

**SURGEON'S
ORIENTATION
FOLDER**



DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY VIETNAM
APO SAN FRANCISCO 96375

AVHSU-M

4 August 1969

SUBJECT: Newsletter From the Surgical Consultant

SEE DISTRIBUTION:

1. In an attempt to improve communication and coordination between the USARV Surgeon's Office and the Surgical specialists I have initiated this newsletter.
2. During my first liaison visits to the major medical installations I have been impressed by the fine people I have met and the quality of care the patients are receiving. These words are not new to you I am certain. However, it is true that we must continually re-examine procedures, routines, methods, working environment, etc to be certain that maximum benefit is realized in patient care.
3. I will take this method to disseminate items of special interest to the surgical staffs, and keep you informed of minor changes in policy. This letter can also be a "sounding board" for opinion or a means of relaying brief comments re: interesting cases and follow-up information on evacuated patients.
4. In addition to our mission of treating the patients now assigned to a policy that will maintain the maximum effective troop strength. Accordingly, every effort must be made to retain patients with minor injuries and less serious elective surgical problems.
5. Policy Modifications: Minor surgical conditions without complications will not be evacuated to Japan or CONUS. Every hospital is doing elective surgery to some degree. If risk of infection is a major concern influencing over-evacuation it would be well to re-examine your techniques, preps and housekeeping. If patient load precludes performing the procedure in your own facility in-country transfer is advised. Plans have been augmented to send such cases to the 12th Air Force Hospital at Cam Ranh Bay.

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b. There is no overwhelming surgical need to evacuate pilonidal sinuses, hemorrhoids, hernias, plantarwarts, varicose veins, and minor DPC's that can return to duty.

c. Gynecomastia in the young male is almost never a surgical disease and certainly does not require medical evacuation.

6. Current reduction in casualties should permit more realistic periods of holding and evacuation of many patients. Many instances have been noted of premature evacuation: e.g chest injuries at 2 - 3 days post injury (should wait 48 - 72 hours following removal of tubes). Recent information from CONUS states that there has been 4 fold increase in empyema cases. This can be attributed in large part to removing tubes too early. Vascular repairs should be held 14 days; latent infection, hemorrhage and thrombosis are significant risks of early evacuation.

7. Office of the Surgeon General reports: a. Sepsis is responsible for a 10% mortality rate - most don't show up until they reach Japan.

b. Over-all mortality rate is creeping up, recent monthly rate of 3.1% versus 2.6%.

c. Head wounds comprise 40% of total IRHA with mortality varying from 18 - 25%. (Most were not wearing helmets. Recently one patient awaiting dust-off after GSW of arm was re-injured sustaining MFW. A medic had put a helmet on him avoiding fatal head injury).

8. Neurosurgical patients: Each week there have been cases inappropriately evacuated prompting an SOP dictating management. This policy is more than just a guide, it is the recommendation for optimal management by the neurosurgical consultant COL McClure, Commanding Officer of the 24th Evacuation Hospital, who is in RVN for his second tour. (See attached SOP - Inclosure 6).

9. MEDCAP Program: a. A new regulation is being prepared and will be distributed in several weeks. Examine your program closely so that it does not interfere with optimal performance of our primary mission.

b. In a number of cases of premature evacuation of US patients that were explained by limited number of beds available it was noted that the hospital had more than 70 civilian patients.

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10. A number of Division and Battalion Surgeons have asked that hospital physicians please try to exercise more care in completing requests for evaluation. In a number of cases specific questions have been asked in order to comply with congressional inquiries but the physician has not answered the questions. "Vague Answers = Vague Thinking" Also, remember the living conditions and duty requirements of the infantryman in the field! A moderate physical limitation in a combat environment will jeopardize his life.
11. Attention Battalion Aid Stations and Clearing Stations and other field units. Please do not be "big hearted" and give food and oral fluids to patients being evacuated for surgical treatment.
12. Surgery boards (part 1) will be given in Vietnam (probably Saigon) in early December. They will be given according to standard procedure of the American Board simultaneous with the examination in the US. More on this later.
13. Supply and Maintenance Problems: If problems arise in procuring needed items urge your supply officer to follow-up initial request with a phone call. If you reach an impasse call the Surgeon's Office and either I or CPT Crumpacker, Pharmacy Consultant, and supply representative, will try to assist you.
14. Tracheostomy care is generally less than optimal in most facilities. The routine of management should be reviewed with your Chief Nurse. This topic will be discussed at the Chief Nurse's conference in August. Management should include: Aseptic technique with a glove and storage of catheter in anti-septic solution (Betadine 30cc/Lof N/S works well) and rinse catheter in saline before aspirating each bronchus. Humidification must be provided by a nebulizer unit such as the puritan.
15. All patients who will require respirator support longer than 6 -12 hours post-operatively should have a tracheostomy performed. This permits better nursing care of the tracheo-bronchial tree combined with less patient discomfort and apprehension. It also permits a gradual "weaning" from respirator support in a badly wounded patient who would otherwise fatigue, develop hypoxia and cardiac arrest (such a patient was recorded the last week of July).

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16. It is requested that problem cases of unusual nature of severity be reported to this office. It is embarrassing to hear of them for the first time from my boss. Office number - 926-4725. Billets number - 926-2405.

17. LTC Ed Jordan, 93rd Evacuation Hospital Anesthesiology Consultant, is available for questions or comment at 926-3241 or 926-3261.

18. Recent cases seen at various hospitals and reported to this office suggest the wisdom of reviewing more problems with your Internist friends. One such case was a young man with localizing RLQ pain, slight fever, and diarrhea with blood tinged mucous. Past history included amebiasis in April. He expired 4 days post-appendectomy of peritonitis following cecal perforation due to acute amebiasis. (See USARV Bulletin May-June 1969)

19. Bleeding ("Red Ink") syndrome following massive blood transfusion is being studied by the Walter Reed Research Team. Current studies center about minor decrease in platelet counts but significant decrease in their normal function. Best method of treatment is 4 - 6 units of fresh blood (not 3 days old) in rapid sequence. A few patients will have borderline fibrinogen deficiencies and only rare ones will benefit from Amicar to counter febrinolytic activity. Rare congenital problems can crop up occasionally as evidenced by one lad recently who was found to have a Factor VIII deficiency (antihemophilic).

20. Vascular injury questionnaires directed to the individual surgeons who are departing. In addition I would like to invite you to include cardiac injuries in your normal vascular reporting so that they too may be included in the Registry.

21. Last but not least I must say that it was very enlightening to visit a number of the field medical units recently. The spirit, quality of work and general attitude is superb. You who are in the hospital environment could help your colleagues in the area by inviting them to attend rounds and conferences and visit then in the field to better appreciate the entire medical problem in Vietnam.

2 Incl
as

s/ James P. Geiger
t/ JAMES P. GEIGER
Colonel, MC
Surgical Consultant



DEPARTMENT OF THE ARMY
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1 October 1969

SUBJECT: Newsletter From the Surgical Consultant

SEE DISTRIBUTION:

1. Many new men have arrived in-country since the first newsletter was published. For this reason I am enclosing additional copies of the first letter. This means of communication is meant to be generally informative, provide guidance in managing various problems, and keep us all aware of situations that could have been avoided or better treated. I would like to suggest that each unit compile an orientation file for all new physicians. These letters with attached SOPs for the management of various problems, e.g., cranial injuries, eye wounds, anesthetic tips, etc., should be required reading. (Such a file would be comparable to the Policy Book of any headquarters). Copies of USARV Regulations 40-9 and 40-21 specifically pertaining to patient management will be forwarded for your file. USARV Regulation 40-25 pertaining to Speciality Board Policy is included for your guidance.

2. At this time MACV policy again permits certain patients to be returned from USARV for duty in RVN. Out theater holding policy remains at 30 days and must be a consideration in deciding on evacuation. There are a number of cases that need not be evacuated.

a. Minor wounds requiring only DPC and rehabilitation can be closed at individual hospitals or sent to the 12th Air Force Hospital and then sent to the 6th Convalescent Center. Remember the 6th Convalescent Center does not have a surgical capability and patients must be ambulatory - it is not a dumping ground for your early post-operative care problems. It is staffed with these MOSs; 3100, C-3139, D-3150 and D-3153.

b. Pilonidal abscesses should initially have only adequate I & D with appropriate follow-up care. Repeated infections should be treated by conservative excision and marsupialization (try local and field block anesthesia with nylon suture) and daily soaks and cleaning.

c. V.D. patients without complications are a problem for the medical service. They are not to be evacuated (See the USARV Bulletin, Jan-Feb 69, Pages 10 and 11).

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d. Hearing problems, certain perforated ear-drums, etc., can often be retained in-country for treatment. Use a profile and/or recommend reassignment if necessary. *See SOP.

e. Hemorrhoids, fistulas and fissures can be treated in-country in most cases.

f. This list is limited only by your ingenuity, ability or ambition. Sympathy for the patient must not take precedence over the practice of good military medicine.

g. Chiefs of Surgery and Professional Services are expected to monitor air evacuation.

3. In two (2) weeks I will have first hand follow-up information on evacuees to Japan. A meeting with several surgeons from each hospital in RVN is planned for November. The theme will be "Late complications in the evacuated patient." It is hoped that a round-table type of discussion can also be held to permit an exchange of ideas on how each of you handle the ordinary and extra-ordinary wounds.

