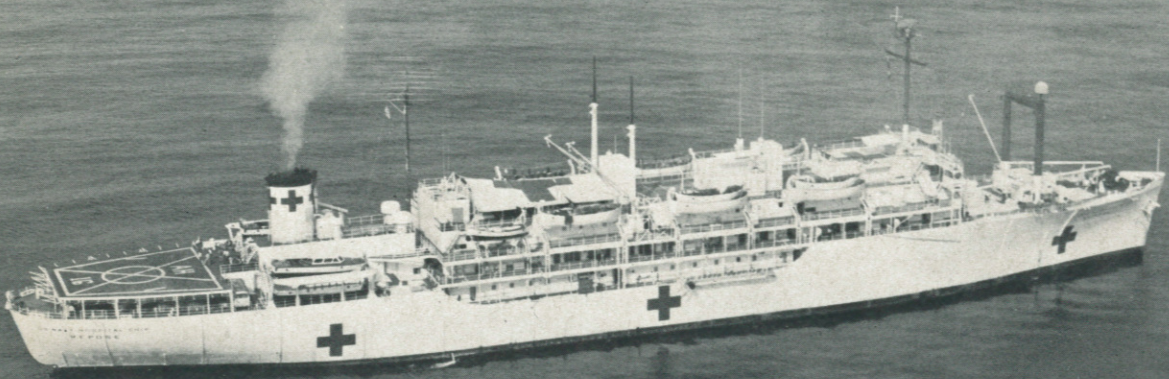


CAPT MARY T LYNCH MC USN

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Navy Medical newsletter



April 1970

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The issuance of this publication approved in accordance with NAVEXOS P-35.

NAVMED P-5088

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Credits: This issue of the Navy Medical Newsletter is dedicated to the USS Repose (AH-16), proudly pictured on our front cover. Photo by Medical Photographer HMC C. E. Devol USN.

Page 4. Landing Signal Officer (center) aboard the USS Repose off Vietnam directs a U.S. Marine Helo bearing battle casualties. Photo by JOC Robert D. Moeser, USN.

All pictures are Official U.S. Navy Photographs unless otherwise indicated.

Correction: The cover photograph of the March issue pictured the 22nd Air Force Casualty Staging Facility at Danang, RVN. A patient from the Base Hospital in Danang, would be medically evacuated through the 22nd CSF.



from the Chief

Following the significant reduction of the Department of Defense Budget in Fiscal Year 1970, the proposed Fiscal Year 1971 budget of \$71.8 billion, to maintain the overall preparedness of the Defense establishment, represents the lowest percentage (seven percent) of the Gross National Product since 1951. Unlike the "requirements based budget" as practiced in the past, the Fiscal Year 1971 Defense budget is "fiscally constrained"; the services' concept of their operating requirements must be compatible with a total figure issuing from the Office of the Secretary of Defense. With total national outlays of \$200.8 billion, the Defense budget is 34.6 percent, the lowest percentage of the total Federal budget since 1950. In addition to reductions in Defense programs, personnel levels are being sharply reduced both in the military and civilian categories.

In the face of substantial, programmed reductions in Defense spending during present and future years, many of you are wondering what posture the Navy Medical Department will and should assume. The present austerity cannot be realistically viewed as a temporary measure, but will be sustained. Based upon the diminished level of activity in Vietnam, and the reduced manpower and patient workload, decreased resources are inevitable. Fewer dollars and personnel can be expected in Fiscal Year 1971. In order to successfully compete for available resources, this Bureau must demonstrate the magnitude of health care services provided.

Total and complete workload reporting is essential. Every effort must be made to ensure that outpatient visits and other workload figures are properly and accurately recorded, since full credit for work performed is vital in the allocation of resources. Careful monitoring will afford further advantages in closing and consoli-

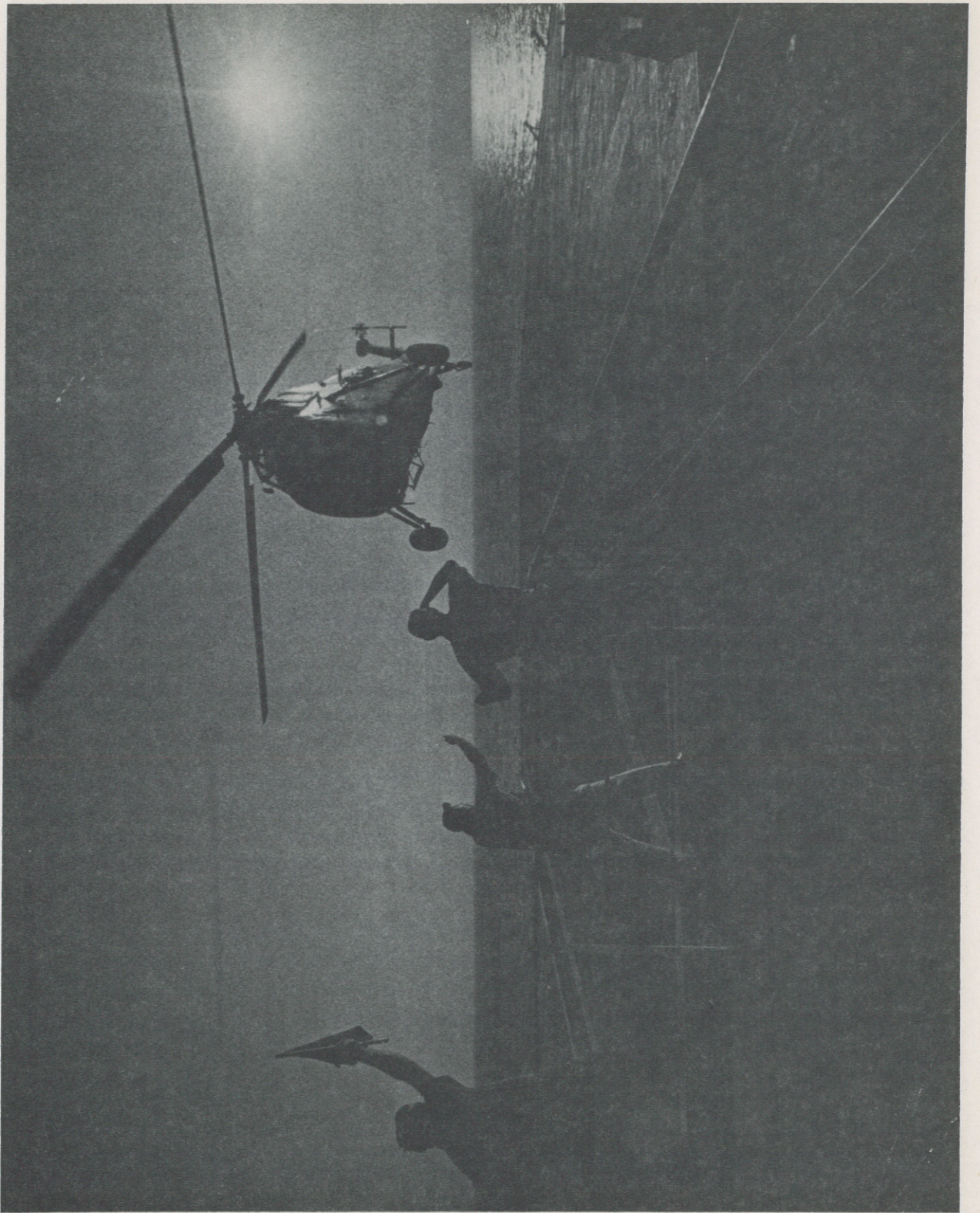
dating wards or services when it becomes apparent that output has declined below an economical operating point. The Medical Services Report (NAVMED-1454) is the Bureau's basic medium for collecting statistical information on clinic and dispensary workload, and services performed in support of patient care. This report provides key workload data on outpatient activity and essential support data on inpatient activity which are used in budget preparation and justification, facility planning and review, and staffing. I urge your personal interest in and attention to the methods and system utilized for collecting these data within your area of activity.

It is imperative that no reportable workload be overlooked or go unrecorded, if the maximum available resources are to be realized.

It is not my purpose to minimize the difficulties and obstacles which lie ahead, for they are very real and formidable. A prudent optimism is supported, however, by the knowledge that there must remain a continued need for essential medical services together with related morale costs, and an obvious requirement for maintaining quality health care cannot be denied. ADMIRAL Thomas H. Moorer, Chief of Naval Operations, has offered his assurance, furthermore, that health care needs will rate top priority for his support. Such needs, however, must be fully documented and justified.

Though difficult, this is an exciting and challenging era for medicine and the military alike. I know that you will respond with characteristic resolve and ingenuity, and will continue to provide the highest possible quality of medical care through accustomed effort, efficient planning and good management.





ELEGY FOR A HOSPITAL SHIP ABOUT TO BE RETIRED

I

She has known more of wounds and pain
Than she could tell, if she had tongue.
This stately dame, this ship, this home;
When she alone alight in all
This black and muddy war stood white
Against the shore, a haven for
Sad-cargo'd birds which to her bore
Their bloody burdens.
She will be home.

II

She has known more of waste and loss,
of courage, gallantry and jest
Among those boys, now men, who lay
With stoic calm within her healing hull
And felt the monsoon's fury. Or
For long and torpid weeks they stayed
Till all seemed molten.
She will be home.

III

She will come home to lie a while
In state, till solemn rites do make
Of her a lifeless frame. No more
She'll sail beneath the Southern Cross.
Nor see the phosphorescent waves
Illuminate her prow with sea
Snakes gliding tangled in the foam
'Tis all done now.
She's earned her name—Repose.

—Denise Draper

USS REPOSE IN VIETNAM—1966–1970

Scheduled deactivation of the USS REPOSE (AH-16), "Angel of the Orient", brings to an end over four years of continuous service in the I Corps Tactical Zone, Republic of Vietnam. Her chief mission has been "to provide specialized and general hospitalization services in support of military operations, and to provide as far as possible medical support in the care of the civilian population related to those military operations." The record will show how well she has performed this mission. The record will *not* show the esprit de corps of all who served on her, the rapid but gentle handling of fresh casualties, the atmosphere of intense concentration in the operating rooms when surgeons of several disciplines are working on one shattered patient, the vigilance of nursing personnel in wards and intensive care unit, the long rounds in compact wards crammed with scores of malarious patients, the passageways lined with exhausted, grimy troops awaiting consultation, the complexity of operations in record and supply areas. The record will *not* show the splendor of tropical sunsets, the long, grey days in tropical monsoon swells, the exhilaration of a typhoon. A chronicle of four years would be voluminous. A simple resume would be dry. A pastiche of impressions, of events, necessarily incomplete, will have to serve to warm the memories of some and to limn the scene for others.

With CAPT Paul R. Engle in command of the



CAPT P. R. Engle, MC USN



Naval Hospital and CAPT Theodore H. Wilson as Executive Officer and Chief of Surgery, the REPOSE first reached Vietnamese waters on 16 February 1966. Months had gone into fitting her for the battle zone since her recommissioning on 16 October 1965. Professional staffing, placement of the most modern equipment, and meticulous planning of the flow of casualties were carried out by Captains Engle and Wilson which have since been maintained. A covered ramp leads down from the helo deck to the Triage Area, ever the focal point of all admissions. Rapid evaluation of the patients' injuries or illnesses, resuscitation, drawing of blood samples for typing and other determinations, the insertion of intravenous catheters or airways are performed here. The severely injured are taken to X-ray, thence to the Recovery Room to be prepared for surgery. Others are sent to designated wards or to the Intensive Care Unit. Repeated observations have shown that from arrival upon the helo deck to reception in the Recovery Room a given patient, always under the care of the same doctor, spends less than half an hour.

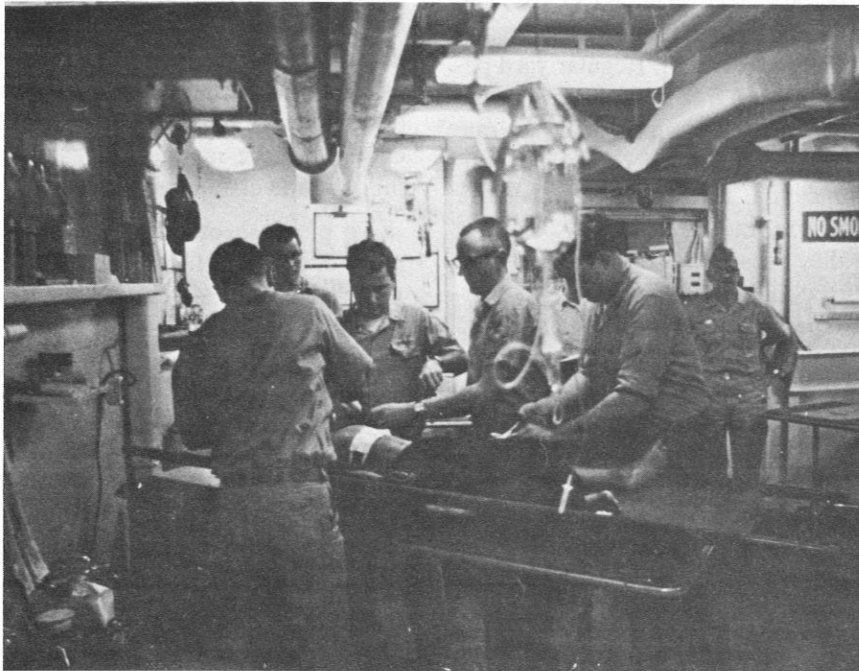
Despite engineering difficulties which plagued her during her first six months of deployment, REPOSE took part in 1966-67 in many tactical operations. These included "Double Eagle" off Chu Lai, "Utah", "Hastings", "Deckhouse Four", and "Prairie I." While the ship was in the yards, four doctors and fourteen corpsmen served aboard the USS PRINCETON supporting Operation "Jack-Stay" near Saigon. Experience achieved during these campaigns set a

pattern which has varied little since. About forty-five percent of the 4,243 admissions were surgical in nature, 42% as a result of hostile action, and fifty-five percent were due to disease. Of these, sixty percent had malaria or fever of unknown origin.

On 5 October 1966 CAPT Rudolph P. Nadbath relieved CAPT Engle. In January 1967 a record of 626 patients were admitted. Operations in which REPOSE participated included "De Soto", south of Chu Lai, "Prairie II", and "Beacon Hill." It was during these operations that the ship attained a high census of 491 patients, a figure increased to 517 in April. At this juncture SANCTUARY joined REPOSE on the line. Nevertheless, owing to operations "Beau Charger", "Hickory", and "Bear Bite", admissions reached a new high of 950 during May. In July the tragic fire aboard the USS FORRESTAL occasioned the admission by REPOSE of 32 burned patients and 77 dead.

For half of 1967 the two hospital ships alternated between Chu Lai and DaNang; thereafter, Phu Bai and Dong Ha in the Northern I Corps were included in the rotation. The categories of patients admitted remained roughly as before, with battle casualties representing 42%.

CAPT Herbert A. Markowitz relieved CAPT Nadbath on 19 September 1967. The same schedule obtained for the AH's. The TET offensive of May 1968 ensued, the largest enemy attack to date. Hospital admissions for the year reached a peak; the categories by type kept remarkably constant, 42% as the





CAPT R. P. Nadbath, MC USN

result of hostile action. In late summer malaria swelled the patient load.

CAPT Charles K. Holloway assumed command of the Naval Hospital in REPOSE on 7 September 1968. For most of the next year REPOSE and SANCTUARY alternated between DaNang and Northern I Corps at Wunder Beach. Regular yard periods at Subic Bay, P.I., at quarterly intervals had been established. During the year the admission rate climbed slightly, but the number of outpatient consultations rose significantly. Enemy action was brisk along the DMZ in March, and again in May. Fighting in the A Shau Valley was heavy. Another rise in malaria cases occurred in June. A particularly valuable modification in spaces carried out in this period was the enlarging of the Triage area by alterations in the space directly across the passageway, thereby making possible the accommodation of 16 litter patients at once.

CAPT Arthur J. Draper relieved CAPT Holloway on 2 August 1969. The months to follow saw major changes in the redeployment of troops and in the nature of the fighting. The Third Marine Division, longest in Vietnam, departed in November after performing valorously and effectively under extremely



CAPT C. K. Holloway, MC USN

demanding conditions. The Fifth Mechanized Brigade USA and the 1st ARVN Division moved into the Northern I Corps. With the diminution in direct ground assaults the number of battle casualties lessened, but the multiplication of mines and booby traps contributed to admission of very seriously wounded men. The incidence of malaria remained high until October, but dropped off sharply thereafter. With the departure of marines the total admission rate declined, but the number of Vietnamese treated, both military and civilian, rose.

To put flesh on the bones of a bare account, one must cite a few individual cases illustrative of the variety encountered in this theatre. Others have written in civilian professional journals, in the symposia on "War Surgery" held annually by CINCPAC, and in the Navy "Medical Newsletter" of massive trauma, shock, infection, vascular repairs, and complications of malaria. Much has been learned that should be preserved for instruction in future operations. Disorders encountered in civilian life also are seen here: such as motor accidents, gasoline burns, peptic ulcer, appendicitis, thyrotoxicosis, myocardial infarction, tuberculosis, and pneumonia of all descriptions. Sparkling in the midst of all these diagnostic lists, how-



CAPT H. Markowitz, MC USN



CAPT A. J. Draper, MC USN

ever, one encounters the following: peritonitis resulting from over-enthusiastic acupuncture for bellyache; four women scalped from eyebrow to occiput by getting their hair caught in a mechanical fish scaler; removal of a live gas grenade from the thigh of a 12-year-old boy; camptocormia; many bladder, ureteral, and kidney stones in children and teen-agers; hemolysis due to G-6-PD deficiency; agranulocytosis due to dapsone, with complete recovery; acute bacterial endocarditis associated with a subcutaneous abscess; septicemia secondary to prostatic abscess; tropical sprue; dramatic recovery of a woman moribund owing to tracheal obstruction by reticulum cell sarcoma, after hormonal and chemotherapy; poisoning from C-4 ingestion; and severe falciparum malaria and cholecystitis combined with thalassemia in a

young girl. The alert medical officer has had much to reward him!

Each will have his own cache of memories. REPOSE will, like Sir James Barrie's Old Lady, show her medals, Navy Unit Commendation, her campaign ribbons, and battle stars. She will recall her many distinguished visitors, the Secretary of State, the Under-Secretary of the Navy, the Commandant and the Assistant Commandant of the Marine Corps, CINCPAC, 7th Fleet, two Surgeon Generals, Commanding General, III MAF, Commanding General, XXIV Corps; the list is long. She will remember, but not be able to talk about, the thousands of Marines, sailors, and soldiers, and hundreds of civilians in a war-torn land, that she has, in some measure, helped.

PATIENTS BY SERVICE

	FY 67	FY 68	FY 69	FY 70*
TOTAL ADMISSIONS.....	5,985	6,086	6,767	3,549
OUTPATIENTS.....	(7,609)	(8,722)	(11,335)	(6,900)
MARINE CORPS.....	5,590	4,610	4,410	1,865
	(2,168)	(2,639)	(4,053)	(1,683)
ARMY.....	126	1,037	1,002	624
	(73)	(436)	(2,041)	(1,544)
NAVY.....	**	**	601	281
	(5,221)	(5,317)	(4,543)	(2,643)
AIR FORCE.....	24	26	11	5
	(4)	(15)	(10)	(6)
COAST GUARD.....	2	4	3	0
	(16)	(36)	(3)	(0)
OTHERS.....	243	409	740	426
	(127)	(279)	(685)	(393)

*Statistics through February 1970.

**Navy and Marine Corps totals for FY 67 & FY 68 combined.

() Out patients.

