC	MC	13 Aug 67	67th Evac Hosp

USARV MEDICAL BULLETIN

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THE VIEW FROM THE REAR

Captain Noel A. Miller, MSC

"Get 'em packed, Lieutenant. We're moving." Lieutenant Luckless' Monday morning fugue state is shattered by the force of Colonel Castigation's vehemence.

"Yes sir, I know. Next Sunday. I was just getting ready to start thinking about a load plan."

"No, no, not Sunday. That was the word yesterday. It's Wednesday now - day after tomorrow. Van will be here tomorrow morning, so we'd better get moving. Moving, get it? Ha Ha." The Colonel's door slams on the echo of his laughter, and a resigned sigh escapes the Lieutenant as he scratches out a circled date on an already blackened desk calendar and encircles another.

Many previously unrecognized facts come to light in the ensuing hours: 34 inch desks do not pass through 30 inch doors, and a moment of silent tribute is paid to the unknown EM who, untold years previously, hoisted them through respective second floor windows. Their work is undone with the deepest of regret. Unexplored closets, corners and crannies yield an unsuspected quantity and array of unserviceable supplies and equipment; an inevitable result of a complacent sequence of non-compulsive personnel in a short-tour area. Five thousand plus cubic feet can be made to fit in a 3000 cubic foot van if responsible personnel are imbued with sufficient impetus, ingenuity and muscles. Miraculously, the bulging van doors are wedged shut on schedule, and fastened with baling wire, adhesive tape and a prayer.

Arrival at New Headquarters area is heralded by a torrential downpour, the intensity of which is equaled only by the quantity of mud generated thereby. Fifty feet from the goal the van bogs down in a particularly treacherous puddle, and the driver dismounts, struggles to the shore and slogs for cover.

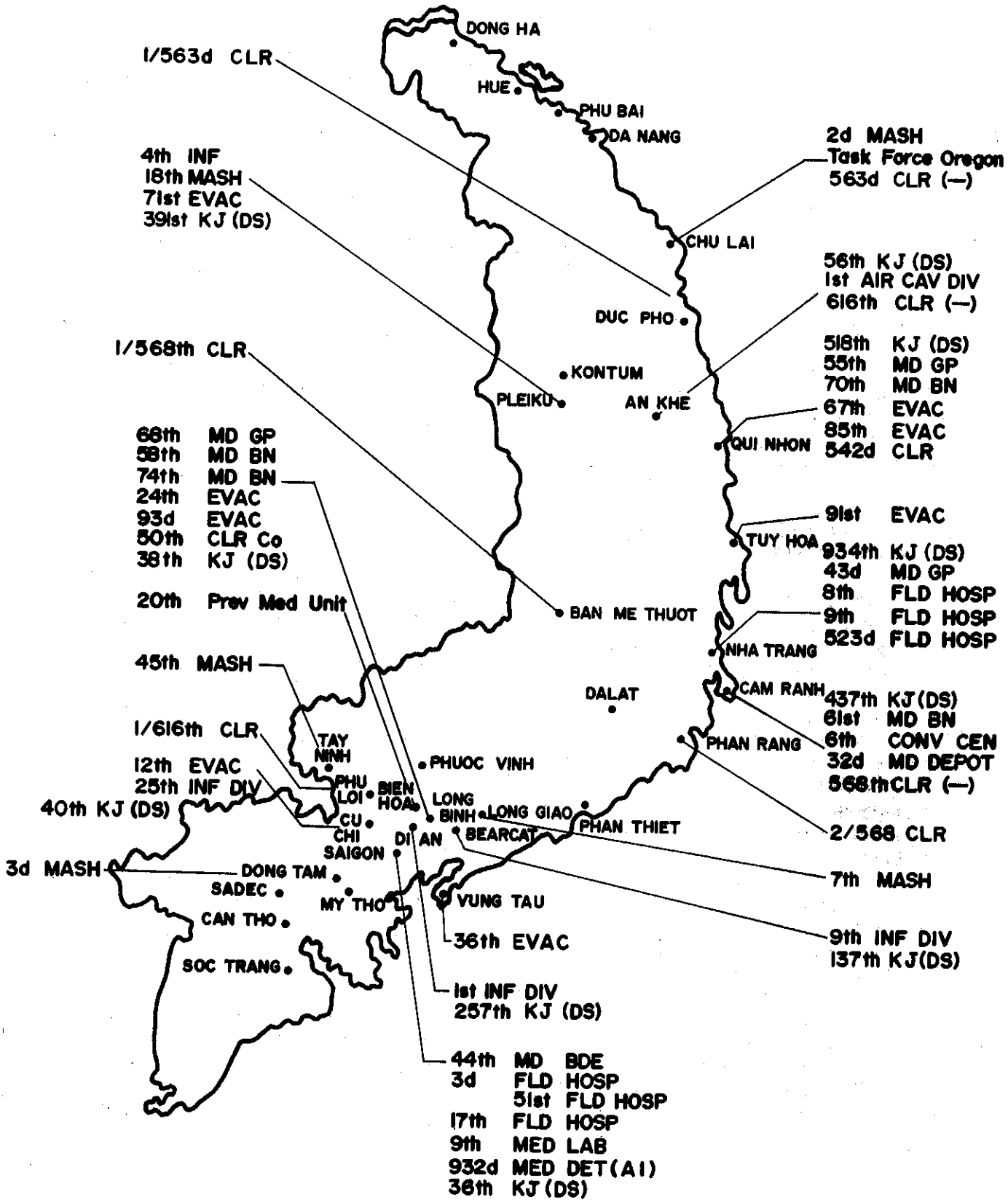
"Where's our office?" comes the plaintive cry from the soaked and muddy EM with whom Lieutenant Luckless has sought shelter in the entrance of what appears to be a half-finished warehouse.