4. Respiratory problems remain a significant problem. Recent publications* cite a moderately severe pulmonary insufficiency following shock, major wounds or even fractures of long bones. There appears to be a block of pulmonary capillaries - fat, platelets, fibrin etc., with resultant shunt-like phenomena as great as 40%. There is, of course a concomitant hypoxia and apparently an increased permeability of the capillary wall, interstitial hemorrhage and edema and alveolar edema. This new evidence reinforces the concept of ventilating the severely wounded patient even though he has no pulmonary injury per se. The Chief Nurses were recently provided a suggested SOP for tracheostomy management designed to reduce the infection problem. In addition a new supply of nebulizers for tracheostomy humidification will be distributed to the hospitals soon - ask supply for them! Two severe cases of the "wet lung" have been seen recently and both appeared to be associated with excessive administration of lactate plus mobilization of fluid from tissue. One had obvious fat emboli. In the face of a nearly normal CVP 10-12 cm H₂O both had almost opaque lungs and PO₂ 50 mm Hg. They responded to an aggressive approach with tracheostomy, positive pressure ventilation, O₂, restricted I.V., sodium and fluid intake, and diuresis. The latter, I feel is extremely, important and is best accomplished with I.V. Furosemide in 40-80mg dosage. This item is now in the depot, Federal Stock Number 6505-C89-0395; order it and have it available for emergencies. I would like to re-emphasize the total approach to this problem; there is no place for doing tracheostomy and waiting

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to see if he responds before carrying out the other steps. Heparin, thorazine, I.V. alcohol and decadron may or may not have value in some cases.
*S.G.O. August 1969, Annals of Surgery, January, July and August 1969.
S.G.O. Jan 1970 --This article is a classic

5. For repairs to your blood gas machine or other delicate electronic equipment, it is best to deliver it by courier to the 9th Med Lab at Long Binh for repair - call for appropriate instructions, 44th Med Bde Reg 40-62.

6. A recently advocated X-Ray test with hypaque injection into an abdominal wall wound to determine need for laparotomy is mentioned only to CONDEMN it. There is no place for this test in this theater. It has recently been used in two (2) patients - in one it was mis-interpreted and the other had 2,000 cc of blood in the abdomen though the test was negative. September issue of American Journal of Surgery, in a review of abdominal trauma expresses the same opinion.

7. I will proctor Part I of the American Board of Surgery to be given at 3d Field Hospital, 3 December 1969, in Saigon. Make your application and arrangements directly with the Board. They will mail specific instructions to you. Mail applications to The American Board of Surgery, 1617 John F. Kennedy Blvd., Philadelphia, Penn, 19103.

8. A number of surgeons in the sub-specialties desire to discuss problems with a consultant. While no formal designation has been made, the following list identifies the senior man in-country who can be contacted for advice:

MOS NAME, LOCATION AND TELEPHONE NUMBER

3108	Col Barbary, OB-Gyn, XXIV Corps 956-2158
3111	Col Lopez, Urology, 93rd Evacuation Hospital, 926-3236
3115	LTC Jordan, Anesthesia, 93rd Evacuation Hospital, 926-3241
3125	MAJ Anderson, Ophthalmology, 24th Evacuation Hospital, 926-5811
3126	COL Albright, Otorhinolaryngology, 95th Evacuation Hospital, 951-2006
3131	COL McClure, Neurosurgery, 24th Evacuation Hospital, 926-3312
3150	
3151	COL Geiger, General, Thoracic Surgery, USARV Surgeon Office, 926-4725/4456/4815/5546 (2405 Traylor)
3152	LTC Peterson, Plastic Surgery, 3rd Field Hospital, 923-2707/3866

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3153 LTC J. Derby Orthopedics, 93rd Evacuation Hospital 926-3229

3306 LTC Newman Radiology, 93rd Evacuation Hospital, 926-6453

3325 COL West, Pathology, 9th Medical Lab, 926-2811

Don't be too proud to call and ask advice !! None of us can know all the answers. If you wish to call me, I will get the answer to your question.

9. Supply and requisitions remain a problem. However, all too often paper work gets lost and it is essential to recheck or follow-up with your supply officer or you will never get the item.

10. Problem cases seen recently:

a. A number of inadequate debridements; if there is a doubt in your mind, take them back to the O.R. at 48 to 72 hours for another look.

b. Amputations: Save all viable length possible. DON'T tack down flaps. DO apply skin traction. DON'T amputate a viable extremity even though immediate reconstruction procedures are not currently available to VN nationals. * See SOP.

c. Vascular cases: Artificial prostheses do not heal in open, dirty war wounds - if you cannot contrive another solution to the problem, seek advice and plan another procedure before the infection extends and the inevitable hemorrhage and death round 7-10th day. Re-ligation in a dirty bed is commonly followed by hemorrhage. Oral anti-biotics are inadequate prophylaxis for infection. DO repair the concomitant vein injury even if it requires a saphenous graft. * See USARV Bulletin 40-17.

d. Pulmonary contusions and hematoma may have severe associated hemoptysis or shunt with hypoxia. A number of lobectomies have been performed with prompt clinical improvement and a smoother post-operative course. A recent case at the 24th Evacuation Hospital was thought initially to have a contusion of the upper lobe following a jeep accident. Radiographic improvement and lysis of fever followed empiric treatment for melioidosis secondary to aspiration (confirmed later on culture). - Those hoof beats we hear occasionally are Zebras!

e. A variety of chest problems have been seen due primarily to failure to attain and maintain lung expansion and obliteration of the pleural space. This is a basic principle. Ask for help early.

f. The mesentery must be tacked to the parietal peritoneum when performing ileostomy or end colostomy. Several internal hernias with unfavorable results were recently recorded.

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g. Cardiac wounds with tamponade are being treated aggressively and successfully. One recent case with a flachette in the aortic valve - superior ventricular septum region has done well after emergency open heart surgery at Letterman. Major coronary artery branch injury is usually associated with fatal arrhythmia if ligated - some ingenuity is needed - try something! Xylocaine drip may be of benefit. Contrive a patch of pericardium to create a roof over it or perhaps even a temporary internal shunt and emergency evacuation to a cardiac center.

h. Phosphorous burns are associated with severe arrhythmia and calcium deficits occur almost immediately post injury. They must be on cardiac monitors and on I.V. drip of .1% Xylocaine is an effective anti-arrhythmia drug. Refer to attached S.O.P. and protocol.

11. Use Administrative Evacuation under AR 40-3 in preference to medical evacuation for certain problems requiring elective surgery in CONUS prior to E.T.S.

12. How many complications can you think of from subclavian veno puncture? To hydro-thorax and pneumothorax we must now add fatal air-embolus. See New England Journal of Medicine, dated August 28, 1969, page 488. DON'T disconnect the catheter with the patient in the semi-Fowler position.

13. The over-all mortality figure for the past 12 months is 2.17%, you can break 2% if concerted effort is expended in improving O.R. housekeeping, routines and the minute details of post-operative care. The Bacteriology Department, 9th Med Lab has come up with evidence of contamination in the O.Rs - Klebsiella, staphlo-cocci, etc. The respirators also need more careful cleaning and should be cultured. Recently there has been a series of fatal infections with serratia and one machine culture grew staphlo-coccus. Add haphazard tracheostomy care to this and the post-operative pneumonias are readily explained. Work on improving OR routines now because next month a routine culture monitoring of ORs and CMS sterilizers will begin. This may seem like a burden and imposition, but sloppy techniques are inexcusable!

14. Check with your friendly supply officer, re list of new and available items monthly. Now available:

a. Sulfamylon 5% solution - 8 oz. FSN 6505-C99-2209 (for wound irrigation or dressings.

b. Zonite (Dakins Solution), pint bottles. (Use half strength as a wound or empyema irrigant.) FSN 6505-C99-1906

c. Gentamicin currently available in depot for resistant gram negative organisms. In a real emergency a small amount is available through the WRAIR team at the 24th Evacuation Hospital. FSN - 6505-C89-0414

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d. Splint, Arm, inflatable, is available in the depot in large quantities. FSN 6515-935-6592

e. DD Form 183, Request for Clinical Information Follow-up. This card should be ordered and included in the chart of those cases on whom you especially wish follow-up information.

15. Quotation for Reflection:

"At 20 a man is full of fight and hope. He wants to reform the world; when a man is seventy he still wants to reform the world but he knows he can't. (But why give up trying?)

Clarence Darrow

7 Incls

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DISTRIBUTION:

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s/ James p. Geiger

t/ JAMES P. GEIGER

COL, MC

Surgical Consultant



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1. The mission of the Medical Corps will continue to change as the pattern of activity and total troop strength is altered. This should give us further opportunity to perform still better operative procedures. In addition it is expected that time formerly devoted to care of large numbers of casualties can be used to other worthwhile advantage:

a. Attention to the myriad surgical details that ensure a rapid successful recovery from injury.

b. To look for and anticipate major complications while they are still minor ones.

c. Develop and expand programs to train nurses, corpsmen and nursing aids.

d. Plan new ways to improve working environment and patient care.

e. Expend greater effort in assisting our surgical counterparts at the ARVN hospitals to care for their large numbers of patients.

f. Of vital importance also is collection of data and recording observations of various problems for publication in the USARV Medical Bulletin.

2. The First Surgical and Orthopedic Conference held at USARV Headquarters on 29 November 1969 was considered a success by all. Comments and suggestions have been contributed by many and they will be taken into consideration when the next conference is planned this Spring. My thanks for the help of all who contributed to the Conference and to those who attended.

3. The March - April issue of the USARV Bulletin will be a Surgical Compendium. It does not cover all surgical problems encountered in Vietnam but those considered are particularly troublesome.