PATIENTS BY CATEGORY

	FY 67	FY 68	FY 69	FY 70
TOTAL ADMISSIONS.....	5,985	6,086	6,767	3,549
INJ HOSTILE ACT.....	2,438	2,785	2,177	841
INJ NON HOSTILE ACT.....	674	576	792	496
DISEASE.....	2,983	2,816	3,861	2,212
OUT PATIENTS.....	7,609	8,722	11,335	6,900
HELO LANDINGS.....	3,055	3,080	5,429	3,235

Total helo landings to date: 16,293.

Statistical data for FY 66 not available.

(We are indebted to USS REPOSE and the Hospital Commanding Officer, CAPT Arthur J. Draper, MC USN, for his gracious assistance in providing this fine material.)

ANGEL OF THE ORIENT

A more modern Hospital than that found on board the USS REPOSE would be difficult to achieve. The latest innovations and equipment required for the treatment of the sick and injured have been incorporated into this fine ship. With her crew of 51 male officers, 29 nurses, 32 chief petty officers, and 600 bluejackets, she can handle up to 750 patients with the comfort and efficiency of a modern metropolitan hospital.

USS REPOSE was built by the Sun Shipbuilding and Dry Dock Company at Chester, Pennsylvania, under contract to the United States Maritime Commission. Her keel was laid on 22 October 1943. On 8 August 1944, she was launched as SS MARINE BEAVER, but she was delivered to the Navy prior to completion for conversion to a hospital ship. She was

commissioned USS REPOSE on 26 May 1945. Her sponsor was Mrs. Pauline McIntire, wife of Vice Admiral Ross T. McIntire, Chief of the Bureau of Medicine and Surgery and President Roosevelt's personal physician.

After extensive preparation, she sailed to Cristobal, Canal Zone, entering the Pacific Ocean on 14 July 1945 as an active unit of the Pacific Fleet. On 16 September she stood out from Buckner Bay, Okinawa to ride out a typhoon of such intensity that it sheared off fire plugs on her main deck and bared the metal beneath her paint. It took her crew only a week to repair this damage and she then set course for her next duty station, Shanghai, China. There, as a unit of the Pacific Fleet's Service Squadron 10, she remained from 30 September 1945 until 15 October

1946, with the exception of a week at Tsingtao, China.

After the completion of routine repairs and modernization at San Francisco, REPOSE returned to Tsingtao, China, joining USS BENEVOLENCE (AH-13). Between 1 March 1947 and 29 April 1949, only a two-week availability at Yokosuka, Japan for repairs and nine days in Shanghai, interrupted two years of continuous service at this North China Station.

In April 1949, REPOSE received casualties from HMS LONDON, HMS BLACK SWAN, and HMS AMETHYST, victims of attacks by the Communist Chinese. A plaque commemorating this support was donated to the REPOSE wardroom by HMS LONDON. On 29 April, with 77 British casualties and 118 American evacuees from Shanghai, REPOSE sailed for Hong Kong. After several calls at Chinese, Japanese, Okinawan, and Philippine ports, REPOSE sailed from Subic Bay on 5 July arriving at Long Beach on 27 July 1949.

REPOSE was operated under a civilian crew by the Military Sea Transportation service from 3 September 1949 until 26 August 1950, when she once again resumed her Navy role with a new Navy crew sailing her from Yokosuka, Japan, to Pusan, Korea. She returned to Japan on 27 October 1950 with 189 United Nations casualties on board. At 1112 on 28 October 1950, USS REPOSE was officially returned to commissioned service.

REPOSE arrived at Inchon on 13 November 1950, then to Chinnampo on 19 November, returning to Inchon on 1 December with 752 casualties from Pyongyang. She supported U.S. and U.N. Forces during the destruction of the port of Inchon and the burning of the city by North Korean Forces in early January. Her next mission was in Pohang Dong, to support the First Marine Division. February 18 1951 found her back in Pusan to evacuate 741 U.S. Army casualties to Kobe, Japan. Joined by sister ship USS HAVEN (AH-12), REPOSE celebrated her first year of Korean Service by throwing a party for 500 orphans at Pusan's "Happy Mountain Orphanage."

On 22 January 1953, REPOSE sailed homeward for renovation, repair, and installation of a helicopter landing platform that would greatly facilitate direct evacuation of casualties from the field to the hospital. She returned once again to the Orient, arriving in Inchon on 24 June. This time REPOSE was to share her workload with the Danish hospital ship JUTLANDIA and USS CONSOLATION (AH-15).

On 10 June 1953, USS REPOSE was awarded the Korean Presidential Unit Citation by Admiral M. E.

Murphy, Commander Service Squadron Three. REPOSE remained in Korean waters until 15 January 1954 with only a few brief diversions to evacuate patients and a short respite in Hong Kong. She arrived home on 11 February, served briefly as a pier-side hospital on the west coast, and was decommissioned on 21 December 1954 at Hunter's Point Naval Shipyard.

After ten and one-half years with the reserve fleet at Suisin Bay, California, REPOSE was once again called to active duty. She returned to commissioned service in the U.S. Navy at 1400 on the sixteenth of October 1965, 151 days after call-up. She departed Hunter's Point on 3 January and, after refresher training and upkeep in Pearl Harbor and Subic Bay, she arrived in Chu Lai, Republic of Vietnam, on 14 February 1966.

Vietnam marked the innovation of a new concept of mobile hospital support. In this conflict, REPOSE stationed herself near sites of heaviest actions and took virtually all casualties aboard by helo. She was usually underway and seldom departed the combat zone. Her area of responsibility was the I Corps Tactical Zone from DaNang to the DMZ (17°N). On the 30th of January 1967, she accomplished the 3000th consecutive successful helicopter landing; 29 March marked the 2000th surgical operation in Vietnam.

USS SANCTUARY (AH-17) arrived in April 1967 to share the ever-increasing workload.

On 14 May, REPOSE admitted a record 98 patients in a single day. REPOSE was called from DaNang Harbor on 29 July to give emergency assistance to the USS FORRESTAL (CVA-59) when the latter suffered a major fire while on YANKEE station in the Gulf of Tonkin. REPOSE cared for approximately 30 casualties from this tragic event.

On 19 August 1967, in ceremonies held while on station in Vietnamese waters, REPOSE was presented the Navy Unit Commendation by Rear Admiral N. G. WARD, Commander Service Group THREE, for exceptional service from 22 February 1966 to 8 February 1967.

On 29 August 1967, REPOSE set yet another high by admitting 112 patients in one day. In mid-November REPOSE made her last liberty port visit to Hong Kong; ever-increasing demands for her services made it difficult to gain release for even short upkeep periods. Patient admissions, helicopter landings, and medical treatment in general continued to reach new highs. The increased tempo of operations was reflected by these statistics: the 5,000th helo landing in

early December, the 6,000th on 30 April 1968, and the 7,000th on 22 June. She achieved a new high for patient admissions in a single week, admitting 400 between 26 May and 1 June, and established a new monthly high of 953 (of whom 630 were wounded in action), also in May. The number of surgical operations performed in Vietnamese waters reached 5,000 on 2 August 1968.

REPOSE marked her 14 thousandth safe helo landing in 1969. In spite of the strenuous on the line commitments of 85 days per quarter, a high order of efficiency, service and morale had been achieved. By 1 November 1969, 22,610 patients had been admit-

ted and over 34 thousand patients had been treated on an outpatient basis.

As the Medical Newsletter goes to press in early March 1970, REPOSE continues to serve and provides unlimited medical support to troops in the northernmost sector of South Vietnam, but with reduction of troop strength, it is envisioned that she will be withdrawn from the line and returned to CONUS for deactivation within the near future. The "Angel of the Orient" will surely be recorded in annals of the Navy as an extraordinary ship which served so effectively during a unique period in our history.—Code 15, BUMED.

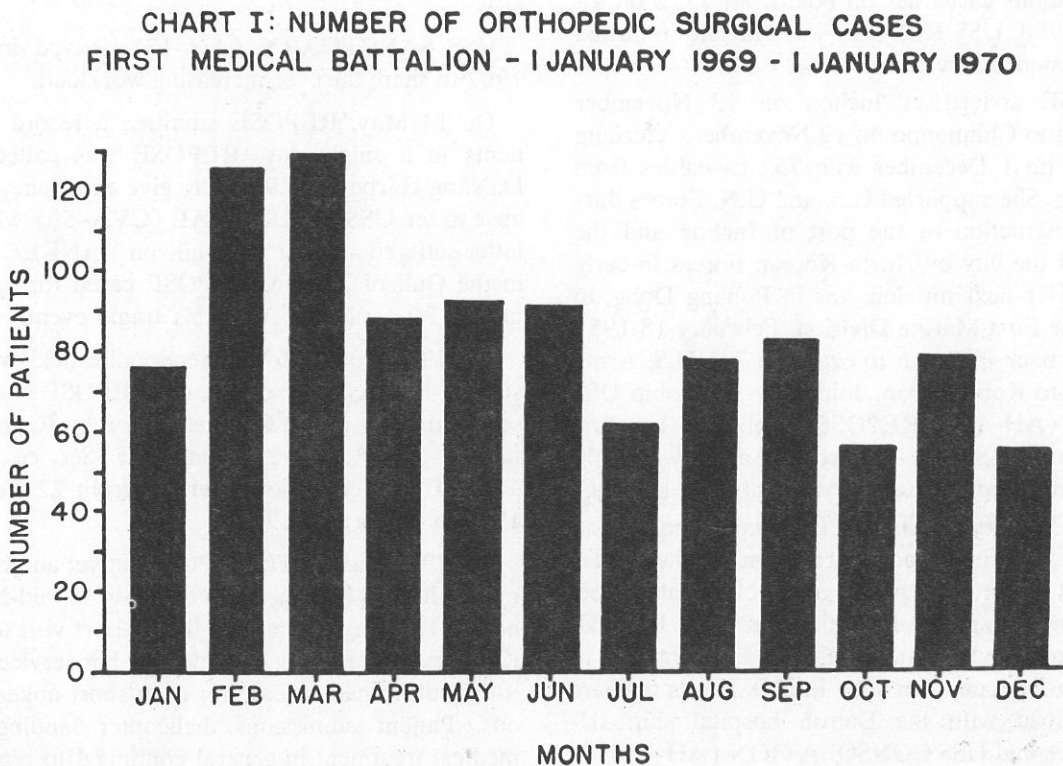
A YEAR'S EXPERIENCE IN ORTHOPEDIC SURGERY AT FIRST MEDICAL BATTALION

By LCDR Gary G. Gregersen, MC USNR, Da Nang, Republic of Vietnam.

Introduction

The surgical, clinic, and ward experience on the orthopedic surgical service at the First Medical Bat-

talion supporting the First Marine Division has been reviewed for the year 1969. Analysis of this experience is presented in the forthcoming discussion.



The majority of patients treated at this institution have been Marines. Other groups of patients included Vietnamese civilians, Republic of Korea Marines, Army of the Republic of Vietnam soldiers, members of the Navy and Army Command as well as American and Korean civilians.

Surgical Experience

Seven hundred and fifty-five Marines have required orthopedic surgical treatment of injuries sustained in I Corps. The period of time covered in this report is from 1 January 1969 through 1 January 1970. Chart I presents the number of cases in which surgery was performed during this one-year period. The total number of surgical cases at any given time period reflected the level of concurrent combat activity; that is, a large number of orthopedic surgical cases presented in February and March which correlated with the enemy's 1969 TET offensive. Subsequently, a fairly constant number of cases have been treated surgically per month.

ORGANIZATIONS	TOTAL NUMBER OF SURGICAL PATIENTS
U.S. MARINE CORPS	755
VIETNAM CIVILIANS	197
R.O.K. MARINE CORPS	156
U.S. NAVY	63
ARVN	62
AMERICAN CIVILIANS	12
U.S. ARMY	3
KOREAN CIVILIANS	2
U.S. AIR FORCE	0
TOTAL	1,250

Table I tabulates the number of orthopedic surgical procedures performed in the various branches of the Armed Forces and civilian personnel in 1969 at our installation. Vietnamese civilians constituted the second largest group of patients followed by Republic of Korea Marines, Army of the Republic of Vietnam soldiers, American and Korean civilians. These figures reflect the supplemental mission of this Battalion, that is, the treatment of acutely injured Vietnamese citizens whose own level of medical care is markedly substandard and lacking in many cases.

Multiple shrapnel wound injuries of extremities have constituted the majority of orthopedic surgical cases. On review of Table II, it can be seen that the lower extremities were involved most often. This finding paralleled the high level of surprise firing device

LOCATION	TOTAL NUMBER OF PATIENTS
FINGERS	32
HANDS	144
ARMS	429
SHOULDERS	33
HIP & PELVIS	21
LEGS	1126
ANKLES	24
FEET	58
TOES	7
TOTAL	1,874

(booby trap) injuries sustained in the First Marine Division's Area of Responsibility. The most common locations of multiple shrapnel wounds in the lower extremities were calves and thighs followed by feet, ankles, hips and pelvic regions. With regard to upper extremity injuries, the arm and forearm were most commonly involved followed by the hand and shoulder locations. Nerve, vessel, and associated massive soft tissue damage have frequently occurred with this type of injury.

Gunshot wounds were second highest in incidence of orthopedic surgically-treated injuries. The distribution of this type of injury is presented in Table III. An almost even distribution between upper and lower extremity involvement has been found in gunshot wounds in contrast to a lower extremity prevalence seen with multiple shrapnel wound injuries.

One hundred and sixty-nine traumatic amputations have been treated at First Medical Battalion during 1969. The most significant of these injuries were the lower extremity amputations. Forty-eight patients sustained above knee (AK) amputations with 16 cases being bilaterally afflicted. Forty-five patients incurred below knee (BK) amputations with 18 cases of bilateral involvement. The majority of these patients arrived in acute hemorrhagic shock requiring immediate treatment in the Admitting and Sorting

LOCATION	NUMBER
FINGERS	23
HANDS	52
ARMS	93
SHOULDERS	17
HIPS & PELVIS	12
LEGS	138
FEET	39
TOES	9
TOTAL	383

Department prior to their definitive surgical procedures. Fourteen to 30 units of whole blood were required to maintain these patients during their pre-surgical, surgical, and postoperative stay at First Medical Battalion. If fresh whole blood was not routinely given after the initial eight to ten units of stored bank blood, significant bleeding tendencies developed. It required from one to three units of whole fresh blood to clinically reduce the hemorrhagic tendencies which developed in this type of patient.

Sixty finger amputees were encountered. Many of these injuries were self-inflicted, either accidental or intentional. Six cases of below-elbow (BE) amputations occurred, and two cases of above-elbow (AE) amputations were treated.

The remainder of the orthopedic surgical cases (238) included incision and drainage (I & D) of abscesses (usually hand involvement), repair of extremity lacerations, human bite injuries, and delayed primary closures of previously treated shrapnel and gunshot wound cases.

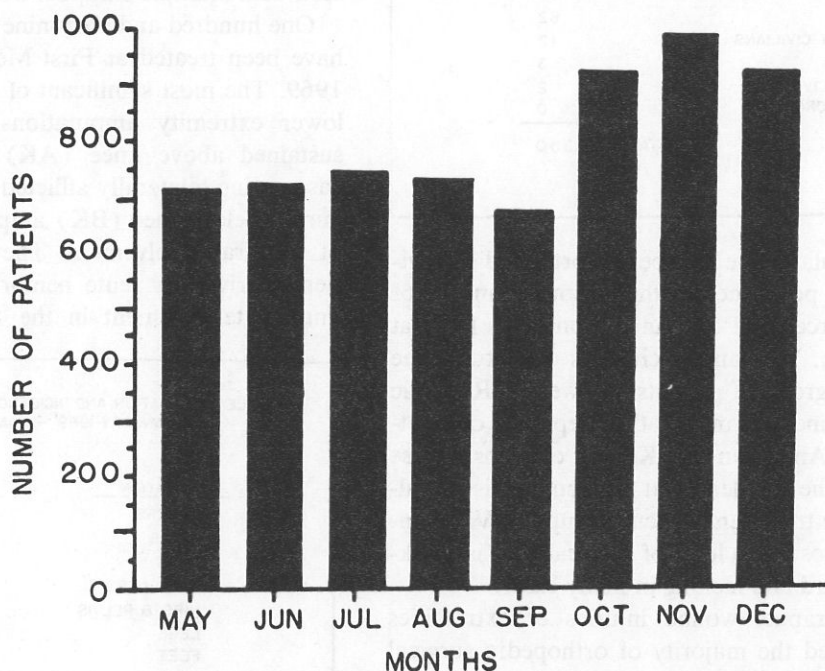
Clinic Experience

A substantial amount of the orthopedic surgical service's time was utilized in the evaluation and treatment of clinic patients. Records of patients seen in the Orthopedic Clinic were available from 1 May 1969 through 1 January 1970. Chart II presents the total number of clinic patients seen per month.

Comparison between the number of clinic and number of surgical cases seen per month at this Battalion revealed an inverse relationship; i.e., the smaller the number of surgical cases treated per month, the larger the number of clinic patients. (See chart III) Two factors were responsible for this inverse relationship. First, during high levels of casualty treatment, minor orthopedic complaints were not medevaced from the field. Second, a new air-conditioned orthopedic clinic was opened in October, 1969.

Chart II reflects the overall number of clinic patients evaluated, admitted, medevaced, and returned to duty. A fifteen-day holding period was the maxi-

CHART II: TOTAL NUMBER ORTHOPEDIC CLINIC CASES AT THE 1ST MEDICAL BATTALION 1 MAY - 1 JANUARY 1970



imum time allowed for patients to be hospitalized at this Battalion. If orthopedic conditions were found that required a longer convalescence than 15 days, these cases were medevaced. The number of cases admitted or medevaced were fairly constant month by month. For the time period under consideration, eight percent of the orthopedic clinic patients were admitted, eight percent medevaced, and 84 percent were returned to duty.

Table V depicts the types of conditions commonly encountered in the orthopedic clinic. Ankle sprains, strains, and fractures constituted the largest number of this group, followed by low back derangements, knee, hand and wrist injuries, and flat feet complaints. It was interesting to note the consistent num-

ber of these various conditions that presented to the clinic each month.

Table VI reflects the disposition of clinic patients. Seventeen percent of patients who entered the clinic with knee, ankle, shoulder, elbow, or low back complaints were either admitted to the ward or medevaced at the time of the initial examination. A slightly greater loss from duty of patients with hand and wrist injuries was noted.

Ward Experience

A total of 1102 orthopedic patients have been hospitalized at First Medical Battalion during 1969. Chart IV graphically represents the number of patients that were admitted per month and their disposition following hospitalization. A relatively higher percentage of hospitalized patients were medevaced during high risk periods (February, March, and April) in contrast to recent months when the majority of patients admitted were returned to a duty status. On summarizing the entire year's disposition of hospitalized cases, it was found that 52 percent of cases were medevaced and 48 percent were returned to duty.

Tables VII, VIII, IX, X, and XI reveal the number of days of hospitalization required for the various conditions which were admitted to the wards. The majority of conditions diagnosed as "sprains", as well as minor shrapnel wounds and cellulitis cases, were routinely returned to duty after an appropriate period of hospitalization. The majority of patients with gunshot wounds and fractures (other than toe, finger, and hand) were medevaced because the anticipated length of convalescence precluded retention of such patients in the combat zone.

Summary

A year's experience in orthopedic surgery at the First Medical Battalion supporting the First Marine Division has been presented. Three topics have been discussed. First, a summary of all orthopedic surgical cases was considered with special attention given to the incidence of cases per month as well as the type of operative cases presented.

By far, the most common type of injury encountered was that of multiple shrapnel wounds. Surprise firing devices accounted for a high number of these cases.

