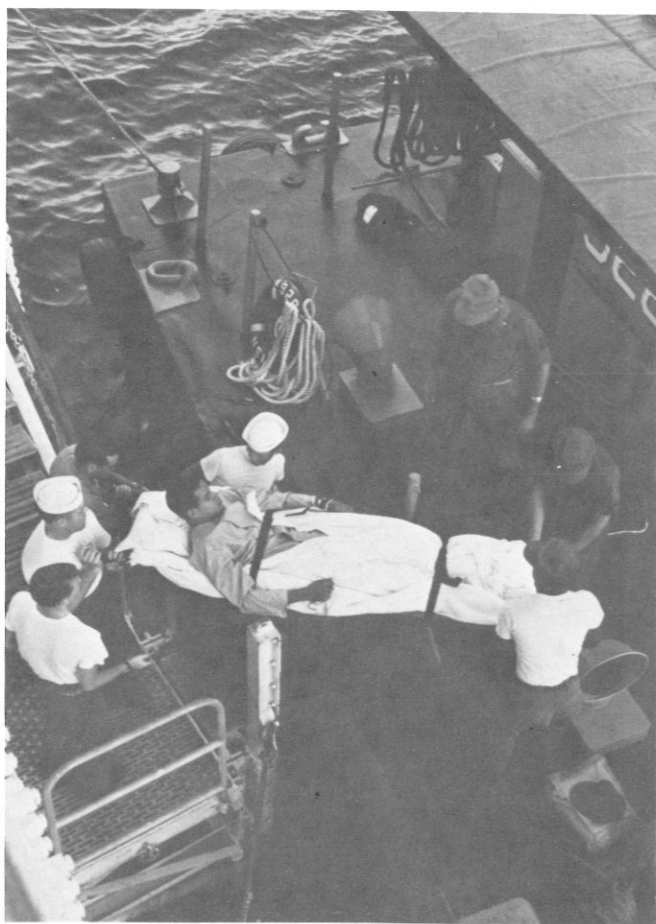




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The continued support of the Media Division, Educational Programs Development Department, Health Sciences Education and Training Command (HSETC), NNMC, Bethesda, Md., is gratefully acknowledged.



from the Chief

HAPPIER DAYS.—Prior to deactivation of the command on 28 Jun 1974, VADM D.L. Custis, MC, USN (right), the Navy Surgeon General, visited Nav Hosp Boston, Chelsea, Mass., in Jan 1974. CAPT Scott G. Kramer, MC, USN (left) was then CO at Nav Hosp Boston; present CO is CAPT R.L. Alspach, MC, USN. The hospital will be decommissioned by 31 Dec 1974.

Congress has agreed we need a physicians bonus. It passed the bill creating the Variable Incentive Pay (VIP). The President agreed with the bill. He signed it. The Department of Defense (DOD) agreed. They need and want the physicians. However, our friends in the Office of Management & Budget (OMB) are not agreeing so readily. In spite of their reluctance though, it is anticipated that there will be effective VIP implementation within a few weeks.

Most of you have been aware of the prolonged legislative process leading to the enactment of the Variable Incentive Pay Act for physicians. However, you may not be aware of the problems which are presently causing serious delay in its implementation and which are of deep concern to us in the Bureau.

As a prerequisite for submission of the original legislation, OMB acting for The President, was given the right of review of the law's implementation. Simultaneously, the Military Health Care system has been undergoing an in-depth analysis by a study group managed by OMB. The general thrust of the study group, as best as we can determine at this time, is an attempt by statistical methods and assumptions

to determine physician requirements for contingency operations. It has been prematurely assumed in certain quarters that this number would then become the authorized level of physicians on active duty at any one time. The theory is that in peacetime these physicians will have the single mission of caring for active duty personnel, and perhaps active duty dependents, in isolated areas. Our other beneficiaries would be sent out to CHAMPUS or absorbed into a national health plan of some yet-to-be-determined format. Presumably, our training effort would be cashiered.

The primary basis for the OMB determinations of the number of doctors that will be required to support contingency requirements, and of the feasibility of satisfying other beneficiaries through CHAMPUS, or a national health plan, will be ratios and mathematical models that attempt to establish doctor-to-bed relationships and physician-to-workload relationships. It is the opinion of BUMED that the OMB efforts to date have oversimplified the problem and understated the requirements. Their numbers are well below BUMED estimates of the number of doctors required to satisfy these requirements.

Because some of the preliminary findings from the study group have reached various levels within the government, implementation of VIP nearly stopped. Also, severe restraints have been imposed on us in the use of the bonus authority. Without judicious use of VIP, the military Medical Departments will not be able to fulfill their present mission in an all-volunteer era.

In the months ahead we face a severe challenge. We in the Bureau are steadfast in our faith that military medicine is as fine and economical a health-care system as exists, but we are going to have to be able to prove it beyond the shadow of a doubt, and even that may not be enough. Your patience, support, suggestions, and cooperation are needed and solicited for the months ahead. We have enjoyed particularly strong support at every level of the Navy Department, and from members of Congress who are concerned about the sustained quality of military medicine, as well as medical care in their districts. It goes without saying that we must bend every effort to insure that we continue to deserve that support, for without it we would surely fail.

Navy Medicine is good; it can be made better. It is worth fighting for, and I remain confident of the outcome. We shall keep you informed of our progress.



VIETNAM AND AFTER*

By RADM Charles L. Waite, MC, USN†

MEDICAL SUPPORT

Early in the Vietnam conflict, the US Navy was primarily engaged in the control of the sea and air adjacent to South Vietnam, and the Navy Medical Department was primarily involved in providing field care to the Marines actively engaged in combat. To this end, the organic medical support was in turn supported by a 500-bed, 11-operating-room, shore naval hospital at Danang, and two off-shore hospital ships.

The hospital ships *Repose* and *Sanctuary*, each with 560 beds, were used as mobile definitive care facilities and not for the transport of patients from one shore hospital to another. Employment of these hospital ships in Southeast (SE) Asia was ideal because as the action moved up and down the country, the ships could be positioned either in advance, or as needed to cover the medical requirements. Neither ship was originally designed for anything more than patient transport in World War II, and as converted merchant ships in some instances, they were not really designed for that. But, with considerable internal modification, the capability for total definitive care was achieved and a helicopter platform exteriorly provided the interface for modern field medical evacuation procedures. (The US Navy does not now possess a ship designed from

the keel upwards to fulfill this role, but we are seeking one.) The hospital ships had several shortcomings, even with the redesigned features. They had no dedicated medical communications circuits when first commissioned, and no organic helicopter support.

Our marines do not believe in dedicated medical helicopters — they will share them very generously, they will take in a load of grenades and bring out a load of patients, but that is the extent to which they will go. One of the strong recommendations that came out of Vietnam was that we should have dedicated medical helicopters.

However, there are times when helicopters cannot be utilized. Bad weather and low visibility occasionally



MOBILE FACILITY.—During employment in Vietnam, the 560-bed hospital ship USS *Repose* followed combat action as it moved up and down the country. The ship was positioned either in advance, or as needed, to cover medical requirements.

*This paper is based on an address delivered by RADM Waite, the only visiting guest speaker at the Third Symposium on Naval Medicine, conducted at the Royal College of Physicians in London on 8-9 Nov 1973. The presentation was published in the *Journal of the Royal Naval Medical Service* LX (1-2):93-101, Spring & Summer 1974. At the request of our Surgeon General, and with the generous consent of the author and the *Journal of the Royal Naval Medical Service*, the above article is herein reproduced.

†Assistant Chief for Operational Medical Support, Bureau of Medicine and Surgery (Code 5), Washington, D.C. 20372.

caused problems, because the small craft and helicopters were unable to transit and find the hospital ships. This was particularly the case with helicopters landing on small platforms. It was just a year ago that we lost one of our admirals, during a helicopter landing at night in the Pacific. One of the chopper blades hit the superstructure of the ship; the helicopter flipped over and landed upside down in the water, in total darkness. We lost the Admiral and some of his staff.

DISEASE

Ashore with the marines, early in the conflict, we had our usual problems with dysentery, malaria, and hepatitis. It seems that no amount of experience will ever preclude epidemics of preventable disease, because frequently in a build-up situation such as we had in the early 1960s, the facilities — latrines, mess halls, etc., — do not match the input of troops. This leads to system overload and breakdown. Additionally, in the order of priorities, combat operations and the daily business of just staying alive sometimes cause things like mosquito discipline to be neglected (such things as clothing, netting, repellent, antimalarial drugs), until the non-combat casualties exceed the wounded-in-action; then you can get the Generals' attention and make some progress in preventive medicine! Early in the conflict this led to a renewed interest in preventive care throughout the fleet and resulted in the following signal from US Naval Activities Saigon:

A mascot parrot, after having bitten three of the marines has died and a veterinary thinks it is psittacosis. Would you please recommend disposition of remains?

Back came the signal from BUMED which read:

Recommend basting in a hot oven at 365° F for two hours, served with a side order of wild rice and white wine. Bon appétit!

That is a true story.

The diseases of military importance in Vietnam were those you would suspect: malaria, shigellosis, the so-called fevers of unknown origin, and heat stress. There were more man-days lost due to disease than to wounds, by a ratio of 2:1. This was significantly lower than our World War II and Korean experience, which was 5:1 and sometimes higher. In our peak year of 1969 there were 6,550 cases of malaria in a Navy-Marine Corps population of 108,000, or roughly a case rate of 6.5%.

MALARIA

The troops with malaria, returning to the continental United States (CONUS) from the combat zone, had



ABOARD THE *REPOSE*.—HM3 David A. Howe discusses a patient's health record with a Navy nurse in the USS *Repose*. Detailed reports and records are kept on allied battle casualties to provide physicians with an accurate history of treatment and reaction. (Photo by PH1 D.F. Grantham, USN)

80% *vivax* malaria and 20% *falciparum* malaria. Our approach to malaria prevention and treatment in Vietnam consisted of so-called "malaria or mosquito discipline": (a) protective clothing, (b) insect repellent, (c) netting, (d) area spraying by air, and (e) the use of chloroquine-primaquine (C-P) as a suppressant.

The biggest waste of money and time in the entire war was the aerial spraying to reduce mosquito population. It was never delivered in the right place, at the right time, or in sufficient quantity to be effective. The nature of the warfare (hit-and-run, and no definitive front), and the hazards associated with delivering the spray over hostile territory were contributing factors to the overall failure.

Mosquito discipline with the doctrine of rolled-down sleeves became a casualty to the high heat and humidity. Mosquito netting during a surprise attack was something the forward troops quickly discarded.