4. The 4th CINCPAC Conference will be held in Japan 16-19 February. Please send me your suggestions for modifying or adding to the recommendations in the Bulletin of the 3d Conference prior to that time.

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5. Homografts: Application of split thickness homografts is a well recognized method of controlling infection, enhancing wound healing, and preparing a wound for definitive autografting. This technique has been utilized with excellent results in several cases in Vietnam. The source of homografts is limited; some amputated extremities can be cleaned and if necessary infiltrated with Saline to provide suitable homograft. An extra strip or drum of skin can be taken and saved during routine autografting procedures. DO NOT take homografts from cadavers without appropriate next of kin authorization. We have asked for preserved homografts from the Navy tissue bank at Bethesda and will make it available as soon as possible.

6. Bacteriologic Survey: Recent survey of several hospitals' wards, OR's and equipment by a bacteriology team from the 9th Medical Laboratory revealed an environment that should strike fear into the heart of any surgeon. A detailed report will be in the March - April USARV Bulletin. Our housekeeping, and wound and dressing care must improve. Laxity in wear of the OR scrub clothes and shoes must cease. The organisms are not only highly pathogenic but the percentage of resistant organisms has almost doubled in the past two years.

7. Contaminated IV Solutions: The practice of hanging large numbers of IV solutions complete with administration sets in emergency rooms, aid stations, etc., must be discontinued. Most are undated and may hang for days providing a culture inoculum waiting to be introduced into the blood stream of the next casualty. A random sample taken from one treatment facility recently grew large numbers of bacteria!

8. S.O.P. For Care of Anesthesia and IPPB Equipment: (See Inclosure 1). These recommended procedures were prepared by LTC Jordan, MC, Anesthesiology Consultant. These are considered minimum standards of care to prevent cross infection.

9. A Recommended Operative Procedure for Pilonidal Sinuses is also reported in the USARV Bulletin for March-April. To you "doubting Thomases" I say don't knock it until you've given it a fair trial. It is successful with a reasonable healing time and low recurrence rate. (It'll make a lot of money for you two year men). I&D and modified marsupialization are the only operative procedures acceptable in RVN. Surgical Depilatory, 5%, 100gm, FSN 6505-926-8987 is a good substitute for shaving these patients.

10. Medical Evacuation Flight Attendants have come under criticism lately due to several men placing personal goals before their primary mission of patient care. You must be responsive to requests of flight personnel for

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your own patient and others if needed. I would suggest that you try to hand carry your baggage aboard the plane so it will be available as you go aboard the helicopter at Yokota (travel light). Be certain that X-rays and records are with your patient!

11. Medical Evacuation Problems: Once the chart has been turned in for evacuation there is a tendency to be less attentive to the patient. We have had a number of patients pulled from the evacuation chain because of fever, Hct below 30%, sepsis, pulmonary edema, pneumonia, renal shut-down and coma. These patients need to be checked by a physician prior to sending them out; don't just hope that he will go through - know that he is ready to travel. When scheduling patients with tracheostomies for air evacuation you should request an "Artificial Nose" to insure proper humidification. Also be certain to list other special equipment needed, and in-flight instructions, and send medications if on other than most common drugs.

12. Consultations: All reports rendered for reply to congressional or presidential inquiry must be accomplished and signed by a physician with a B or C MOS. In those few instances where a sub-specialty is not so represented it should be reviewed with the Chief of Professional Services to insure conformity with regulations and good practice. Please be responsive to requests from field units; the referring doctor sent you the patient because he wanted help not criticism or snide remarks. Make certain that your treatment recommendations are consistent with the man's job and facilities at his fire base or camp.

13. Internal Fixation of Fractures: This form of treatment is not to be used in an extremity fracture regardless of arguments that it is a "closed" fracture. I have just recently been notified by the Surgeon General's Office of two such patients who were "nailed" and both developed abscesses and osteomyelitis.

14. Surgical Specimens: It amazes me that any surgeon will carry out a major operative procedure, obtain tissue on which he expects a report and then not take time to insure proper handling of the specimen. In recent months numerous specimens have been received at the 9th Medical Laboratory without identifying labels, in saline (therefore unpreserved and worthless), with a blank or wrong patient's Standard Form 515. (I recently sought a path report on a patient with a lobectomy only to be given a Dg of "Hernia Sac"; the error was not the pathologist's). Please see the S.O.P. from the 9th Medical Laboratory for instructions (Inclosure 2).

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15. Special Reference: I urge your attention to an article by Doctor Blaisdell on "The Mechanism of Pulmonary Damage Following Shock" in S.G.O., page 15, January 1970. He gives a good account of the principles I have been espousing for the past five months as the basis for our problems in the "Wet Lung" syndrome and fat embolus. The suggestions for treatment are the same as previously advised except that I also advocate fluid restriction to 1500cc max/day during the crisis and recovery period. (One patient of ours experienced a second pulmonary crisis when he received 750cc of N/S in error). The C.V.P. is not a reliable index and furosemide or ethacrinic acid should also be given.

16. Follow-up Information on Patients Evacuated to Japan: a. Infections were found in 100% of patients received at the 249th General Hospital recently who had wounds DPC'd with SILK! Need I say more!

b. Infections were present in two amputation stumps that had delayed primary closure in Vietnam. "Thou shalt not close amputations in U.S. personnel".

17. Vasectomy: Several requests have been received for information. Army policy is NO except under specified circumstances: a. Mutual agreement of a sterilization board of three physicians.

b. Consent of both husband and wife.

c. It is an elective procedure that will almost never be justified in this theater.

18. I must offer an amendment to my previous statement of indications for use of gentamicin for resistant infections. It is also indicated for severe or overwhelming systemic infection and bacteremia due to gram negative organisms, but not for the routine use some have advocated. This is mis-use and would quickly foster a new family of resistant organisms!

19. Each month I review most death charts and all death summaries. Many of these cause me considerable concern in as much as they do not reflect complete awareness, control, or total management of some critically ill patients. Literally the physician in charge is "one step behind" rather than being "on top of the problem".

The most common pitfalls have been in delaying tracheostomy and respiratory support until hypoxemia and irreversible pulmonary consolidation or infection has developed. Excessive fluid administration to "drive the kidneys" and poorly regulated anti-biotic therapy rank high on this list.

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Discuss your problem cases with your associates and Chief of Surgery to insure the best possible care - the problem which one physician fails to resolve individually is often solved by consultation and discussion.

20. Wound Debridement: a. Combat surgery is a skill that isn't learned easily. The principles are well outlined in the NATO Handbook, in the CINCPAC conferences and were demonstrated at MFSS. However, I still see and receive reports monthly of cases who were inadequately debrided. Basic principles of incision placement in the long axis of extremities (NOT transversely) with adequate opening of tissue planes must be followed. Hand and foot wounds cannot be adequately debrided under local, neck wounds should be explored in the OR, etc. ad infinitum.....When there is any doubt about fragment wounds please evacuate the patient on to a hospital facility. Does anyone want to borrow a 15 minute, 16mm film on basic technique of debridement?

b. Facial tattooing is a special problem with many blast and mine injuries that requires scrubbing and cleansing early to preclude permanent disfigurement.

21. Supply: a. In response to a number of requests I find the following suture is available in the depot system:

- (1) 5-0 ethilon (cuticular) FSN 6515-Y99-1147.
- (2) 5-0 mersilene (RB-1 needle) 6515-C99-1145.
- (3) 5-0 mersilene (V-4 taper) 6515-Y99-1105.
- (4) 5-0 tevdek (KT-1 needle) 6515-C88-3176.
- (5) 5-0 tevdek (KT-3 needle) 6515-C88-3182.
- (6) 6-0 tevdek (KT-1 needle) 6515-C88-3184.
- (7) 5-0 tevdek (T-3 needle) 6515-C88-3176.

b. Re-order 5lb spring traction devices on FSN 8115-183-9491.

c. THAM-E (with electrolytes), 250cc, FSN 6505-C80-8018. This is ideal for treatment of acidosis.

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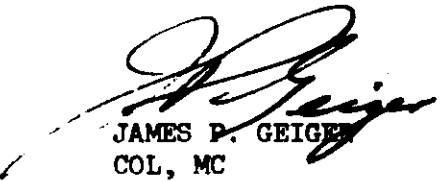
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22. Stress Ulcer Study: This project is being pursued at the 24th Evacuation Hospital by the W.R.A.I.R. Team and also by the 249th General Hospital in Japan. They do not wish to burden you with unreasonable work but would appreciate identifying these patients and give them some basic information (Survey Forms are included in this mailing). Mail them in with the Monthly Surgical Report or to the 249th General Hospital.

23. Thoughts for the Day: a. "Learn from the mistakes of others; you can't live long enough to make them all yourself." (Eugene L. Fisk, MD)

b. PAT ON THE BACK.....Please don't get bent out of shape at comments herein meant as constructive criticism to help attain optimal care. The care given our patients is generally superb and motivation of personnel is outstanding.

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JAMES P. GEIGER
COL, MC
Surgical Consultant

DISTRIBUTION:
MED B

SOP FOR CLEANING ANESTHESIA AND INHALATION THERAPY REBREATHING EQUIPMENT

1. Rubber rebreathing tubes, face mask, rebreathing bags, and head straps:
 - a. Thoroughly wash with a detergent and scrub with a brush.
 - b. Wash with phisohex for five minutes or soak with wescodine for ten minutes. Insure complete submersion by covering with a weighted object.
 - c. Rinse thoroughly; use potable or sterile water for rinsing.
 - d. Dry.
2. Endotracheal tubes, oral airways, nasal airways, esophageal stethoscopes, plastic tubing and connectors for inhalation therapy machines:
 - a. Thoroughly wash with a detergent and scrub with a brush.
 - b. Rinse thoroughly.
 - c. Rough dry.
 - d. Imerse completely for a minimum of ten minutes in full strength cidex solution. Insure complete submersion by covering with a weighted object.
 - e. Rinse thoroughly; use potable or sterile water for rinsing.
3. Etheline Oxide Sterilization: If and when etheline oxide sterilization is used in preference to cold sterilization, rinse equipment with sterile water when removing from sterilizer and allow to air for a minimum of 48 hours prior to use.