Next in incidence was the category of gunshot wounds. On analyzing these cases, an approximately equal number of injuries occurring in the upper and lower extremities was noted. This was in contrast to multiple shrapnel wound injuries in which the lower extremities were more frequently involved.

Traumatic amputations comprise the third most

TABLE IV: LOCATION AND INCIDENCE OF AMPUTATIONS
1 JANUARY 1969 - 1 JANUARY 1970

LOCATION	NUMBER
TOE	8
BELOW KNEE	45 (18 BILATERAL)
ABOVE KNEE	48 (16 BILATERAL)
FINGER	60
BELOW ELBOW	6
ABOVE ELBOW	2
TOTAL	169

TABLE V: CLINIC CASES, TYPE AND INCIDENCE
1 MAY 1969 - 1 JANUARY 1970

CONDITION	NUMBER	PERCENT OF TOTAL
LBP	1070	17 %
ANKLE	1784	28
KNEE	1043	16
FLAT FEET	894	14
HAND, WRIST	996	16
ELBOW	135	2
SHOULDER	234	4
MISC.	235	4
TOTAL	6391	

TABLE VI: DISPOSITION OF CLINIC PATIENTS
1 MAY 1969 - 1 JANUARY 1970

CONDITION	PERCENT ADMITTED	PERCENT EVACUATED	PERCENT RETURNED TO DUTY
LBP	10 %	7 %	83 %
ANKLE	11	7	83
KNEE	7	10	83
FLAT FEET	0	< 1	> 99
HAND, WRIST	9	12	79
ELBOW	3	8	89
SHOULDER	2	13	85
MISC.	12	14	74
TOTAL	8%	8%	84%

CHART III: COMPARISON BETWEEN SURGICAL AND CLINIC CASES SEEN AT FIRST MEDICAL BATTALION

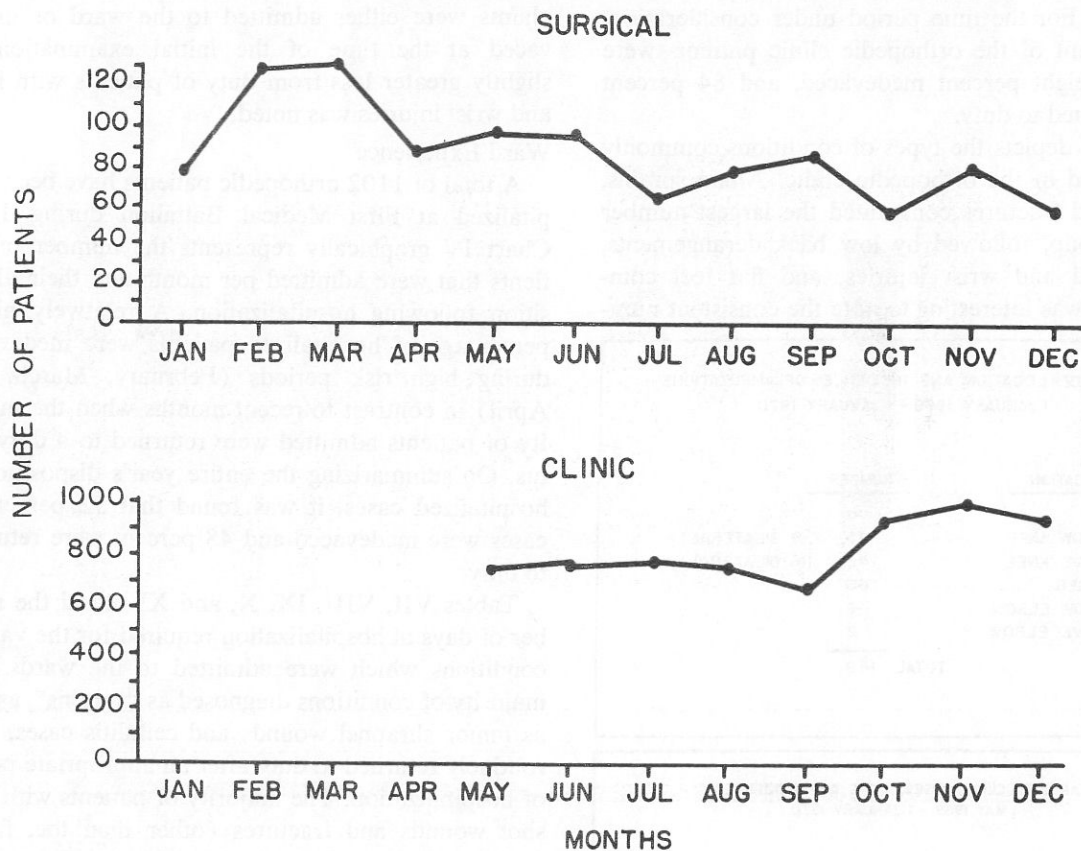


TABLE VII: STRAINS

LOCATION	NUMBER OF DAYS HOSPITALIZED
LBP	6 - 10
ANKLE	4 - 6
KNEE	4 - 8
SHOULDER	10 - 11

commonly encountered surgical condition treated at our institution by the orthopedic department. These were the most serious cases in terms of hemorrhagic shock and major tissue trauma. Out of 169 amputees, 48 suffered AK amputations, 16 bilateral, and 45 sustained BK amputations with 18 of the latter type bilateral.

TABLE VIII: SHRAPNEL WOUNDS

LOCATION	NUMBER OF DAYS HOSPITALIZED
FINGERS	6 - 8
HANDS	6 - 8
ARM	5 - 7
LEG	6
FOOT	9 - 13
TOES	6 - 8

Second, the orthopedic clinic experience has been considered from 1 May 1969 through 1 January 1970. In this presentation, the incidence of commonly encountered complaints, their evaluation and disposition, were outlined. Of all cases seen in the orthopedic clinic, eight percent were admitted, eight

CHART IV
ORTHOPEDIC WARD EXPERIENCE
FIRST MEDICAL BATTALION - 1 JANUARY 1969 - 1 JANUARY 1970

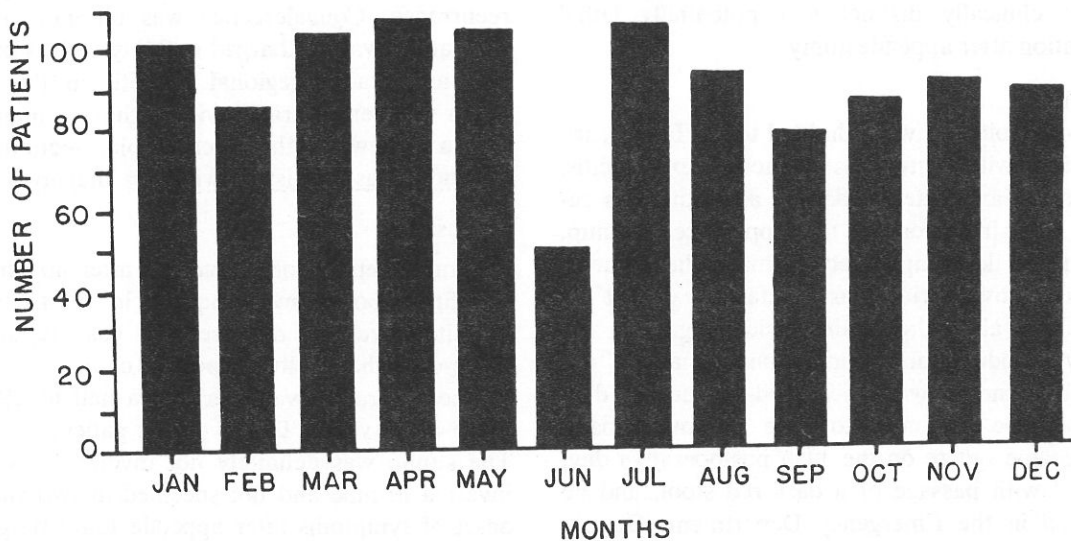


TABLE IX: FRACTURES

LOCATION	DISPOSITION
ANKLE	8-10 DAYS & MEDIVAC
TOES	2-4 DAYS
FINGERS	3-5 DAYS
ARM	MEDIVAC
ELBOW	
BACK	
PELVIS	
TIB.-FIB.	
PATELLA	

↓

TABLE XI: LACERATIONS

LOCATION	NUMBER OF DAYS HOSPITALIZED
FINGERS	6 - 7
HAND	2 - 5
ARM	4 - 6
FOOT	7 - 9
LEG	6 - 8

TABLE X: CELLULITIS

LOCATION	NUMBER OF DAYS HOSPITALIZED
FINGERS	6 - 7
HAND	8 - 9
ARM	8 - 9
LEG	5 - 8
KNEE	6 - 9
FEET	8 - 9
TOES	9 - 11

Third, cases admitted to the orthopedic ward for 1969 have been analyzed with regard to monthly incidence of various conditions, range of time spent in the hospital, and ultimate disposition. A high incidence of medical evacuation of hospitalized patients during periods of high risk and increased casualties was demonstrated in contrast to periods of lull where most patients were returned to duty.

The experience in orthopedic surgery gained at the First Medical Battalion has certainly been unique, and it is hoped that the foregoing discussion will be of interest to those who have not had an opportunity to evaluate and treat casualties of this type in our particular setting.

percent medevaced, and 84 percent were returned to duty.

CECOCOLIC INTUSSUSCEPTION—A POSTOPERATIVE COMPLICATION OF APPENDECTOMY*

Kenneth S. Danielson, MD, New Eng J Med 280(1):35-36, January 2, 1969.

The removal of the nonperforated appendix has been associated with a low mortality and morbidity in recent years. The present report focuses on a rare but clinically distinct and potentially lethal complication after appendectomy.

Case Report

A 19-year-old boy was admitted to the Emergency Department with symptoms of acute appendicitis. At operation an acutely inflamed appendix was removed, with inversion of the appendiceal stump. The terminal ileum appeared normal. The immediate postoperative period was satisfactory except for mild crampy abdominal pain, which began on the 4th day. Abdominal examination remained unremarkable, and he was discharged on the 7th day.

At home he continued to have abdominal pain, which became severe on the 11th postoperative day, associated with passage of a dark-red stool, and he reappeared in the Emergency Department. On examination he was afebrile; the abdomen was soft, with tenderness in the epigastrium. No masses were palpable. The bowel sounds were hyperactive and became high pitched during an exacerbation of the pain. Rectal examination was unremarkable except for a "tarry" guaiac-positive stool. The hematocrit was 45 percent, and the white-cell count 13,000, with 62-percent segmented neutrophils and 7 percent band forms.

Barium-enema study demonstrated a filling defect in the cecum consistent with the recent appendectomy. However, on the postevacuation film, a "coil-spring" effect was demonstrated in the hepatic flexure. After the barium enema the pain was remarkably relieved, but it returned in approximately 12 hours. Repeat X-ray examination of the abdomen demonstrated a probable intussusception of the ascending colon outlined by residual barium.

At re-exploration an intussusception of the cecum and terminal ileum into the ascending colon to the hepatic flexure was found and reduced with ease. It became evident that the lead point was the edematous inverted appendiceal stump and indurated cecum, which was very mobile. The ileum never

passed through the ileocecal valve. The ileum proximal to the ileocecal valve was anchored to the medial border of the ascending colon to help prevent recurrence. Convalescence was unremarkable, and the patient was discharged in 7 days. (It is of interest that an area of regional enteritis in the terminal ileum was demonstrated with barium 2 months later, and a review of the microscopical sections of the appendix was consistent with this diagnosis.)

Discussion

Intussusception of the cecum after appendectomy was first reported by Rouquette in 1914. Review of the literature has disclosed 11 case reports. This represents the twelfth reported case.

The age range was four and a half to 29, with a mean of 15 years. Ten of the 12 patients were male. The stump was definitely not inverted in one case, inverted in nine and not specified in two cases. The onset of symptoms after appendectomy ranged from three to 17 days, with a mean of seven days, and the duration of symptoms before operation ranged from less than one day to 11 days, with a mean of five days. Eighty-two percent of patients had bowel movements after the onset of symptoms, and 67 percent of these stools contained gross blood. Temperatures, white-cell counts and the presence or absence of mucus in the stool were not consistently reported.

At exploration, the description of the intussusception was similar in all cases, incriminating the base of the cecum as the lead point. In the cases in which the surgical procedure was described, five ileocolic resections, three reductions, and one reduction with excision of the cecal mass were performed. Excessive mobility of the cecum was noted in 42 percent of the cases. There was one death.

The complication occurs relatively early in the postoperative period and tends to follow a subacute course, with the bowels continuing to move in many cases. As would be expected, blood in the stool was often found. Factors contributing to the intussusception appear to be thickening of the cecal wall and mobility of the cecum, which can move to accept the advancing intussusceptum. In the present case, regional enteritis may have been involved.

(The figures and references may be seen in the original article.)

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THE GASTROENTEROLOGIST CORNER— USE OF CORTICOSTEROIDS IN LIVER DISEASE

By CDR Donald O. Castell MC USN.*

Corticosteroids have been widely used in the treatment of patients with various forms of liver disease. In spite of this wide experience, opinions concerning the indications and effectiveness of such agents in patients with liver disease vary markedly. It would seem that the addition of steroids to the therapy of patients with poor liver function often arises out of frustration of physicians caring for these very ill patients. Recent medical literature has contained a few reports which are particularly pertinent to this facet of treatment. In the present monograph I shall review these recent reports in order to formulate a rational approach to the use of steroids in treatment of liver disease.

The Steroid "Whitewash"

It has been commonly observed that most patients with various hepatocellular diseases show a dramatic fall in serum bilirubin levels and clearing of clinical jaundice following onset of steroid therapy. Although the exact mechanism of this response is not clear, there is evidence to indicate that bile flow is increased during steroid administration. In addition, less dramatic improvement in serum transaminase levels is often seen. This phenomenon has been labeled the steroid "whitewash", because although it tends to "improve the morale of both patient and physician", there is no convincing evidence that steroids aid healing or in fact change the overall prognosis in most types of liver disease.¹ In addition, most physicians recognize a frequent occurrence of clinical and laboratory relapse following withdrawal of steroids in such patients.

The influence of steroids on serum bilirubin in patients with hepatocellular disease has resulted in the recommendation that a short course of steroids may be useful as a differential test in defining the etiology of jaundice. Since a fall in serum bilirubin is unlikely to occur in the patient with extrahepatic obstruction, the effect of steroids has been advocated to distinguish hepatocellular from obstructive jaundice.² Unfortunately there is much variation in response to this test which would seem to make it unreliable as a diagnostic indicator in individual cases.³

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Acute Hepatitis

Although most authorities seem to agree on the relative lack of indication for steroid therapy in uncomplicated acute viral hepatitis, objective support for this opinion has been less than satisfactory. However, recently a report by Blum et al from Zurich has shed considerable light on this question.⁴ The authors reviewed the records of 457 patients with hepatitis admitted to two hospitals in Zurich. By convention prednisone, 30–60 mgm daily, was routinely used in one hospital, while steroids were not employed in the other. This "fortuitously controlled study" allowed comparison of the course of the disease between patients from the two hospitals. There was no effect of steroid treatment on duration of disease, overall mortality, or the incidence of subjective symptoms following the acute illness. As noted by previous authors, there was more rapid clearing in serum bilirubin and serum transaminases in the steroid-treated group. However, a definite increased rate of relapse, and a small (3%), but significant, incidence of death from peptic ulcer hemorrhage occurred in the steroid group. In a follow-up study of from one to seven years, these same authors were able to detect no difference in the incidence of chronic liver disease or subjective symptomatology between the steroid and non-steroid treated patients.⁵

On the basis of the above observations, there would seem to be no indication for the use of steroids in patients with uncomplicated acute viral hepatitis. The question of fulminating hepatitis will be discussed below.

Before leaving acute hepatitis, it would seem appropriate to turn to a consideration of treatment in general. The questions of diet and physical activity often are raised when treating the patient with acute hepatitis. The classical study in this area is the carefully controlled evaluation performed by Chalmers et al during the Korean War.⁶ In this study patients were randomly assigned into various treatment groups, in which diet and physical activity were controlled. Patients placed on a "forced diet" (minimum of 3000 calories and 150 gm protein) had a significantly shorter duration of illness than patients allowed to select their food intake freely. As far as bed

rest and activity were concerned, the authors found no advantage in strict bed rest as opposed to permissive activity as desired. In fact, the patients having liberal physical activity actually had a shorter duration of disease. An interesting recent consideration of the question of bed rest in treatment of acute hepatitis, would indicate that even "early, vigorous exercise" has no adverse effect on the course of acute hepatitis.⁷

Chronic Hepatitis

This classification is quite broad and can include a variety of diseases of known or uncertain etiology. I like to use the term "chronic active hepatitis", and personally define this entity as persistent, progressive, non-alcoholic, hepatocellular disease. In clinical practice it is clear that a high percentage of such patients give no history of a preceding episode of acute hepatitis. In addition, in its later stages, this entity can become essentially indistinguishable clinically and pathologically from cirrhosis associated with excess alcohol intake.

It is in the treatment of chronic active hepatitis that steroids have received most wide usage in hepatic disease. This most likely results from many theories which regard the disease as an auto-immunization phenomenon.⁸ There is general agreement that steroids will usually produce dramatic clinical improvement in these patients. Not only do they feel better, but there is usually a decrease in serum bilirubin (the "whitewash" phenomenon) and often in transaminases. Such observations must be tempered by the fact that there is no convincing evidence to date that steroids are curative or prolong life in chronic hepatitis. Thus, the clinician must arrive at a decision whether or not to use steroids in these patients by balancing the subjective improvement and illusory laboratory remission against the potential side effects of chronic corticosteroid administration. It would seem reasonable to state, however, that few physicians withhold steroids in the ill patient with chronic hepatitis.

Because of the proposed immunologic nature of this disease, other immuno-suppressive agents have been employed, including 6-mercaptopurine and Imuran. There are some fairly convincing reports of clinical remission in chronic hepatitis with insufficient doses of these drugs to cause bone marrow depression.^{9,10} I have personally obtained good results with Imuran employing a dose of 50-100mgm daily.

Cirrhosis

There seems to be general agreement that steroids have little or no place in the treatment of hepatic cirrhosis, although one in frustration is often tempted to employ these agents when confronted by a progressive down-hill course. A recent excellent controlled study from Copenhagen has emphasized the ineffectiveness of steroids in cirrhotic patients.¹¹ A four-year follow-up of 169 prednisone-treated cirrhotics and 165 control cirrhotics revealed identical survival curves for the two groups.

Fulminating Hepatitis

Fortunately, less than 1% of patients with acute viral hepatitis will have a fulminating form of the disease tending to progress rapidly into coma, and usually ending fatally. The two clinical findings which seem most useful in the early detection of this severe development are a decreasing liver size as determined by careful percussion¹² and prolongation of the prothrombin time. Most physicians do not hesitate to use steroids as soon as this diagnosis is suspected. There are many reports of individual cases or groups of cases in which the use of steroids may have contributed to survival in a fulminating hepatitis.¹³ However, it is important to recognize that some authorities feel that steroids are not indicated in these patients, and that to date there have been no controlled clinical trials upon which to base a firm answer to this problem.

In the recent literature there have been scattered reports of patients with fulminating hepatitis surviving deep coma after exchange transfusion.¹⁴ During the past three years the National Hepatitis Surveillance Study has accumulated information on all cases of fulminating hepatitis throughout this country. Presented at the annual meeting of the American Association for the Study of Liver Diseases in November, 1969 a report of that study revealed the following data. With a grand total of over 300 cases now included in this study, the overall survival rate is a grim 10%. For those patients where exchange transfusion has been used, the survival rate is 20%. These facts not only emphasize the grave prognosis in this condition, but also suggest that exchange transfusion should be strongly considered for treatment of these patients.

