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AUTHORITY

AGO ltr 29 Apr 1980

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DEPARTMENT OF THE ARMY  
OFFICE OF THE ADJUTANT GENERAL  
WASHINGTON, D.C. 20310

IN REPLY REFER TO  
AGAM-P (M) (9 Apr 68)

FOR OT RD 681032

10 April 1968

SUBJECT: Operational Report - Lessons Learned, Headquarters, 3d  
Field Hospital, Period Ending 31 January 1968

AD830320

SEE DISTRIBUTION

1. Subject report is forwarded for review and evaluation in accordance with paragraph 5b, AR 525-15. Evaluations and corrective actions should be reported to ACSFOR OT RD, Operational Reports Branch, within 90 days of receipt of covering letter.
2. Information contained in this report is provided to insure appropriate benefits in the future from lessons learned during current operations and may be adapted for use in developing training material.

BY ORDER OF THE SECRETARY OF THE ARMY:

*Kenneth G. Wickham*  
KENNETH G. WICKHAM  
Major General, USA  
The Adjutant General

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*Office of the Assistant Chief of Staff for Force  
Development, Attn: FOR, OT-RD, Washington, DC 20310*

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DEPARTMENT OF THE ARMY  
HEADQUARTERS 3D FIELD HOSPITAL  
APO 96307

1 February 1968

AVBJ GC-FA

SUBJECT: Operational Report - Lessons Learned for Quarterly Period  
Ending 31 January 1968 (RCS CSFOR-65)

THRU: Commanding Officer  
67th Medical Group  
ATTN: AVBJ MB-GC-FO  
APO 96227

TO: Assistant Chief of Staff for Force Development  
Department of the Army (ACSFOR DA)  
Washington, D.C. 20310

The Operational Report - Lessons Learned of this headquarters for the  
quarterly period ending 31 January 1968 is forwarded in accordance with Army  
Regulation 1-19 and LC Regulation 870-3.

*Kenneth R. Dirks*

KENNETH R. DIRKS  
COL, MC  
Commanding

FOR OTRD  
681032

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D. 9th Medical Laboratory Detachment

Withdrawn,  
Hqs, DA

~~E. Distinguished Visitors to 3d Field Hospital~~

AVBJ GC-FA

1 February 1968

SUBJECT: Operational Report - Lessons Learned for Quarterly Period  
Ending 31 January 1968 (RCS CSFOR-65)

SECTION I: SIGNIFICANT ORGANIZATIONAL ACTIVITIES

A. During this report period the 3d Field Hospital fulfilled its mission of:

1. Providing hospitalization to US Military Forces, other Free World Military Forces and Civilian War Casualties in the Saigon/Tan Son Nhut area.
2. Providing hospitalization of patients transferred from other medical treatment facilities located in the II, III and IV Corps Tactical Zones.
3. Providing specialized treatment in designated specialties which include General Surgery, Orthopedic Surgery, Plastic Surgery, Thoracic Surgery, Neurosurgery, Cardiovascular Surgery, Ophthalmology, Oral Surgery, Anesthesiology, Physical Therapy, Cardiology, Communicable Diseases, Pulmonary Diseases, Hematology, Hemodialysis, Neuropsychiatry, Diagnostic Radiology, and Neuroradiology.
4. Back up support to the Air Force Aeromedical Evacuation system.
5. Support to directed research projects.

B. Personnel, Administration, Morale and Discipline:

1. Personnel:

a. Major William C. Jewell, MSC, became Hospital Executive Officer replacing LTC Allan T. Warnes on 23 December 1967.

b. Captain Bobby J. Becker, MSC, became Chief, Plans and Operations replacing 1LT William E. Corley on 17 January 1968.

2. Administration: a. The following units were attached to the 3d Field Hospital for administrative and logistical support during this report period:

- (1) 62d Medical Detachment (KA) General Surgery Team
- (2) 155th Medical Detachment (KF) Thoracic Surgery Team
- (3) 629th Medical Detachment (KP) Renal Unit
- (4) 229th Medical Detachment (MC) Dispensary

b. General Orders Number 65, dated 28 Dec 67, attached the 346th Medical Detachment (MA), Dispensary, for medical maintenance and medical supply support only.

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3. Morale and Discipline: a. Awards and Decorations:

(1) The following awards and decorations were approved and presented or forwarded to assigned or attached personnel during the period:

(a) Bronze Star - 9

(b) Army Commendation Medal - 15

b. Special Services: (1) A vigorous Special Services program is being pursued for both patients and staff of the hospital. Included in the program are: a large number of fiction and non-fiction books with a wide range of subject matter, 1st run movies presented five nights per week, recreational facilities, visits by well known screen stars, athletes, political figures, and television stars.

(2) Projected expansion of group type recreation such as badminton, horseshoes, and softball will enhance the activities program and provide greater variety.