Chloroquine-primaquine was very effective against *vivax*, but in the latter part of the war, the *falciparum* breakthrough rate was 70% (while still on C-P), gradually approaching 80% and higher at the war's end. The individual repellent was moderately effective when used, but much of its effect was diluted by the sweating induced by the climate.

One interesting side note is the fact that the Viet Cong (VC) and North Vietnamese had as much difficulty with malaria as we did. That may seem surprising for an indigenous population, but I know specifically that one group of mountain tribesmen who acted as scouts and went off with the marines for forays into the bush, came down with malaria as soon as they left

their single mountain and went on an expedition away from their own area. This was reinforced by the fact that our own malaria rates were directly related to the amount of contact our troops had, particularly, with the irregular VC!

One final comment on malaria. In spite of vigorous field-research effort, during the entire conflict we were never able to specifically pin down the majority of the principal human vectors of malaria, from the some 40 varieties of *Anopheles* present in Vietnam, although we did know that *Anopheles balabacensis* and *Anopheles stephensi* were important vectors. The lesson here again learned is that the combat zone ranged far and wide, and the risks of collection were great. The time for area research is certainly before combat and not during combat, if you can make such an arrangement!

The future for malaria control and treatment is still not bright. We are currently testing a wide-mesh non-restrictive vest which is impregnated with diethyltoluamide, gives off a cloud of repellent (much like a flea collar), and which seems to be accepted by the soldier and marine. Meanwhile, research continues for better suppressants and, hopefully, a specific.

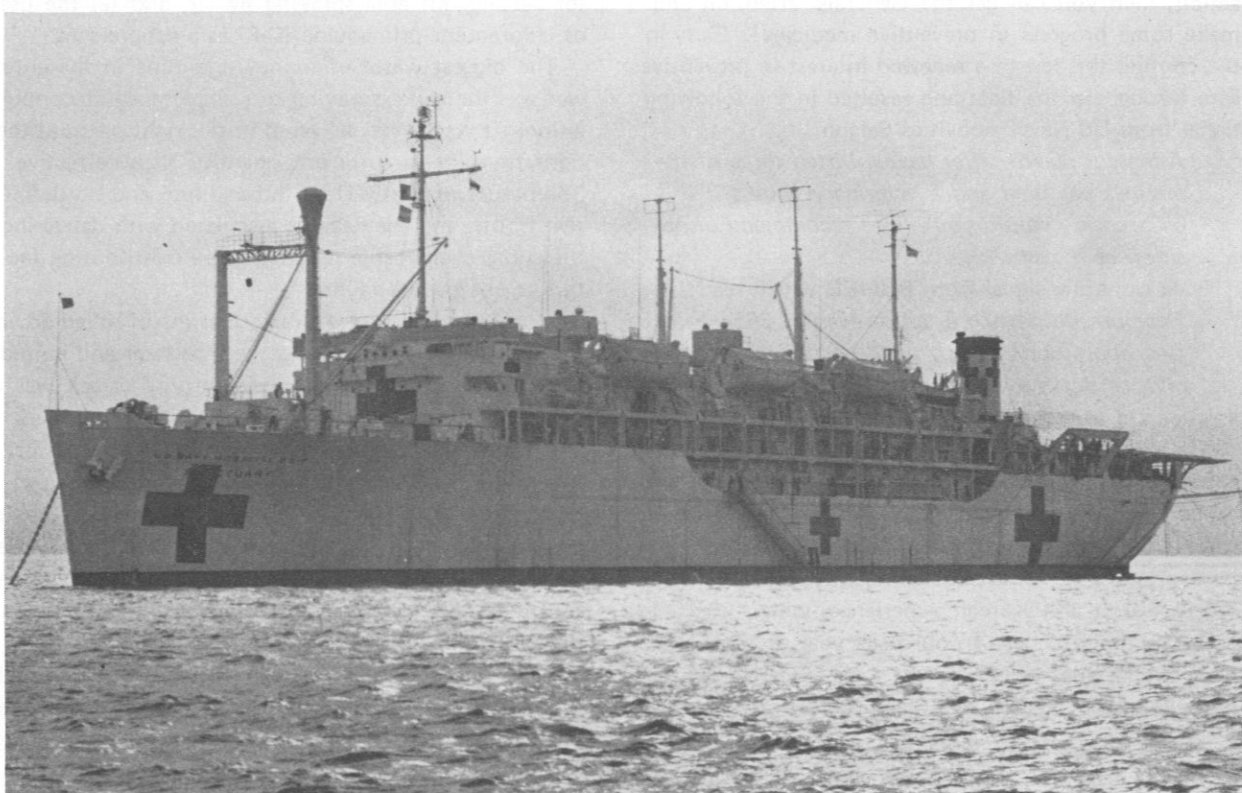
WATER-BORNE DISEASES

Water was the single agent causing the most medical ineffectiveness in the US troops in SE Asia. This refers of course to untreated, or ineffectively treated water causing dysentery.

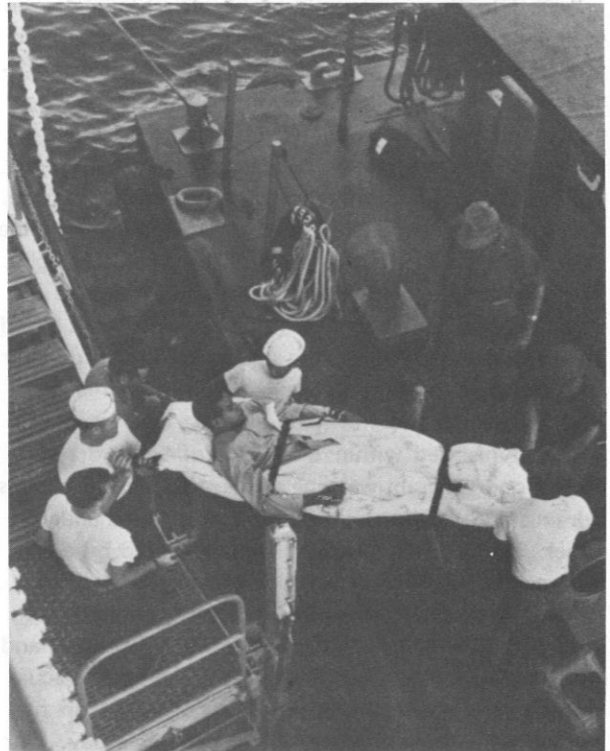
Shigellosis, along with dengue and viral influenza were the three most militarily significant diseases because they could, and did, without warning, cause a massive sudden epidemic which could cripple a field command in combat. In April 1968, in the Ashau Valley, one field unit had 7,000 cases of *sonnei* shigellosis. It was classically water borne, and it was traced to a temporary power failure supplying the chlorinators. The men running it had just by-passed the chlorinator, and we had 7,000 cases.

Bromination, using liquid bromine in a resin cartridge (a device with no moving parts) and delivering a concentration of 25 mg% holds great future promise for field use and, hopefully, will lower the risk of shigellosis and other water-borne diseases.

One large group of diseases, partially mislabeled as "fevers of unknown origin (FUOs)," was second only



LAST OF A LINE.—The USS *Sanctuary* (AH-17) rests at anchor in Danang Harbor. This is the last hospital ship on active duty. During four years of contributing support to combatant forces in Vietnam, almost 25,000 casualties (including 2,633 Vietnamese patients) were cared for aboard this vessel. (Photo by PH3 Dennis McCloskey)



SHIPPING OVER.—During the Vietnam conflict, two off-shore hospital ships were used as mobile definitive care facilities. Here patients are transported from shore to the USS *Sanctuary* (left), and brought aboard the hospital ship for care (right).

to malaria in significance. One third of the so-called FUOs were cases of scrub typhus, one third were dengue and other arbor viruses, and one third were not identified.

In spite of the terrain in SE Asia, "immersion foot" was not a major problem because the water temperature was warm.

RABIES

Rabies presented no significant problem, despite the fact that one fourth of the susceptible animal population was no doubt infected. There were only two documented rabies deaths in the US troops, even though every platoon had its own mascot. The conclusions drawn were, that in addition to our good fortune in this respect, rabies is not a very easy disease to catch. To quote the Iranian experiences where groups of rabid wolves have taken on a whole Iranian town — only one in six bitten Iranians contracts rabies. The veterinarians also did a good job in immunizing the pets, and duck-embryo vaccine was extremely effective when used promptly.

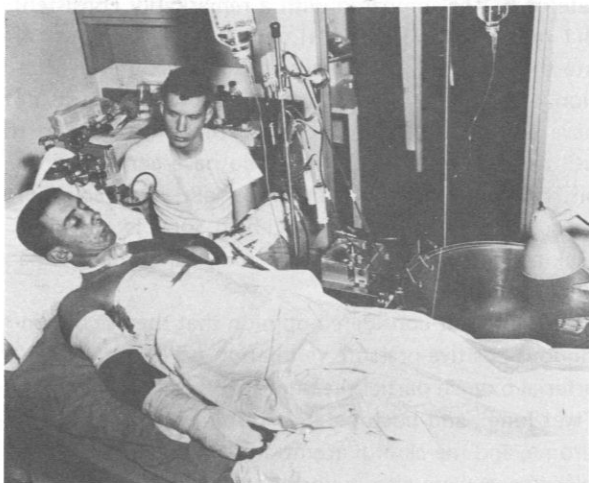
GENERAL OBSERVATIONS ON COMBAT CASUALTY RATES

There were approximately 200,900 wounded in Vietnam, and 43,800 killed. This was a wounded/killed rate of 5/1 as compared with a remarkably consistent 3/1 ratio in World War I, II, and Korea! Many attribute the improvement largely to the helicopter evacuation of casualties. In future situations, if we do not have control of the air, it may not be possible to utilize helicopters. Even if we do have control of the air, helicopters can still be extremely vulnerable because of such threats as hand-held rockets and heat seeking missiles, where a near miss can totally wipe out a helicopter.

It is also our considered opinion that the use of continuous positive-pressure ventilation (CPPV) to improve arterial oxygen partial pressure (pO_2) in combating the "wet lung" and postoperative respiratory distress syndrome, and the careful attention to fluid and blood replacement, were also major contributing factors in the improved survival rate. Our plan to use frozen blood in Vietnam quickly succumbed because of the problems that were encountered in the time (30-40 minutes)

required to thaw and deglycerolize (wash) the frozen cells, and the 24-hour expiration date imposed upon the cells after being washed. The time factor was critical and limiting in this situation. Demands for blood usage could not be predicted in advance before the casualty was observed, and advance preparation of the cells could not be suffered to preclude their wastage. When our two hospital ships went to sea early in the Vietnam conflict, they had a device called a Huggins Cytoglomerator T_n , which is a specific device to reconstitute frozen blood. When the surgeon needs blood he wants it quickly. So the frozen blood was quickly replaced by fresh blood obtained from the large reservoir in the US and flown to SE Asia daily, and usually administered within 5-10 days of being drawn. This blood program was one of the tri-service programs administered by our joint command at Commander-in-Chief, Pacific (CINCPAC), and implemented by a central regulating office in South Vietnam.