Conclusion and the "S.A.S.H." Phenomenon

As a concluding remark I should like to add a note of skepticism applicable to the practice of medicine in general. It is important to bear in mind that clini-

cal improvement occurring in association with any form of therapy does not necessarily indicate a cause-and-effect relationship, but might just as likely reflect a fortuitous occurrence. This concept applies fully to the use of steroids in patients with hepatic disease, and has been described well by Dr. Harold Conn. He refers to jaundiced patients for whom steroid therapy was seriously considered, but for one reason or another, *not* afforded at that time. In occasional cases the serum bilirubin decreased markedly and the patient improved clinically following this contemplated steroid use. Dr. Conn has used the term "S.A.S.H." (Steroids Almost Started Here) to describe this phenomenon, emphasizing the caution which should be exercised in drawing conclusions based upon individual clinical responses to therapy.¹⁵

From the foregoing, it is apparent that only two forms of liver disease exist in which steroids may be beneficial, as long-term therapy in chronic active hepatitis, and as a short-course, high-dose regimen in cases of fulminating hepatitis. There is no apparent rational basis for the use of steroids in uncomplicated cases of viral hepatitis or in alcoholic cirrhosis.

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THE POTENTIALLY SUICIDAL PATIENT DETECTION AND MANAGEMENT IN OFFICE PRACTICE

Donald H. Naftulin, MD, Los Angeles, Calif Med 111(3): 169-176, September 1969.

In the United States today suicide is the tenth major cause of death. Each year about 20,000 people kill themselves. The actual rate, including victims who conceal a suicidal death or self-inflict death "by accident," may approach 50,000. About 60 percent of suicides have history of previous attempts and 10

percent of those who attempt suicide and survive kill themselves later. It is estimated that for every person who kills himself there are at least ten others who attempt and fail. About half of all who kill themselves see a physician sometime during the month before. And most physicians see about six potentially suicidal patients each year, but rarely is the chief complaint elicited during the office visit, "I'm thinking of killing myself."

The signs of potential suicide are unfortunately very "soft". Even if they are aware of the signs, few

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busy clinicians view potential suicide as a killer to be ruled out in their long list of differential diagnoses. Yet tuberculosis, the twentieth greatest killer in this country, and twelfth worldwide, is frequently considered in differentiation. How can the physician, faced with imposing statistics that convey the waste of human resources through suicide, better detect and manage the suicidal patient in office practice?

Suicidologists have devised a sophisticated Suicide Potential Rating Scale (SPRS) which provides a degree of reliability in assessing the suicidal potential of a given patient.* The depression scale of the Minnesota Multiphasic Personality Inventory (MMPI) is thought by some to provide the physician with an index of suspicion about the suicidal potential of some patients.† Although both the SPRS and the MMPI are instruments of value, they are used primarily by psychologists and psychiatrists or by physicians who have greater than usual interest in establishing a laboratory-like basis for treating the emotional aspects of illness. In other words, the busy clinician would use neither instrument frequently enough to warrant training in the use of the scales. As computerized record-keeping and information retrieval systems become more readily available to groups of individual physicians, these instruments or their refinements will be of immense value.

The MMPI is currently computerized for immediate use.‡ But until more physicians are ready to supplement clinical skill with computer-processed information, most of us will continue to assess suicidal risk wholly by means of clinical interview. To do this well, we must become acquainted with the varieties of suicidal behavior of individual patients.

This requires developing a little more patience than we often have, mastering more anxiety than we are often aware of, and, most important, believing that our responsibility in delaying death is not limited to diseases amenable to treatment by drugs and instruments. We need more patience because uncovering and evaluating suicidal thoughts can be a slow and circuitous process. We need to master our own anxiety because we physicians are not often comfortable with situations that challenge our effectiveness outside of our conventional roles. And we need take more responsibility because those of us who view suicide as a problem of theology, philosophy or personal conscience and not medicine, will probably

* Suicide Prevention Center Assessment of Suicidal Potentiality Form. Suicide Prevention Center, 2521 W. Pico Boulevard, Los Angeles, California 90061.

† Minnesota Multiphasic Personality Inventory. Psychological Corporation, 304 East 45th Street, New York, New York 10017.

‡ Roche Computerized Form of MMPI, Roche Psychiatric Service Institute, Box 170, Newark New Jersey 07101.

convey such a view to the patient who seeks help. The physician aware of these requirements can do much to detect and manage a potentially suicidal patient.

The Potentially Suicidal Patient

The New Patient

When any patient appears for the first time in a physician's office for routine examination or with a myriad of vague complaints, the medical work-up should include an assessment of how the patient has dealt with stress in the past. This does not have to be done on the first visit, but if the physician's concern is aroused by factors which we will soon discuss, it is better to make the assessment as early as possible. For example, if after loss of a job, loss of a loved one, or loss of self-esteem, the patient's mourning, despair or apathy persisted with little relief for longer than six to twelve weeks, the physician should re-explore the vague somatic complaints elicited in the patient's description of his present illness or in the systems review. If anxiety, weight loss, insomnia, fatigue, social withdrawal, and waning interest lingered long after the loss, the physician should determine whether this is characteristic of the patient's reaction to stress or whether it represents a newly emerging pattern of behavior.

Characteristic Reaction to Stress

If the physician infers that the behavior is of an old established pattern with this particular patient, he should tactfully explore past suicidal potential by honestly asking the patient how he overcame the specific stresses and whether he continues to dwell over them now. If the patient appears more uncomfortable at this point, the physician can gently, but matter-of-factly, confront the patient with his seeming discomfort. This confrontation may demonstrate to the patient that the physician can understand and discuss such discomfort.

If the patient denies past conflict or current discomfort, the physician can honestly state that as part of a thorough medical evaluation he wishes to know if the patient ever thought about suicide. Asking him does not plant the seeds of suicidal thoughts. In most cases, the character of the response will allow the physician to determine its sincerity. If the patient's response is of genuine surprise or disbelief (accompanied with an "of course not!"), the index of suspicion is more often than not minimal, and the astute clinician can feel somewhat safer about this person's future suicidal risk. If the reaction is tenuous,

guarded, with a change in voice, accompanied by an "I've never had the guts" response, the doctor's suspicion is obviously greater. It must be borne in mind, however, that with few exceptions a patient will relate quite honestly more profound suicidal feelings once the physician emphatically lets him know that they can be discussed. At this point some of the specific incidents in the patient's past might be discussed along with the suicidal ideas and feelings that accompanied those events.

If the patient is found to have a past history of suicide attempts, the risk-related factors in suicides reflected in data reported by Tuckman and Youngman (Table 1) are of special value. This may help the physician assess high- and low-risk-related factors in his patient's history and clinical evaluation.

When it is apparent that a patient has considered suicide in the past, the following six areas of assessing future suicidal potential should be explored with him:

1. The frequency and extent of suicidal ideas.
2. The considered means of suicide accompanying the ideas.
3. The feelings associated with the means of suicide.

4. The available means by which the idea can be acted upon.

5. The feelings of suicide accompanying ordinary acts of everyday life.

6. The ability to project how loved ones would be affected by the patient's death.

The Frequency and Extent of Suicidal Ideas

If the patient relates a series of stressful situations, most of which were accompanied by frequent suicidal thoughts, recurring many evenings when he retired and persisting when he awoke most mornings, the physician should be more alert to the potential risk of suicide.

The Considered Means of Suicide Accompanying the Ideas

On the basis of the patient's extensive past suicidal thoughts, the physician should explore the means of suicide that the patient considered. This should be done by simply asking him, "How did you think of doing it?" This is particularly important if the patient has a family history of suicide or is profoundly depressed; if he is an alcoholic; if he is a male, white, divorced, young, or over 65; if he is Protestant, un-

TABLE 1.—*Suicide Rate Per 1,000 Population Among 3,800 Suicides, by High- and Low-Risk Categories of Risk-Related Factors (reported by Tuckman and Youngman)*

Factor	High-Risk Category	Suicide Rate	Low-Risk Category	Suicide Rate
Age.....	45 yrs. and older.....	24.0	Under 45 yrs. of age.....	9.4
Sex.....	Male.....	19.9	Female.....	9.2
Race.....	White.....	14.3	Nonwhite.....	8.7
Marital status.....	Separated, divorced, widowed.....	12.5	Single, married.....	8.6
Living arrangements.....	Alone.....	48.4	With others.....	10.1
Employment status*.....	Unemployed, retired.....	16.8	Employed†.....	14.3
Physical health.....	Poor (acute or chronic condition in the six month period preceding the attempt).....	14.0	Good†.....	12.4
Mental condition.....	Nervous or mental disorder, mood or behavioral symptoms including alcoholism.....	19.1	Presumably normal, including brief situational reactions†.....	7.2
Medical care (within 6 months).....	Yes.....	16.4	No†.....	10.8
Method.....	Hanging, firearms, jumping, drowning.....	28.4	Cutting or piercing, gas or carbon monoxide, poison, combination of other methods, other.....	12.0
Season.....	Warm months (April-September).....	14.2	Cold months (October-March).....	10.9
Time of day.....	6:00 A.M. to 5:59 P.M.....	15.1	6:00 P.M. to 5:59 A.M.....	10.5
Where attempt was made.....	Own or someone else's home.....	14.3	Other type premises, out-of-doors....	11.9
Time interval between attempt and discovery.....	Almost immediately, reported by person making attempt.....	10.9	Later.....	7.2
Intent to kill (self-report).....	No†.....	14.5	Yes.....	8.5
Suicide Note.....	Yes.....	16.7	No†.....	12.3
Previous attempt or threat.....	Yes.....	25.2	No†.....	11.0

*Does not include housewives and students.

†Includes cases for which information on this factor was not given in the police report.

employed, poor and if he has a chronic, long-standing but not necessarily disabling or debilitating disease. In other words, the physician's index of suspicion about a potential suicide increases as known factors of increasing suicidal risk accumulate in the patient's life history. The potential is greater (with qualified exceptions) if the patient replies, "With a gun," than if he says he had considered pills or poison. Usually the suicidal potential can be considered greater if the fantasy of suicide was bizarre or violent.

The Feelings Associated With the Means of Suicide

If the patient relates particular means by which he thought of killing himself, the physician should explore the feelings accompanying those past thoughts. If the patient speaks of having been relieved by ideas of death rather than frightened or awed by them, the potential is again great. If he discloses having had overwhelming feelings or urges to use the gun or take the pills, and of willfully fighting these feelings to avoid actually obtaining the means, the potential is great. If he does not spontaneously discuss such items, the physician should ask, "Were you relieved or frightened at the thought of using the gun on yourself at those times? How intense were the feelings of wanting to use it? Did you have to literally leave what you were doing and do something else to avoid the feelings and thoughts?" If any of these questions are answered "Yes," the patient's suicidal potential is greater than usual. Since most formerly suicidally contemplative people rarely forget the profound intensity of such feelings, an "I don't remember" answer should be viewed with suspicion. If the questions are readily negated by the patient, the suicidal potential is lessened.

The Available Means by Which The Idea Can be Acted Upon

Clinically evaluating potential risk can be aided by an exploration of what actual means are readily available to the patient to carry out his suicidal thoughts. If in his suicidal fantasy a gunsmith elaborates upon the kind of shot, the size of the bore and the position of the gun, the past risk and the potential are obviously serious. If a ruminative physician-patient with a drinking problem scoffs at the idea of an overdose of meprobamate because it would not do the job, but has had to avoid carrying vials of sodium luminal in his bag because of the synergistic activity of barbiturates and alcohol, one has reason to consider him a high risk patient. If a housewife's recurrent fantasy was of taking the 30 tablets or capsules of a

sedative she had actually hidden under the mattress, one becomes concerned. Generally speaking, the risk of potential suicide increases to the extent to which the fantasied route of suicide is actually available in the patient's environment.

Feelings of Suicide Accompanying Ordinary Acts of Everyday Life

If the patient has been using a particular freeway exit for years, and, following a stressful event, entertained recurrent thoughts and desires to speed into the abutment, the risk is great. If a patient who for years had bathed while listening to a radio on a shelf above the bathtub, has recurrent urges to nudge the radio off the shelf, his potential for suicide is very great. If a housewife is increasingly preoccupied with placing her head in a gas oven which she had used for years without such thoughts, her suicidal potential is increased. In this area of assessment, one must be careful not to confuse the obsessional patient with the one whose feelings accompany the thoughts of suicide. It is the latter category that represents high risk. The obsessive patient, who may usually be recognized by his fastidiousness, may have recurrent thoughts of suicide or violence, but they are not usually accompanied by intense feelings. When such feelings accompany the thoughts, the compulsion to act can become more overwhelming and decidedly increase suicidal risk.

The Ability to Project How Loved Ones Would Be Affected by the Patient's Death

It is important that the physician determine whether the patient has considered what his death would solve, how his loved ones would be affected, and who would carry on in his absence. If such considerations are strong deterrents, the patient's chances are good for overcoming suicidal feelings should they occur. Often the patient's need for immediate relief from the suicidal crisis obscures his ability to consider the welfare of those who would be affected by his death.

When dealing with the currently suicidal patient, it is extremely important to stress this particular area of investigation. If he truly believes others would be significantly better off without him, that economic insecurity will be relieved by the benefits his death may provide and that his death solves a current stress, the potential suicidal risk is great.

Changing Reactions to Stress in a Patient Familiar to the Physician

The same criteria for suicidal potential apply to the person who is considering suicide for the first

time. In most instances, the potential is less since it has not been a characteristic pattern of reacting to stress. However, the patient's current emotional resources, the effectiveness of past means of coping with stress, and the frequency of factors increasing suicidal risk must be carefully evaluated. The physician cannot dismiss a patient whom he has known for many years and who he thinks is "stable," with a reassuring comment such as "I know you would never kill yourself." The same exploration of the extent and frequency of suicidal fantasies, fantasied means, intensity of feelings, available means, and the feelings accompanying everyday acts must be undertaken. Of special leverage to the physician in dealing with a patient he has known many years is the rapport of a long-term relationship, the knowledge of the patient's past effectiveness in handling stress, and the relationship of the patient to his family and job. An exploration of these areas very early, at the first signs of behavioral change, will be of far more benefit than the medication prescribed for vague somatic complaints with little organic basis.

Most physicians feel that an early assessment of suicidal potential will frighten the patient, cause him to view the medical interview as a "psychiatric" one, and to interpret the implications of the physician's concern as an intrusion. Nothing could be further from the feelings of someone who is weighing suicide as a solution to conflict. The ambivalent suicide-prone patient is immensely relieved to know that someone is available with whom to discuss the conflict. And the need to discuss it may be the overriding motivation behind the patient's office visit. This is not to suggest that the physician ask every patient during a routine examination whether he is currently or has in the past contemplated suicide, but only those whose life styles or current conflicts, considered with the clinical manifestations, indicate more exaggerated reactions to stress.

The Currently Suicidal Patient

Once the physician's suspicion is aroused, confirmed by the explanation of the patient's suicidal fantasies, and ambivalently acknowledged by a more relieved patient, the physician must determine where the patient fits among the following types of suicidal behavior:

1. Transient ideas of death.
2. Sustained ideas and recurrent wishes of death.
4. Frustrated feelings and impulsive behavior.
4. The court of last resort.
5. The logical decision to die.

Transient Ideas of Death

This is the behavior characterized in Tom Sawyer's watching his own funeral. He mourns for himself and relishes the loss suffered by those who love him. This is a "they'll love me when I'm gone" type of fantasy experienced at some time by all of us and rarely indicative of significant suicidal risk. But in an emotionally unstable person the frequency of the transient death fantasy along with previously noted high-risk factors should increase the physician's suspicion. And if the patient is an adolescent, the frequency is of special concern. Suicide is the third greatest cause of death among teen-agers. Teen-agers, like Tom Sawyer, are susceptible to transient ideas of death. And although few adults believe it after reading today's headlines, youngsters in an adult world have rather limited means of coping with loss or disappointment.

Sustained Ideas and Recurrent Wishes of Death

This is the type of behavior which may be established some time after the patient experiences increasing transient fantasies of death. The development of this pattern can be better understood by likening it to evoking the pain for a toothache by pressing one's tongue against the tooth. The very act which induces pain seems to relieve or master the anxiety of pain by continually calling it into play. The act, tongue against tooth, can be viewed as a habit or characteristic style learned by the patient to cope with recurrent anxiety, that finds a parallel in the patient who moves from the transient death fantasy to the more sustained idea and recurrent wish of death. He has developed, one may say, a painful habit that permits him to relieve or master an anxiety of actual or anticipated stressful situations. The patient may shift back and forth from this behavioral type to the preceding one. And he can manipulate, often unwittingly, his environment or significant people in it by communicating his suicidal preoccupation. Here may be the patient who threatens suicide in a "non-serious" manner. But one cannot predict low-risk on the basis of suicidal threat without attempt. The patient may readily slide into the next category of behavior but, before doing so, undergo a series of "furtive attempts." He may superficially cut his wrists in a futile effort to bleed. He may take a drug in less than lethal dose and find himself awake hours later. But, again, in crescendo with the previously noted risk factors, he may line up the pills, take them one at a time, and as his confusion increases, take one too many and die quite "by accident." Or, anticipating that someone will heed his

"cry for help," he may miscalculate the whereabouts of a significant other person.

Frustrated Feeling and Impulsive Behavior

The suicidal potential in this form of suicidal behavior is even greater. The patient who feels he has "had it up to here" falls into this category. He sees little hope for support from his environment; he has supposedly exhausted most forms of relief and he feels frustrated and closer to anger than he would in the other forms of suicidal behavior. It has been theorized that such a person may turn upon himself the anger he feels toward others. It is this patient who runs the danger of the homicidal-suicidal act, and it is necessary for the physician to determine the degree of anger felt by the patient toward others. There is little data from which to predict the potential for both homicide and suicide, but the homicidal-suicidal pattern occurs more frequently among men than women. Timely intervention with such a patient can be lifesaving. By offering a means through which the patient can turn his rage into words, the physician helps him minimize the immediate impulse to act.

The Court of Last Resort

The patient who feels he has exhausted all emotional resources but has survived the anger and frustration of the previously discussed behavior may turn to a pattern that can be called a "court of last resort" attitude. His suicidal potential remains high since his rage, frustration, and despair are resolved, and he vows never to experience them again. His motivation to act is generally higher because he feels better. So at the slightest suggestion of stress, he would rather die than experience again the anguish of meeting it. This is the patient who may be within the "three-month danger period" following a prolonged depression. So the physician must be alert to the very high potential risk in the patient who has survived the rage of the preceding type of suicidal behavior. The physician cannot be lulled into complacency by the patient's apparent well-being. If he provides the patient with sleeping medication because the suicidal preoccupation apparently has passed, he risks giving him a more effective means of acting suicidally should he become less ambivalent. The "court of last resort" type of suicidal behavior perhaps results in the most deaths, topped only by the previously described "frustrated feelings and impulsive behavior."

The Logical Decision to Die

Some patients may view death as the logical solu-

tion to a current conflict. Patients of either sex, over 65 years of age, who have suffered loss of loved ones, who have chronic disease or terminal illness, fall into this category. A large proportion of physician suicides may be of the "logical decision" order, although not apparently so in life since signs and symptoms of conflict are frequently masked or denied. The college student who philosophically arrives at death as an inevitability "so why not now?" can be seen in this form of suicidal behavior. Many patients of this category, when they do see a physician, may impart their torment to him only through physical symptoms. And it is difficult to identify the very high-risk patient in this category simply from clinical signs. Here, especially, one has to consider the interplay of factors such as age, sex, occupation, marital status and many others. Fortunately, although this is the highest risk category of suicidal behavior, few people fall within it.