4. Plans, Operations and Training: a. Approval was obtained from CG, USAH&C for the construction of the M&DEVAC heliport which will be situated across Vo Tanh Street from the Newport BOC, which lies west of the hospital headquarters; construction is tentatively scheduled to begin o/a 15 February 1968. This will increase the hospital's capability to receive direct casualties at this hospital.

b. The flood control project in front of the hospital is nearly completed. The front gates of the hospital will be reopened 1 Feb.

c. Approval for the relocation of the motor pool to the hospital compound has been received; work on the project is scheduled for completion during 1st Quarter, CY 68. The relocation will result in increased security, better supervision and control and will result in a deletion of the requirement for a separate guard.

d. Statistics for reporting period:

<u>Total Admissions</u>	<u>Total Direct Admissions</u>
November - 596	November - 423
December - 574	December - 400
January - 775	January - 525
<u>Total Transfers</u>	<u>Total Outpatients</u>
November - 173	November - 1590
December - 174	December - 1608
January - 250	January - 1834

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Daily Average Beds Occupied

November - 230

December - 183

January - 212

e. Of the 537 patients seen in the Department of Medicine during the reporting period, some of the diagnostic categories were:

(1) Acute enteric diseases . . . . .	13%
(2) Upper Respiratory infections and pneumonia . .	8%
(3) Infectious Hepatitis . . . . .	7%
(4) Fevers of undetermined origin . . . . .	6%
(5) Malaria . . . . .	6%
(6) Thrombophlebitis . . . . .	3%
(7) Peptic Ulcer . . . . .	3%
(8) Urinary Tract Calculi . . . . .	3%
(9) Hypertension . . . . .	2%

Item 4 above represents a 50% decrease in fevers of undetermined origin, probably reflecting improved clinical and laboratory studies.

f. The mission of the surgery department during this reporting period was primarily caring for wounded patients transferred from outlying surgical and evacuation hospitals of the 67th Medical Group. Patients from the 21st Casualty Staging Facility not ready for evacuation, and injuries and surgical illnesses presented by military and civilians in the Saigon area continued to constitute a significant portion of the patient load. An increase in the number of direct casualty admissions was noted and an increasing number of patients were admitted in consultation from other hospitals.

g. On 31 Jan 68 the 3d Field Hospital began receiving direct casualties which resulted from the widespread Viet Cong attacks in Saigon and the surrounding area. As a result of these terrorist activities the contract laundry facility which services this hospital was not in operation. In addition, roads were blocked at several points between the hospital and the laundry facility. Due to the large influx of patients in a short period of time and the tremendous schedule of surgical cases which are a part of an influx of this nature, the linen supply in the hospital was soon exhausted.

h. Other Significant Organizational Activities: (1) Nursing Service received three mobile monomatics, which are self-contained, electrically operated, sanitation systems, one hyperthermia unit for the operating room, and one Emerson respirator.

(2) Female latrines were completed on the two medical wards.

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ending 31 January 1968 (RCS CSPOH - 65)

(3) The VIP Ward, Ward S-7, was officially opened by LTG  
Heaton, TSG, on 16 November 1967.

(4) Ward 9 was changed from a 100 bed convalescent ward to  
a 100 bed ambulatory ward.

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SECTION II PART I: OBSERVATIONS (LESSONS LEARNED)

1. ITEM: Acute Renal Failure.

DISCUSSION: The majority of acute renal failures encountered in the combat zone are post traumatic in origin; however, medical etiologies have comprised forty percent of the cases this quarter.

OBSERVATION: It is imperative that all physicians serving in Vietnam be alert to the possible appearance of renal failure in any ill patient, irrespective of the underlying disease.

2. ITEM: Dental Anesthetic Waiting Time.

DISCUSSION: There is a time after anesthetic injection during which the dentist has a delay before beginning any operative procedure.

OBSERVATION: The "anesthetic delay" is an excellent opportunity for the dentist to discuss oral hygiene with the patient. During this time he can educate the patient and instruct him in more effective toothbrushing habits.

3. ITEM: Large Operating Room Patient Load.

DISCUSSION: During a large influx of patients requiring surgery it is difficult and time consuming to release operating room personnel to go to the mess hall for meals.

OBSERVATION: A food cart containing a regular diet food tray for each member of the operating room is ordered from the hospital mess. This allows operating room personnel to eat at the meal hour, a maximum amount of surgery is completed and mess personnel do not have to save food past their normal serving hours.

4. ITEM: Shortage of Blood Bank Personnel.

DISCUSSION: Due to personnel shortages it is difficult to arrange for adequate night and Sunday coverage and effectively utilize personnel.

OBSERVATION: To relieve this personnel shortage one man is on duty and a first, second and third call roster has been initiated; this schedule is in lieu of the two man night coverage. This provides the capability of four men on call but the loss of only one man the following day.

5. ITEM: Contract Linen Service.

DISCUSSION: During any hostile action it is possible for contract laundry facilities to be inoperative or isolated as a result of this hostile activity, thereby creating acute linen shortages in the hospital very quickly.

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OBSERVATION: An organic laundry facility in the hospital compound could launder hospital linen routinely, and in addition, would be able to operate during hostile action.

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SECTION II PART II: RECOMMENDATIONS

RECOMMENDATIONS:

1. All physicians in Vietnam be alert to the possible appearance of renal failure in any seriously ill patient, irrespective of the underlying disease.
2. The delay between injection of the anesthetic for a dental operative procedure and onset of its effects be utilized as an instruction period in oral hygiene.
3. Operating room personnel be fed at their place of duty during heavy surgical loads by moving food carts with regular diets from the mess hall to an appropriate area in the operating room suite.
4. First, second and third call rosters be utilized in situations of personnel shortage in the blood bank rather than having two men on duty nightly.
5. An organic laundry facility be funded and constructed within the hospital compound.