DEPARTMENT OF THE ARMY
PATHOLOGY 9TH MEDICAL LABORATORY
APO 96384

AVBJ-ML-P

15 Nov 1969

SUBJECT: Surgical Specimens

1. Effective immediately all surgical specimens submitted to the laboratory must be accompanied by four copies of the tissue examination Standard Form 515.
2. This form should contain the following minimal information: patients name, age and sex; date specimen obtained; source of tissue; pertinent clinical information and operative findings. With this information the pathologist at the 9th Medical Laboratory, Long Binh Post will be better able to process the surgical specimens.
3. All surgical specimens should be submitted to the laboratory in 10% formalin in a container of appropriate size labeled with the patient's name, except as noted below.
4. Specimens of unusual clinical interest or large specimens (lung, stomach, bowel, etc.) that require opening for proper fixation should be brought to the laboratory in a fresh state for examination by the Pathologist when possible.
5. Currently the pathology reports are returned to this laboratory 4-8 days after the specimen is shipped. If a report is desired earlier than four days or if a report is delayed beyond eight days please contact the 9th Medical Laboratory, 926-6010 or 6709 so the report can be obtained by telephone.

FOR THE COMMANDER:

s/Alberto Salgar
t/ALBERTO SALGAR
LTC, MC
Chief Pathologist

EARLY TREATMENT OF WOUNDS AND INJURIES

The following is an extract of USARV Regulation 40-21, dated 6 August 1968, Change 1 to USARV Regulation 40-21, dated 26 February 1969 and Change 2 to USARV Regulation 40-21, dated 20 September 1969:

1. PURPOSE: To establish policy and guidance in the early treatment of wounds and injuries.

2. SCOPE: This regulation applies to medical officers and other medical service personnel in this command, who are directly concerned with patient treatment, and to commanders responsible for division and Army level medical service.

3. GENERAL: Military medical care is provided in echelon, e.g., battalion aid station to clearing company or surgical hospital to evacuation hospital. Regardless of pattern, as the patient progresses through successive treatment facilities, he must be provided with care based on sound principles and doctrines. Standardized methods not only prevent the patient from suffering from ill-conceived procedures, but also provide succeeding treating medical officers with the assurance that previous treatment has been sound. DOD publication, Emergency War Surgery, NATO Handbook, provides clear guidance on the early treatment of trauma in a military environment. Early treatment refers not only to initial aid measures, but also to all treatment, including major surgery, given early after injury.

4. RESPONSIBILITIES: a. Commanding officers of medical treatment facilities will insure that treatment of wounds and injuries in their commands is conducted in accordance with procedures described in Emergency War Surgery.

b. Medical officers having professional responsibility in the care of patients will conform to the guidance contained in Emergency War Surgery and this regulation. Medical officers will deviate from these directions only under the following circumstances:

- (1) On specific or general authorization by the Surgeon, this headquarters.
- (2) On advice of a professional consultant on the staff of, or recognized by, the Surgeon, this headquarters.

(3) Under circumstances which, in the professional opinion of the medical officer in charge of treatment, warrant exception. In such instances, approval will be obtained from his CO (or surgeon exercising immediate technical supervision, if not under medical command) Both the treating and approving medical officers will be prepared to supply justification for the deviation.

5. SPECIAL INSTRUCTIONS: The following instructions are provided for special emphasis. Under no circumstances will they be disregarded, since they represent proven principles of combat surgery.

a. All open wounds are considered to be contaminated and will be treated accordingly. Soft-tissue injuries will be thoroughly debrided. Antibiotics should be given to all patients with wounds resulting from hostile action where the subcutaneous or deeper tissues are penetrated. These are preferably started at battalion aid station or clearing company depending upon the overall patient load and evacuation plans. Antibiotics are not a substitute for careful debridement and proper wound closure.

b. Excessive debridements will not be done. The primary purpose of debridement is to remove devitalized tissue, conserving as much healthy tissue as possible. This is particularly true of skin, which rarely requires wide excision. Occasionally it may be necessary to do additional debridement after the wound is inspected three to five days later, but this is preferable to sacrificing healthy tissue at the original debridement.

c. Fasciotomies should be limited to that extent necessary to accomplish adequate debridement. The routine use of extensive fasciotomies is not consistent with good surgical practice. Wide fasciotomies should be reserved for cases in which there is a specific indication such as an associated major arterial injury or tenseness in a closed muscle compartment.

d. The appropriate splinting of wounds, particularly following debridement and delayed closure, is an important principle in the management of such wounds. Splinting significantly lowers morbidity by decreasing hematoma formation and promoting healing, and appreciably improves patient comfort. Small wounds may be adequately splinted by dressing alone. Moderate and large sized wounds, particularly of the extremities, should be firmly immobilized. Molded plaster splints are very effective for this purpose.

e. Primary closure will not be attempted except for:

(1) Wounds of the face.

(2) Sucking chest wounds. The pleural space must be made air tight. Muscle closure or a muscle flap will accomplish this, but adequate rib resection to permit closure without tension is essential. The skin and subcutaneous tissue are left open. Tracheostomy and ventilation with a volume respirator are required if there is any chest wall instability.

(3) Head wounds and neck wounds.

f. Delayed primary closure of debrided wounds is accomplished on the third to seventh day following initial debridement and optimally on the fourth or fifth days. In the absence of any signs of infection or other wound complications, the wound dressing should not be disturbed until the elected time of delayed closure. At this time the wound dressing should be removed under sterile conditions, preferably in the operating room; a decision made as to redebridement or delayed closure; and the selected treatment immediately carried out. Every effort will be made to accomplish

delayed wound closure during the optimal period for such closure. Patients whose wounds necessitate evacuation out of country will be evacuated early enough so that their arrival at the receiving hospital will permit delayed closure within the optimal period: however, the prime consideration in evacuating such patients will be a satisfactory general physical condition that can withstand evacuation without untoward effects. Accomplishing delayed closure within RVN will permit such closure to be done within the optimal period whereas evacuation would probably result in closure after the optimal period. The incidence of hematoma formation or infection following delayed closure of large wounds is significantly increased from the manipulation and motion occurring during evacuation. Patients on whom delayed wound closure is done prior to evacuation will be retained at the operating hospital for at least two days after such closure. Wounds will be examined for possible complication prior to evacuation.

g. Lunji stick wounds will be debrided.

h. Patients with injuries of the large bowel will have an appropriate colostomy performed. Exteriorization of the colon wound as a loop colostomy is preferred whenever possible. Proximal colostomies are required when the site of the wound will not permit exteriorization. Extensive wounds requiring resection of a portion of the colon are preferably managed with a separated double barreled colostomy. A separated double barreled colostomy or primary ileostomy are the recommended methods of managing extensive wounds of the right colon which require resection. Right colon resection and ileostomy is preferred when there are extensive associated contiguous injuries or gross fecal contamination. Wounds of the rectum should have a double barreled colostomy and wide drainage of the pre-sacral space with coccygectomy. All colostomies will be opened in RVN. In the absence of life endangering complications, patients will not be evacuated out of country until the colostomy is functioning well. Colostomy closures will not be done on US military casualties. Irrigate the distal limb with saline until clear.

Page 2. Paragraph 51 is superseded as follows:

i. Incisions will be closed by use of interrupted 26 or 28 gauge wire suture inserted through all layers of the abdominal wall except skin and must not include rectus muscle. The cut ends are buried and the skin is loosely approximated by nonabsorbable sutures. The wire sutures should be placed an inch apart, either as a single, or far-near-far suture.

j. Primary repair of nerve injuries resulting from hostile action will not be accomplished in this command except for the digital nerve when this can be readily accomplished at the time of initial surgery. Whenever possible during the normal course of debridement, injured nerves should be examined and notations made as to confusion, division, defects, etc. If the injured nerve is not seen during debridement, no search will be made to find it.

Page 3. Paragraph 5k is superseded.

k. Joints will be thoroughly explored in all penetrating or perforating joint injuries. Small fragments of organic material can produce severe pyogenic arthritis and every effort must be made to detect and remove such material. Joint capsules will be loosely closed following exploration. In fractures of long bones, large pieces of bone should not be discarded but cleaned and replaced, otherwise amputation of a short limb may be necessary later.

l. All patients with a chest injury of any type will receive prophylactic treatment for the wet lung syndrome. The prevention of this syndrome will appreciably lower the morbidity and mortality of patients with lung injuries.

m. Circular plaster casts applied to fix fractures of the long bones must immediately be split or bivalved throughout the entire length and down to the skin. Failure to take this precaution could lead to dangerous circulatory constriction. (Ref Emergency War Surgery, pages 235-236)

n. Amputations will be done at the lowest possible level of viable tissue. Skin traction will be applied. If there is a viable flap of good skin and subcutaneous tissue that would be ideal for, and facilitate later revision, this may be left attached but the stump must remain open and traction applied as with a complete open circular amputation.

o. The routine evacuation of patients from hospitals of this command in country or out of country will not be accomplished until the patient's general condition is sufficiently satisfactory to withstand the travel involved without untoward effect. Patients requiring treatment not available at their place of hospitalization must be evaluated to determine the need for this treatment against the risk of evacuation.

p. The primary mission of battalion, brigade and division medical units is to provide the majority of patients with sufficient treatment and resuscitation to permit their safe evacuation to a hospital. Treatment by these medical units should not go beyond the immediate necessities except for those patients whose wounds are minor enough to permit their retention and return to duty from these medical units. Strict adherence to this primary mission is essential if IRHA patients are to receive optimal care (NATO Handbook, Emergency War Surgery, pages 2-3.)