Management of the High-Risk Patient

When the physician is concerned about suicidal risk in a patient he knows, he should always consider suicidal portent within the differential diagnosis if, during an office visit, the patient has exaggerated reactions to stress or complains of vague, non-specific symptoms. At the time of stress, management entails an honest evaluation of the problem, as outlined in earlier paragraphs of this communication. The physician should tell the patient of his concern over the suicidal implications and emphasize the necessity of a return office visit.

Most physicians feel they do not have the time or the skill to cope with such a patient. However, elaborate though the detection process described in the early part of this presentation may seem, it should add no more than 15 minutes to a routine or initial office examination—certainly not too much extra to allot to new patients or to the half-dozen potentially suicidal who might be seen in a year. As for skill, a physician who bears in mind that the suicidal patient needs a non-judgmental, caring person with whom to discuss his immediate feelings and not necessarily a psychiatrist to ascertain the ultimate "cause" of these feelings, can do much to help the patient dissipate his self-destructive tendencies.

The follow-up visit need be no longer than 15 or 20 minutes. It should be scheduled by the physician while the patient is in the office. The physician should firmly establish that he is concerned with the patient's problem by instructing his secretary, in the patient's presence, to "schedule Mr. Jones from 3:30 to 3:50

Wednesday afternoon in my consultation room." Such direct instruction to the secretary personalizes the physician's attitude and temporarily divests the patient of any indignity he may feel. It also tells him the length of time allotted for discussion of his conflict, which makes it easier for the physician to end the follow-up visit.

If the suicidal risk is very grave, the physician will obviously wish to see the patient within a few days, but if the risk appears to be relatively low, the patient can be seen 20 minutes a week for six weeks, that being the usual duration of emotional crisis or reaction to loss. Fewer than six visits will suffice in some cases; often it will be necessary to see the patient over a longer period.

Listening, and Getting the Patient to Talk

To communicate with the patient, first of all one must listen. Often without much prompting the patient will tell the physician what he needs to know for the assessment of risk. When it is necessary to intervene with a silent patient the physician should matter-of-factly and emphatically call attention to the non-verbal clues the patient communicates. For example, "You seem to sit much lower in that chair today," or, "You're really going to town on that cigarette." Confronting the patient with the non-verbal way in which he communicates his feelings permits him to see the physician as someone he may discuss these feelings with. The skill here is obviously in the art of medicine and requires that the physician "read" the patient in such a way as to minimize the risk that the doctor's remarks will be misperceived as an accusation. If they are misperceived, however, the physician has an opportunity to gently wonder aloud whether the patient may not be grouping him along with everything else that is bad in the patient's world. In other words, intervention should be for the purpose of encouraging productive ventilation on the part of the patient. But the physician cannot remain inactive with the potentially suicidal patient.

After five or ten minutes of such ventilation, the physician must re-explore suicidal preoccupations the patient has had since the last visit. Exploration of the stressful situation preceding the suicidal thoughts should be resumed. Special concern should be paid to the extent to which the patient's feelings associated with the means of suicide have changed. If he has a stronger feeling about killing himself by means of a readily available weapon or drug, one's concern is heightened. In such a situation the physician might wonder with the patient whether a family member should be apprised of the seriousness of the patient's

condition. In most cases, the patient who appears relieved at such a suggestion is prognostically better off than one who discourages it. For the patient who can effectively fall back on the emotional resources of family or friends, the suicidal risk is reduced. If the patient refuses to involve his family, however, the physician can convey his persistent concern to the patient by asking him if he would object to the physician's discussing the patient's difficulty with a psychiatric colleague—this rather than a direct suggestion of psychiatric consultation. Such an intervention minimizes feelings of rejection and further loss that the high-risk patient may experience at the suggestion that he see someone else.

The physician's tact and concern can establish for the patient a relationship by which he can find his way back to a life he is not sure he wants. The visit should end with the physician pointing out areas in which the patient seems to be finding his way back. If the patient's feelings have diminished in intensity, or if he has, say, disposed of a supply of a lethal drug, the physician should carefully reinforce such behavior. A remark as simple as, "Getting rid of the pills is more than you could do last week," is often of value. Any indications that the patient has made efforts toward socialization, or that his appetite or sleeping patterns have improved or that he is brooding less are a sign of decreasing risk and should be emphasized at the end of the office visit.

The time between visits is obviously crucial to the high-risk patient. At each visit the physician should reassure the patient—and not falsely—that at any time of frightening suicidal thoughts or feelings, the physician is available by phone. Some physicians may view this suggestion as an open invitation to many sleepless nights. It can be, but in most cases the patient does not exploit this privilege within the relationship. Often the very fact that the patient knows he can call diminishes the intensity of his suicidal feelings.

Drug Therapy

As was previously noted, depression is not among the clinical characteristics of one of the higher risk categories of suicide-potential behavior. However, when depression is clinically evident (especially in a non-schizophrenic patient with long history of intermittent depression and little evidence of a stress-precipitating event within the preceding two or three months) a trial of imipramine, 150 to 250 mg a day for three weeks, is indicated. The advantages of using "faster-acting" desmethyl derivatives of imipramine or amitriptyline are still equivocal. The same may be

said of dextroamphetamines. Sometimes a suicidally depressed patient may respond in less than three weeks, but so will some who take no antidepressants. If there is little evidence of decreased depression after three weeks of adequate dosage of imipramine (and in the absence of excessive side effects) it should be discontinued and, after a two-week interval, a monoamine-oxidase inhibitor may be tried. (There are reports from England indicating that monoamine-oxidase inhibitors and imipramine may be used synergistically for more effective antidepressant action, but in the pharmaceutical literature in this country the combination is associated with adverse side effects and fatalities.) Even if the depression is alleviated by use of the drugs, one must still bear in mind that the suicidal risk is not necessarily minimized thereby, as the three-month post-depression danger period is still to be considered.

The question of drugs to induce sleep in a suicidal patient is always a difficult one. The physician is often convinced that a good night's sleep would strengthen a patient's will to live. Yet recent studies

suggest that sleeping medications, although extending the period of sleep, may decrease dreaming which is looked upon as psychologically necessary. Nevertheless, a widely tolerated sleeping medication (prescribed in small quantities to discourage "hoarding" for a suicide attempt) can be helpful. The lethal range of barbiturates is variable, and they react quite synergistically with alcohol and neuroleptic agents. Chloral hydrate remains the safest sleeping medication. When more potent ones appear necessary for a high risk patient, the physician should caution the family as to their use and danger and arrange for a family member to dispense the medication. If this arrangement cannot be made, psychiatric consultation and putting the patient into a hospital for immediate crisis may be necessary. In any event, if over a period of six or more visits the patient's suicidal potential becomes greater, or if the physician's anxiety is heightened and his patience exhausted, psychiatric consultation is indicated but this should be rare.

(The references may be seen in the original article.)

ABSTRACT PAPERS*

FRAMINGHAM STUDY FINDINGS

Reported by Dr. W. B. Kannel, Miss P. M. McNamara, Dr. T. R. Dawber, and Dr. M. F. Feinleib in the journal Geriatrics, January 1970.

According to a recent HEW NEWS RELEASE, nearly 1/4 of initial non-fatal heart attacks occurring in the National Heart and Lung Institute's Heart Disease Epidemiology Study population of Framingham, Mass., were unrecognized by both the patient and his private physician, and these unrecognized infarctions posed the same threat of subsequent infarction and death as recognized attacks.

All participants, initially free of coronary heart disease, received cardiovascular examinations and electrocardiograms every 2 years. Additional information was obtained by monitoring hospital admissions daily, querying each subject's physician and spouse, and examining death certificates and medical examiners' reports to reveal all the myocardial infarctions in the study population during the

first 14 years of study. An unrecognized or silent infarction was considered to have occurred in a subject whose medical history showed that neither he nor his physician had considered the possibility of heart attack, but whose routine biennial ECG proved that an infarction had occurred during the 2 years since his previous ECG.

Of 334 subjects who experienced initial heart attacks during the 14 years of surveillance, 40% failed to reach the hospital. The infarction was documented at least by ECG evidence in 188 (151 men and 37 women) of the 334. Almost one in four—11 women (30%) and 33 men (22%)—had unrecognized infarctions. About half of these unrecognized heart attacks were entirely "silent" or painless, making no memorable impression on the mind of the subject at the time. The remainder produced symptoms so mild or otherwise atypical as to be confused with another ailment such as gallbladder disease, peptic ulcer, or hiatus hernia.

The proportion of unrecognized infarctions did not vary with age or sex, nor with the location of the infarct on the heart muscle as indicated by the ECG. However, unrecognized attacks were distinctly un-

*The opinions and assertions contained herein are those of the authors and are not to be construed as reflecting the views of the Navy Department or the naval service at large.

common in subjects who had already experienced angina pectoris, and they produced post-infarction angina only half as often as did the recognized infarctions. Angina pectoris is the chronic brief chest pain usually triggered by exertion and due to an insufficient flow of blood to the heart muscle.

Unrecognized infarction had the same serious prognosis with respect to recurrent infarction and death as recognized infarction; within five years one in three of each kind recurred, and half the recurrences were fatal.

The scientists state that a high index of suspicion is essential in detecting the "surprisingly common" unrecognized heart attack. Frequent periodic use of the ECG is presently the only practical way of detecting the truly silent, or painless, infarction; and they urge its routine use especially in persons with traits such as diabetes, ECG abnormalities, and hypertension which are known to increase the risk of heart attack.

EFFICACY OF A WATER-PRESSURE CLEANSING DEVICE AS AN ORAL HYGIENE ADJUNCT

*LCDR R. K. Harris, DC USN, and
LCDR D. L. Gaston, DC USN.*

Gingival inflammation is believed to be due to the effects of microbes present in dental plaque. Therefore, to be effective, oral hygiene adjuncts should remove plaque or alter its microbial composition. The purpose of this study was to determine the efficacy of a water pressure cleansing device, the Water Pik, as an adjunct to oral hygiene. A total of 7 subjects were used. No prophylaxis was given at the beginning of the study. The subjects' usual hygiene measures were continued, and in addition they were instructed to use the Water Pik once a day on one side of the mouth. A plaque index was used to measure the amount of plaque present. Gram stain smears were made of plaque samples to determine the frequency of occurrence of gram-positive cocci, filamentous organisms, curved bacilli, and spirochetes. Observations on each subject were made for 4 weeks at weekly intervals. The results revealed essentially no difference in the amount of plaque. The frequency of occurrence of microbial types in plaque samples from either side of the mouth was essentially the same: 75% cocci, 20% filamentous organisms, 5% curved bacilli, and no spirochetes. It was concluded that the Water Pik was ineffective as an oral hygiene adjunct when judged by these criteria.

(Abstract by Research Work Unit: MR005.19-

6052 by LCDR R. K. Harris, DC USN, and LCDR D. L. Gaston, DC USN.)

THE USE OF TISSUE CONDITIONERS IN PERIODONTICS

*Joe Frisch, Marvin P. Levin, and Surindar N. Bhas-
kar, J Periodont 39: 359-361.*

Tissue conditioners have as basic constituents a powdered methacrylate or methacrylate copolymer and a liquid containing alcohol and plasticizer. Prosthodontists use them as liners for ill-fitting dentures to restore abused tissues to health before relining or refabricating the dentures. This article reports their successful use in treating 78 patients following periodontal surgery. The conditioners were used as periodontal dressings beneath vinyl splints, existing partial dentures, or conventional periodontal pack matrices, and, in some small areas, with no added support. The following advantages were reported: both close interproximal adaptation and removal from interproximal areas were easily accomplished; the material did not become brittle or dislodge easily; its glue-like qualities stabilized autogenous gingival grafts; and all edges were smooth. Tissue conditioners were well tolerated by gingival tissues and were associated with excellent healing.

(Abstracted by CDR John E. Williams, DC USN.)

NITROGEN PACKAGING OF PERISHABLE FOODS

*Rep by National Automatic Mechandising Assoc,
Dec 5, 1969.*

Nitrogen, an inert gas, is sometimes used to retard spoilage in packaged foods. It effectively reduces the growth of many types of bacteria which require oxygen, and reduces oxidation-deterioration in fat-containing foods, such as dehydrated dairy products and cheese.

Although nitrogen is safe and useful for packaging many nonperishable food products, there is substantial evidence that certain foods, such as entrees, sandwiches or casseroles, could be dangerous. The organism causing botulism grows only in the absence of oxygen, particularly in mildly acid foods at room temperatures. Nitrogen is used to displace oxygen in the growth of botulism organisms in the laboratory.

Nitrogen packaging, even if it were entirely safe, could not be used as a substitute for refrigeration of perishable foods during transit or display. Current regulations require refrigeration or heated storage of perishable foods.

AUTOMATED MEDICAL EXAMINATION SYSTEM

It has been said about one of the advances in medicine: "That it will ever come into general use notwithstanding its value . . . is extremely doubtful; because its beneficial application requires much time and gives a good bit of trouble both to the patient and the practitioner; because its hue and character are foreign, and opposed to all our habits and associations. There is even something ludicrous in the picture . . . of . . . physicians using the device." So did the London Times comment on Laennec's introduction of the stethoscope over one hundred years ago.

Such commentary aptly reflects opinions of some current observers concerning the wisdom of applying computers in clinical medicine; rapid electronic systems are quickly assuming an integral role in the future of medicine.

In light of recent advances in developing automated equipment, our present form of physical examination is antiquated. Advances have been made in major examining centers, such as the Kaiser—Permanente Medical Group in California, and the concept has been accepted by the U.S. Public Health Service for some of their programs. Kaiser has been using automated and semiautomated multiphasic health screening techniques for several years to determine if there is significant likelihood of a disease being present.

Such programs which have blossomed recently were partially responsible for the establishment of the Hospital Management Evaluation Committee by the Secretary of Defense, to study the means of improving operations and the effectiveness of Department of Defense medical facilities. The Hospital Management Evaluation Committee is composed of the Assistant Secretary of Defense (Manpower and Reserve Affairs), Chairman; the Deputy Assistant Secretary (Health and Medical); the Surgeons General of the Army, Navy and Air Force. To accomplish its mission, the Committee formed several working groups which included the Department of Defense Working Group for the Modernization of Routine Physical Examination (MORPE) composed of representatives of the three Surgeons General. The Navy representative is Captain H. O. Kretzschmar, MC, USN, the Director of the Bureau's Physical Qualifications and Medical Records Division. The objective of the Working Group for MORPE is to provide by systems

design and automation a more standard, accurate physical examination for use by the Military Departments for large numbers of personnel.

Very early, the Working Group for MORPE conducted preliminary studies of the routine physical examination as presently performed by the Military Departments. It was determined that: (1) physical examinations are performed at several hundred locations with variance in the number of parameters tested and in the complexity and sophistication of equipment used, (2) approximately five million routine physical examinations are performed each year, (3) about half of these examinations are performed in the 74 Armed Forces Examining and Entrance Stations (AFEES) under the operational control of the United States Army Recruiting Command. Based upon these findings, the Working Group proposed the development, trial and evaluation of a pilot automated medical examination system at one of the Armed Forces Examining and Entrance Stations.

In June 1968, the U.S. Air Force School of Aerospace Medicine, Brooks Air Force Base, Texas, was designated by DOD to develop, test, and evaluate the Automated Medical Examination System in a three-phased program under normal research, testing and evaluation procedures. On this basis, a contract was awarded to Philco-Ford Corporation, effective 1 December 1969, to conduct a feasibility study (Phase I). The study will consist of: (1) a mission analysis of the Armed Forces Examining and Entrance Station, (2) State-of-the-Art surveys, and (3) System Definition. Phase I will be completed and the final system report will be delivered on 15 September 1970. Phase II will consist of the engineering development, fabrication and installation of the approved pilot automated physical examination system at the AFEES, Philadelphia Pa. Phase III will consist of the test and evaluation of the prototype system.

It is anticipated that the final approved system will be phased into all Armed Forces Examining and Entrance Stations. The system should also have long range application to "The New Generation of Hospitals."

Progress and status reports will be published from time to time to keep all Navy Medical Officers abreast of this new development in physical examinations.—Code 33, BuMed.

YOUR CHANCES OF DYING FROM THE PRINCIPAL DISEASES

*The No. Carolina State Bd of Hlth, "The Hlth Bull" 84 (11):5-6, Nov 1969 from
Statistical Bull of Metropolitan Life.*

Because mortality rates have remained virtually unchanged for over a decade—especially among males—the 1967 experience is a good indicator of the current chances of dying from the principal diseases. The risk of dying from these diseases in 5, 10, and 20 years for males and females at selected ages are in the table (not shown).

The probability of a newborn infant dying within five years—28.9 per 1,000 for males and 22.5 per 1,000 for females—reflects the high level of neonatal death rates. These rates exceed those at age 15 and 30 years for males and through age 45 for females. Mortality rates generally advance with age after the first decade of life, and the chances of dying within a specified period of time increase for any given age as the period of time lengthens. Thus, for men at age 45 the chances of dying increase from about 37 per 1,000 in a five year period to 283 per 1,000 in 20 years. Correspondingly, the chances of death in 20 years for men rise from 37 per 1,000 at age 15 to 788 per 1,000 at age 65. The chances of death are substantially lower for females than for males at every age and period of years.

The cardiovascular-renal diseases far outrank all other causes of death. This is the outcome of past successes in preventing premature death so that increasing proportions of the population now survive to the middle and older ages when these diseases take their greatest toll. Under current mortality conditions, the chances of eventual death from some cardiovascular-renal disease are about 3 in 5. These chances are higher for women than for men, and they rise steadily with advance in age. For example, a newborn male has 564 chances in 1,000 of eventually dying from some cardiovascular-renal condition, compared with 632 per 1,000 for a newborn female. By age 65 these chances rise to 647 per 1,000 for males and 709 per 1,000 females.

For both sexes combined, arteriosclerotic heart disease accounts for more deaths than vascular lesions of the central nervous system and all other cardiovascular-renal diseases combined. Moreover, in contrast to these other conditions, arteriosclerotic

heart disease is a greater threat to males than to females at every period of life. At age 45, the chances of men dying from this cause within 10 years are slightly greater than those for women within 20 years. Furthermore, the chances of eventual death from arteriosclerotic heart disease after age 45 are 376 per 1,000 for men, compared with 331 per 1,000 for women.

The chances at birth of eventually dying from a malignant neoplasm (cancer) are 162 per 1,000 for males and 155 per 1,000 for females. For both sexes the probability varies little with advance in age till midlife, when it begins to decrease. Further analysis of the data indicates that the chances of death from cancer of the respiratory system for males are at least 4½ times those for females. By contrast, for all other malignancies as a group, the risk is greater for women till age 65; thereafter it is almost equal to that for men.

Accidents continue to take many lives. Currently, the chances at birth of eventually dying from an accident are 61 per 1,000 for males and 36 per 1,000 for females. Although these chances decrease with age, they still are at least 25 per 1,000 for both men and women at age 65. The greater accident hazard of males prior to midlife is in large measure due to their much higher frequency of motor vehicle fatalities. Past age 65, on the other hand, other forms of accidents pose a more serious threat to women than to men.

For both men and women the chances of dying from pneumonia and influenza have remained virtually unchanged in recent years at approximately 33 per 1,000. Tuberculosis has become a relatively minor cause of death; the present chances of dying from this disease being less than 5 per 1,000 for males and no more than 2 per 1,000 for females.

The experience for diabetes mellitus is noteworthy since it is one of the few causes of death having a substantially higher risk for females than for males. Presently, the chances at birth of eventual death from diabetes are over 24 per 1,000 for women, compared with 14 per 1,000 for men.