With a tri-service regulating office we similarly controlled the flow of patients to in-country hospitals and off-shore supporting hospitals, and in patient evacuation back to CONUS. When I first reported on the job we were regulating over 3,000 patients a day. Our Pacific Joint Medical Regulating Office was situated at Camp Zama, Japan, and in addition, we had a regional regulating office at Military Advisory Command Vietnam in Saigon. Early in the conflict before we had this regional patient regulating, casualties were sometimes flown to a hospital which was full while another hospital remained empty, or a patient with a head injury would be flown to a hospital which did not have



A PLACE OF SANCTUARY.—Navy hospital ships bring medical relief to servicemen wounded in combat. Here HM3 James M. Higdem observes a patient's clinical response on the artificial kidney machine in the USS *Sanctuary*.



HELICOPTER SUPPORT.—A helicopter platform in the USS *Sanctuary* extends benefits of modern field medical evacuation procedures to military and civilian patients. Here Le Hop, a blacksmith in the village of Ky Khuong, Vietnam, hurries with his son to board a CH-46 helicopter. Suffering from skull fracture with brain laceration, the child had been brought aboard with other casualties on 10 Apr 1967, the first day that *Sanctuary* was stationed off the coast of Vietnam.

a neurosurgeon while in another hospital two neurosurgeons would be hanging around with nothing to do. This incongruity was quickly solved with the establishment of a well coordinated regional regulating office.

The most desirable blood for transfusion is that which is fresh and type specific. However, the urgent nature of many of the severe wounds encountered forced the use of much O+ blood. Our experience showed that such a patient who had received up to three units of O+ could easily be switched to type-specific blood. More than that, it was desirable to continue with O+. Our experience also showed that such a patient usually reestablished his own type-specific blood after four days. Also, in the massive transfusion situation, it was highly desirable that the last two or three units to be administered be freshly drawn from resting or noncombat troops, to prevent bleeding and clotting disorders. The practice of using troop donors gradually declined with the availability of group specific, fresh, frozen plasma procured in the US.

NSA SURGICAL RESEARCH TEAM

Throughout most of the war, we had a surgical research team at Naval Support Activity (NSA), Danang. Some of the data and recommendations gleaned from

very detailed and interesting reports of that team are briefly addressed herein.

The wounding agent accounting for the most casualties was artillery (and its subsequent associated multiple fragment wounds); second, was gunshot; and third, were mines and booby traps. It was also interesting to compare wounding agents with combat experience. Men with little experience were much more prone to mine and booby trap wounding than were the older men who had had more combat experience. As a man's time in combat lengthened he was less subject to all types of wounding, and from looking at the statistics, it is probable that the learning experience had a lot to do with the propensity for not being wounded.

The peak of casualties was reached in 1968, when Navy and Marine Corps personnel sustained over 31,000 wounded, 60% of whom required hospital care. Of that 60%, 18% were returned to duty via CONUS hospitals,



STRIPPED FOR EXAMINATION.—A seaman removes the boots of a wounded Marine at the Naval Support Activity (NSA) hospital in Danang. During triage, stretcher bearers helped physicians and hospital corpsmen to disrobe casualties, so that patients could be quickly examined and the extent of their wounds assessed. (Photo by PHC Ken Nichols, USN)

7% were medically retired after treatment, 5% required prolonged treatment, and 69% were actually treated in Vietnam and returned to combat. The mortality rate for this group was 0.86%.

Head and neck wounds had the highest mortality, each contributing over 20% for a combined total of over 40%. Abdominal and thoracic wounds were next, each contributing approximately 13%. When the head and thorax or abdomen were both wounded, the mortality was the highest being over 45%. Body armor, it might be concluded, was more effective than the helmet and indeed this may be the case. However, in Vietnam the helmet was not always worn; because of the heat and nature of the country, floppy camouflage bush hats were worn and afforded no protection at all, except from the sun.

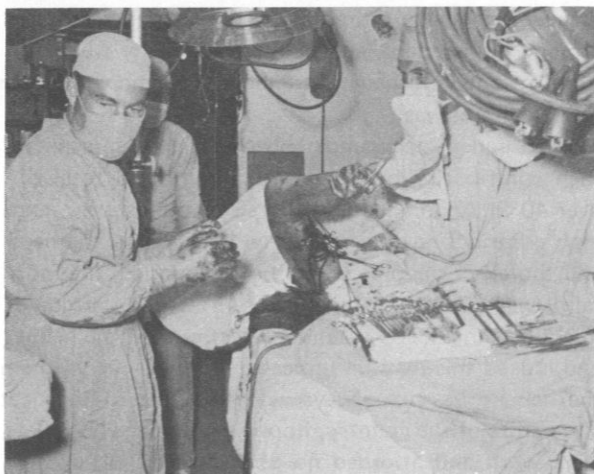
Penetrating neck wounds, some with very obscure, superficial-appearing entry wounds, were extremely deceptive. It was concluded by our senior surgeons after the war, that such patients presenting in the future should be explored without fail. Anything penetrating the layers of the skin would be worth exploring because of things such as nicks of the internal carotid artery, but more important, jugular vein lacerations. The latter type of wound contributed more to the higher mortality from neck injuries than anything else.

Compared to the Korean experience with penetrating abdominal wounds and a 12% mortality, there was little improvement during the Vietnam War with 10-11% mortality. This clearly is an area we need to look at in depth. The survival rate for thoracic wounds, on the other hand was considerably improved, probably due to the fact that we had people very attentive to maintaining airways and delivering partial pressure oxygen.

Infection as a postoperative cause for death was more significant than shock. Well over half the deaths of patients surviving four days, or more, were due to infection. This represents another compelling area for trauma research.

The art of triage came to a very high state during Vietnam, but it wasn't so when we first started. A working definition of triage is illustrated by the spectre of five severely wounded patients and only four operating rooms — that represents a triage situation. The seeming lack of triage in the field was something that most of the surgeons complained about. They commented that patients with minor wounds were being evacuated to the hospital with about the same frequency and time interval as the seriously wounded.

The actual end-of-war statistics, however, show that for every 100 wounded, 47% were treated by aidmen or forward medics, and were not evacuated to the



SURGICAL TEAM AT TIEN-SHA.—A surgical team goes into action at Camp Tien-Sha, NSA Danang. Artillery, gunshot, mines, and booby traps were the most significant wounding agents during the Vietnam conflict. In black-and-white reproduction, the reader cannot appreciate the obvious vascular compromise in this limb as evidenced by extensive color change visible on the original photograph in color.

hospital. It sounds like the same old story with the specialists at the hospital saying "That GP must not ever see the patients he sends to me." Although, there were bound to be some abuses.

A quick summary of our combat experience would be: treat them early and definitively with special attention to the airway, the fluids, and postoperative infection.

Throughout the conflict we had Navy doctors and corpsmen well out in the bush, serving as advisers to the provincial medical facilities. Despite this insecure exposure, few of our people were harassed or attacked, chiefly because it was impossible to tell the enemy (VC) from the friendlies, and all received the benefit of our assistance.

In the latter part of the war, our helicopter pilots in their debriefings, consistently told the debriefers that the enemy was *not* intentionally firing at our med-evac helicopters, despite the very small red cross appearing on an otherwise all-khaki camouflaged fuselage.

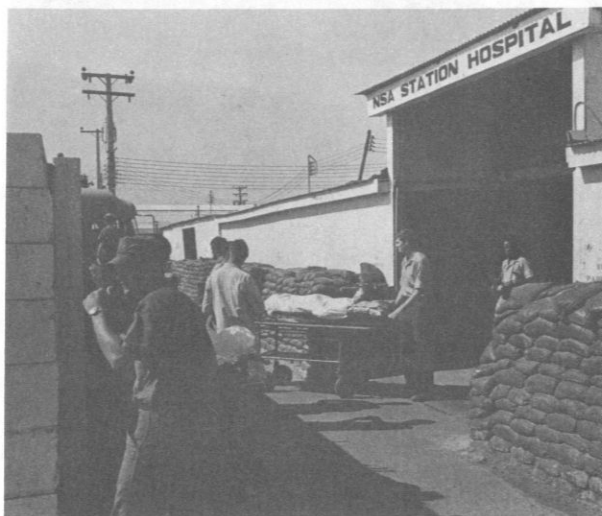
With considerable advance publicity, General Bernstein, the Military Assistance Command, Vietnam (MACV) surgeon, let it be known that all medically dedicated choppers would be painted all white with large red crosses, and the program was singularly successful when it went into effect. Again I might add that wounded VC were frequently brought out with our own wounded.

The latter part of the war is best described as an exercise in the art of "draw down," meaning a gradual

takeover of all medical support by Republic of Vietnam personnel. This they did with amazing success. From the US medical standpoint, the chancier part of the operation was the provision of adequate medical support to remaining elements and the 7th Fleet operations, for while ground troops were leaving in vast numbers, our naval operations reached an all-time peak. This was occurring at a time when we were withdrawing the troops, and when it was decided to mine Hanoi Harbor, knock out the bridges, and cut off the logistics. The Navy's tempo increased; ships were hit, and subject to "cook-off," when a shell goes off in the breach causing death and wounds. During this period of off-shore bombardment, mining, and heavy air strikes, we achieved success by using naval surgical teams positioned with the operating fleet.

Most of these teams are composed of personnel on loan for a period of 60 to 90 days from our major teaching hospitals, and they were flown to the Gulf of Tonkin. They were a team — a surgeon, an orthopedic surgeon and anesthesiologist, surgical operating room technicians, and male nurses — used to working together. Most off-shore casualties received definitive treatment at sea, and did not have to be evacuated.

The few off-shore casualties requiring additional long-term care were helicoptered to shore and flown by a C-9 jet hospital plane, an Air Force dedicated hospital plane with a range of about 3,000 miles. The C-9 aircraft holds 366 walking wounded and 18 litter cases; a nurses' station is built in, and an intensive-care unit is



MOVING DAY.—In May 1970, all inpatients at the Danang NSA Station Hospital were transferred to the USS *Sanctuary* prior to the hospital's deactivation. Many of the 200,900 servicemen wounded in Vietnam were cared for in this facility, which was handed over to the US Army on "Moving Day."