"You're in it mister." And an all-too-cheerful project officer paces off some arbitrary dimensions on a newly muddied floor.

"But where's the partitions? And Ceilings? And doors, and telephones and electricity?"

"Lieutenant, you've got four walls, a floor and roof over your head. This puts you ahead of two-thirds of the headquarters. Now move in and get operational."

Lieutenant Luckless glances over his shoulder. Outside, his van continues to sink lower and lower into the mud as sodden EM struggle desperately to remove the adhesive tape. The pelting rain adds an aura of unreality to the scene before him, and the Lieutenant pinches himself firmly. The scene, if anything, appears a little more watery. Resolutely he unrolls a tentative floor plan and paces to the planned location of his desk. A steady drip and a spreading puddle attest to the presence of a leak in the roof just over his head. Unashamedly, the Lieutenant's tears are added to the growing puddle.


DONG HA
1/563d CLR
HUE
PHU BAI
DA NANG
2d MASH
Task Force Oregon
563d CLR (—)
4th INF
18th MASH
71st EVAC
39ist KJ (DS)
CHU LAI
56th KJ (DS)
1st AIR CAV DIV
616th CLR (—)
DUC PHO
1/568th CLR
518th KJ (DS)
55th MD GP
70th MD BN
KONTUM
PLEIKU
AN KHE
67th EVAC
85th EVAC
QUI NHON
542d CLR
68th MD GP
58th MD BN
74th MD BN
24th EVAC
93d EVAC
50th CLR Co
38th KJ (DS)
9ist EVAC
TUY HOA
934th KJ (DS)
43d MD GP
8th FLD HOSP
9th FLD HOSP
523d FLD HOSP
20th Prev Med Unit
BAN ME THUOT
NHA TRANG
45th MASH
DALAT
CAM RANH
437th KJ(DS)
6ist MD BN
6th CONV CEN
32d MD DEPOT
568th CLR (—)
1/616th CLR
TAY NINH
PHUOC VINH
PHAN RANG
12th EVAC
25th INF DIV
PHU LOI
BIEN HOA
LONG BINH
LONG GIAO
PHAN THIET
40th KJ (DS)
CU CHI
BEARCAT
2/568 CLR
3d MASH
SAIGON
DI AN
DONG TAM
7th MASH
SADEC
MY THO
VUNG TAU
CAN THO
36th EVAC
9th INF DIV
137th KJ(DS)
SOC TRANG
1st INF DIV
257th KJ (DS)
44th MD BDE
3d FLD HOSP
5ist FLD HOSP
17th FLD HOSP
9th MED LAB
932d MED DET(A1)
36th KJ (DS)

PPC-Japan