CLOSTRIDIUM PERFRINGENS FOOD

POISONING—MEMPHIS, TENNESSEE

USDHEW PHS NCDC Wkly Morb & Mort Wkly Rpt 18(52): 450-451, Dec 27, 1969.

On 22 and 23 October 1969, an outbreak of gastroenteritis occurred among pupils and teachers of the Memphis, Tennessee, public school system who ate the noon meal in school cafeterias on 22 October. Approximately 67,000 persons were served, of whom 1,844 in nine schools were interviewed. Of these, 628 gave a history of gastroenteritis for an overall attack rate of 34%. Complete food and illness histories were obtained from 102 individuals. Of these, 76 persons reported illness characterized by diarrhea and abdominal cramps without fever. Incubation periods ranged from 3 to 18 hours (mean 10.1 hours), and duration of illness was 4 to 48 hours (mean 17 hours). Food-specific attack rates incriminated the main entree, braised beef on rice, as the contaminated vehicle. (See table).

The beef was purchased from a local packinghouse which supplied choice beef from a large Oklahoma packer. Beef roasts were delivered to the schools on 20 and 21 October. In each school kitchen, the roasts were cooked for 4 hours on the day prior to serving. After being cooled at room temperature for 1½ hours, they were placed in a refrigerator for overnight storage. On the morning of serving, the beef was cut into cubes, combined with tomatoes, green peppers, onions, and flour and cooked for approximately 1 hour at 450°F.

Dry U.S. Government commodity rice was delivered to the Memphis schools on 15 October. After washing on 22 October, the rice was cooked in water in a 450°F. oven for 1 hour.

The braised beef and rice were taken from the ovens at approximately 10:45 a.m. and placed on the steam table for serving. Serving began at 11:00 a.m. Steam tables were maintained at 140°F. throughout the serving time.

Cultures of leftover braised beef on rice were obtained on 23 October. No pathogens were isolated. *Clostridium perfringens* was isolated from the stools of 25 out of 28 patients and from raw meat at the Memphis packinghouse. *C. perfringens* isolates from the feces of 14 patients and four samples of the raw beef were serotyped. No common serotype was identified, but eight isolates from the 14 patients and two of the raw beef samples yielded organisms which did not react with available antisera.

The U.S. Department of Agriculture is conducting an investigation at the two packing plants.

Editorial Note: The epidemiology and clinical characteristics of this large outbreak are compatible with *C. perfringens* food poisoning. Of the 61 vehicles associated with *C. perfringens* outbreaks reported to NCDC, Atlanta in 1968, 24 involved beef products.

Involvement throughout the Memphis school sys-

*Food-Specific Attack Rates, Foodborne Illness
Memphis, Tennessee
22 October 1969*

Food Items Served	Number of Persons Who Ate Specified Food				Number of Persons Who Did NOT Eat Specified Food			
	Ill	Not Ill	Total	Percent Ill	Ill	Not Ill	Total	Percent Ill
Braised beef on rice.....	74	17	91	81*	2	9	11	18*
Green peas.....	48	20	68	71	28	6	34	82
Cabbage pepper salad.....	36	12	48	75	40	14	54	74
Buttered biscuits.....	46	12	58	79	30	14	44	68
Peach cobbler.....	62	22	84	73	14	4	18	78
Milk.....	60	16	76	79	16	10	26	62

*P < .00001

tem suggests that the contamination of the meat occurred before it was delivered to the schools. Inadequate cooking at the schools followed by cooling at room temperature the day prior to serving may have provided a suitable atmosphere for incubation of the organism. Reheating for one hour the following day at 450°F. may not have been sufficient to kill the organisms.

The inability to demonstrate a common serotype may be a reflection of the small number of isolates from each patient submitted for serotyping. More likely, since isolates from eight out of 14 patients and the beef did not react with the 91 types of *C. perfringens* antisera presently available, a "non-typable" strain may have been involved.

OUTBREAK OF TUBERCULOSIS IN A HIGH SCHOOL, ALABAMA

USDHEW PHS NCDC Morb & Mort Wkly Rpt 18(16): 401-402, Nov 15, 1969.

On 24 March 1969, active far-advanced bilateral pulmonary tuberculosis was diagnosed in a 17-year-old 11th grade student in Abbeville, Henry County, Alabama. He had been ill for some time but had continued to attend school.

Following the diagnosis of his case, 379 students in his school in grades 7-12 were tuberculin tested on 1 April using jet injector guns and intermediate strength PPD; 77 (20.3%) had a reaction of 10 mm or more at 48 hours (positive) (Table 1) and 14 (3.7%) had a reaction of 5 to 9 mm (doubtful). Students in grades 8 and 12 had been tuberculin tested on 11 Dec 1968, as part of the county health department's first school skin testing program; two of 36 eighth graders and 16 of 48 12th graders who had had negative tests in December were positive when

tested in April. Of 147 family and neighborhood contacts of the index case who were also tuberculin tested, 24 had a positive reaction; ten of the 24 had had negative tests within the previous nine months. Of the 27 students who rode the school bus with the index case (included in the 379 students tested in the school) and the school bus driver who was also tuberculin tested, 22 (78.6%) had positive reactions.

Roentgenograms were obtained from 235 persons with reactions of 5 mm or more and sputum containers were distributed for voluntary submission of specimens; four persons had roentgenographic findings compatible with recent tuberculosis infection, and three of these four had positive sputum cultures. Three other persons whose roentgenograms appeared normal had sputum cultures positive for *Mycobac-*

Results of Two Tuberculin Skin Testing Programs at a School in Alabama

Grade	1 April 1969		7 May 1969*	
	Number Positives/ Number Tested	Percent Reactors	Number Positives/ Number Tested	Percent Converters
7	3/62	4.8	2/59	3.4
8	3/40	7.5	0/37	0.0
9	4/51	7.8	2/47	4.4
10	19/78	24.4	3/59	5.1
11	32/84	38.1	5/52	9.6
12	16/64	25.0	5/48	10.4
...				
TOTAL	77/379	20.3	17/302	5.6

*Those students positive in April were not retested in May.

terium tuberculosis. The 17-year-old boy and the seven contact cases were hospitalized at the state tuberculosis hospital.

On 7 May all students who had had negative or doubtful reactions on 1 April were retested, and 17 were found to have positive reactions. These students submitted sputum specimens and had roentgenograms taken, but no new cases were identified.

On 1 October, all students in all schools in Henry County were tuberculin tested. About 230 students who had attended the implicated school during the previous school year and had had negative tuberculin tests in April and May were included; four had be-

come reactors. Each of the four had a history of contact with the index case or a secondary case.

Throughout this investigation, any student who had a reaction of 5 mm or more and no previous history of a positive tuberculin test was started on a year of isoniazid therapy. A total of 290 contacts of the index case or subsequent cases in this outbreak were placed on isoniazid.

Editor's Note: This outbreak is reminiscent of micro-epidemics previously reported aboard Navy vessels. Once again the value of serial skin testing is graphically demonstrated.

STATE OF DENTAL HEALTH OF THE NAVAL RECRUIT*

By CDR Harris J. Keene, DC USN

Military populations have been the subject of a number of investigations on dental health. Occasionally a specially selected population is sampled such as aviation cadets or the crew of a battleship; but most studies have focused on the young men and women who had just reported for active duty—the new recruit. From all walks of life they come—the city boy, the farmer, the college graduate, the high school dropout. Physically, they represent the cream of the crop, the best our country has to offer. But what is the state of their dental health? Do we already know the answer to this question? Have we not, throughout our careers as Dental Officers, been faced with an overwhelming and seemingly endless backlog of unmet dental needs?

Let's review a little and see what has been learned in over 100 years of dental surveys and studies on military recruit populations.

As early as 1865, among draftees for the Federal Army, Lewis¹ noted an average rejection rate of 20–25 men per thousand for “loss of teeth.” The New England and Middle Atlantic states generally had the highest exemption rates. Massachusetts, the worst, had a rate of 34.9 men per thousand. Delaware and Wisconsin, the best two states, each had rates less than 10 per thousand.

During World War I the condition described as “Defective and Deficient Teeth” caused the rejection of thousands of men called up for military service.²

The average rejection rate for the entire country in the 1918 draft was 24 men per 1000—remarkably close to the figures for the Civil War. New England, again, and the Middle Atlantic states, had the highest rejection rates. Vermont had a rejection rate of 103 men per 1000. Massachusetts had almost 80 per 1000. By contrast, the rate for Arkansas was less than 3 per 1000; Texas and New Mexico, about 6 per 1000.

Ferguson's 1935 study³ on 4745 Naval Recruits at Norfolk was apparently the first to be reported in terms of DMFT (Decayed, Missing and Filled Teeth). Again, men from the New England and Middle Atlantic states were found to have the highest dental caries experience. The lack of X-ray examination and the fact that dental standards for the Navy were much higher in those days may have had something to do with the relatively low mean DMFT score of 6.6 and the unusually high frequency of “perfect mouths” observed in this group. The prevalence of caries-free recruits from different geographic regions (shown in Table 1) is very similar to the data we are presently obtaining at Great Lakes. Our overall frequency is much lower, however, being only two men per 1000 as compared with Ferguson's 85 per 1000. Again, notice the relatively low frequency of men with “perfect mouths” from the New England and Middle Atlantic states as compared with other regions.

During the period from November 1940 through September 1941, “Dental Disorders” was the single

* Essay presented at the Workshop on Naval and Marine Corps Recruit Dental Programs—April, 1969.

TABLE 1.—Dental Survey on 4745 Naval Recruits at Norfolk, Virginia
(Ferguson, 1935)

Region	Number of Recruits	Percent with Perfect Mouths*
1. Middle Atlantic.....	968	0.6 (0.05)
2. New England.....	534	0.8 (0.02)
3. East North Central.....	900	7.3 (0.26)
4. West North Central.....	706	11.1 (0.29)
5. South Atlantic.....	810	13.3 (0.25)
6. East South Central.....	512	16.4 (0.32)
7. West South Central.....	284	16.4 (2.21)
8. Pacific and Mountain.....	31	25.8 (5.23)
Total.....	4745**	8.5 (0.20)

*Perfect mouths, as defined by Ferguson, include no caries, restorations or extractions and good occlusion. Figures in parenthesis refer to estimated percent of caries-free (DMFT = 0) men from the 1960-1965 Great Lakes Naval recruit population (N = 239,000) based on geographic distribution of 5000 man sample.

**Mean DMFT -6.6; range -3.2-12.5.

most frequent cause for rejection of registrants for the Selective Service.⁴ Out of a total of 1,600,000 men rejected for physical and mental reasons, dental defects alone accounted for 250,000.

Early in World War II, in order to meet national security requirements, dental standards were lowered until they were practically non-existent. A number of dental surveys on military populations were completed during the 1940's and 1950's, primarily to determine treatment needs and manpower requirements.⁵⁻⁷ The results were staggering! Findings on teeth to be extracted, teeth to be filled, teeth to be replaced, and periodontal requirements varied to some extent from one study to the next, but in general, they all pointed to the same conclusion. *The state of dental health of young male adults as they reported for military duty was deplorable!*

Actually, this should not have been such a surprising conclusion, for in the absence of dental standards there is little reason to think that our young recruits should not reflect the general state of dental health of non-military populations of similar age. Public health and ADA reports had certainly been deploring the miserable state of dental health of our young people for many years.

One of the interesting findings which has emerged from some of the earlier studies pertains to geography. From the results of several large military studies covering a span of almost 30 years, Dunning⁸ in 1953 ranked the 48 states according to increasing prevalence of dental disease. The New England and Middle Atlantic states were found to consistently have the highest rates of dental disease. The states which border on the Great Lakes and two of our Northwestern states, Washington, and Oregon, also

had relatively high rates of dental disease, compared to some of the Southwestern states.

One factor which seems to be important in geographic variations in dental disease is the relative availability of natural fluoride in the public water supplies of these regions.⁹

Dunning's study also demonstrates how difficult it is to make comparisons of different military populations. Not only do examination procedures and examiners vary somewhat from study to study, but even if these are held constant, the subjects under investigation do not necessarily represent a homogeneous population. Air Force recruits today, for example, report to a single training center—Lackland Air Force Base in Texas. Naval personnel, on the other hand, may be sent to one of five different training centers: two in San Diego, one at Orlando, one at Parris Island, and one here at Great Lakes. In previous years, Norfolk and Bainbridge were also used for recruit training.

Based on the experience gained from over 100 years of military surveys, one might anticipate some differences in the dental health status of Navy and Marine Corps recruits at different training centers. Theoretically, this should be of some importance for planning purposes. Unfortunately, very little data are available to support such a thesis.

In Table 2 we have brought together some interesting information on DMFT scores obtained from surveys on 6 different recruit populations covering a span of over 30 years; from Ferguson's 1935 study³ to some recent findings from the Parris Island and San Diego Marine Corps Recruit Depots, which were kindly supplied by Captain William E. Ludwick, DC USN. DMFT as used in Table 2 describes the sum

TABLE 2.—Comparison of Six Dental Surveys on Navy and Marine Corps Recruits, 1935-1968

Training Center	Year	Number of Recruits	Mean DMFT Score	Percent of Men from New England and Middle Atlantic States
1. Norfolk (NTC) ³	1935	4745	6.6	31.7
2. Great Lakes (NTC) ⁶	1952	2368	9.9	29.2*
3. Bainbridge (NTC) ⁷	1956	2027	13.6	49.1
4. Great Lakes (NTC) ¹¹	1966	2168	12.3	38.6
5. Parris Island (MCRD) ¹²	1968	360	11.4	High?
6. San Diego (MCRD) ¹³	1968	400	9.7	Low?

*Includes Delaware.

total of an individual's dental caries experience in terms of number of teeth which are decayed, missing or filled. Since third molars are usually excluded, the maximum score is 28. The values for DMFT represent group averages.

In the last column of Table 2 we have given the percentage contribution to each sample from the New England and Middle Atlantic states. Geographic information for the two 1968 studies is not available, but it is likely that our west coast MCRD (San Diego) would have a much smaller percentage from these two regions than our east coast MCRD (Parris Island).

The relatively low DMFT score of 6.6 reported on the Norfolk recruits was obtained without the advantage of X-ray examination during a time when dental standards for the Navy were quite high. The report on the 1952 Great Lakes recruits did not state whether bite-wing X-rays were available or not. The 1956 Bainbridge study and the 1966 Great Lakes follow-up were specially designed research investigations on representative samples of the recruit population with one individual doing all examinations under carefully defined conditions which were practically identical for both studies. Although the two 1968 MCRD studies were done on a smaller number of recruits, they do provide valuable information on the dental health picture of our Marine Corps recruits. The Parris Island data are based on a five per cent random sample of 7,200 recruits; the San Diego data are based on a four per cent random sample of 10,000 recruits.¹²

The percentage of men from New England and the Middle Atlantic states varies quite a bit from one study to another, and we feel that this is an important factor to consider in making comparisons. In the 1950's while Bainbridge and Great Lakes were both receiving recruits for training, Bainbridge had the higher DMFT score (13.6) and also the higher percentage of men from New England and the Middle Atlantic states (49.1%). Great Lakes had 29.2% from these two regions and a DMFT score of 9.9.

By 1966 Bainbridge had been closed down for several years and the number of men coming to Great Lakes from New England and the Middle Atlantic states jumped to 38.6% from the previous 29.2%. This was accompanied by an increase in DMFT score from 9.9 to 12.3. The MCRD data also suggest a geographic effect with San Diego recruits having a lower DMFT score than those at Parris Island.

From the statistician's point of view, the only two investigations that can satisfactorily be compared are the 1956 Bainbridge study and the 1966 follow-up at Great Lakes. But even here there are problems in analysis. Nevertheless, the preliminary results seem to indicate a slight improvement in DMFT score during the ten-year interval. Yet how much of this can be attributed to differences in population composition? Could not a reduction in DMFT be somewhat anticipated if the percentage of men from New England and the Middle Atlantic states diminished, as it did from 49.1% to 38.6%?

We are probably on a little safer ground if the two studies are compared on a state-by-state basis and here is where we begin to make some meaningful comparisons. In Table 3 we show the results for five different states from the 1956 Bainbridge study and the 1966 Great Lakes study. In almost every category for each of the five states there has been improvement. DMFT scores, missing teeth, teeth to be extracted, and carious teeth are all lower; restored teeth are higher. The last four categories probably give a better statement of dental health status than DMFT scores alone, because they give an indication of treatment completed and treatment required.

There are several other indications of an improved dental health status of today's recruit, but the results are still quite preliminary and are in need of further analysis.

Since the late 1940's, there has been a tremendous increase in populations served with artificially-fluoridated water.⁹ If the average age of today's recruit is 18-19 years, he would have been born in the early

TABLE 3.—Comparison of 1956 Bainbridge (BB) and 1966 Great Lakes (GL) Dental Surveys on Naval Recruits (Rovelstad, et al)^{7,11} Average Dental Caries Experience

State*	DMF Teeth***		Missing Teeth		Teeth to be Extracted		Carious Teeth		Restored Teeth	
	BB	GL	BB	GL	BB	GL	BB	GL	BB	GL
Pa.....	14.5	13.5	3.0	2.2	1.6	0.1	7.0	5.3	6.7	7.6
Ohio.....	13.0	11.4	2.6	1.6	1.3	0.2	6.7	4.5	4.9	6.4
New York.....	14.3	14.2	1.7	1.6	0.8	0.1	6.9	5.7	8.7	9.4
W. Va.....	13.9	10.2	3.1	1.5	1.6	0.5	7.0	5.2	3.6	4.4
New Jersey.....	13.9	12.7	2.0	1.6	1.7	0.2	7.8	5.7	7.5	7.5
Total**.....	13.6	12.3	2.4	1.7	1.4	0.2	7.0	5.0	6.0	7.3

*Selected states which comprised the major portion of the recruit sample.

**Mean values for the entire sample of recruits including all states.

***In the calculation of DMFT, a tooth which has a restoration as well as caries, is counted as only 1 DMF tooth.

1950's, just as the fluoridation program was picking up momentum. Today, close to 100 million people are receiving the benefits of artificially-fluoridated water, many of whom are potentially Navy and Marine Corps recruits.

The importance of this type of data for planning purposes has been mentioned by many investigators. In one study alone, the Kingston-Newburgh study,¹³ it was shown that 59% more chair time was required for initial care and 70% more chair time for annual maintenance care in the non-fluoridated community (Kingston) when compared with the fluoridated community (Newburgh).

Growing Federal support to dental health programs for our country's youngsters together with a sustained and vigorous leadership by the dental profession in implementing community fluoridation and other preventive measures are almost certain to have a favorable effect on the dental health status of military recruits in the future.

But let's return to earth, gentlemen, with its stark realities of the present. Need I remind you that *today*, here at Great Lakes alone, our recruits are still presenting us with over 300,000 teeth to be filled per year, and over 12,000 teeth per year which are in need of extraction. And this represents only a small portion of their total treatment needs!

No, gentlemen, the future may seem a little brighter, but I don't think we're quite ready to turn in our handpieces yet.

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PEDIATRICS ABOARD THE USS SANCTUARY

By LCDR Vera Harris, NC USN

There is a war being fought on land in Vietnam. To the children of Vietnam, at sea there is the big white whale, the USS Sanctuary. For two years the USS Sanctuary (AH-17) has been serving in Vietnamese waters, providing medical attention for wounded Americans and the Vietnamese with their health problems. Some of the civilians are victims of war; others suffer illnesses frequenting a poverty-stricken country.

Many of the Vietnamese civilians are sent to the hospital ship through civilian hospitals, religious affiliations, military hospitals or very often by our own field medical aid stations. Many patients present textbook deformities. Hair lips and cleft palates are repaired in various stages. Burn patients, crippled by formation of massive scar tissue, are afforded plastic surgery; many are afflicted with cancer. Numerous adults and children require extensive treatment of wounds sustained in rocket, mine and mortar explosions.