POW HOMECOMING.—Sitting amidst cheers and smiles as the C-141 Starlifter breaks ground in Hanoi is USAF COL Emil J. Wengel, PAO. Twenty servicemen were released from the flight from North Vietnam to Clark Air Base. All had been shot down and interned in 1966 and 1967.

situated in the rear of the plane. It has a speed of about 500 knots. It does not fly across the Pacific because of the range, but the C-9 is very useful in the interior and is being used to a great extent in the US. Casualties were flown in this hospital plane to Clark Air Force Base (AFB), or Yokosuka.

The drug problem in SE Asia was a low water mark for the US military, but it became less and less a problem with the draw down and end of the war. It partially reflected a failure in leadership and middle management (divisional officers and senior petty officers), but it also came about because of the setting, namely, a very unpopular war in a very unpopular place. There were many draftees, and it was not an all-volunteer force. These were major contributing factors. We suspect that some even came to Vietnam to get heroin where it was a lot cheaper than in the US. My advice would be to stay away from unpopular conflicts, maintain an all-volunteer force, stay away from areas where drugs are cheap, and certainly expect your junior officers and petty officers to be responsible for the welfare of their charges. At any rate, as my United Kingdom friends hasten to point out, we really can't hope to solve the problem at all until we have achieved their level of maturity and leadership.

In spite of the fact that it was an unpopular situation, there were less psychiatric patients during the Vietnam conflict than in the World Wars and Korea. Only 15% of the patients with neuroses and psychoses (considered together) required hospital care. The typical susceptible was a noncombatant junior or petty officer

shouldering heavy responsibility for periods of more than six months in active combat, not just in the zone. Similarly, most had a strong sense of responsibility and personal identification with their unit, and an excellent performance record under fire. Fortunately many of these cases of stress or situational anxiety (combat fatigue) returned to duty after 14 days of rest and therapy.

PRISONERS OF WAR

The return of our POWs early in 1973 was for me, personally, the most rewarding of my experiences as the Joint Command Surgeon. In early 1972, I was directed to visit all possible sites for receiving returning POWs, and to develop a system for their expeditious and safe repatriation, with special emphasis on a thorough medical work-up and rehabilitation. This project naturally had major political significance at the time, and most of us felt that the US news media were just waiting to make mincemeat out of us, if the entire operation did not go off smoothly.

There were numerous conferences and seminars, many with the few POWs whom the North Vietnamese and VC had released as a token during the war, as well as with World War II and Korean ex-POWs. There was much discussion concerning the speed of return, whether it was harmful to get back to the US too quickly; also what kind of food could be best tolerated, and numerous calculated guesses on the medical condition of returning POWs.

Well, we were more often wrong in our guesses than right, but the thing that saved the whole program was the fact that we had designed a flexible system, and the medical personnel running it were intelligent, flexible, and humane. All other things being equal, Guam and the Philippines were prime sites considered for the first phase of repatriation. Eventually Clark AFB and its hospital, commanded by COL Ord, received the nod because of the shorter flying time from Hanoi to Clark AFB, a little under two hours.

Between 11 February 1973 and 29 March 1973, 164 Navy and Marine Corps POWs were returned to US control. After a thorough medical work-up at Clark Hospital, the repatriates were transferred to military medical facilities nearest their homes. At Clark, each repatriate was assigned a military escort (same age, service, and specialty) who stayed with the POW until he was well on his way to recovery, or ready for return to duty. During this period I personally went to Clark and my assistant, CAPT Dan Good, remained there to coordinate naval medical activities for the entire interval. Additionally, six aviation medical residents from the naval aviation program at Pensacola took turns flying into Hanoi, out to Clark AFB with the returnees, and then on back to the US as the repatriates finished their initial medical evacuation. This proved to be a fine arrangement since we were handling many flyers, and the naval flight surgeons were worth their weight in gold.

Detailed medical evaluations were continued at 13 naval hospitals in CONUS. As of 1 November 1973, 125 returned Navy and Marine Corps POWs had appeared before medical boards. Of this number, 118 men have been returned to full duty, four to limited duty, and three were medically retired. There has been one tragic death, the suicide of a psychotic Marine POW. Thirty-one returnees are still undergoing evaluation and treatment.

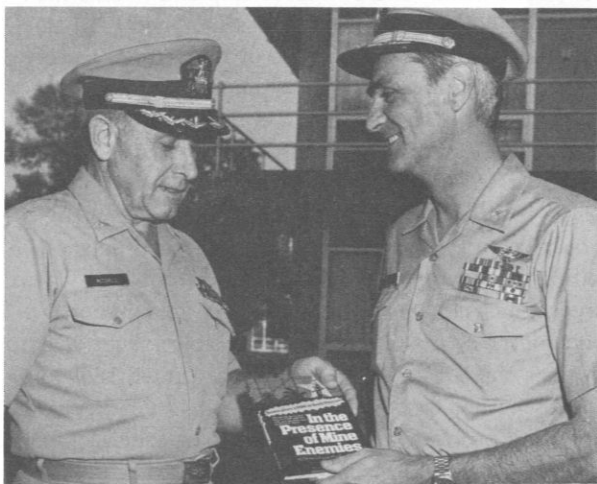
The most common diagnoses established for Navy and Marine Corps returned prisoners of war were, in order of prominence:

- Trichuriasis
- Ascariasis
- Dental caries and periodontal problems
- Amebiasis
- Deafness
- Hemorrhoids
- Nutritional deficiencies
- Peripheral neuropathy
- Prominent and disfiguring wounds and scars
- Thoracic and lumbar vertebral fractures.

The frequency of the foregoing conditions ranged from 42% for the trichuriasis to 8% for the lumbar

vertebral fractures. The trichuriasis and ascariasis were not surprising, neither were the dental caries and periodontal problems. One thing we might add to our Search, Evasion, Rescue and Escape (SERE) training is a bit of chew stick. Working a twig or piece of wood in between the teeth, to massage the gums, might help in the future to prevent periodontal problems. Some of the thoracic and lumbar vertebral fractures were, of course, due to aircraft ejection injuries. Long-term and short-term interval medical follow-ups are, of course, planned.

My own personal observations of our navy returnees, most of whom were carrier pilots, indicated that their overall condition and particularly their mental attitudes were much better than anything we had anticipated. In general, there was a significant history of beriberi, scurvy, and malnutrition during the long years of confinement (seven or eight years for many of the men), no evidence of which was noted at the time of repatriation. This was because during the negotiations which went on for over a year prior to release of the POWs, the North Vietnamese (not the VC) made a concerted effort to improve the well-being of their negotiable product. Some of our people died during imprisonment — many, no doubt, through intentional neglect. The severely ill and injured were kept alive with a minimum of technique and medicine. In general, North Vietnamese POWs were in better condition than the VC POWs, principally in the aspects of malnutrition and exposure. This was because the prisoners of the



AUTHORITY ON REPATRIATION.—CAPT Howard E. Rutledge (right), former POW and coauthor of book entitled "In the Presence of Mine Enemies," presents a copy of the book to CAPT Robert E. Mitchel, MC, USN (left) at the Naval Aerospace Medical Research Lab in Pensacola, Fla. CAPT Rutledge is participating in a study being conducted by CAPT Mitchel, wherein annual reevaluation of physical and mental status of repatriated POWs will be followed for the next 5 years.

VC were literally kept out of doors for three to five years, and tied to a tree at night; as the irregulars moved about the countryside, they dragged their prisoners along with them. If prisoners couldn't keep up, then that was just too bad. There was evidence that a few of our people lost the will to survive, turned their face to the wall and died.

There is no doubt in my mind that the reason why most of our people survived and did so well was that a good camp discipline was established, very clandestinely and very ingeniously. This contributed greatly to survival. These people were not maintained in a stalag, such as in World War II where regular exercise and a common mess hall permitted some congregation. They were kept in isolation, particularly the senior people, facilitating a breakdown in leadership, theoretically, as men are approached one at a time. However, the SERE training as mentioned before and aided by your own Sir Robert Thompson of Malaya, proved highly effective and had a major impact on survival. The senior camp commander and his subordinates, in each case were well identified; they managed to communicate by tapping on the walls or by leaving messages in a key place — perhaps paper notes stuffed in a nutshell, or wrapped in the bark of a twig.

These were men who are what we call walking memory banks, and when they first got back to Clark, even before they saw the doctor, each one of them wanted to unload. For six hours most of them, individually, gave names, ranks, serial numbers, dates of admission to camp, dates of deaths of the men and how they died, names of the guards, weather conditions, the food — it was just like turning on a tape and letting them all go. They had carried this information around with them for months, some of them for five, six or seven years.

There are still 1,233 missing in action who are still unaccounted for. We have a Joint Casualty Resolution Center which will keep searching for another four or five months, but the evidence seems to indicate that we are not going to get any sort of record on, or find any man who has not by now been repatriated.

And finally, don't let anybody tell you that nutritionally deprived men need a slow, gradually paced return to a normal high-calorie diet, because it just isn't true. A good way to commit suicide would have been to place yourself between the returning POWs and the chow line. They ate everything.

CONCLUSIONS

I would like to conclude my talk this afternoon with a brief look at our future problems, and how we are

hopefully planning to solve them. We are now in the postwar era, with the expected "We serve no Red Coats here" attitude very much in evidence.

We are living with the "all-volunteer force" concept which includes the end of the doctor draft. Personally, I think such a situation is more healthy than the previous era we have just come through. However, we will be faced with lower budgets and less people. The entire problem is compounded by a general crisis in civilian health-care delivery, and we must compete for scarce resources. The key to this problem lies in job satisfaction and competitive salaries. Simultaneously, there are government forces (nonmedical and medical) which seek to consolidate all federal medical care, with whom we must contend. The US Navy Surgeon General, VADM Custis, and I feel that the key to survival here is the unique operational medical requirements of the Navy. We intend to exploit this to the hilt.

Another healthy adjustment we must make, is to ensure the maximum utilization of our manpower in operational support and patient care. This we hope to achieve through an extensive regionalization, positioning of our resources in close alignment with Navy strength, and extensive use of adequately supported physician substitutes where the system can be accommodated with this level of skill.

A relatively stable peacetime situation is a good time to address improved shipboard habitability, sanitation, preventive medicine and readiness; and this we intend to do.

Everyone has some pet project or dream, and I have mine. It is, in a general sense, to exploit to the maximum some of the scientific accomplishments of this century, to our own ends. Specifically, the improvement of patient care in remote situations is pertinent. More specifically, I am interested in: a remote medical diagnosis system now under development; the use of fixed satellites for medical assistance; new concepts in patient transfer at sea, including helicopters, vertical take-off landing aircraft, and surface-effect craft; and the telemetering of vital physiologic data from small ships to larger ships.