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AVBJ GC-0 (1 Feb 68) 1st Ind  
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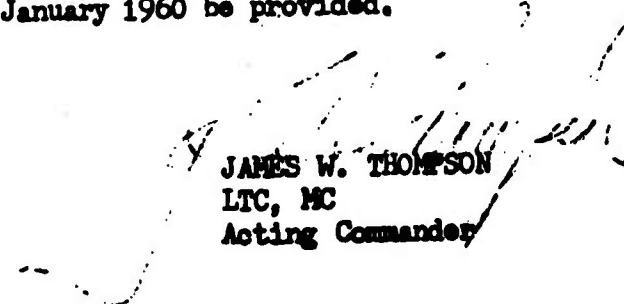
Headquarters, 67th Medical Group, APO 96227

13 February 1968

TO: Commanding General, 44th Medical Brigade, APO 96384

Reference Section II, Part II

- a. Concur with paragraphs 1, 2, 3 and 4.
- b. Reference paragraph 5. Concur with the requirement. However, recommend that a laundry detachment 10-500, Q M Service, as authorized by TOE 8-510D, dated 11 January 1960 be provided.

  
JAMES W. THOMPSON  
LTC, MC  
Acting Commander

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AVBJ-PO (1 Feb 1968) 2d Ind  
SUBJECT: Operational Report-Lessons Learned for Quarterly Period  
Ending 31 Jan 1968 (RCS CSFOR-65) (3d Field Hospital)

HEADQUARTERS, 44th Medical Brigade APO 96384 29 Feb 1968

TO: Commanding General, United States Army Vietnam, ATTN: AVHGC-DST,  
APO 96375

1. The contents of the basic report and first indorsement have been reviewed.

2. The following comments pertaining to the recommendations in Section II, Part II (page 9) of the basic report are submitted:

a. Reference paragraph 1. This recommendation concerns a technical professional matter and should be considered by appropriate consultants to the USARV Surgeon and the Surgeon General.


b. Reference paragraph 2. Concur. This recommendation is excellent and is in keeping with preventive dentistry guidance provided by the USARV Dental Surgeon.

c. Reference paragraph 3. Non-concur. AR 30-41 governs the issue, control and dispensing of foods in field ration messes. All messes in Vietnam operated on appropriated funds are field ration messes and adherence to the provisions of the regulation is mandatory. Mess halls are, in no instance, located at great distances from Surgery and arrangements can be made by telephone to hold meals for operating room personnel. In this manner, controls required can be exercised and food is not wasted.

d. Reference paragraph 4. Concur. It is recognized that this procedure will benefit the 3d Field Hospital and units with similar personnel shortages; however, issuance of this recommendation as general policy is not indicated.

e. Reference paragraph 5. Concur with paragraph b., first indorsement. The absence of laundry capability during heavy patient load periods and periodic non-availability of contract laundries directly effect the unit's ability to accomplish its mission.

TEL: LBH 2909/2494

  
GLENN J. COLLINS  
Brigadier General, MC  
Commanding

cc: 3d Field Hospital

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AVHGC-DST (1 Feb 68) 3d Ind  
SUBJECT: Operational Report - Lessons Learned for Quarterly Period  
Ending 31 January 1968 (RCS CSFOR-65)

HEADQUARTERS, US ARMY VIETNAM, APO San Francisco 96375 10 MAR 1968

TO: Commander in Chief, United States Army, Pacific, ATTN: GPOP-DT,  
APO 96558

1. This headquarters has reviewed the Operational Report-Lessons Learned for the quarterly period ending 31 January 1968 from Headquarters, 3d Field Hospital (BJMA) as indorsed.

2. Pertinent comments follow:

a. Reference item concerning acute renal failure, page 6, paragraph 1; and page 9, paragraph 1: Concur. All medical officers are familiar with the clinical situations that predispose to acute renal failure—both medical and surgical. The fact that more than half the patients referred are surgical cases merely reflects the large incidence of serious combat wounds. Experiences in the renal unit during the first year here was published in the USARV Medical Bulletin Sep-Oct 1967 to familiarize medical officers in-country with this problem.

b. Reference item concerning contract linen service, Section II, Part I, page 6, paragraph 5. Laundry Detachment can be provided from Part 5, Quartermaster Laundry and Bath Teams, TOE 10-500D Quartermaster Service Organization, as authorized by TOE 8-510D, dated 11 January 1960. IAW paragraph 24(2), Section IV, DA Circular 310-44, dated 5 November 1967, all increases in manpower must be justified in terms of trade-off spaces or through previously approved adjustment in USARV force structure prior to submission of MTOE that will include laundry detachment augmentation.