6. REFERENCE: NATO Handbook, Subject: Emergency War Surgery.

* * * * *

MEDICAL SPECIALTY BOARD EXAMINATIONS

The following is an extract of USARV Regulation 40-25, dated 25 September 1969.

* * * * *

1. PURPOSE: To provide commanders and medical officers guidance and policy concerning the processing of applications for medical specialty board examinations.

2. SCOPE: This regulation is applicable to all units assigned or attached to USARV.

3. GENERAL: Commanders reviewing officers' applications to take either Part I or Part II of a medical specialty board examination will consider the following:

a. Applications should be processed under the provisions of AR 40-219. Careful consideration must be given to the eligibility of the applicant for reimbursement of expenses arising from certification and from TDY in that connection, as outlined in para 2, AR 40-219. For those not eligible under para 2, AR 40-219 for expenses of certification and TDY, administrative absence or regular leave without expense to the government may be authorized.

b. Officers eligible for TDY to take specialty board examinations will not be authorized to return to Hawaii or CONUS to take Part I if it is given in the Far East area, or if a local proctor of the examination can be provided and approved by the specialty board.

c. Applicants for Part I of the specialty boards given in the Far East where R&R is authorized will generally be granted favorable consideration for either TDY, leave or administrative absence according to eligibility.

d. Officers applying for Part II examinations, examinations of boards having single or combined examinations not given overseas, or for Part I examinations not given in the Far East and when a proctor cannot be provided, will generally defer such examinations until return to CONUS. Special circumstances will be considered individually.

e. Applications to take both Part I and Part II of specialty board examinations while serving in USARV will generally be disapproved.

f. Units will not be provided a replacement during the period of the examination.

g. Each application will be considered individually on its own merits, the needs of the individual, the needs of the unit, the needs of USARV, and the overall needs of the Army.

4. RESPONSIBILITIES: All applications for out-of-country examinations will be forwarded through command channels to this headquarters, ATTN: AVHSU, for final review and action.

5. REPORTS: This publication requires no reports.

6. REFERENCES: AR 40-219

* * * * *

MANAGEMENT OF VASCULAR INJURIES

The following is an extract of USARV Regulation 40-9, dated 21 April 1969 and Change 1 to USARV Regulation 40-9, dated 20 September 1969.

* * * * *

1. PURPOSE: To establish policy and guidance in the early treatment of vascular injuries.
2. SCOPE: This regulation is applicable to medical officers and other medical service personnel in this command who are directly concerned with patient treatment, and to commanders responsible for division and Army-level medical service.
3. GENERAL:
 - a. Most arterial injuries are high velocity missile wounds. The amputation rate with ligation of the artery in World War II was 51% compared with 13% in the Korean War when arterial repair was accomplished. Patients who had arterial ligation but no amputation had markedly lowered exercise tolerance secondary to arterial insufficiency.
 - b. Pathology. With incised wounds injury beyond the wound edges is minimal; by contrast, high velocity missiles produce not only gross injury but extensive microscopic damage from dissemination of lateral energy. The resultant destruction necessitates debridement to a point just beyond the visible effects of trauma. It is not necessary to excise 1 cm of artery on either side of the injury.
 - c. Diagnosis. A vascular injury should be suspected in all wounds in which the missile path is near a major vessel. The diagnosis may be obvious, with bright red bleeding, absent distal pulses or a cold pale extremity. The presence of a distal pulse does not rule out an arterial injury. Neurological function is an excellent guide since ischemia may cause both sensory and motor paralysis of the extremity. Patients seen several days after injury may present with a firm pulsating mass near the wound, representing a false aneurysm, or an A-V fistula.
 - d. Treatment. The "golden period" for repair of arterial injuries is within 6 hours of wounding; however, successful results have been achieved beyond this period. All major arterial injuries should be repaired unless there is massive loss of vessels, nerves and soft tissue and an amputation is inevitable. Loss of an upper extremity is more disabling than loss of a lower extremity; accordingly, special effort should be exerted to save these limbs.
4. RESPONSIBILITIES: Commanding officers of medical treatment facilities will insure that the management of arterial injuries in their respective commands is in accordance with this regulation and follows the guidance provided in the NATO Handbook, Emergency War Surgery (Chapter XVII, pages 219-231), except where such guidance is in opposition to the special instructions of this regulation.

5. SPECIAL INSTRUCTIONS: The following principles in the management of arterial injuries were established during the Korean War and are recognized as essential today:

a. All patients with a wound near a major vessel will be evaluated for the existence of an arterial injury. Arterial bleeding will be controlled by pressure dressings if possible, being careful to avoid injury to nerves. Tourniquets can be used when other methods fail to achieve satisfactory hemostasis. Padding of tourniquets will avoid nerve and soft tissue damage.

b. Arterial repairs will be accomplished only in hospitals of this command or rarely at other medical facilities which have a fully trained surgeon assigned.

c. Fine atraumatic suture (5-0 or 6-0) will be used in arterial repair. Primary anastomosis is preferable if it can be accomplished without undue tension or sacrifice of collateral branches. If primary anastomosis is not possible, a reversed saphenous vein graft is recommended. Artificial prosthetic materials will not be used to repair acute vascular injuries in extremities. Before placement, the vein should be hydrostatically dilated with heparin-saline solution and the clamped ends trimmed.

d. If major veins draining an extremity have been injured, efforts should be made to repair one vein.

e. Debridement of wounds near the site of an arterial injury must be meticulous. Infection in such wounds can completely negate an excellent arterial repair. Major arteries will be covered with healthy, well vascularized soft tissue. This is usually possible with contiguous tissue, but occasionally necessitates swinging a muscle flap.

f. Patients with arterial repairs must be observed frequently to determine patency of the vessel. If the distal pulse has not returned in 4 hours postoperatively and there are persistent signs of ischemia, re-exploration of the arterial repair is mandatory. Cases with capillary filling, return of sensation, but without pulse may be observed longer for a return of the pulse. If extremity remains viable, with absent pulses, re-exploration is not necessary.

g. The following are indications for a fasciotomy at the time of arterial repair:

- (1) Cases with interruption of venous systems.
- (2) Cases with severe soft tissue contusion distal to the arterial repair.
- (3) Cases with edema of the extremity at the time of repair.
- (4) Cases in which there has been a prolonged interval between wounding and repair.

h. If flexion of the extremity was needed to accomplish an anastomosis, it should be maintained for several days by an appropriate splint or cast. Arterial injuries are frequently associated with long bone fractures. Immobilization of associated fractures will be in accordance with current directives and the guidance provided in the NATO Handbook, Emergency War Surgery. Internal fixation devices will not be used.

i. Military casualties with arterial repairs will not be held in RVN for a specific time period. Timing of out-of-country evacuation will depend on individual patient's progress and will be determined by supervising surgeon, but normally should not be less than 14 days post injury.

* * * * *

DEPARTMENT OF THE ARMY
HEADQUARTERS, 24TH EVACUATION HOSPITAL (SEMIMOBILE)
APO San Francisco 96491

AVRI-GD-EB

21 July 1969

STANDING OPERATING PROCEDURES

IN-COUNTRY TRANSFER OF NEUROSURGICAL CASUALTIES

1. PURPOSE: The purpose of this SOP is to set forth the policy to be followed for the in-country transfer of neurosurgical casualties to medical facilities with neurosurgical capability. This policy is enacted in order to avoid the inappropriate transfer of neurosurgical casualties which can result in increased risk to the casualty and dust-off crew.
2. POLICY:
 - a. Expectant cases - Casualties with head injuries who have deep coma, fixed-dilated or constricted pupils, corneal anesthesia, irregular respiration not due to airway obstruction, no reaction to painful stimulation, or decerebrate (decorticate posturing) are termed "expectant". This type of patient does not benefit from nor receive neurosurgery. Transfer of "expectant" cases is not indicated and, in fact, is contraindicated at night and during inclement flying weather. If the patient improves and neurosurgical consultation is felt indicated, transfer to a neurosurgical center should be reconsidered.
 - b. Treatable Cases -
 1. Neurosurgical injury only - Casualties with treatable neurosurgical injuries should be transferred to a neurosurgical center following appropriate resuscitative measures (airway, blood, etc.) and when stable.
 2. Multiple Injuries - Major wounds of the chest, abdomen, and extremities should receive definitive surgical care at the first surgical facility receiving the casualty. Approximately 12-24 hours following surgery of the above other wounds, and when the casualty is stable transfer of the casualty with a treatable head or spinal cord injury to a neurosurgical center should be effected.
 - ** c. The SOD or neurosurgeon at the neurosurgical center should be contacted by phone by the referring medical officer if at all possible prior to transfer of the casualty.