Related subjects include a general review and significant upgrading of training for our independent-duty corpsmen (physician substitutes), and developing a continuum of refresher training for them which will expand their knowledge, skill and usefulness. This includes some packaged extension courses for use while they are at sea, and a relevant clinical program when they are ashore. On the fringes is an idea for a computer-programmed diagnostic logic and emergency-treatment regimen as an aid to the isolated medic. ☘

History of Retiree and Dependent Medical Care in the US Navy

The provision of medical care for dependents and survivors of active-duty Navy and Marine Corps personnel, as well as for retired personnel and their dependents and survivors, may be thought of in six distinct historical periods. These periods not only reflect the level of care rendered, but also demonstrate the conceptual evolution of dependent medical care.

FIRST PERIOD: 1799-1923

Beginning 1 Sep 1799, each Navy and Marine Corps officer and enlisted man, including retirees, contributed \$0.20 per month to the Naval Hospital Fund; this contribution was required by a law enacted 2 Mar 1799. Later, separate Navy and Marine Corps funds were established by a Congressional Act dated 26 Feb 1811. Several hospitals were constructed and maintained with money from the Naval Hospital Fund during the 19th century; among these facilities were the naval hospitals at Portsmouth, N.H., Chelsea, Mass., and Newport, R.I., which were built entirely with fund money. Collection of these funds was eventually discontinued in Fiscal Year 1944, in order to simplify accounting procedures.

One hundred years after the establishment of the Naval Hospital Fund, the Navy Personnel Act of 1899 provided that commissioned officers of the Navy were entitled to the same allowances, except for forage, as officers of the Army. The Navy therefore followed the practices set forth in the Army Appropriations Act

of 5 July 1884, which permitted medical officers and contract surgeons "whenever practicable, [to] attend the families of the officers and soldiers free of charge." While there is no indication that this policy was intended to be permanent, it was ultimately incorporated into the US Code and, thereafter, was apparently established as a precedent.

By 1917, the *Manual of the Medical Department* provided instructions for the admission of "supernumeraries" to naval hospitals for treatment under certain circumstances. The term "supernumeraries" was construed to include retired officers and men. The *Manual* contained provisions whereby the patients would be required to make immediate settlement in cash for rations furnished them. If preferred, ration notices would be sent to the pay officer having the accounts of the men in question; the pay officer would then make a proper checkage against the men's pay and allowances.

Although consistent growth in the number of naval facilities, and significant progress in the development of the Navy Medical Department continued through the years from 1799 to 1923, all efforts were concentrated on caring for the men and women serving on active duty. No provisions had yet been made to care for their dependents.

SECOND PERIOD: 1924-1942

A new period of change for health-care beneficiaries began around 1924 with a series of decisions by the Navy Comptroller and Judge Advocate General, culminating in the policy that certain hospitals might "be authorized and directed to render the maximum service

The information contained in the above article was provided by the Bureau of Medicine and Surgery, Patient Affairs Division, Code 39.

possible to the dependents of naval personnel, which can be rendered without undue interference with the service required for personnel itself." This judgment allowed a positive administrative basis for providing health care to dependents. The determination was subsequently sanctioned by budget presentations, with the ultimate emergence of Congressional appropriation acts based on these presentations. Although not specifically stated because of the lack of sophisticated planning procedures, it is believed that naval hospitals included beds for retired personnel and their dependents, on the basis of these sanctions.

THIRD PERIOD: 1943-1955

The third historical period began in 1943 with the passage by the Congress of Public Law 51, a declaratory act which essentially restated authorizations as limitations of then existing regulations of the Navy. Under this law:

- Dependents could obtain treatment from naval facilities only if adequate care was not available in an appropriate non-Federal hospital.

- The term *dependents* was defined as including "a lawful wife, unmarried dependent child (or children) under twenty-one years of age, and the mother and father of a member of the Navy or Marine Corps if in fact such mother or father is dependent on such member. The term 'child (or children)' shall include a natural or adopted child or stepchild. The widows of deceased naval and Marine Corps personnel shall be entitled to hospital care in like manner as dependents."

- Care was authorized only for acute surgical and medical conditions.

The limiting factors in this declaratory law clearly indicated the needs of the time (World War II); nevertheless, these provisions were considered highly important by the various groups who would become involved in drafting future legislation culminating in the Dependents' Medical Care Act of 1956.

FOURTH PERIOD: 1956-1966

This fourth historical period emerged in 1949 when Congressman Olin E. Teague, Democratic Representative from Texas, introduced HR 5870. Amending Public Law 51, HR 5870 provided care in medical facilities of the uniformed services for unmarried widows and children of deceased members. Although this bill, and three other similar bills proposed over the next

four years were not passed, Government concern was apparent. The Department of Defense established an independent Citizens Advisory Committee, headed by Dr. Harold G. Moulton, to conduct a comprehensive and thorough study of the entire problem of medical care for dependents of military personnel. This study revealed that medical care could not be provided for approximately 40% of all military dependents, because military medical facilities were not always accessible. The Moulton Committee recommended that the medical care program for dependents in uniformed-services facilities be supplemented by a somewhat similar medical care program in civilian medical facilities at Government expense. DOD endorsed this position, forwarding the recommendation to Congress on 7 Mar 1955. A succession of bills followed. Finally HR 9429, introduced on 20 Feb 1956 by Congressman Paul J. Kilday, Democratic Representative from Texas, was passed by the House on 2 Mar 1956 and by the Senate on 14 May 1956; it was signed by President Dwight D. Eisenhower on 7 June 1956, thus becoming Public Law 569: The Dependents' Medical Care Act, effective 7 Dec 1956.

The passing of this milestone piece of legislation in 1956 marked the substantive point of the fourth period in the development of dependent care. This law introduced the element of "right" to medical care; it provided for a uniform program among the Services, and for care of dependents of active-duty personnel in civilian facilities at Government expense. Further, the Congress included a clause stating that care of military retirees and their dependents would be "subject to the availability of space and facilities, and the capabilities of the medical and dental staff." This clause, in effect, changed medical care for retirees from a right to a privilege — something that may be given if certain conditions exist — in this case the availability of bed space and clinical facilities, and the capability of the professional staff.

FIFTH PERIOD

For historical reasons this fifth period has no specific date of origin, but theoretically, it ended in 1966. This period may be said to have commenced in 1961, when development of hospital-bed requirements in new construction was under examination. The method of determining bed requirements for a hospital had been based on population, by category of personnel and hospitalization rates. During Congressional consideration of the Fiscal Year 1962 Military Construction Appropriation Bill in 1961, it was decided that, in the

future, the Department of Defense would not be expected to program beds for retired personnel in new construction. In 1962 the Bureau of the Budget and the Secretary of Defense adopted this official policy, applicable to the Fiscal Year 1963 Military Construction Program and to all subsequent programs.

By approving the language of the Dependents' Medical Care Act of 1956, the Congress probably did not intend to reduce the scope of medical benefits long accorded retirees and their dependents; yet subsequent events of a different, but related nature did result in such a reduction, and hospital beds for military retirees and their dependents were not replaced in new and/or replacement hospital construction. Based upon a review of justification data for hospital beds programmed prior to 1962, the formulation of requirements for replacement construction of hospital beds apparently led to a consideration of all classes of personnel authorized to receive medical care and treatment in naval hospitals, including retired personnel. However, subsequent hospital-bed construction authorized in the Fiscal Year 1963, 1964, and 1965 Military Construction Programs did not include retired personnel and their dependents in the justification for bed requirements.

Revisions in the medical care law were few and inconsequential during this period. Adequate uniformed services facilities were available, and medical care was being provided on request to retired personnel and dependents to the extent desired, except in specific locations where facilities were lacking. Nevertheless, measures had already been taken to insure that necessary inpatient care could be obtained from civilian sources for the active-duty dependent.

The qualification in the law creating the Dependents' Medical Care Act which stated that care for retired personnel and their dependents could be provided "subject to the availability of space, facilities, and capabilities of the professional staff" caused an impact not fully realized until the retired population, including dependents, began to increase rapidly. Many retirees settled in areas close to large military installations with medical facilities. The medical facilities in those areas soon found it difficult to care for the increasing number of retirees. This phenomenon, coupled with the restriction on programming hospital beds for retired personnel and their dependents, made it clear that the demand for medical services would soon exceed existing medical capabilities within the Services.

SIXTH PERIOD: 1966-Present

The Uniformed Services Health Benefits Program (USHBP), which includes the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), became fully effective on 1 Jan 1967. The USHBP was derived from the Military Medical Benefits Amendment of 1966 (Public Law 89-614) in which the program for medical care of dependents of active-duty personnel was redeveloped. Compared to CHAMPUS, the Dependents' Medical Care Act (Public Law 569) was very limited in scope, applying only to dependents of active-duty personnel and providing for short-term hospitalization in civilian facilities. On the other hand CHAMPUS provided for extensive outpatient care and expanded inpatient benefits, by removing the restrictions which were embodied in the original Public Law 569 of 1956. Additionally, for the first time retired personnel and their dependents, as well as dependents of deceased personnel, were entitled to obtain medical care from civilian sources. A special program also authorized care for active-duty members' dependents suffering from serious physical handicaps, or moderate-to-severe mental retardation.

The Uniformed Services Health Benefits Program, of which CHAMPUS is a part, provides for comprehensive medical care. Since the wording of the law may be interpreted broadly, most health care and procedures which are generally accepted as being part of good medical practice are included for coverage, except for a few benefit areas which the law specifically excludes from coverage. Because the wording of the law was so general, it has not been necessary to ask Congress for many amendments. However, Public Law 92-58 was passed on 29 July 1971, expanding the Handicapped Program to include survivors of members who died while eligible to receive hostile fire pay, or from an injury or disease incurred while eligible for such pay.

With the end of the doctor draft in 1973 and the subsequent shortage of general medical officers in Naval medical facilities, increasing numbers of dependents and retirees may have to make use of these supplementary, Navy-funded health care programs. However, it is still Navy policy to make full use of all military medical facilities, and to use these supplementary sources of health care only when no military resources are available. ☹

Clinical Evaluation of a Single-Tufted Toothbrush for Plaque Removal

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and

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The establishment of a technique for plaque control is an absolute requisite to the successful treatment and prevention of dental caries and periodontal disease. The only proven means of plaque control to date is the physical removal of accumulated bacterial plaque/debris material by tooth-cleansing devices. Hence, it is natural that considerable attention has been directed toward developing techniques for removing bacterial plaque rapidly and effectively.