Aboard the hospital ship are two small wards which accommodate approximately 42 patients, utilizing every available nook and corner. This constitutes our International Ward. Double-decker bunks make it rather difficult to care for patients and there is sufficient room for only three cribs; padding a CSR basket to provide additional crib space, which is quite snug and warm, has been resorted to when necessary.

Upon entering the International Ward, sounds of many children can be heard—some talking, some crying, a few laughing, with considerable Vietnamese chatter in the background. During their hospitalization, it is important to consider and respect the culture and mores of our patients. Imbued with a strong sense of obligation to care for their own families, the adults feel no responsibility for children who are not members of their own families. The basic food consists mainly of rice and nuc mam, a fermented fish sauce which is popular in Vietnam. Nuc mam is essential for every meal and chopsticks are the preferred utensils. Often, if the first meal is served by a corpsman, it will be refused. Only after being served by a countryman will the Vietnamese patient accept food from an American.

There are two Vietnamese interpreters aboard the ship who assist in communicating with our patients. Basic communication otherwise consists of a combination of sign language and imitation. The nurse or

corpsman demonstrates how to brush teeth or comb hair while repeating "same-same"; the children usually understand and join in the desired activity. While the hospital staff usually learns a few essential words such as cam on, which means "thank you", chao ba, "good morning" or nuc ta, "tea", the Vietnamese children ordinarily learn to count to one hundred in English before the nurses and corpsmen learn to count to ten in Vietnamese.

Gradually, as the children familiarize themselves with the ship, they desire to participate and assist with ward routines such as cleaning, changing bed linen, bathing, feeding and baby sitting. They love to color and if you are a favorite of their's, will present you with one of their pictures, with a smile you will never forget. Recently the children heard over the loud speaker, "Mail Call, port side". Having observed the happy response of the ships crew to this announcement, the children repeated it over and over in a desire to perpetuate obvious pleasure.

I should like to tell you about one of the children. Nguyen Van was three months old when she arrived aboard the USS Sanctuary. She was found in a trash can somewhere in DaNang by an American seaman. The seaman took her to a nearby orphanage where she failed to thrive and was thought to have a heart murmur. She was then transferred aboard the SANCTUARY. Although no heart murmur was detected on physical examination, the medical officer felt that Van should be admitted because of malnutrition with failure to thrive. She weighed eight pounds and presented a generalized fungus infection of skin from head to toe; several fractured ribs were noted on chest X-ray examination. Following an initial weight loss of one additional pound, Van began to gain weight and achieved 14 pounds at seven months of age.

Very often when SANCTUARY was in DaNang, the American seaman came aboard, to be with this special joy in his life. Although recently sent back to CONUS, the American is taking legal action to adopt this little Vietnamese baby and will name her "Hope" (instead of "Nguyen Van"). Unable to sit up without support, little Van has a delightful personality that has won the hearts of 29 Navy nurses, "adopted mothers" all.

Children will be children and ours' are no exception. A day without a few laughs is highly unique.



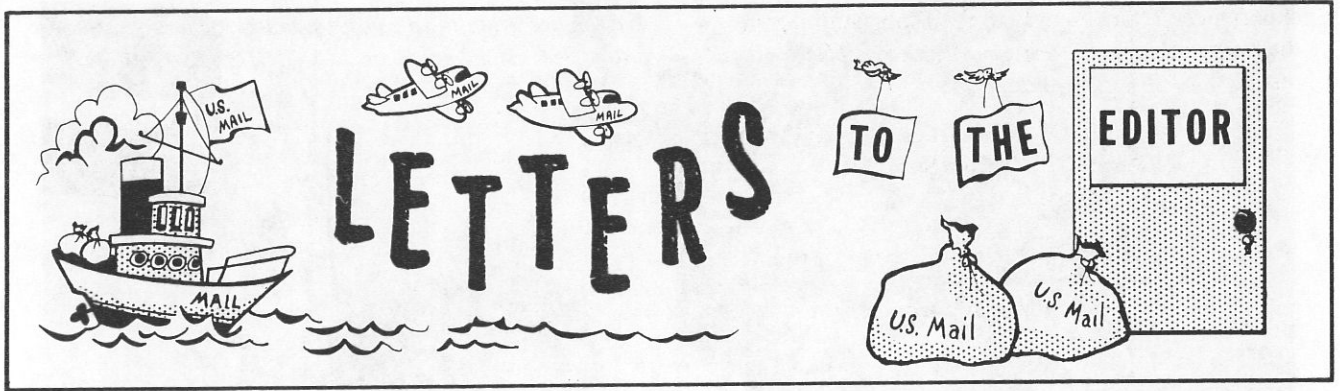
LTJG Ann Kuhn, NC USNR, holds little Nguyen Van aboard the USS Sanctuary.

One day another little girl, receiving an intravenous infusion, was reported to be suffering from enuresis. It was subsequently discovered that she had punched holes along the IV tubing with a pin, creating a garden hose sprinkling system. Bed tags are known to be unreliable because the children love to change beds and sleep together; even their visitors occasionally climb into bed for a nap. Fortunately patients have not found a way to remove wrist bands. Dull or routine days are unknown on the International Ward.

Here in South Vietnam, coastal highway number one is also known as the "Street Without Joy". Many children without joy are brought to SANCTUARY.

Only one step at the wrong time, one rocket, one mortar round, can shatter their lives. If it sounds as though the International Ward is a depressing place in which to work, consider the challenge presented to doctors, nurses and corpsmen, who are privileged and determined to comfort, restore and bring new hope to those so sorely in need.

Our medical team on the USS Sanctuary will have many fond memories of these appealing children, the unique opportunity provided to fulfill their needs, the profound warmth of human understanding reflected in a simple clasping of hands across the globe. Some will long remember.



To the Editor: While participating in several MedCap operations in the Hoa Vang District, a list of most common complaints voiced by Vietnamese patients was compiled. On the basis of this list, a Vietnamese Medical Language tape was produced.

This tape is fifteen minutes long. It was produced using a modern language format similar to many other language tapes, allowing brief pauses in the dialogue during which the listener repeats the Vietnamese word or phrase. Phrases such as "chills and fever, diarrhea, pus in the ear, cough, etc." are included. Written version accompanies the tape.

During the first three weeks after the tape was produced, thirty copies were distributed, primarily to Hospital Corpsmen. One CAG unit has requested thirty-seven copies.

To anyone desiring a copy of the tape for use in Vietnam, I will gladly send one for the price of the tape, sixty-cents (60¢).

LT Samuel M. Richardson, MC USNR
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First Marine Division (REIN) FMF
FPO San Francisco 96602

Dr. Richardson's offer, at a very modest price, reminds us that many fine and enterprising young physicians are personally involved in a world which needs them. They inadvertently bring much credit upon themselves, their country and their profession.

To the Editor: In response to CAPT Roger Stevenson's request that I forward to you comments concerning the highlights of the 4th annual CINC-PAC Conference on War Surgery, I am submitting the following summary of pertinent facts.

The meeting was held at the Sanno Hotel, Tokyo, Japan, from 16 through 19 February 1970. COL Edward H. Vogel Jr., MC USA (Commanding Officer, USA Medical Command Japan) opened the meeting on the morning of the 16th and introduced

RADM Frank B. Voris, the honorary chairman of the meeting. Several papers on current practices in surgery and orthopedic surgery were presented, followed by detailed discussion of the appropriate sections in the printed handbook from the previous (3rd) Conference on War Surgery. Modifications, changes and supplementary information for the previous handbook resulted.

Dr. Tobias and myself, representing the Navy, presented papers based on experience gained from serving the 1st Medical Battalion supporting the 1st Marine Division. You will find enclosed a copy of my report on "A Year's Experience in Orthopedic Surgery at the 1st Medical Battalion", which you are welcome to use as you see fit.

Throughout the first two days of the meeting, papers on vascular, thoracic, abdominal, neurosurgical, urological and orthopedic surgery were presented and followed by appropriate discussion. The third day was devoted to rewriting the entire War Surgery Manual, building on past years' accomplishments to further develop and expand the manual's usefulness for the future.

The last day was spent touring the PACOM hospitals selected by the individual conference member. I visited USNH Yokosuka where the majority of Marine patients from 1st Medical Battalion are referred for continued care, and saw approximately ten former patients. Valuable information concerning patient care and problems encountered in medical evacuation from Vietnam was exchanged; the possibility of future exchange of physicians between Yokosuka and Vietnam, for brief periods, was discussed. It was considered that the resulting communication and clinical experience would enrich the total level of medical care afforded the injured, and it is hoped that the feasibility of such a physician exchange will be explored.

In conclusion, the meeting proved to be a valuable

experience. I am confident that substantial gains in the surgical care of Marines injured in Vietnam will result.

LCDR Gary G. Gregersen, MC USNR
Chief, Orthopedic Surgery
B Company
1st Medical Battalion
1st Marine Division (REIN) FMF

It is apparent that the Navy was ably represented

and we are grateful to Dr. Gregersen for a most timely and worthwhile report on the CINCPAC Conference on War Surgery. It is hoped that others who attend similar meetings in the future will follow this lead and drop a note to the Medical Newsletter.

Readers are further invited to study LCDR Gregersen's comprehensive analysis of orthopedic cases encountered during 1969 in Vietnam as it appears elsewhere in this issue. It is a fine paper and represents a great deal of work.

CONGRATULATIONS

The Medical Department on the USS Independence (CVA 62) won the NAV-AIRLANT Battle Efficiency Award during the Competitive cycle from 1 July 1968 to 31 December 1969.

Such achievement reflects great credit upon the Medical Staff and represents outstanding effort.

FOND FAREWELL AND HEARTY HELLO

As Captain Bulshefski approaches fulfillment of an accomplished four years of leadership as Director of the Navy Nurse Corps, we wish to extend our thanks for her gracious support and distinguished direction. Our best wishes for continued professional achievement and personal happiness accompany her as she concludes an illustrious naval career.

The Secretary of the Navy has announced the appointment of Captain Alene Bertha Duerk as the next Director of the Navy Nurse Corps. Captain Duerk is presently serving as Chief of Nursing Service at the Naval Hospital, Great Lakes, Illinois. She will assume the duties of her new office on 1 May 1970.

A native of Toledo, Ohio, Captain Duerk graduated from the Toledo Hospital School of Nursing and earned her Bachelor of Science Degree from Western University in 1948.

Captain Duerk entered the Navy Nurse Corps in 1943. During World War II she served in a variety of positions, including the Naval Hospital Ship BENEVOLENCE. She returned to civilian life to attend college in 1946 and was recalled to active service in 1951. Miss Duerk has since remained on active duty in the Navy. Prior to her present assignment at Great Lakes, she served as the Assistant for Nurse Recruitment in the Office of the Deputy Assistant Secretary of Defense for Health Affairs.

TO ALL NURSE CORPS OFFICERS

As my tenure as your Director draws to an end, I take this opportunity to extend to each of you my heartfelt gratitude for your loyalty, support and commendable performance during these past four years.

The Navy Nurse Corps has a very noble and illustrious heritage. Each of you in your own way has helped to make history; many by long years of faithful and fruitful service, others for shorter periods of time, but all contributing to the elevation of nursing practice. Our Corps is a living testimony of positive action and expressed concern, often extending beyond our military community. If we stand united, move forward in the same direction, we will continue to make progress and stand proudly among the leaders in health services.

During these past four years, I was privileged to observe firsthand your extraordinary abilities and sacrifices in providing the highest standards of nursing care to all our patients. As I reflect upon my career, I will always feel a sense of pride in having been a part of the Navy Nurse Corps and having shared in your accomplishments.

May you find personal happiness and professional enrichment in all your pursuits. God bless you.

s/VERONICA M. BULSHEFSKI
Captain, NC, USN
Director, Navy Nurse Corps



As Director of the Navy Nurse Corps, Capt Veronica M. Bulshefski has cut many anniversary cakes. Traditionally she is assisted by the youngest member of the Corps present. At the 1969 celebration at Bethesda, it was Ens Grace Sacramento. RAdm David Osborne and Capt Alice R. Reilly look on.

CAPT Alene B. Duerk, NC, USN



As I assume my responsibilities as Director, Navy Nurse Corps, I welcome this opportunity to extend my personal greetings to all Nurse Corps Officers around the world.

I am honored, indeed, to have been selected as successor to Captain Bulshefski. Throughout her career, and particularly during her tour as Director, she has devoted every energy to the advancement of the Navy Nurse Corps and through her efforts, we all have enjoyed four very productive years. Her devotion to duty and to the betterment of our Corps is a legacy of which we are all proud.

As I approach my new duties, I deeply sense the great obligations of this position to which I have been selected, but I am comforted with the knowledge that many loyal and sincere men and women stand ready to lend me their support and are prepared to share in meeting the challenges of the future.

I will do my best to provide the leadership you deserve and pledge my best efforts to justify the confidence which has been placed in me. I value your professional competence, your loyalty and your support, and I am confident that together we shall go forward to meet and answer the challenges and responsibilities of tomorrow.

s/ALENE B. DUERK
Captain, NC, USN

FILIPINO AND AMERICAN COLLEGE STUDENT PREFERENCES FOR WORKING CONDITIONS*

Allen J. Schuh,¹ Jerome T. Trexler,¹ and Carmencita C. Quesada, *J Soc Psychol* 78:281-282, August 1969.

The present paper reports on the use of a working conditions questionnaire in a study of the comparative attitudes of Filipino and American college students toward specific job traits.²

The American Ss were 96 males and 65 females enrolled at Old Dominion College, Norfolk, Virginia, while the Filipino Ss were 70 males and 81 females attending the University of the East, Manila. Thirty job traits, describing conditions that can exist, and frequently do, in various jobs were presented in questionnaire form in the English language. The questionnaire did not have to be modified because the medium of instruction in the Philippines is English. Other similarities between the two groups of Ss have been reported elsewhere.³ The rating scale which followed each job condition presented three categories of possible student reaction: Desirable (exactly what you want), Acceptable (it does not make any difference one way or the other), and Undesirable (something you would put up with only if absolutely necessary).

The data were combined according to sex of the Ss, and Pearson product-moment correlation coefficients were computed between the job conditions and the criterion of American *versus* Filipino cultural group. The significance of the deviation of the correlation coefficients from zero was assessed with a two-tailed *t* test. For the female group, 16 of the 30 job conditions exceeded the .05 level of signifi-

cance, and 16 of the 30 male job conditions also exceeded the .05 level. Only those feelings concerning job conditions which cross-validated on the sex variable are reported.

The Filipino college students reported feeling that six of the 30 possible working conditions were more desirable for them than for the American college students: very routine work, little social contact, desk work exclusively, a large office with many desks, a well defined job with regular hours, and advising people about their personal difficulties.

The American college students reported seven of the working conditions were more desirable for them than for the Filipino students: a job full of excitement, nothing routine, a lot of responsibility, requiring much initiative, working only with men, selecting other people for assignments, and requiring the meeting of frequent deadlines.

The data were reanalyzed by separating the Ss into cultural groups and correlating male *versus* female with the 30 working conditions. Five of the 30 job conditions exceeded the .05 level of significance for the Filipino cultural group, while 11 of the 30 job conditions were statistically significant for the American group. A chi-square test showed that the more frequent occurrence of statistically significant correlations for the American group was significant at the .05 level. Three of the statistically significant correlations cross-validated: women in both cultures indicated less desirability for tasks requiring great physical endurance, working only with men, and selecting other people for assignments.

These preliminary findings lead to the following three conclusions: (a) these particular students in the Republic of the Philippines and in the United States of America saw their preferences for desirable working conditions as noticeably different; (b) the differences between the female samples were no more numerous than between the male samples; and (c) a greater frequency of sex differences in preferences for certain job conditions was found for the American than for the Filipino cultural group.

Department of Psychology, Old Dominion College; and Department of Guidance and Personnel Administration, New York University.

*Received in the Editorial Office, Provincetown, Massachusetts, on December 23, 1968, and given special consideration in accordance with our policy for cross-cultural research. Copyright, 1969, by The Journal Press.

¹These authors are on active duty in the United States Navy. Opinions or conclusions contained in this report are those of the authors. They are not to be construed as necessarily reflecting the views or the endorsement of the Navy Department.

²A copy of the questionnaire and a table of the correlation coefficients are available upon request.

³Schuh, A. J., & Quesada, C. C. Attitudes of Filipino and American College Students Assessed with the Semantic Differential, *J. Soc. Psychol.*, 1967, 72, 301-302.

NOTES AND ANNOUNCEMENTS

BAC-SI MEADERS

By Mr. James Dowd

At a time when people are "doing their own thing" a Navy flight surgeon on duty at the Naval Aerospace Medical Institute, Pensacola, Fla., chose to take 60 days leave in order to assist Vietnamese civilians.

Navy Medical Corps Commander Robert H. Meaders, an ophthalmologist, performed over 120 eye operations on Vietnamese civilian men, women and children. He served as a member of the American Medical Association's Volunteer Physicians for Vietnam Program, working in a civilian hospital in Vinh Long province.

In addition to over 120 surgical procedures, "Bac Si" Meaders, as he was called by the Vietnamese, saw thousands of patients in outlying villages in the Mekong Delta region. Many wore various colors of cloth on their heads to indicate whether they were experiencing eye problems or other ailments.

Most of Doctor Meaders' patients had cataracts to be removed, but there were others who needed surgery for corneal ulcers, transplants, plastic lid repairs, and cancer.

The Navy doctor said he made sure surgery was completed each afternoon so that interpreters could get home before dark. Guards were provided for his own living area but, he said, "It helps to get reacquainted with the .45 pistol and to spend a few minutes at the firing range with a carbine-type rifle just for reassurance."

While treating patients Doctor Meaders gave Viet-

namese physicians and medical students instruction. He talks with respect for the Vietnamese physicians and medical teams, and tells of interesting personal contacts with them in their homes. He said, "I was treated to an inside look at a life and culture vastly different from our own, and the trips with them to outlying villages were an education in the problems we face."

On the name tag Doctor Meaders wore was inscribed "Bac-Si Meaders Hoi Y-Si Hoa-Ky A. M. A., Chuong-Trinh Bac-Si Tinh Nguyen Thai Viet-Nam," and it brought forth many acts of kindness from the local people in recognition of his voluntary help. Vietnamese physicians number about 1,000 but 700 are in military service and not available for full-time civilian practice.

Sisters of the Order of the Good Shepherd operate an orphanage in the town where Doctor Meaders worked. They offered him the use of their swimming pool in exchange for eye care for the orphans. "Bac-Si" Meaders wrote home and obtained candies, clothes, and other things for the children. "These people are doing a difficult job in a dangerous location, and need all the help they can get," he said.

The Navy flight surgeon, back from his "leave", tells his colleagues: "If you need any information on how to volunteer for the AMA's Volunteer Physicians for Vietnam Program, I just happen to have some application blanks in my desk."



BÁC-SĨ MEADERS
HỘI Y-SĨ HOA-KỲ - A.M.A.
CHƯƠNG-TRÌNH BÁC-SĨ TÌNH-NGUYỄN TẠI VIỆT-NAM

REPUBLIC OF VIET-NAM
MINISTRY OF HEALTH

Certificate of Appreciation

presented to

Robert H. MEADERS, M.D.

*in recognition of his invaluable cooperation and assistance in the field of
Ophthalmology at Vinh Long Hospital
This Certificate will serve as a lasting memento of his contribution to
the Ministry of Health of the Republic of Viet Nam.*

No 917 BYT-VP-KT

Saigon, the 8th day of September 1963

MINISTER OF HEALTH *[Signature]*

Picture of Dr. Meaders with Vietnamese children is shown here on the souvenir presented by the Vietnamese Ministry of Health.