3. A copy of this indorsement will be furnished to the reporting unit through channels.

FOR THE COMMANDER:



CHARLES A. BYRD  
Major, AGC  
Assistant Adjutant General

Copies furnished:  
HQ, 3d Fld Hosp  
HQ, 44th Med Bde

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GPOP-DT (1 Feb 68) 4th Ind  
SUBJECT: Operational Report for the Quarterly Period Ending 31 January  
1968 from HQ, 3d Fld Hosp (UIC: WBJMAA) (RCS CSFOR-65)

HQ, US Army, Pacific, APO San Francisco 96558 22 MAR 1968

TO: Assistant Chief of Staff for Force Development, Department of the  
Army, Washington, D. C. 20310

This headquarters has evaluated subject report and forwarding indorse-  
ments and concurs in the report as indorsed.

FOR THE COMMANDER IN CHIEF:



K. F. OSBOURN  
MAJ, AGC  
Asst AG

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AVBJ GC-FA

1 February 1968

SUBJECT: Operational Report - Lessons Learned for Quarterly Period  
Ending 31 January 1968 (RCS CSFOR - 65)

ANNEX A

SURGERY

1. The mission of the Surgery Department during the 3 month period November 1967 - January 1968 was primarily caring for wounded patients transferred from other surgical and evacuation hospitals of the 67th Medical Group. Patients from the 21st Casualty Staging Facility not ready for evacuation and injuries and surgical illnesses incurred by military and civilians in the Saigon area continued to constitute a significant portion of the patient load. An increase in the number of direct casualty admissions was noted and an increasing number of patients was admitted in consultation from other hospitals.

2. A turn-over in the Surgical Staff occurred at this time. Captain E. Esselstyn, General Surgeon and Captain J. Stratton, Orthopedic Surgeon were re-assigned in-country. A Neurosurgeon, Captain J. Renaudin was re-assigned to the 3d Field Hospital. In addition Captain R. Waters, Captain S. Ratzan, Orthopedic Surgeons and Captain E. Gaffney, General Surgeon were assigned to the hospital.

	<u>Admissions</u>	<u>IRHA</u>	<u>Operations</u>	
			<u>Major</u>	<u>Minor</u>
November	344	174	218	120
December	345	168	148	113
January	466	332	262	231

3. The Emergency Room patient load continued to increase. However, the assignment of Captains G. Rothman, H. Hyde, and T. Maher has made the operation run smoothly.

Total Patients

November	1984
December	2037
January	2435

4. The Anaesthesia Service continued to function efficiently and was bolstered by the addition of Captain W. Garren. The acquisition of an Emerson Respirator was a welcome addition to the excellent intensive care and recovery ward.

Anesthesia

	<u>General</u>	<u>Regional</u>	<u>Local</u>
November	187	54	70
December	126	36	59
January	228	47	90

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ANNEX A

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5. The Orthopedic Service with the addition of a fully trained and another partially trained surgeon has compensated for the loss of our previous surgeon. However, an increase in the patient load continued and a still larger outpatient load is anticipated with the loss of an orthopedic surgeon at the 17th Field Hospital.

	<u>Clinic Patients</u>	<u>Casts</u>
November	277	309
December	230	265
January	329	342

6. The Physical Therapy Clinic had a turnover in personnel with the assignment of Lt. Colonel M. Westhoven and the departure of Captain J. Fenninger. A marked increase in the patient load was seen because of an active physical reconditioning program and increasing Orthopedic Clinic load. The swimming program was resumed. Also, a knee exercise table, paraffin bath and a Burdick muscle stimulation unit were received.

	<u>Patients</u>	<u>Visits</u>
November	80	710
December	106	780
January	107	859

7. The Plastic and Maxillo-Facial, Neurosurgery, Ophthalmology and Thoracic Surgery Services received an increasing number of consultations and performed additional services by actively participating in teaching and operating at the Vietnamese Cho Ray and Cong-Hoa Hospitals.

8. The weekly surgical meeting was augmented with Medical-Surgical grand rounds and professional movies.

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## ANNEX B 629th MEDICAL DETACHMENT (RENAL UNIT)

SECTION I: General Remarks

a. The Renal Unit has continued to be exceedingly busy throughout the most recent quarter. Twenty-seven patients were referred to the unit, eighteen of whom had acute renal failure. Of these eighteen patients, eleven had post-traumatic renal failure, and seven had renal failure secondary to a medical etiology. All but one patient from each group was capable of undergoing treatment, and nine recovered, giving an overall survival rate of 56%. During this period, a total of forty-one dialyses were done, thirty-three of which were hemodialyses.

b. The volume of patients and number of dialyses have been unprecedented in the history of the renal unit. Table I reviews the salient features of both this and the previous quarter.

TABLE I

ANALYSIS OF ALL CASES OF ACUTE RENAL FAILURE REFERRED TO THE RENAL UNIT  
THROUGHOUT THE PREVIOUS AND PRESENT QUARTERS.

<u>Category</u>	<u>Previous quarter</u>	<u>Present quarter</u>
Total Pts. Referred to Unit	26	27
Total Pts. ARF Med	7	7
Total Pts. ARF Med Treated	6	6
Total Pts. ARF Med Survived	6 (100%)	4 (67%)
Total Pts. ARF Surg *	11	11
Total Pts. ARF Surg Treated	7	10
Total Pts. ARF Surg Survived	1 (14%)	5 (50%)
Total Pts. ARF Med/Surg	18	18
Total Pts. ARF Med/Surg Treated	13	16
Total Pts. ARF Med/Surg Survived	7 (54%)	9 (56%)
Hemodialyses	21	33
Peritoneal Dialyses	<u>4</u>	<u>8</u>
Total Dialyses	25	41

(\* Of the total surgical renal failure patients, 4 had associated hemolytic transfusion reactions. Of this group, 3 survived).