Studies have been reported which demonstrate that both manual and electric toothbrushes are effective in the removal of dental plaque.¹⁻¹⁰ Varying degrees of effectiveness have also been reported for other devices, such as dental floss and tape, soft wooden probes and toothpicks, gauze, water brushes, and three-ply nylon

yarn. Recently, a new single-tufted toothbrush attachment* for an electric toothbrush holder** was designed for use as an adjunct in interdental cleansing, as well as cleansing of other inaccessible areas of the dental arches (See Figure 1).

This study was undertaken to evaluate the effectiveness of the single-tufted attachment as an adjunctive



Figure 1.—A single-tufted toothbrush attached to electric holder.

This study was supported by the Bureau of Medicine and Surgery, Department of the US Navy, under NGDS Research Project No. MR041.20.02-6052B3ID.

The opinions or assertions contained herein are those of the authors and are not to be construed as official, or reflecting the views of the Navy Department or the naval service at large. References to commercial supplies and sources are not intended to imply endorsement by the US Navy, or the naval service at large.

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*Interproximal brush RB-43, General Electric Co., Bridgeport, Conn.

**General Electric Model TB-9, General Electric Co., Bridgeport, Conn.

method of plaque removal, and to determine its abrasive effect on gingival tissue.

MATERIAL AND METHODS

A total of 21 dentists at the Naval Graduate Dental School, NNMC, Bethesda, Md., served as the subjects in this investigation.

All subjects received a prophylaxis administered by a dental hygienist, and the teeth were stained with a 1.3% erythrosin dye disclosing solution to verify the presence of a dental-plaque score of zero. The subjects were requested to abstain from tooth cleansing for three consecutive days, after which the teeth were examined and stained; all surfaces of the teeth were scored using the Navy Plaque Index (modified).¹⁰ A total of 560 teeth were evaluated by the same investigator during each examination.

The dental officers were instructed to cleanse their teeth without the aid of a mirror, employing their own method of plaque control. Use of a mirror during the cleansing procedure was not permitted because viewing of the stained plaque might influence the results. A variety of toothbrushing techniques was used, including the use of manual and electric toothbrushes. If floss, dental tape, or other dental paraphernalia was normally utilized by the subject in his daily tooth-cleansing routine, he was told to continue using it. No limit was placed on the amount of time that could be spent in cleansing. When the subjects believed that all plaque had been removed, the teeth were restained and a plaque score was recorded.

The subjects then received instruction on the use of the single-tufted brush, attached to the electric toothbrush. They were told to place the tip of the tuft at the gingival crevice, by feel, and with the switch turned to the "back and forth" position, to trace the gingival margin throughout the mouth, facially and lingually. The proposed technique was demonstrated on a model. The subjects were asked to pay particular attention to the gingiva at the interproximal spaces. As before, no one was permitted to use a mirror and no time limit was set for the cleansing process. The subjects were reexamined and scored again, after tracing the gingival margin and interproximal spaces.

An evaluation was also made to compare the degree of abrasiveness to gingival tissue resulting from the single-tufted tooth brushing method, and from the officers' own methods of plaque control. Ten days after the first part of the study had been completed, the subjects returned to the clinic and were again asked to cleanse their teeth using their own method. This time, however, they were permitted to use a mirror. When

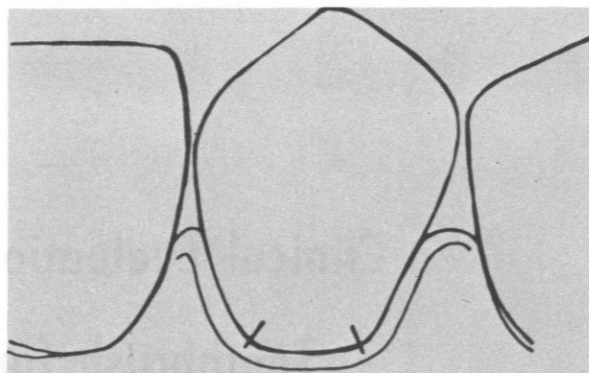


Figure 2.—In scoring abrasion, the free gingiva of the buccal and lingual sections was divided into three parts. Each part was assigned a value of one, with a total possible score of six for the surrounding gingiva of each tooth.

the subjects had finished brushing, the teeth and the gingiva were examined and the number of gingival abrasions was counted. In scoring, the free gingiva of the buccal and lingual sections was evenly divided into three parts. Each part was assigned a value of one, with a total possible score of six for the surrounding gingiva of each tooth. (See Figure 2) A total of 3,360 areas in the mouths of 21 subjects were examined for evidence of abrasion.

The subjects were then instructed as before in the use of the single-tufted brushing method, except that this time they were permitted to use a mirror. When each subject had traced around the gingival margin, a second gingival-abrasion count was made and recorded.

RESULTS

The mean plaque scores, attained by implementing the subjects' own cleansing methods and the single-tufted brushing method, are shown in Table I. Mean initial plaque indices ranged from 39 ± 15 to 87 ± 24 . The lower score of 39, determined on the lingual surfaces of the maxillary arch, differed significantly* from other indices of the initial plaque. Indices scored on surfaces cleansed by the subjects' own methods did not differ significantly,** as was also the case with the indices scored by the single-tufted brushing method. Scores resulting from the subjects' own methods of brushing ranged from 15 ± 9 to 24 ± 23 , yielding a significant mean reduction of 70% from initial plaque scores.†

When the single-tufted brush was used as an adjunctive method, all subjects removed additional plaque

* $p < 0.01$, by the Student t Test.
** $p > 0.05$, by the Student t Test.
† $p < 0.01$, by the Student t Test.

TABLE I.—EFFECT OF TOOTH CLEANSING METHODS ON PLAQUE REMOVAL

Tooth Surfaces	Initial Plaque Index†	Subjects' Own Methods		Single-tufted Brushing Method	
		Index†	Reduction (%)	Index†	Reduction (%)
Maxillary Arch					
Buccal	87 ± 24	15 ± 9	83	3 ± 5	97
Lingual	39* ± 15	17 ± 14	56	4 ± 7	95
Mandibular Arch					
Buccal	78 ± 25	17 ± 12	78	3 ± 7	96
Lingual	64 ± 25	24 ± 23	<u>63</u>	5 ± 9	<u>92</u>
		Mean percent reduction 70		95	
†Mean and standard deviation for 40 samples per category. *Lingual initial index of maxillary arch is significantly different from index of other surfaces (p < 0.01, by the Student t Test).					

from their teeth. Some subjects achieved a plaque score of zero, while the mean plaque score ranged from 3 ± 5 to 5 ± 9. This represents a 95% reduction from the initial plaque scores, and a 25% reduction from the scores attained with the subjects' own methods of tooth cleansing. These results were significant at the 1% level of confidence. †

Some gingival abrasion was associated with the subjects' own methods of brushing, as well as with the use of the single-tufted brushing method. Of the 3,360 areas examined, five presented abrasions after use of the subjects' own techniques and eight new areas were noted following use of the single-tufted brush, for a total of 13 areas of abrasion. These differences were not significant. ††

DISCUSSION

The results of this study indicate that dentists experienced in plaque-control concepts can significantly reduce personal plaque by applying their own method of tooth cleansing. However, they can even further reduce personal plaque by employing a single-tufted brush, powered by an electric toothbrush.

It was surprising to discover that dental officers could remove only about 70% of plaque from their

own teeth by using their own cleansing method. This was particularly discouraging because these were professional men whose experience and knowledge should lead them to choose the most effective and modern means available for plaque removal. On the other hand, it was encouraging to find that the powered monotufted brushing method could rapidly remove an additional 25% of the 3-day plaque accumulation with comparative ease, and without any abrasion of the soft tissues. Clinical experience has demonstrated that this brushing method is particularly effective in cleansing inaccessible areas such as interproximal regions, root concavities, areas of toothbrush abrasion, exposed furcations, root amputations and malpositioned teeth, and in areas of gingival hyperplasia. However, studies are needed to accurately assess this clinical impression.

SUMMARY

Twenty-one dentists were the subjects in a clinical evaluation of a single-tufted brush in an electric toothbrush holder, as an adjunctive method of plaque removal. They refrained from exercising any plaque control for 3 days, after which their teeth were scored for plaque. They were then asked to remove all plaque by employing their own method of tooth cleansing, and the teeth were scored again. Finally the subjects were asked to use the single-tufted tooth brushing method. Mean plaque scores determined after the initial plaque

† p < 0.01, by the Student t Test.
 †† p > 0.05, by the Chi Square Test.

buildup were compared with scores determined after the subjects applied their own cleansing method, and after they used the single-tufted brushing method. Results indicated that dentists could effectively eliminate 70% of the 3-day plaque accumulation by application of their own customary method. With the single-tufted brushing method, an additional 25% of plaque was removed.

The minimal amount of gingival abrasion produced by the single-tufted brush was not significantly greater than the amount noted after the subject applied his own method of cleansing.

It was concluded from this study that the single-tufted brushing method is both effective and harmless to tissues, when used as an adjunct to other tooth-cleansing techniques.

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OUTSTANDING RESERVE OFFICER CHOSEN



CONGRATULATIONS ARE IN ORDER.—LT Joe Steiner, USNR-R (right), administrative officer, Dental Company 6-3, Charlotte, NC, receives a plaque for exemplary performance from Apollo astronaut Jack Swigert (left). LT Steiner was selected by his peers as "outstanding junior officer for USNR" in the Charlotte area. Astronaut Swigert made the presentation at the annual meeting of the Reserve Officers Association (ROA), Department of North Carolina.—PAO, ROA Chapter 5.

PEDIATRIC PATIENTS ENTERTAINED



CLOWNING AROUND.—Blinko the Clown recently entertained young patients on the pediatric ward of the National Naval Medical Center, Bethesda, Md., with a display of balloon animals and other tricks of his trade. Blinko (alias Ernie Burch) is a member of Circus America.—PAO, NNMCM, Bethesda, Md. (Photo by HM2 G. Silk)

Regional High Risk Perinatal Care: A Triservice Concept

By LCDR Brian S. Saunders, MC, USN*

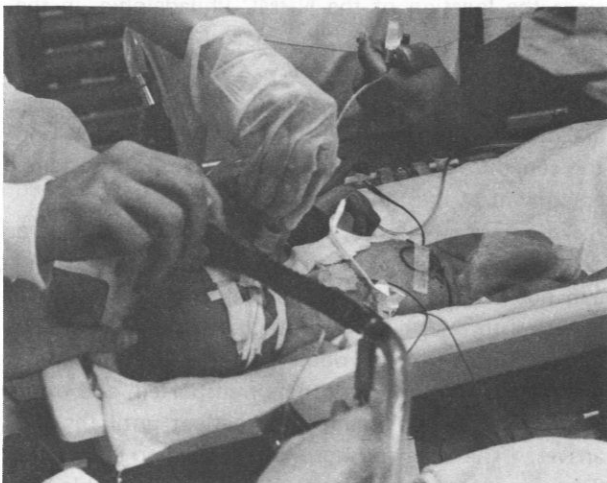
and

CAPT William M. Bason, MC, USN,**

Naval Regional Medical Center,

Philadelphia, Pennsylvania 19145.