INCL 6

21 July 1969

STANDING OPERATING PROCEDURES

IN-COUNTRY TRANSFER OF NEUROSURGICAL CASUALTIES

d. All casualties with neurosurgical injuries should receive high intravenous doses of antibiotics unless contraindicated - aqueous penicillin 10 million units and chloromycetin 1 gram in each 1 liter of IV fluid is recommended.

s/Claude McClure Jr
t/CLAUDE McCLURE JR
Colonel, MC
Commanding

** 24th Evacuation Hospital (Long Binh)	95th Evacuation Hospital (DaNang)
926-4361 (ER)	951-2132/2131 (ER)
926-3456 (Wards 5 and 6)	951-2029 (OR)
926-3755 (OR)	
67th Evacuation Hospital (Qui Nhon)	12th Air Force Hospital (Cam Rahn Bay)
945-2717 (ER)	961-2222 (ER)
945-3161 (OR)	961-2636 (Office)
945-3891 (Anesthesia)	961-2623 (OR)
71st Evacuation Hospital (Pleiku)	USS Sanctuary (off-Shore, Danang)
941-3664 (OR)	By radio through 67th Med Gp
941-2147 (Ward 6)	Commo. 951-2240/3084
941-3663 (Post-Op)	
91st Evacuation Hospital (Chu Lai)	USS Repose (Off-Shore, Danang)
958-2200 (OR)	By radio through 67th Med Gp
958-2303 (Pre-Op)	Commo. 951-2240/3084
958-3300 (ICU)	

SUBJECT: Protocol Proposal

TITLE: Evaluation of Phosphorous Burns

I. BACKGROUND: Phosphorous burns have presented many problems in management relative to tissue damage, neutralizing of the phosphorous with copper sulfate, and its related toxicity. Clinical condition, toxicity, and patient deaths are frequently disproportionate to the magnitude and area of tissue burned.

An investigation of phosphorous burns in rabbits was conducted by Major Thomas E. Bowen and Brigadier General Thomas J. Whelan at Tripler General Hospital. They noted marked reduction in serum calcium and increase in phosphate levels. Excision of the burn within one hour of injury did not alter the systematic changes. Hypo-calcemia persisted as long as three days in some cases.

Application of this information clinically has resulted in several survivors who might otherwise have died of cardiac arrhythmias. The serum calcium and phosphate changes have been identified in one clinical case.

Other studies in phosphorous poisoning suggest the possibility of hypoglycemia and interference with oxygen uptake of the red cells.

II. HYPOTHESIS: Death and toxicity due to phosphorous burns is related to phosphorous poisoning and interference with tissue oxygenation, alteration in serum calcium, phosphate, and blood glucose levels. Possibility of further direct toxic effects on the myocardium, hepatic, and renal cells exists.

III. PROPOSAL: To conduct clinical studies on all phosphorous burns admitted to the 44th Medical Brigade hospitals (work to be coordinated with WRAIR team at the 24th Evacuation Hospital).

IV. PROCEDURE:

A. All patients with phosphorous burns to be expeditiously evacuated to 44th Medical Brigade hospitals. Initial treatment of the burn to conform to recommendations of NATO Handbook and CINCPAC Conference reports. (Subsequent consideration to be given to 1:5000 potassium permanganate as an oxidizing agent instead of 1% CuSO_4).

B. All patients to be placed on cardiac monitor for possible onset of arrhythmia. Arrhythmias to be treated with nasal O_2 @ 2-4 liters/minute, 0.1% Xylocaine drip and I.V. Calcium (treatment should not await laboratory study but appropriate specimens should be drawn).

C. Specimen collection:

1. Blood Gases

- a. Initial
- b. q 30' x 2
- c. As indicated

2. Blood Sample: (indwelling catheter)

- a. Calcium: q 15' x 4, q h x 4, q 12h
- b. Phosphate: q 15 x 4, q h x 4, q 12h
- c. Glucose: Initial, q 4h x 4, q.d. if abnormal.
- d. BUN: Initial, q 12h x 2, q.d. if elevated.
- e. Creatinine: Initial, q 12h x 2, q.d. if elevated.
- f. Liver Functions: Daily
- g. Enzymes: SGOT, SGPT daily.
- h. Electrolytes: Daily.
Na+, Cl-, K+, CO₂
- i. Copper and Ceruloplasmin level on admission.

3. Urine: (Catheterize) match blood collection

- a. Calcium
- b. Phosphate
- c. Electrolytes
- d. Creatinine
- e. Routine
- f. Elemental Phosphorus

D. In Event of Death: Autopsy to be done. Special attention to be given to myocardium, liver, kidneys, and parathyroids; take specimens for electron microscopy.

JAMES P. GEIGER
COL, MC
Surgical Consultant



DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY VIETNAM
APO SAN FRANCISCO 96375

AVHSU-DC

16 December 1969

SUBJECT: Maxillofacial Patients Being Prepared for Evacuation

SEE DISTRIBUTION:

1. In order to be able to rapidly treat the patient that has emesis while in intermaxillary fixation while being prepared for evacuation the following procedures have been recommended by both the Surgical and Oral Surgical Consultants, USARV:

- a. Patients should be N.P.O. morning of flight.
- b. Patients should be given an anti-emetic, either intramuscular or suppository.
- c. All patients that are in intermaxillary fixation should have scissors with them at all times. These should preferably be maintained around their neck with umbilical tape. The scissors should be the short tipped, blunt type that can cut wire as well as rubber bands.
 - (1) Patients that are alert, responsive and physically able, should be taught the manner in which elastics or wire can be removed. This procedure will alleviate the use of "rip-cords" which are more successful in theory than practice. In addition each patient should be instructed to notify flight personnel immediately if they experience nausea or motion sickness.
 - (2) For those patients that are not responsive or cannot physically cut elastics or wires, ward personnel and airplane attendants must be counseled as to the manner of removal.
- d. When intermaxillary wires are deemed the treatment of choice over elastics for stabilization, tracheostomy should be strongly considered to prevent complications of aspiration. However, if only a single wire is used in the mid-line for fixation and this is readily accessible for rapid removal, then the indications for tracheostomy are lessened.
- e. When full dentures or Gunning-type splints are used for fixation, they should be designed in such a manner that there is a large space in the anterior region to facilitate suction of secretions. The anterior

AVHSU-DC

16 December 1969

SUBJECT: Maxillofacial Patients Being Prepared for Evacuation

teeth of the maxillary and mandibular dentures should be removed, making suctioning of the oral cavity a simple task.

2. This letter supersedes letter, subject as above, dated 23 October 1969.

s/David E. Thomas

t/DAVID E. THOMAS

Brigadier General, MC
Surgeon

DISTRIBUTION:

3rd Surg Hosp
3rd Field Hosp
8th Field Hosp
12th Evac Hosp
24th Evac Hosp
67th Evac Hosp
71st Evac Hosp
91st Evac Hosp
93rd Evac Hosp
95th Evac Hosp
104th Med Det
437th Med Det
932nd Med Det
7th A F Surgeon
CO, 21st C.S.F.
CO, 22nd C.S.F.
CO, 26th C.S.F.
12th A F Hospital
903rd Aeromedical Evac

DEPARTMENT OF THE ARMY
HEADQUARTERS, 93d EVACUATION HOSPITAL
APO 96491

AVBJ GD ED MO

30 September 1969

SUBJECT: Orthopedic

James P. Geiger, Colonel
Professional Services Division
Office of the Surgeon, USARV
APO 96375

1. No attached bone should be removed from fractures. Free pieces of bone, espically large cortical pieces free of all soft tissue attachments, should be scrubbed with a brush and replaced in the wound. Bone with dirt and powder which has been driven in by blast force must be debrided with a curette or rougeur.
2. Lower extremity amputations, expecially those with short below knee stumps, must be placed in skin traction. Many knee joints have been lost because of the proximal retraction of the skin during evacuation to CONUS. Valuable length of bone on both above the knee and below the knee amputations is lost because of skin retraction.
3. Viable skin flaps on amputation stumps should be saved. Too many guillotine stumps are seen; open circular amputation is the procedure of choice, with viable full thickness skin flap preservation when it is present. Review technique as described in the NATO Handbook.
4. There is no justification for using metal fixation devices in open fractures resulting from high velocity missiles, except for K wire fixation of metacarpal or phalangeal fractures. Even fractures in which vascular repairs have been done can be successfully treated by ordinary methods of immobilization, e.g. plaster or traction.
5. In occasional cases limb viability cannot be determined with certainty at initial debridement. It is desirable to perform debridement and re-evaluate the extremity in 24 - 72 hours.

s/ Bruce F La Follette
t/ BRUCE F. LA FOLLETTE
LTC, MC
Division Surgeon
25th Infantry Division

s/ James H. Derby
t/ JAMES H. DERBY
MAJ, MC
Chief of Orthopedics

Incl 9

DEPARTMENT OF THE ARMY
HEADQUARTERS, 93rd EVACUATION HOSPITAL
APO 96491

AVBJ GD ED-M

3 September 1969

SUBJECT: Utilization of Oxygen

Commanding General
United States Army, Vietnam
ATTN: Colonel Geiger
APO 96375

1. PURPOSE: The purpose of this SOP is to set forth the policy to be followed in the administration of oxygen to patients requiring general anesthesia.