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T A B L E II

REVIEW OF ALL PATIENTS REFERRED TO THE RENAL UNIT DURING THE  
PERIOD OF 1 NOVEMBER 1967 THROUGH 31 JANUARY 1968

<u>Patient, age</u> <u>Admission Date</u>	<u>Diagnoses</u>	<u>Remarks</u>
1. J.H. 24 YO SP/4 24 Oct. 67	Plasmodium falciparum malaria with secondary acute renal failure.	Patient diuresed spontaneously and did not require dialysis. He was evacuated to CONUS with normal renal function on 8 Nov. 67.
2. G.D. 21 YO Marine CPT 25 Oct. 67	Mine blast injuries. Oliguria and volume underexpansion secondary to blood loss. Post-operative state: Left mid-thigh amputation and soft tissue wound debridement. Pulmonary insufficiency.	Large volumes of intravenous fluids produced copious diuresis, and dialysis was not required. He expired on 27 Oct. 67 due to pulmonary insufficiency.
3. W.T. 20 YO PFC 26 Oct. 67	Mine blast injuries with massive trauma to three extremities. Post-traumatic acute renal failure. Post-operative state: (L) a/h amputation, debridement of multiple wounds.	Patient underwent 4 hemodialyses and 6 surgical procedures under general anesthesia. He was evacuated to CONUS on 28 Nov. 67 with normal renal function. (Details appear in Section 11)
4. L.B. 21 YO PFC 28 Oct. 67	Leptospirosis with secondary acute renal failure.	Patient diuresed spontaneously and did not require dialysis. He was evacuated to CONUS with normal renal function on 14 Nov. 67.
5. W.F. 20 YO 1LT. (Seen in consultation, 67th Evac.)	Severe head injury. Post-operative state: craniotomy with multiple metabolic problems.	Patient was transiently anuric post-operatively, but diuresed spontaneously. He later died of complications of injuries on 8 Nov. 67

<u>Patient, Age Admission Date</u>	<u>Diagnoses</u>	<u>Remarks</u>
6. M.S. 20 YO SP/4 29 Oct. 67	Pulmonary insufficiency secondary to aspiration pneumonia. Multiple GSw's of chest and abdomen. Post-operative state: (R) colectomy with transverse ileocolostomy, (L) nephrectomy and tube thoractomy. Mild azotemia.	Patient's major problem was respiratory insufficiency, which resulted in his death 31 Oct. 67. The mild renal insufficiency was an insignificant part of his course.
7. L.R. 19 YO PFC 29 Oct. 67	Severe GSw's of the sacrum and abdomen. Post-operative state: Repair of small and large bowel lacerations packing of the sacrum. Post-traumatic renal failure with possibility of transfusion reaction. Pulmonary insufficiency.	Patient was moribund on admission. Hemodialysis was immediately performed, and was complicated by bleeding. He manifested progressive respiratory insufficiency, and expired on 30 Oct. 67
8. A.B. 20 YO PFC 3 Nov. 67	GSw of (R) forearm. Post-operative state: Repair of open fracture of radius. acute renal failure secondary to ABO transfusion incompatibility.	Patient underwent peritoneal dialysis once, hemodialysis twice, and 4 surgical procedures under general anesthesia. (R) B/E amputation performed. He was evacuated to CONUS with normal renal function on 15 Nov. 67.
9. N.V.T. 25 YO ARVN 8 Nov. 67	Mine blast injuries with massive trauma to both lower extremities. Post-operative state: (L) A/K amputation. Sepsis. Post-traumatic acute renal failure.	Patient underwent hemodialysis twice. (R) A/K amputation was performed. He expired due to sepsis on 12 Nov. 67.
10. E.M. 27 YO SP4 10 Nov. 67	GSw of (R) thigh. acute renal failure secondary to ABO transfusion incompatibility.	Patient underwent peritoneal dialysis once. (R) A/K amputation was performed. He was evacuated to CONUS with normal renal function on 4 Dec. 67.
11. J.S. 21 YO SP/4 26 Nov. 67	Generalized vasculitis of undetermined origin, possibly induced by iodide hypersensitivity.	Patient underwent peritoneal dialysis twice and hemodialysis once. He received large doses of steroids, without benefit. His course was marked by rapid deterioration and he expired on 7 Dec. 67.