The goal of Pediatrics is to help each individual develop to the limit of his capacity or potential, and thus increase his chance of becoming a mature, productive, and happy adult. This goal is at its greatest jeopardy in the newborn period.—Richard E. Berman, M.D.¹



THE NEED AND PURPOSE

Major advances have been made in the delivery of perinatal health care during the past two decades. One of the most significant events was the policy adopted by the House of Delegates of the American Medical Association in the summer of 1971, regarding the regional approach to perinatal care. Recommendations were made, urging the development of centralized perinatal intensive-care units in appropriate regions or communities.² These units were to be accompanied by programs for the early detection of high-risk pregnancies; and for the early identification of high-risk infants, so that prompt transfer might be made to those hospitals providing optimal perinatal care. It has been shown that the first-week mortality of infants without ready access to such regional neonatal intensive-care units is twice that of infants born at hospitals with access to such facilities.^{3,4,5}

Approximately 50% of all pediatric deaths occur in the neonatal period.⁶ The major causes of death are: prematurity, respiratory distress syndrome, perinatal asphyxia, infection, and congenital malformations.⁶ Each one of these disorders also contributes to the neurologic and physical handicaps presented by survivors. There is considerable evidence that early treatment of many of these conditions will improve survival rates, and decrease morbidity rates.^{8,13,14} Improvements in perinatal intensive care in the past few years have resulted in a lowering of the neonatal death rate from 24/1000 live births in 1964, to 17/1000 live births in

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

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1972. There is also evidence that these rates could be further improved if present intensive-care techniques were made available to all appropriate individuals.^{3,4,5}

Perinatal intensive care requires complex equipment and a large number of qualified personnel. Such care is expensive and is generally available only in large medical centers. Most deliveries in the United States occur in hospitals which do not possess a neonatal intensive-care unit. It is neither practical nor possible to equip each facility with such elaborate equipment and trained personnel.

A more realistic approach to the problem of making perinatal intensive care available to those mothers and babies who need it, is to establish regional perinatal-care centers consisting of a high-risk obstetric service, a neonatal intensive-care facility, and an emergency transport service to the referral center. Such perinatal centers provide the following services:

1) Detection of risk: Development, improvement, and availability of techniques of monitoring pregnancy, labor, and delivery are offered, so that pregnancies at risk may be detected earlier and diagnosed more accurately.

2) Referral of high-risk pregnancies: Recognized high-risk pregnancies should be referred to the regional perinatal-care center for management and delivery. This referral system should be formalized so that minimal communication problems occur. In most instances, the best transport incubator is the mother's uterus.⁸

3) Neonatal intensive care: There is available a neonatal intensive-care unit, in close proximity to the high-risk delivery service.

4) Neonatal emergency transport service: A high-risk infant transport system is available so that premature or sick infants may be transported to the regional neonatal intensive-care unit. At the present state of knowledge, approximately 50% to 75% incidence of high-risk infants can be anticipated prior to delivery.³

A system of regional high-risk perinatal care is expensive, often costing \$10,000 to \$20,000 per baby. However, this cost is insignificant when one compares it to the loss of potential lifetime earning power, productivity, and value to the community if an individual is severely disabled. The estimated cost of caring for a person with mental and/or physical disabilities over a normal life span totals almost \$250,000.³

THE PERINATAL PROGRAM

Emergency Transport System

In August 1972, the Department of Pediatrics at the Naval Regional Medical Center (NRMC) Philadelphia,



NICU.—The neonatal intensive care unit (NICU) at the NRMC Philadelphia, Pa.

Pa., developed a concept of regionalization to extend perinatal health care to the patients of military medical facilities within its geographic region.

The neonatal emergency transport system (ETS) serves the military and retired dependent population within a 100-mile radius of the NRMC Philadelphia. Within this area are four military facilities providing obstetric care. From September 1972 through August 1973, 2,699 babies were delivered at these four outlying hospitals and the NRMC Philadelphia.

The ETS uses ambulance land transport, exclusively, since the location of the NRMC Philadelphia, in the northeastern megalopolis, has made helicopter or fixed-wing air transport unnecessary. Standard US Navy sedan-type ambulances are used. These ambulances are modified by the removal of the adult litter, and the substitution of the emergency transport system equipment at the time of referral.

To activate the ETS, the referring hospital calls a special emergency phone number at NRMC Philadelphia, and notifies the nursery or pediatric watch officer of the need to refer a patient. *No request is denied.* The pediatric watch officer obtains as much information as possible about the patient to be transported, and offers suggestions for maintaining the patient until the ETS arrives. The referring hospital is asked to fill in the *Transfer Information Form*,¹⁵ which is available in their nurseries. (See Figures 1A and 1B) The pediatric resident then alerts the transportation pool, and an ambulance with attendant is dispatched to the neonatal intensive care unit (NICU) area where the pediatric ETS equipment is placed on board (See Figure 2). The equipment and drug items which are routinely taken on ETS runs are listed in Tables I and II.

NRMCM, Philadelphia, Pa.
Regional Infant Intensive Care Unit
Transfer Information Form

Infant Name: _____
Hospital Number: _____
Religion _____

Mother's stamp

Date of birth _____ Time _____ Sex _____ Race _____ Birth wgt _____

Date of Transfer _____ Referring Hospital _____

Referring Pediatrician _____ Tel. No. _____
address _____

Referring Obstetrician _____ Tel. No. _____
address _____

Head Nurse _____ Nursery Tel. No. _____

Mother's name _____ Tel. No. _____
address _____

Father's name _____ Tel. No. _____
address _____

Nearest relative _____ Tel. No. _____
address _____ Relationship _____

Sponsor's Rank _____ Active _____ Retired _____

Duty Station _____ Branch of Service _____

Social Security No. _____ Duty Phone _____

Pregnancy: Mother's age _____ Race _____ Gr _____ Para _____ Ab _____

Blood type: ABO _____ Rh _____ serology _____

LMP _____ EDC _____ Gestation (wks) _____

Past pregnancies:	Dates	Outcome (L, SB, Ab)	Sex	Wgt
	_____	_____	_____	_____
	_____	_____	_____	_____

Prenatal History:

Rubella	Polyhydramnios
Hypertension	Toxemia
Urinary tract disease	Threatened Abortion
Anemia	Other (list) _____
Medication during pregnancy — type _____	

Figure 1A.—Transfer Information Form, page 1.

Labor

Onset: Date _____ Time: _____ Duration: _____

Membranes ruptured: Date _____ Time _____ a.m. _____ p.m. _____ Spon. _____ Int. _____

Complications: _____

Analgesia: (Amt. & Time) _____

Time on delivery table before birth: _____

Delivery

Type: (circle) Spontaneous, vertex, outlet forceps, mid forceps, breech, C-section, other Anesthesia (type and duration) _____

Complications _____

Placenta

Appearance: normal _____ abnormal (describe) _____
(yes)

Cord: No. vessels _____, blood sample obtained (no) _____

Infant

Apgar: 1 min. _____ 5 min. _____

Eye prophylaxis (type) _____ Vit. K (amt) _____ PKU (no) _____
(yes)

Resuscitation (no) _____ Duration _____ mins. -O₂ needed _____ mins. _____

Hospital course: symptoms: _____

onset: _____ duration: _____

feedings (amt/feeding) _____ vomitus (amt/24 hrs) _____

urine (amt/24 hrs) _____ stools (amt/24 hrs) _____

Treatment: _____

Lab results: _____

To accompany infant:

- Tube of mother's clotted blood
- Signed consent forms
- All available X-rays
- All available laboratory results
- Completed "Transfer Information Form"

Figure 1B.—Transfer Information Form, page 2.

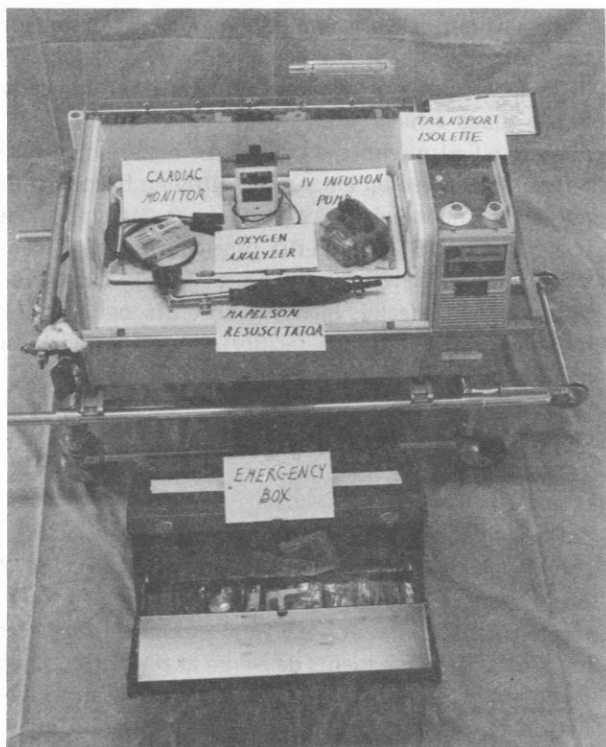


Figure 2.—Special pediatric neonatal emergency transport system (ETS) equipment is placed in the ambulance dispatched to receive high-risk patient.

The time interval between receipt of the request and dispatch of the ETS ambulance is usually less than 20 minutes. A physician with special training in high-risk newborn care accompanies the ambulance attendant. Frequently medical students elect to participate. Upon arrival at the referring hospital, the ETS physician examines and evaluates the infant, administering whatever therapy may be required to stabilize the clinical status. Procedures such as institution of intravenous-fluid therapy, insertion of umbilical catheters, and endotracheal intubation are performed prior to transporting the infant. A nasogastric tube is inserted in all patients transported. The ETS Transfer Information Form, the infant's chart, X-ray studies, and a tube of the mother's blood are also obtained. If the infant's condition permits, the ETS physician speaks with the infant's parents prior to transporting the patient. Signed parental consent for transfer is always obtained. Regardless of the condition of the infant, a cardiac monitor* is used during transport. If parenteral fluids are given, infusion is controlled with a battery-powered infusion pump.** Oxygen administration is monitored

*Cardiobeeper, NARCO Medical Services, Warminster, Pa.