2. POLICY:

a. All battle casualties should receive a minimum of two minutes of 100% oxygen prior to the induction of anesthesia with sodium pentothal.

b. If a rapid induction for intubation is planned utilizing sodium pentothal and anectine, no anesthetic gases should be used other than 100% oxygen until after the intubation has been accomplished.

c. Due to the unreliability of the flow meters on the field anesthetic gas machine a minimum of two liters of oxygen should be used at all times. At no time should the oxygen be less than 30% of the total gas flow being delivered to the patient.

d. Seriously ill patients, patients with elevated temperatures, patients with intestinal obstruction and patients where it is anticipated that there will be problems with intubation should be adequately oxygenated (five minutes) prior to the induction of the crash anesthesia technique.

e. Patients with elevated temperature require additional oxygen. Approximately 7% more oxygen per degree of body temperature above normal is recommended to support body metabolism. Therefore, if a patient has a temperature elevation of three degrees above normal he should receive oxygen at no less than 50% of the total gas flow being delivered to the patient. If the temperature

INCL 10

AVBJ GD ED-M

3 September 1969

SUBJECT: Utilization of Oxygen

elevation is more than three degrees above normal efforts should be made to cool the patient prior to the induction of anesthesia.

s/ Edwin C. Jordan
t/ EDWIN C. JORDAN
LTC, MC
Anesthesiology Consultant
93rd Evacuation Hospital
APO San Francisco 96491

DEPARTMENT OF THE ARMY
HEADQUARTERS, 95TH EVACUATION HOSPITAL (SMBL)
APO 96349

AVBJ GC EA

28 July 1969

SUBJECT: Traumatic Perforation of the Tympanic Membranes

James P. Geiger, Colonel
Professional Services Division
Office of the Surgeon, USARV
APO 96375

The following procedures are recommended for care of traumatic perforations of tympanic membranes in Vietnam:

Traumatic perforations of the tympanic membranes (TM) may be classified, clinically as: Central or marginal small, medium, and large.

These perforations may be accompanied with cochlear lesion and/or ossicular chain disruption.

Air conduction, bone conduction (marked) tests must be performed in all cases.

The majority (approximately 75%) of the perforations of the TM seen in RVN are medium in size.

Paper patch may be used for medium perforations.

The healing process should be observed for 2 weeks. At 3 weeks post perforation, otoscopic and audiologic examinations should be performed to determine the status of the TM. If there is no disruption of the ossicular chain, the patient may be sent to the convalescent center for 3 weeks. On return for evaluation, if healed the patient should be sent to duty. Ear protectors should be worn for an additional six (6) weeks.

Cases with large perforations and/or ossicular chain disruption should be medically evacuated.

The Cochlear damage should be evaluated through the bone hearing levels.

Incl 11

AVBJ GC EA

28 July 1969

SUBJECT: Traumatic Perforation of the Tympanic Membranes

The ossicular chain disruption may be determined by the average speech range (500, 1000, 2000 cps). If a reading 0-25 db is found, the ossicular chain is usually intact; if it is 25 db or higher, the ossicular chain is usually damaged.

s/ James P. Albrite
t/ JAMES P. ALBRITE
COL, MC
Commanding
Otolaryngology Consultant

DEPARTMENT OF THE ARMY
HEADQUARTERS, 24TH EVACUATION HOSPITAL
APO SF 96491

AVBJ GD ED O

30 September 1969

SUBJECT: Criteria for Critically Injured Patients with Eye Injuries, When
no Ophthalmologist Available

James P. Geiger, Colonel
Professional Services Division
Office of the Surgeon, USARV
APO 96375

1. There is no eye injury which requires immediate evacuation to an Ophthalmologist if the patient's life is in immediate danger. Do not evacuate until 4-6 hours following a general anesthetic or if condition still unstable.
2. Eye injuries which should be evacuated within 24 hours are:
 - a. Repairable lacerations of the globe. Ideally, these should be repaired within a few hours of injury, but can wait up to 24 hours, if patient's life is in danger.
 - b. If there is to be a delay, keep sterile patch on eye. Patient should be on anti-biotic which penetrates eye well, e.g. chloromycetin, ampicillin, or tetracycline.
 - c. To estimate if a laceration of the globe is repairable, determine: Does the eye perceive light? Is the shape of the globe grossly normal? If the eye does not perceive light, and the shape of the globe is grossly abnormal, the eye is probably not repairable. Best sign of corneal laceration is distortion of pupil. If pupil is displaced toward irregular area on cornea, laceration is certainly present. Best sign of scleral laceration are displacement of pupil (as for corneal lacerations) and area of black beneath conjunctiva. A conjunctival laceration may not be apparent.
 - d. Lid lacerations - not as critical as globe lacerations, but if repair is delayed longer than 24 hours, chance of infection is high. If there is a delay, clean wound and cover with clean dressing. Start anti-biotics.
3. Eye injuries which should be evacuated within 72 hours:
 - a. Eyes which have certainly been destroyed beyond repair. This is sometimes difficult to determine, even for an ophthalmologist, but gross loss

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of shape or obvious extensive lacerations coupled with no light perception are the best signs. Keep eye patched and start anti-biotics. If there is any doubt regard the eye as repairable.

4. Eye injuries which do not have to be evacuated, if patient's condition is doubtful.

a. Hyphemia - best to evacuate these, but not absolutely essential. Even if anterior chamber is full of blood, prognosis is good. Treat with bed rest, head elevated, bilateral patches - no eye drops.

b. Corneal FBS - can be removed at later date. Rx with homatropine or scopolamine drop on first day and neosporin drops daily plus patch until patient is comfortable.

c. Corneal abrasion - Rx same as corneal FBS.

d. Corneal burns - Rx same as corneal FBS. If not clear in two days, start neo-decadron drops.

5. The use of topical anesthetics such as tetracaine is contra-indicated except to facilitate initial examination. There is a marked delay in healing if these agents are used.

s/W. D. Anderson

t/W. D. ANDERSON

MAJOR, MC

Ophthalmology Consultant



DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY VIETNAM
APO SAN FRANCISCO 96375

AVHSU-M

1 April 1970

SUBJECT: Newsletter From the Surgical Consultant

SEE DISTRIBUTION:

1. Medical Evacuation: a. Increases in priority evacuation of non-SI or VSI patients has prompted the Air Force to request that physicians be made aware of the problems created. A patient who arrives in the morning of the day of evacuation must undergo a processing routine that takes approximately 1 - 1 1/2 hours. This creates a major hardship on the staff at the ASF if a number of patients are received from one or more hospitals. Please try to keep this category to a minimum.

b. Medical Attendants: The requirement for attendants can be reduced if the patient is allowed a few days additional to stabilize. The roster that most hospitals run is not to be construed as an individual's "absolute right" to make a trip according to a schedule. It is obvious that the practice is abused when we examine the reports that show comparably busy hospitals who send 20 attendants in one quarter while the other sends only six. General Thomas is monitoring this so I suggest that you regulate it a little more closely.

2. The CINCPAC Conference was a productive meeting and the new Bulletin will be distributed as soon as available (estimated 2-3 weeks). The following are two of the major changes proposed:

a. Ileocolostomy and resection for large right colon wounds has been discontinued due to the high incidence of anastamotic leak and abscess. A matured Ileostomy and mucous fistula is the treatment of choice; don't forget to tack down the mesentery.

b. "Wet lung" and Fat Embolism cases will be treated in the manner described in previous issues of the newsletter. Oxygen with positive pressure ventilation, Lasix, heparin, salt and fluid restriction, Decadron, antibiotics, and sedation are essential for survival.

3. I.V. Fluid administration - too many patients are getting too much sodium containing fluid during resuscitation, in the operating room, post-operatively, and in the treatment of burns after 2-3rd DAY. This should

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be obvious with closer scrutiny. A recent paper in the March 1970 (page 453) issue of S.G.O. from Walter Reed Institute Research (Doty, et al) reports expanded blood volume and E.C.F. following the marked degree of inundation in these patients. Burn patients should have diuretics to maintain urinary output rather than attempting to "drive the kidney" with fluid after 48 hrs.

4. Scientific curiosity is encouraged but accepted procedures must be followed and approval obtained before trying new or investigative medications or forms of treatment. Document your interest in a protocol and send it in for review.

5. Recent interest and support in the phosphorous burn study has yielded data on a dozen patients. Calcium deficiency is inconsistently seen. The data is now sufficiently voluminous that I suggest that no further cases be included in the protocol unless they manifest clinical signs of calcium deficiency. Some patients have had significant pO_2 deficit; oxygen or respiratory support is advisable.

6. Laminography is available at the 12th Air Force Hospital for special diagnostic problems!

7. Transfusions - Increased use of type specific blood has been helpful in supporting the blood program in Vietnam. Continued vigilance is essential to insure freedom from transfusion error. Questions have been asked recently regarding the O-negative patient who has previously been transfused with O-positive blood. Repeat transfusion with O-positive blood can be hazardous in the face of antibody production. Check the dog tag! O-negative blood may not be low-titer; high-titer blood should not be given to other than O-type patients.

8. Melioidosis: A follow-up report from Walter Reed recently attributed a patient's chronic otitis media to pseudomonas pseudomalei. We must be alert to the increased possibility of melioidosis infection since many patients no longer get Chloromycetin which had suppressed the organism formerly. In the past 18 months there have been 69 cases diagnosed in Japan.

9. The following item is quoted at the request of LTC Jordan, anesthesiology consultant. Nurse Anesthetists will not perform spinal anesthesia ref. O.T.S.G. Regulation (1958).

10. Orthopedic comments: (LTC J. Derby)

a. Adequate Cast Bi-Valving and marking is only rarely practiced.