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<u>Patient, AGO</u> <u>Admission D.t.</u>	<u>Diagnosis</u>	<u>Remarks</u>
12. G.P. 27 YO Navy Seaman 26 Nov. 67	Massive hemolytic reaction following primaquine ingestion; acute renal failure.	Patient has undergone peritoneal dialysis twice and hemodialysis 5 times. He is now in the diuretic phase. (Details appear in Section II).
13. W.A. 21 YO PFC	Plasmodium falciparum malaria with cerebral and renal involvement.	Patient was comatose on admission and never regained consciousness. He had a 70% parasitemia initially, which cleared. He underwent peritoneal dialysis once. He expired on 4 Dec. 67.
14. T.D. 24 YO PFC 1 Dec. 67	Severe GSWs with transection of spinal cord and multiple internal injuries. Post-operative state: Splenectomy, nephrectomy, multiple bowel procedures. Cardiac arrest with secondary acute renal failure.	Patient underwent hemodialysis 10 times. His course was complicated by recurrent sepsis and persistent small bowel fistulous drainage. He remained oliguric until his death 9 Jan. 68.
15. A.R. 31 YO Australian WO 2 Dec. 67	Plasmodium falciparum malaria with cerebral and renal involvement. Pulmonary insufficiency.	Patient underwent peritoneal dialysis once and hemodialysis once. He had a 70% parasitemia initially, which cleared. However, he died of pulmonary complications on 5 Dec. 67.
16. L.R. 26 YO PFC	Japanese B-encephalitis. Cardiac arrest with secondary acute renal failure. Bronchopneumonia.	Patient was comatose on admission and never regained consciousness. He was in the early diuretic phase at the time of his death on 19 Dec. 67.
17. D.W. 22 YO SP/5 21 Dec. 67	Plasmodium falciparum malaria with oliguria and hemoglobinuria.	Patient was dehydrated on admission. He received large volumes of fluids which produced a copious diuresis and clearing of the hemoglobinuria in the first 12 hours. He was transferred to the Infectious Disease Unit with normal renal function on 23 Dec. 67.
18. J.N. 22 YO Marine LCPL 23 Dec. 67	Mine blast injuries with bilateral traumatic amputation of the lower extremities and perineal damage. Sepsis. Post-traumatic acute renal failure.	Patient underwent hemodialysis immediately after admission. On the day following, he underwent bilateral upper thigh amputations during which he developed a cardiac arrest, and expired. Blood cultures were positive for Aerobacter.

<u>Patient, Age</u> <u>Admission Date</u>	<u>Diagnoses</u>	<u>Remarks</u>
19. T.T.T. 39 YO VN Female civ. 30 Dec. 67	GSW of (R) chest deposition of bullet in (R) ventricle. Cardiac arrest secondary to above. Post-operative state: pericardiectomy, repair of laceration of ventricle, and tube thoracotomies. Acute renal failure secondary to ABO transfusion incompatibility.	Patient expired 5 hours after admission on the Intensive Care Unit. No dialysis was performed.
20. J.L. 20 YO SP/4 3 Jan 68	GSW of abdomen and flank, with multiple internal injuries. Post-traumatic acute renal failure. Pulmonary insufficiency secondary to bronchopneumonia and pulmonary emboli.	Patient underwent hemodialysis one time. He manifested increasing respiratory difficulty, and expired on 5 Jan. 68.
21. R.V. 22 YO SP/4 3 Jan. 68	GSW of abdomen with multiple internal injuries and severe retroperitoneal bleeding. Oliguria and volume under-expansion secondary to blood loss.	Patient appeared under-expanded and responded satisfactorily to fluid loading and 1 ampule of mannitol. He was then transferred to the Surgical Service. On the day following, he expired because of sepsis protracted bleeding.
22. D.G. 21 YO SP/4 3 Jan. 68	Mine blast injuries with severe lower extremity and abdominal injuries. Post-operative state: bilateral A/R amputations and abdominal exploration. ABO transfusion incompatibility.	Satisfactory diuresis was immediately initiated and maintained with fluid loading, mannitol administration, and alkalization. (Details appear in Section II).
23. R.S. 25 YO SP5 4 Jan. 68	Helicopter crash resulting in 15% 2nd and 3rd degree burns, massive retroperitoneal bleeding with prolonged hypotension. Post-traumatic acute renal failure.	Patient remains oliguric and is presently maintained on intermittent hemodialysis.
24. C.B. 20 YO SP5 8 Jan. 68	GSW of abdomen with small and large bowel injuries. Post-traumatic acute renal failure. (A) lower lobe pneumonia	Patient remains oliguric and is presently maintained on intermittent hemodialysis.

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<u>Patient, age</u> <u>Admission Date</u>	<u>Diagnoses</u>	<u>Remarks</u>
25. W.S. 25 YO SP5 11 Jan. 68	2nd and 3rd degree 65% white phosphorous burns. Oliguria secondary to volume underexpansion.	Large volumes of fluid produced satisfactory diu- resis. Patient was trans- ferred to the Burn Unit, Japan, on 12 Jan. 68.
26. B.I.K. 33 YO R0K SGT. 14 Jan. 68	Allergic reaction to varidase with secondary acute renal failure. Traumatic hyphema left eye.	Patient diuresed sponta- neously and did not requi- re dialysis. He was retur- ned to the 6th R0K Hospi- tal on 18 Jan. 68
27. M.G. 19 YO Marine CPL 16 Jan. 68	Multiple Fws of lower extre- mities and scrotum. Post-traumatic acute renal failure. Severe pulmonary insufficiency Possible fat emboli.	Patient was moribund on admission and expired 8 hours later of pulmonary insufficiency.