MEDICAL SUPPORT OF FLEET UNITS

Medical personnel from afloat units often visit a dispensary ashore to obtain consultation and hospitalization. Occasionally some are made to feel that they were treated with little professional or personal courtesy. More often doctors and patients visit shore-based medical units where they are received warmly, made to feel welcome, and their consultative requirements taken care of rapidly and efficiently.

These examples serve to highlight the sentiment occasionally found among shore-based medical departments which regard their responsibilities as being for local support only. Nothing could be further from what is necessary or desirable. Fleet units must be provided whatever medical support they request as rapidly and efficiently as possible. Further, it goes without saying that the response of our shore-based installations should be willingly and generously given as required, not only by common social custom, but also by long-established medical ethics.

All Medical Department personnel are urged to ensure that members of their staffs are aware of their responsibilities to the Fleet, and to make certain that assistance is provided to the limit of their capability.

REDUCED RESIDENCY OBLIGATIONS

BUMED has received numerous inquiries regarding the application of DOD Instruction 6000.2, which reduces residency training obligation.

The effective date of the DOD Instruction is 1 July 1970. At that time, recomputation of obligation must be accomplished for all doctors who are in residency training or who are serving in an obligated status because of residency training.

It is currently planned that all such individuals will be notified of their new expiration of obligation date. Pending receipt of this individual notification, medical officers should delay initiating correspondence regarding their adjusted obligation date. Of particular importance are the facts that: (1) no residency obligation will be reduced to less than one year and (2) no reduction will be made in the case of existing obligations of less than one year.

The cooperation of each medical officer concerned will be greatly appreciated by the Medical Corps Branch of the Bureau.

OPPORTUNITIES FOR RESIDENCY TRAINING

Residency training in the fields of Anesthesia, Pathology, and Psychiatry is available beginning in the summer of 1970:

	1st yr level	2nd yr level	3rd yr level
Anesthesia	Bethesda Boston Philadelphia		Philadelphia
Pathology	Bethesda Philadelphia Portsmouth, Va. San Diego	Portsmouth	Philadelphia
Psychiatry	Bethesda Philadelphia	Bethesda Philadelphia	

Applications should be forwarded as soon as possible to the Bureau of Medicine and Surgery (Code 316), Navy Department, Washington, D.C. 20390. Telephone inquiries and expressions of interest should be directed to Captain E. J. Rupnik, MC, USN (Phone: OX 6-5134) or Captain J. William Cox, MC, USN (Phone OX 6-5184).

PROFESSIONAL OPPORTUNITIES FOR DENTAL OFFICERS

The Navy gains a wealth of new intellectual potential in newly commissioned officers each year. Commanding officers and senior dental officers can do a great deal to help these new officers realize that many opportunities for higher education are still ahead of them. It has been noted that in specific activities where seniors take an interest in guiding and encouraging young officers to augment their education, the end result is superior dental officers.

Greater effort must be made to encourage all officers to continue to expand their intellectual horizons, and to explore with promising young officers the possible avenues through which they may receive advanced education in the specialties of dentistry. Additionally, it is recommended that senior dental officers encourage all their juniors—by example as well as by counsel—to seek higher levels of intellectual attainment by taking advantage of the many opportunities available in correspondence courses, and by attending short postgraduate courses.

NAVAL DENTAL CORPS WORKSHOPS

The Dental Division recently sponsored two workshops for the purpose of improving the professional services provided to Navy and Marine Corps personnel.

A workshop in Periodontology was held to evaluate the Navy Periodontal Screening Examination, and to ascertain the problems that have evolved as a result of the examination. In addition, problems in the categories of research, training, board certification, detailing, preventive periodontics, auxiliary person-

nel, record keeping, and patient care were defined and solutions to the problems recommended.

The objective of the Workshop on Naval and Marine Corps Recruit Dental Programs was to review, discuss, and evaluate the recommendation made at a similar workshop held in April 1969. The participants selected and established a priority system for the recommendations considered feasible for immediate implementation.

MARINE CORPS MUSEUM—MEDICAL INPUT

At the annual meeting of the Marine Corps Historical Program on 30 July 1969, the possibility of establishing a Marine Corps Historical Center in the Washington area was considered. Approved by the Chief of Staff on 30 September 1969, the Director, Administrative Division is conducting a study concerning the most practical methods of achieving such a historical center. Among proposed exhibits for a Marine Corps Museum is a section on Corpsmen, Navy Doctors and Dentists. A display of medical and dental equipment and supplies used by members of the Navy Medical and Dental Corps assigned to duty with the Marine Corps was envisioned, including field, mobile first-aid stations and dispensaries. An exhibit depicting the field medical research laboratory in Camp Lejeune was also proposed.

Most military and naval museums seem to offer very little material on medical support. With assistance from all possible sources, it is hoped that the proposed exhibit in a Marine Corps Historical Center will be successful. Any information concerning ideas, other persons or commands that could be of assistance are invited. Any recommendations and suggestions concerning such an exhibit should be submitted to Commandant of the Marine Corps, Headquarters, U.S. Marine Corps, Washington, D.C. 20380, attention Code AM.

BOSTON NAVAL HOSPITAL SYMPOSIUM

The Boston Naval Hospital Spring Symposium will be held at this activity on Thursday and Friday 7 and 8 May 1970. The Surgeon General of the Navy has given his endorsement to this meeting and an outstanding program is being arranged which will have as its theme "A Forward Look in Clinical Medicine." Civilian physicians of prominence from the New England Area will be included in this program.

You are urged to make application for presentation of papers. These papers should have as their general theme recent advances in the broad fields of medicine and surgery which have already shown

great value and which will come into widespread use in the next few years. Presentations will be limited to fifteen minutes with few exceptions. Also, if desired, shorter papers of specific cases or subjects may be submitted. Presentations by the Dental, Nursing and Medical Service Corps will also be welcomed.

Abstracts of the paper along with its title to make up not more than fifty words should be submitted immediately to:

Captain C.C. MUEHE, MC USN
Program Chairman
Naval Hospital Boston
Chelsea, Massachusetts 02150

Abstracts should indicate the author's rank, branch of service and assignment. If multiple authors are listed the presenter of the paper should be identified.

The symposium is open to officers of all branches of the Armed Services, the Veterans Administration and Public Health Service. Members of the Reserve Corps, National Guard and other interested civilians are invited to participate and are encouraged to attend. A social event for the evening of Thursday, 7 May, is planned and particulars will be announced later.

Make plans to attend and please send your request for a position on the program as soon as possible.

1970 MEETING OF THE SOCIETY OF MILITARY ORTHOPEDIC SURGEONS

The 12th Annual SOMOS meeting will be held during 14-16 September 1970 at the U. S. Military Academy, West Point, New York. Colonel Howard G. Abbott, Chief of Orthopedics at the U. S. Army Hospital, West Point will be Chairman, with Cochairmen Commander Charles S. Lambdin, Chief of Orthopedics, Naval Hospital, Portsmouth, Virginia and LT COL Allen R. Wright, Chief of Orthopedics, David Grant U.S.A.F. Hospital, Travis Air Force Base, California.

The Bureau of Medicine and Surgery heartily endorses this meeting and has available sufficient funding for a limited number of residents and Orthopedists. Requests for Bureau sponsorship should be submitted to Code 316 BUMED for consideration at least six weeks in advance of the convening dates.

PROFESSIONAL PROGRAM AND SCHEDULE:

This meeting of the SOMOS will be held in four aspects:

- (1) Orthopedic Surgery in the Combat Zone (Vietnam)—Monday morning.

- (2) Rehabilitative Surgery on combat casualties—Tuesday morning.
- (3) General Orthopaedics — Tuesday afternoon.
- (4) Athletic Orthopaedics—Wednesday morning.
- (3) General Orthopaedics—Wednesday afternoon.

Medical Officers interested in presenting papers in any of these broad topics should contact Col. Howard G. Abbott, MC, Chief of Professional Services, U.S. Army Hospital, West Point, New York 10996. It is requested that papers be sent no later than 1 June 1970, and should include a listing of any training aids required.

JOINT ARMED FORCES EXHIBITS

The Joint Armed Forces Exhibits are scheduled to be shown at major professional meetings as follows:

“Military Contributions to Dentistry”

Thomas P. Hinman Dental Meeting
 District of Columbia Dental Society
 Wisconsin State Dental Meeting

“Preventive Periodontics”

Army Institute of Dental Research
 Tennessee State Dental Meeting

PARASITOLOGY OF MALARIA

The World Health Organization has recently published a booklet on the “Parasitology of Malaria”. This 72-page report, No. 443 in the WHO Technical Report Series, covers:

1. Geographical and seasonal distribution of malaria parasites in man;
2. Significance of differences in parasites for eradication and control;
3. Plasmodia of apes and monkeys in relation to malaria eradication;
4. Recent advances in methods of diagnosing malaria and in studies of plasmodia; and,
5. Research recommendations.

This informative booklet may be purchased for \$1.25 from the Columbia University Press, 136 South Broadway, Irvington-on-Hudson, New York 10533.

MEDICAL CORPSMEN VETERANS TRAINING PROJECT

This fall, El Centro College of Dallas, Texas, will start an experimental training project to increase the

nurse supply by preparing medical corpsmen veterans for practice as registered nurses.

The Division of Nursing, nursing arm of the Bureau of Health Professions Education and Manpower Training, National Institutes of Health, is supporting this endeavor with a Special Project Grant for Improvement of Nurse Training. The project, which includes an evaluation of its results, will require four years to complete and an estimated Federal Investment of \$144,000.

There are four aspects to the El Centro “Study to Develop, Implement, and Evaluate a Planned Program of Associate Degree Nursing for Veterans with Military Corpsmen School Training”:

Comparison of corpsmen training with associate degree nursing education;

Structuring of a flexible course of study that will attract and challenge ex-corpsmen by building on their own experience, and reducing repetitive exercises to a minimum;

Recruitment of 60 or more ex-corpsmen for training;

Post-graduation follow-up of the corpsmen to determine their scores on State Board examinations for licensure, their educational aspirations, and the stability and quality of their performance in civilian nursing practice.

Ex-corpsmen who are interested in training based on recognition of their own experience and leading to an associate degree in nursing should communicate with the Director, Allied Health Careers Institute, El Centro College of the Dallas County Junior College District, Dallas, Texas. Nursing schools and agencies and organizations concerned with nursing education should address requests for information or consultation concerning grants for improvement of nurse training to the Division of Nursing, 9000 Rockville Pike, Bethesda, Maryland 20014. (NEWS RELEASE, HEW NEWS, February 13, 1970.)

THE AMERICAN PROSTHODONTIC SOCIETY MEETING

The semi-annual meeting of The American Prosthodontic Society was held February 13–14, 1970, in Chicago, Illinois.

The following officers of the Naval Dental Corps participated in the table clinic portion of the scientific program:

Commander John B. Holmes, DC,
 USN “A Case Presentation Prepared for

Certification by The American Board of Prosthodontics"

Commander Leonard E. Mark, DC, USN "Fixed and Removable Partial Dentures in Maintaining Oral Health"

Commander Ray A. Walters, DC,

USN "Maxillary and Mandibular Fixed and Removable Partial Dentures"

Commander Frederick B. Williams, DC, USN "A Case Presentation Prepared for Certification by The American Board of Prosthodontics".

ARMY PHYSICIAN IN STUDENT FLIGHT SURGEON CLASS

By Mr. James Dowd

Mrs. Chester A. Jastremski of Toledo, Ohio still cannot swim but she wanted her son to be able to swim. She enrolled Chester in a YMCA swimming course at age 9. Now, 20 years later, Mrs. Jastremski has over 500 of her son's medals and more than 300 of his trophies in her basement, all won for his swimming skill.

Army Medical Corps Captain Chester A. Jastremski is averaging a lap a minute in the huge training

tank at the Naval Aviation Schools Command, Pensacola, Fla., where he is receiving Navy indoctrination.

Doctor Jastremski as a member of Student Flight Surgeon Class 124 at the Naval Aerospace Medical Institute in Pensacola, is actively engaged in four months of instruction in aerospace medicine.

A 1968 alumnus of Indiana State University School of Medicine, Doctor Jastremski, an Olympic



swimmer, held all the world records in breast stroke until 1964 when he trailed an Australian and a Russian to win the bronze medal in the Tokyo Olympics. In 1963 he won the gold medal in the Pan American Games in Brazil.

Listed in the official handbooks of the Amateur Athletic Union of the United States, Dr. Jastremski was selected as the outstanding swimmer in the National AAU for four years in a row. He holds the American record for individual medley in which he combined four competitive strokes. He made the cover of Sports Illustrated Magazine in 1962.

The renowned swimmer is married to the former Miss Maurene Jessup, whose father is an Army colonel in Korea. The Jastremskis have two children. Twenty-one-month-old son, Kelly, had his first experience under water at three months. Five-month-old Andrea is kicking better than her brother but her immersion has been delayed because of regulations at the Army Officer's last duty station, prohibiting children under four in swimming pools.

Classmates of Captain Jastremski at the Naval Aerospace Medical Institute include another Army physician, 40 Navy medical officers, and three from Brazil, France and Indonesia.

Asked why anyone who loves the water so much would choose the Army instead of the Navy, Dr. Jastremski replied with a laugh, "My wife, who is an Army brat, and my father-in-law, had something to do with it."

IN MEMORIAM

LT John H. Hege, Jr., MC, USN, died 17 Jan 1970 as a result of injuries sustained in an aircraft accident in Hawaii. Dr. Hege was born in Philadelphia, Pennsylvania on 6 May 1941. He was graduated from State University of Iowa College of Medicine in 1967, and served an internship at Strong Memorial Hospital in Rochester, New York, 1967/68. He had duty aboard the USS Tanner (AGS-15) and had recently been selected for promotion to the grade of Lieutenant Commander.

KNOW YOUR WORLD

Did You Know?

That diphtheria incidence and mortality rates increased in 1968 compared with the previous three years, but remained greatly decreased compared with prior decades?

Of 260 cases reported in 1968, 94% occurred in the South with an attack rate in the South being 40 times higher than for other parts of the country. Diphtheria continued to be a disease primarily of children under ten years of age. Caucasians had attack rates about 1/7th of those for other racial groups. About 50% of the cases were classified as of mild severity and about 10% were fatal. An analysis of surveillance data for 216 carriers showed that a significantly higher percentage of carriers than cases had completed a primary immunization series. Mitis strains continued to be the predominant type of *C. diphtheriae* isolated while 94% of the isolates examined were toxigenic.¹

That from 1949 through 1968, 1,820 cases of leprosy were reported in the United States, including Puerto Rico?

89% (1,612 cases) were from: California, Florida, Hawaii, Louisiana, New York City, Texas and Puerto Rico. Leprosy was diagnosed before 1968 in

187 persons who entered the military service after 1940; 30 probably were exposed overseas. There was an average of nine to 11 years between exposure overseas and the diagnosis of lepromatous leprosy, and an average of three to five years between exposure overseas and diagnosis of tuberculoid leprosy. The largest number of diagnosed and reported cases since 1949 (147) were reported in 1968 (0.073 cases per 100,000 population). Of these persons, 63 (43%) were born in the United States or Puerto Rico; 64 (43%) were born in Cuba, Mexico, the Philippines or Samoa. There were 61 men and 57 women, 78 of them having lepromatous or dimorphous leprosy. Prior to January 1970, leprosy cases were reported annually from the state health departments by month of occurrence. In May 1969, the state and territorial health officers decided to include leprosy on their weekly morbidity telegrams to the NCDC and to submit a leprosy case surveillance report commencing January 1970.²

That Illinois state-manufactured rabies vaccine was dispensed on 1,063 occasions in 1967-68?

The Illinois physicians were requested to describe circumstances leading to the administration of rabies vaccine. Returns were received in 937 instances in-

volving 1,011 patients. Sixty-four per cent of the vaccinees were males; 60% of vaccinees received 14 or more injections of rabies vaccine and 3% received none. Of vaccinees, 38% were less than ten years of age; 25% of the vaccinees received two or more bites from animals, 62% suffered a single bite, and nonbite exposures were recorded for 9%. Sixty-seven per cent of the persons reported exposures on extremities; 22% reported exposures on the head or neck.

Dogs exposed 55% of persons vaccinated; skunks, 3%; 19% were exposed to species not usually infected with rabies. Of vaccinees, 58% were exposed to animals that were not located, while 21% were exposed to animals that later were brought under the observation of a veterinarian. Only 46% of vaccine series were initiated within three days after exposure; 20% were delayed 8 days or more.³

That New Zealand has exported meat since 1882 when the first refrigerated ship took a cargo of mutton to the United Kingdom?

Today over 100 refrigerated ships serve the trade between New Zealand and world ports. New Zealand has 37 slaughtering plants licensed to package meat for export. Meat packed at an export packing house must originate from stock slaughtered in a licensed meat export slaughter plant. Both operate under rigid inspection provided through the Meat Act of 1964 which established the high standards for the industry.⁴

That from December 1964 through May 1966, 1,592 serum specimens from Army recruits and other selected population groups in Malaysia were examined for the presence of *Pseudomonas pseudomallei* antibodies?

Hemagglutination (HA) test was used. Serum specimens with an H-antibody titer of 1:40 or greater ranged from 1.9 to 15.8. The highest prevalence of antibodies was found in persons residing in rice-growing areas. Melioidosis, a glanders-like disease of man and animals caused by *Pseudomonas pseudomallei* has long been known in Malaysia, having been recognized in rodents in 1913 and in man in 1917.⁵

That a daily ration of beer, provided in a social environment, can be of great benefit to geriatric patients?

In a study, 17 nursing home patients, 38 to 94 years of age, were given beer during a social hour. For control, 17 other patients were given fruit juice under identical conditions. Patients receiving daily

ration of beer were generally more relaxed, congenial, and cooperative. They participated in group activities more freely, took more pride in personal appearance and required considerably less use of tranquilizers, sedatives and diuretics.⁶

That the Department of Parasitology at the London School of Hygiene and Tropical Medicine has been designated as the WHO International Reference Center for Filarial Nematodes?

Functions of the Center will be to maintain living and preserved specimens of all stages of filarial worms, identify the larval stages of the worms in vectors and parasitological material received from field workers, exchange material with other university institutes, museums, etc, engaged in similar activities, and assist in training of staff.⁷

That in May 1969, a Seminar on Smallpox Eradication and Measles Control convened in Lagos, Nigeria under joint sponsorship of the WHO and U.S. Agency for International Development (USAID), hosted by the Government of Nigeria?

Most of the Western and Central African countries were concluding the intensive systematic vaccination phase of programs begun in January 1967 as a coordinated regional effort with support from the United States and WHO. Over 80 million of the 120 million inhabitants had been vaccinated against smallpox and more than 15 million children had been vaccinated against measles. Only four countries reported smallpox cases. Participating in the Seminar were 27 representatives and consultants from 17 Western and Central African countries, 49 technical advisers (USAID) from NCDC Staff, including those assigned to West and Central African countries, those from Regional Office in Lagos, and headquarters office from NCDC Atlanta, WHO staff, and consultants from Red Cross, UNICEF, and USAID. This document presents papers concisely and may be obtained from NCDC Atlanta.⁸

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United States Navy Medical Newsletter

CORRESPONDENCE AND CONTRIBUTIONS from the field are welcomed and will be published as space permits, subject to editing and possible abridgment. All material should be submitted to the Editor, Navy Medical Newsletter, Code 38, Bureau of Medicine and Surgery, Washington, D.C. 20390.

NOTICES should be received not later than the third day of the month preceding the month of publication.

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