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The date of injury, surgery, D.P.C. and sketch of injury must be placed on the plaster.

b. Unstable hand fractures should have K-wire fixation to maintain length as well as position. The K-wires can be placed at the time of initial debridement or at DPC on 3rd-4th days.

c. Hip joint wounds must be debrided along the missile tract and through a formal posterior arthrotomy to establish dependent drainage. Late hip joint sepsis is a complication seen in CONUS following pelvic wounds when drainage has not been carried out. GET AN ORTHOPEDIC CONSULT!

d. A single Hip Spica is an excellent way to immobilize femur fractures for evacuation. A steinman pin in the proximal tibia will maintain length when incorporated into the plaster. This type of spica is superior to the "one and a half" which often exceeds the width of the litter and the planes emergency exits (30 inches).

e. Plaster splints on the leg are broken and ineffective in fully 1/2 the cases sent to Japan. - Use the bi-valved cast.

11. E.P.T.S. medical problems: Exercise restraint and good judgement in performing elective surgery for conditions which existed prior to service and are not service aggravated. A recent case in point was a strabismus operation for a man with an amblyopic eye and now he has diplopia and will be on the pension roles.

12. 6th Convalescent Center. - (see Annex I)

a. A number of problems are beautifully cared for by this convalescent hospital facility. Exercise judgement in the type of case you send them. They have recently received patients with overlooked fractures and/or dislocations, and missed nerve injuries. These and other patients with joint wounds and long bone fractures cannot possibly return to duty in 30 days and should be evacuated to PACOM hospitals. Patients with big extremity wounds with moderate or greater loss of muscle mass have difficulty if returned to duty in 30 days. Check the Man's DEROS too.

b. Many patients with minor extremity fractures can be retained in rear areas with a profile working for their unit rather than being sent to 6th Convalescent Center. If in doubt check with the unit C.O.

c. There is some mis-understanding about the rehabilitative program for post-operative hernia and appendectomy patients. This program is

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monitored closely and no patient is forced to the point of endangering himself. His progress is supervised so he is ready to return to duty when his 30 days are up.

d. Consultation service is provided by the 12th Air Force Hospital in special problems.

13. Intestinal Problems: a. A great deal has been written on the little difference noted in everting versus inverting bowel anastomosis, single versus two layer closure etc.. I can accept the theory but there is a tendency to be less meticulous (more careless) with the single layer everting anastomosis. We recently have seen 3 leaking suture lines. Other factors of technique must be considered - failure to trim the bowel at an angle to insure good blood supply, presence of fatty tissue in the suture line, and insufficient numbers of sutures will all insure failure.

b. Other bowel problems seen recently are: (1) Necrotic colostomies requiring revision - (was the mobilization of the mesentery adequate?).

(2) Failure to do DIVERTING, DIVIDED Colostomies

(3) Failure to cleanse the distal limb of the colon.

(4) Exteriorization of the colon and returning it to the peritoneal cavity at 5-6 days. (How can you say it's O.K. when you don't see the patient after 7-10 days?) No patient is to be med-evaced with an un-opened colostomy.

14. SUPPLY ITEMS: a. Check with the supply officer to insure that what you need has been ordered. You might be suprised at how many useful things he has in stock or can show you in the catalogue.

b. Sweeping compound is available in country. There is no excuse for using a broom in a hospital O.R. or a cloud of dust in the I.C.U. and wards - where else do infections originate?

c. Stock numbers:

(1) Blakemore Tubes - 6515-C97-1646, Size 12F; 6515-C97-3013, Size 20F.

(2) Saratoga Sump Drain (Tube, drainage, suction) 6515-C97-3093, Size 34F.

(3) Tube, nasogastric, Suction, Surgical, 6515-C97-3094.

(4) Tube nasogastric Suction, Salem, 6515-C88-4389.

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- (5) O.R. shoes - See Annex #2
- (6) Reusable shoe covers - See Annex #2.
- (7) Gum karaya, 6810-C92-0107, 1 lb.
- (8) Tube, Duodenal, Surgical, Sterile, Radiopaque, Disposable, Miller-Abbott, 16 Fr, 8' Long-6515-400-5468 (Avail 30 Apr).
- (9) Surgical Pack, Disposable, Obstetrical Pkg'd in 10's-6530-118-2916 (Avail 30 Jun).
- 15. Did you know that Gentamicin can cause neuromuscular blockade similar to that of Neomycin and Kantrex?
- 16. One of our urologists, LTC John Edwards, tells me that a single remaining testis that has infarcted from torsion should not be resected but derotated and drained. A residual hormonal function can be sufficient to maintain secondary sexual characteristics.
- 17. The Physical Therapy Program is being expanded to the I Corps area. The assistance in respiratory problems and range of motion and general rehabilitation can ensure or hasten your patients recovery. The importance of physical therapy and services provided would be a good topic for future staff conferences.
- 18. The medical field chest can be used as a gas sterilizer by careful sealing for 24 hours after adding three gas cartridges. It works well for contaminated Bird or Bennett Respirators, oxygen reducing valves, etc. It is essential to run the machine for 2-4 hours to clear it of gas prior to patient use. (This tip is from the 67th Evacuation Hospital.)
- 19. Homograft skin has been used in Vietnam to control sepsis in some large wounds. This is now more feasible since we have received a supply of freeze dried skin. A record must be completed and returned to the USN Hospital, Bethesda; please also list as a separate procedure on monthly surgical report. Homografts are currently available at the 95th Evacuation, 93rd Evacuation, 24th Evacuation and 3d Field Hospitals.
- 20. Increasing evidence of indwelling venous catheters as a focus of infections (69% + cultures in one study in Japan) suggests that all I.V.'s should be replaced at fresh sites when stability has been achieved in the post-op period. Many of these were initially placed under less than sterile conditions.

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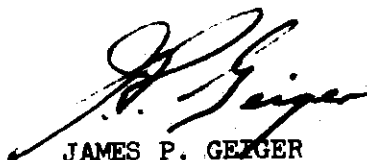
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Along these same lines I feel that a closed system must be used to measure the C.V.P. The practice of disconnecting the manometer between readings provides a certain route for contamination. A simple, practical device is an additional I.V. administration set that is taped to bed, I.V. pole or wall with a standard ruler.

21. Triage and Mass Casualties: When was the last time you reviewed your plan and procedures for triage and mass casualty care with the new personnel? It has been many months since we have received more than 100 casualties country-wide in a single day. Prior to last fall it was not uncommon to get 100 acute W.I.A. patients at a single hospital in a few hours. The old timers who know the ropes will soon be gone, so the procedures must be reviewed. Hoping that we will not be hit isn't good enough. If 50 bases get rocketed simultaneously again as they did last August (300 casualties) who is going to be available to come to your aid?

22. Closing thought: "Too long we were taught that good will was the same as goodness. We now see that most evil is done by those who mean well!"
-Charles Cooley.



JAMES P. GEIGER
COL, MC
Surgical Consultant

DISTRIBUTION:
MED B

DEPARTMENT OF THE ARMY
Headquarters, 6th Convalescent Center
APO San Francisco 96392

AVBJ-GA-CO

2 February 1970

SUBJECT: Capabilities of the 6th Convalescent Center

SEE DISTRIBUTION

1. LOCATION: Cam Ranh Bay
2. CAPACITY: 1300 beds
3. CAPABILITIES:
 - a. Post-acute medical care.
 - b. Post-acute care for uncomplicated surgical cases and limited minor surgery. General or regional anesthesia cannot be performed.
 - c. Physical therapy and physical rehabilitation programs.
 - d. Dental care.
4. REQUIREMENTS:
 - a. Patients must be returned to duty within the current theater evacuation policy of thirty days.
 - b. Patients must require only limited orthopedic or routine post-operative surgical care.
 - c. Patients should be afebrile, medically stable, and all surgical incisions should be closed.
 - d. Patients should be male and in an ambulatory status. Bedside nursing and bedrest facilities are limited to twenty and sixty beds respectively.
5. TYPES OF CASES REFERRED INCLUDE: Falciparum malaria; infectious hepatitis; post-closure fragmentation wounds; post-operative appendectomies or herniorrhaphies; post-acute orthopedic conditions; and non-complicated burns.

s/James A. Shafer
t/JAMES A. SHAFER
COL, MC
Commanding

DISTRIBUTION: A

ANNEX I

FSC CLASS 8430
footwear

COVER, CONDUCTIVE SHOE, DOCTORS:

Regular top with tape ties, large size

SOURCE: American Hospital Supply Corp.

INDEX NO.	ACTION	MCN	DESCRIPTIVE DATA	U/I	U/P	NOTES	STK
17290		8430-C90-0009	Fits sizes 9 1/2 to 12, 12's	BX	29.95		P

SHOES, CONDUCTIVE:

For operating room use, lace type oxford, non-skid, stain resistant, green suede top.

COLLOQUIAL NAME: Electricon

SOURCE: O-R Products Co.

INDEX NO.	ACTION	MCN	DESCRIPTIVE DATA	U/I	U/P	NOTES	STK
17300		8430-C90-0010	Size 6A	PR	11.95		P
17310		8430-C90-0005	Size 7M	PR	11.95		P
17320		8430-C90-0012	Size 8D	PR	11.95		P
17330		8430-C90-0020	Size 8 1/2D	PR	11.95		P
17340		8430-C90-0019	Size 9AA	PR	11.95		P
17350		8430-C90-0013	Size 9D	PR	11.95		P
17360		8430-C90-0002	Size 9 1/2C	PR	11.95		P
17370		8430-C90-0007	Size 10M	PR	11.95		P
17380		8430-C90-0017	Size 10E	PR	11.95		P
17390		8430-C90-0003	Size 10 1/2D	PR	11.95		P
17400		8430-C90-0015	Size 11 1/2C	PR	11.95		P
17410		8430-C90-0004	Size 12D	PR	11.95		P