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SECTION II: REPORT OF FOUR CASES:

a. A 27 year-old Filipino US Navy seaman developed a severe hemolytic reaction followed by complete renal failure after he ingested two chloroquine-primiquine tablets upon arriving in Viet Nam. Initially peritoneal dialysis was carried out, but had to be discontinued when massive upper GI bleeding developed. He subsequently required five hemodialyses, remaining oliguric for forty-two days. During this interval, he had a remarkably complex course, characterized by gastric hemorrhage requiring vagotomy and gastroduodenostomy, gram-negative septicemia, pneumonia, and purulent peritonitis. At the present time, renal function remains severely impaired, and the anticipated degree of recovery remains in doubt.

Final Diagnosis: Acute renal failure secondary to a severe hemolytic reaction by primaquine.

b. A 21 year-old Negro PFC sustained severe injuries of three extremities when he stepped on a land mine. He immediately underwent a left A/K amputation, after which he was transiently hypotensive and oliguric. He was then transferred to the Renal Unit, where he underwent four hemodialyses and six major surgical procedures. He remained oliguric for thirteen days, and regained normal renal function thirty-three days after the onset of renal failure.

Final Diagnosis: Post-traumatic acute renal failure.

c. A 19 year-old White male SP/4 had previously undergone bilateral lower extremity amputation and small bowel resection for multiple fragment wounds. During the late post-operative period, he was inadvertently given one unit of type A whole blood; he was type O. The error was discovered at the conclusion of the transfusion, and he was found to have severe hemoglobinuria accompanied by shaking chills. He was immediately begun on an intensive program of fluid loading, alkalization, and intravenous mannitol administration. A copious diuresis ensued, the urine rapidly cleared, and renal function remained normal.

Final Diagnosis: Hemolytic transfusion reaction with severe hemoglobinuria.

d. A 21 year old white male SP/4 was transferred to the Renal Unit with the diagnosis of falciparum malaria and renal failure. On admission he was obtunded, deeply jaundiced, and virtually anuric. Laboratory data disclosed a parasitemia of 10%, BUN of 145 mgm%, and bilirubin of 52 mgm%. Peritoneal dialysis was insufficient to control his uremia, and he subsequently required five hemodialyses. Malaria therapy consisted of quinine (initially intravenously, then orally) and Daraprim. On the seventh hospital day malaria smears were negative. Urine volumes reached one liter on the eighteenth hospital day, and the BUN, creatinine, and bilirubin were all normal on the thirty-second hospital day.

Final Diagnosis: Acute renal failure secondary to falciparum malaria.

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SECTION III: Observation and Recommendations:

These four cases, each representing acute renal failure of a different etiology, demonstrate quite clearly how vast the clinical spectrum can be. While the majority of cases of acute renal failure encountered in the combat zone are post-traumatic in origin, medical etiologies have nonetheless comprised forty per cent of the cases in both the present and previous quarter. It is therefore imperative that all physicians serving in the Republic of Vietnam be alerted for the appearance of renal failure in any very ill patient, irrespective of the underlying disease.

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ANNEX C

SECTION I: General Remarks:

A. Of the 537 medical patient dispositions from the department to date during the quarter, the major diagnostic categories were acute enteric diseases (13%), upper respiratory infection and pneumonias (8%), and medical observation with no disease found (8%). Infectious hepatitis constituted 7% of the total, fevers of undetermined origin 6%, malaria 6%, thrombophlebitis 3%, peptic ulcer 3%, urinary tract calculi 3%, and hypertension 2%. No particular trend is evident in comparison to the figures of the previous quarter, other than a 50% decrease in fevers of undetermined origin, probably reflecting improved clinical and laboratory studies.

B. The following are summaries of two interesting patients seen during the quarter.

(1) 29 year-old Caucasian man was admitted with a history of recurring vomiting, diarrhea, and increasing weakness for about 3 weeks. He had not noted hematemesis or melena. Past history revealed several episodes during the last 4 years of epigastric pains, vomiting, diarrhea and weakness. On two occasions he had been told he was severely anemic, cause unknown, and had received transfusions and unknown hematinics including several vitamin B12 injections. He had been in RVN for 1 month prior to this admission. The patient had developed graying of the hair and vitiligo of hands and feet at age 16 years. Physical examination was not remarkable other than graying hair and marked pallor. There was no icterus or hepatosplenomegaly. Initially a diagnosis of gastrointestinal blood loss was entertained, but stools were negative for occult blood and X-rays of the stomach and small bowel were normal. In addition to a low initial hematocrit of 17 vpc, there was leucopenia of 4200 with 38% neutrophils and 61% lymphocytes, and thrombocytopenia of 98,000. Bilirubin was normal and reticulocyte count 0.2%. Examination of the peripheral blood smear showed the presence of macrocytes and some hypersegmented neutrophilic nuclei. There was no secretion of free gastric acid after histamine stimulation. Daily parenteral vitamin B12 was begun and resulted in a prompt reticulocyte response of 9% by the fourth day.

Diagnosis: Pernicious anemia.

(2) 25 year-old Negro soldier was admitted with a history of right lumbar pain gradually increasing for about 6 weeks, and an enlarging mass in that area for 1 - 2 weeks. The symptoms began before the patient departed CONUS for RVN. Physical examination showed a mild fever and a tender very firm subcutaneous mass in the right lumbar region. Blood count, urinalysis, blood STs, chest x-rays and excretory urogram were normal; ESR was elevated, and the histoplasmin and PPD 2nd strength skin tests were positive. A diagnosis of myosarcoma was considered but during the hospital course the center of the mass became more prominent and fluctuant. Incision and drainage were performed and

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the material obtained revealed typical "sulfur" granules and organisms of Actinomyces. The lesion began to heal with penicillin therapy and the patient was evacuated for further recovery and convalescence. Source of the infection was unknown.

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Annex D

SECTION I: General Remarks:

1. The following is submitted to cover the significant organizational activities of the 9th Medical Laboratory Detachment, 3d Field Hospital for this report period:

a. Personnel shortages continue. To gain maximum utilization of personnel and yet give adequate night and Sunday coverage, first, second, and third call rosters have been initiated instead of the two man night coverage that existed before. This does not affect the central blood bank since night and Sunday coverage is handled by the blood bank staff. We now have capability for a total of four men on call per night, but only lose one man during the day. This does involve long hours for laboratory personnel, but is necessary in order to satisfactorily accomplish our mission.

b. Improvement in methodology and institution of new test procedures continue under the technical direction of the 9th Medical Laboratory. New procedures include methemoglobin, salicylates, "true" glucose, Transaminase (Trans-AC), Total protein in spinal fluid using trichloroacetic acid.

c. A Blood Program Guide (USARV Central Blood Bank, 9th Medical Laboratory, c/o 3d Field Hospital) has been published and distributed. Its content included the supply of blood from extra-theater sources, proper storage of blood, selection for transfusion, hemolytic reactions, waste, and procedure for compatibility testing utilizing low protein, high protein and anti-human globulin phases. A Blood Transfusion Bibliography has also been prepared containing general references and was distributed with the monthly blood bank report.

d. Request for blood gas analyses (pH, pO<sub>2</sub>, pCO<sub>2</sub>) have increased significantly since the acquisition of this equipment. The pO<sub>2</sub> values have been extremely useful in evaluating patients with respiratory problems prior to their being air-evacuated.

e. Logistical support for the BUN-Creatinine autoanalyzer for laboratory support of the Renal Team continues to be a slow process. Chemical reagents and expendable supplies are being obtained through the help of WFAIR (Saigon), the 406th Medical Laboratory (Japan) and various CONUS installations.

f. The Partial Thromboplastin Time Test (PTT) has been instituted for the detection of bleeding disorders due to deficiencies in stage I of the coagulation mechanism. The PTT, prothrombin time and fibrinogen screening for work up of bleeding disorders can be performed from a single plasma specimen prepared with 0.1 molar Tri Sodium Citrate (dihydrous)

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- g. Automatic Dilutors and Repipets (Lab Industries) are being used to automate various manually performed chemistry procedures.
- h. Requests for urinary calculi are now being forwarded to the 9th Medical Laboratory. All confirmed GC cultures are being forwarded to the 9th Medical Laboratory for further sensitivity studies.
- i. The USMNV Central Blood Bank has resumed regrouping all low titer Q blood collected by the 406th Medical Laboratory, Japan prior to shipment incountry.
- j. On Dec 27 the Republic of Vietnam Armed Forces sponsored a Blood Donor Day at the Cong Hoa Hospital, Blood Center. Major Robert C. Flair, MC, USMNV Blood Program Officer provided technical assistance to the Republic of Vietnam Air Force Medical Service in the form of a display concerning separation and utilization of blood components.
- k. Captain Richard A. Hantman, MSC, visited the 36th Evac Hosp, Vung Tau, 22-26 Dec for the purpose of liaison and a consultation in clinical chemistry procedures.
- l. A VGS-7 civilian chemistry technician has been recruited to fill a slot that has been vacated since August 10.
- m. Sensitivity studies on Staphylococcus epidermidis are now being performed only when it is the predominant organism. Previously, sensitivity study was performed if this organism was present regardless of colony count.
- n. Blood alcohols specifically for medical diagnostic purposes are being performed when requested. Blood alcohols for medical-legal purpose are being forwarded to the 9th Medical Laboratory.
- o. A list of procedures and analyses offered by the laboratory along with normal values has been made available to the professional staff, 3d Field Hospital.
- p. Blood Request Form for expediting the receiving of routine and emergency requests for in-country blood shipments has been prepared for use by the USMNV Central Blood Bank.
- q. Pursuant to the educational goals of the laboratory, pathology consultations and teaching rounds are being conducted at Cong Hoa Hospital, Saigon by Major Robert C. Flair, MC, Chief, Laboratory Service.

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ANNEX D (Cont)

SECTION II: New Equipment

A. A second Coleman Jr. spectrophotometer has been received and is being battery operated.

B. Instrumentation Laboratory, Model 143 Flame Photometer for simultaneous analysis and direct readout of sodium and potassium.

C. Coulter Counter, Model F for cell counting.

D. A Buchler-Cotlove Chloridometer provided by the 9th Medical Laboratory replaced the chloridometer which had been on loan from WRAIR (Saigon)

E. Instrumentation Laboratory, Model 175 PORTO MATIC battery operated PH meter.

F. Total Solids hand refractometer for total serum protein, (American Optical Co.).

ANNEX D

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