**Holter Pump, Model 907, Extracorporeal Medical Specialties Inc., Mount Laurel Township, N.J.

TABLE I

EMERGENCY TRANSPORT SYSTEM (ETS) EQUIPMENT:

- Neonatal transport incubator
- Battery-powered infusion pump
- Battery-powered oxygen monitor
- Battery-powered cardiac monitor
- E cylinder oxygen tank
- Self-inflating ventilating bag
- Pediatric emergency drug and equipment box

TABLE II

Contents of Pediatric Emergency Drug and Equipment Box:

I. DRUGS

- Naloxone HCl
- Digoxin
- Sterile water
- Isoproterenol HCl
- Epinephrine HCl
- Diazepam
- Furosemide
- Calcium gluconate
- Potassium chloride
- Sodium bicarbonate
- Glucose, 50% solution
- Atropine sulfate
- Hydrocortisone sodium succinate
- Sodium chloride solution
- Dextrose in water, 5% solution
- Dextrose in water, 5%, plus 0.9% NaCl solution

II. EQUIPMENT

- Stethoscope
- Intravenous infusion set
- Intravenous extension tubing
- Scalp-vein needles
 - 25 gauge-short
 - 23 gauge
 - 21 gauge
- Polyethylene intravenous around-needle catheters
- Laryngoscope handle
- Laryngoscope blades
 - No. 0, curved
 - No. 1, curved
 - No. 1, straight
- Spare laryngoscope bulbs
- Spare batteries, size C
- Oral airways: large, medium, small
- Oral tracheal tubes: 7mm, 5.5mm, 5mm, 4.5mm, 4mm, 3.5mm, 3mm, and 2.5mm. (All tubes with adaptors.)
- Syringes: 30cc, 10cc, 2.5cc, and Tuberculin type.
- Needles: 18 gauge, 21 gauge, and 26 gauge.
- Suture packs, 4-0 silk with curved needle.
- Paper tape, 1 inch and 1/2 inch.
- Adhesive tape, waterproof, 1 inch.
- Feeding tubes, 8 Fr., and 5 Fr.
- Suction tubing, 10 Fr.
- Umbilical artery catheters: 3.5 Fr., and 5 Fr.
- DeLea mucus trap
- Flexible probe
- Forceps, large
- Hemostat, curved
- Scissors, curved
- Stopcock, 3-way

with a battery-powered, continuous reading oxygen analyzer.* The infant's condition is closely observed by the ETS physician on the return trip to the NRMC Philadelphia. Upon arrival at NRMC Philadelphia, the patient is admitted to the NICU for further evaluation and treatment. It is particularly important to note that the mother usually remains as a patient at the referring hospital, and good communication with the staff of that hospital is maintained.

When the condition of the infant has improved to the point that he no longer needs the facilities of the NICU, he may be transferred back to the referring hospital. This permits closer contact between the infant and parents, and also frees a needed NICU bed.

It is necessary to emphasize the importance of early recognition and referral of problem patients. No purpose is served in delaying to await infant deterioration prior to referral. Furthermore, available data suggest that early recognition and referral improve morbidity and mortality statistics.^{4,8,9,10,11,12}

The NICU of NRMC Philadelphia is not equipped to handle neonatal cardiac or thoracic surgical cases. Such cases are referred to the Children's Hospital of Philadelphia. However, the ETS does transport such patients from the referring hospital to the Children's Hospital of Philadelphia, if appropriate.

Regional High-Risk Obstetric Care

During the first year of the ETS, from 1 September 1972 to 31 August 1973, a system of referred high-risk obstetric care was developed. We feel that the practical application of this concept of patient care is the most important aspect of any perinatal regionalization program. It has long seemed inappropriate to deliver known and anticipated high-risk pregnancies in outlying hospitals which have no, or inadequate staff and facilities to care for the high-risk infant involved. It would seem more logical to refer the known high-risk pregnancy to the regional center for delivery of the high-risk infant, for in most cases, the uterus is the best available transport incubator.⁸

At the NRMC Philadelphia, a successful high-risk obstetric referral system has been developed in conjunction with the outlying military obstetric facilities in our region.

Patients at risk may be referred anytime during their pregnancies. No referral is refused. Several modes of transport are used for the referred high-risk obstetric patient: 1) A family-owned vehicle is usually used by those referred for care in the first and second trimesters,

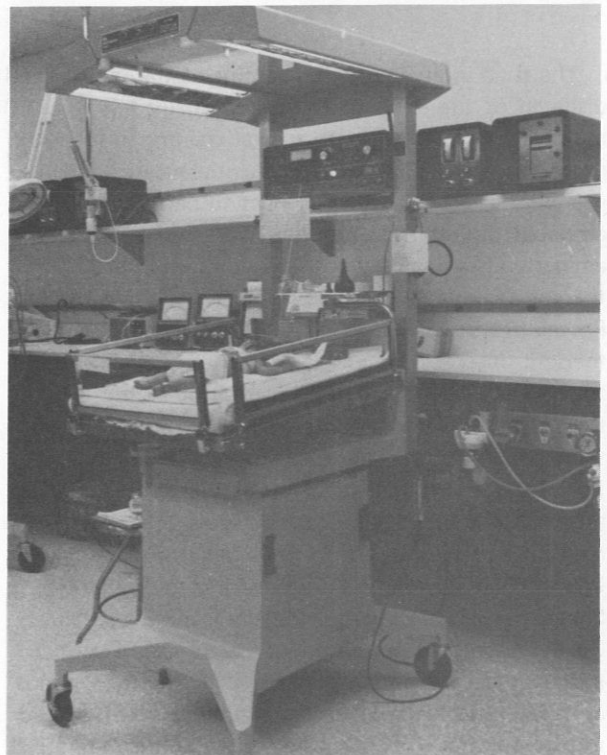
*Isolette Oxygen Analyzer, Model SRA-1, NARCO Medical Services, Warminster, Pa.

and in whom delivery is not imminent; 2) Ambulance transport is used for those high-risk mothers who are ill, in labor, or have ruptured membranes; 3) Police or rescue squad vehicles are used infrequently.

As familiarity with the concept of high-risk obstetric referral has increased among the outlying hospitals, the number of neonatal ETS transfers has decreased. Between 50% to 75% of high-risk pregnancies can be identified prior to delivery,³ and most of these can be referred safely. Ideally, high-risk obstetric patients are delivered at the outlying facility only if time and circumstance preclude transport of the mother to the referral center.

Patient Experience

Sixty-one infants were referred to the NRMC Philadelphia, from 1 September 1972 to 31 August 1973. Forty were born at outlying facilities and were referred via ETS. Twenty-one were products of referred high-risk obstetric patients delivered at the NRMC Philadelphia. In Table III the referred patients are classified in terms of diagnostic categories. Overall infant survival was 80%. Seventy-seven percent of infants



ALL-OUT SUPPORT.—At the NRMC Philadelphia, Pa., in the neonatal intensive care unit (NICU) area, a young infant is shown in the radiant heat warmer that permits far greater access to the patient than the earlier traditional incubator units.

TABLE III

Survival Data of Referred Perinatal Patients (Sept 1972 through Aug 1973).
Ambulance and third-trimester obstetric patients have been combined under the *Ambulance* column.

DIAGNOSIS	TOTAL NUMBER		NUMBER DIED		% SURVIVAL	
	Amb.	Ob.	Amb.	Ob.	Amb.	Ob.
A. PREMATURE						
Respiratory distress syndrome	11	3	4	1	64	67
Respiratory, other	2	0	0	0	100	
Sepsis	2	2	0	0	100	100
Metabolic	2		1		50	
Uncomplicated	5	12	0	1	100	92
Subtotal	22	17	5	2	77	88
Total		39		7		79
B. IMMATURE (Less than 900 grams in weight)	2	1	2	1	0	0
Total		3		3		0
C. FULL TERM						
Aspiration pneumonia	6		0		100	
Cardiac	5		2		60	
Hyperbilirubinemia	1		0		100	
Infant of a diabetic mother						
Metabolic		1		0		
Uncomplicated		2		0		
Surgical	1		0		100	
Subtotal	13	3	2	0	85	100
Total		16		2		87
D. WARD (Patients over 2 months of age)	3		0		100	
E. TOTAL, ALL ABOVE CATEGORIES						
Subtotal	40	21	9	3	77	86
Total		61		12		80

referred by ETS survived, while 86% of infants from high-risk obstetric referrals survived. The number of patients is not large enough for valid statistical analysis of the different survival rates of infants received via ambulance, or through obstetric referral.

One infant died at the referring hospital prior to the arrival of the ETS team. This infant had multiple severe congenital anomalies. No infants have expired in the ETS ambulance. No referred high-risk mother delivered en route to the hospital or died in the ambulance. There was one fetal death in utero, en route to the NRMCC Philadelphia, an arrested breech presentation.

A total of 59 ETS ambulance trips have been made: 40 ETS pickups, 14 referrals back to the originating hospital, and 5 referrals to Children's Hospital of Philadelphia for further care.

No ambulance breakdowns occurred en route, although a dead battery led to a 15-minute-departure delay on one occasion. The battery-powered transport incubator and battery-powered monitoring equipment have functioned properly on all trips.

The major problem encountered on ETS trips was motion sickness of the pediatric attendants. This problem was significant during approximately 20% of the ETS trips. On one occasion when a totally apneic infant was being transported, the ETS physician was completely incapacitated by motion sickness. The child was successfully transported by the pediatric corpsman attendant. The prophylactic use of dimenhydrinate (Dramamine) by the susceptible individuals has diminished this problem.



DOUBLE CHECK.—LT E.I. Bogucki, MC, USNR (left), 2nd-year Pediatric resident at the NRMCC Philadelphia, confers with LTJG Ann C. Kutudis, NC, USNR (right) concerning the present status of a wee patient.



THE PLOT THICKENS.—LTJG Ann C. Kutudis, NC, USNR (left) and LTJG Anita J. Birch, NC, USNR (right) minister to an infant lost amidst the coils and tubes which acute intensive care requires.

COMMENT

The number of patients referred to the NRMCC Philadelphia, during its first year of operation as a regional perinatal referral center is small. However, we feel that this report is important because it represents a successful, formal application of the concepts of high-risk obstetric referral and infant ETS referral in a triservice military setting. We feel strongly that these concepts can and should be applied to all military regional referral centers with appropriate facilities, so that optimal care may be offered to all dependent mothers and their infants. This care should be organized on a geographic basis, without regard to the service designation of the referring or receiving hospitals. The practice of bypassing a closer, appropriately equipped hospital of a different service, in order to transport a high-risk patient to a facility of the same service as the referral hospital, can only be condemned both medically and morally.

SUMMARY

A system of triservice regional perinatal care has been presented. It is recommended that other such systems be established in geographic regions throughout the country.

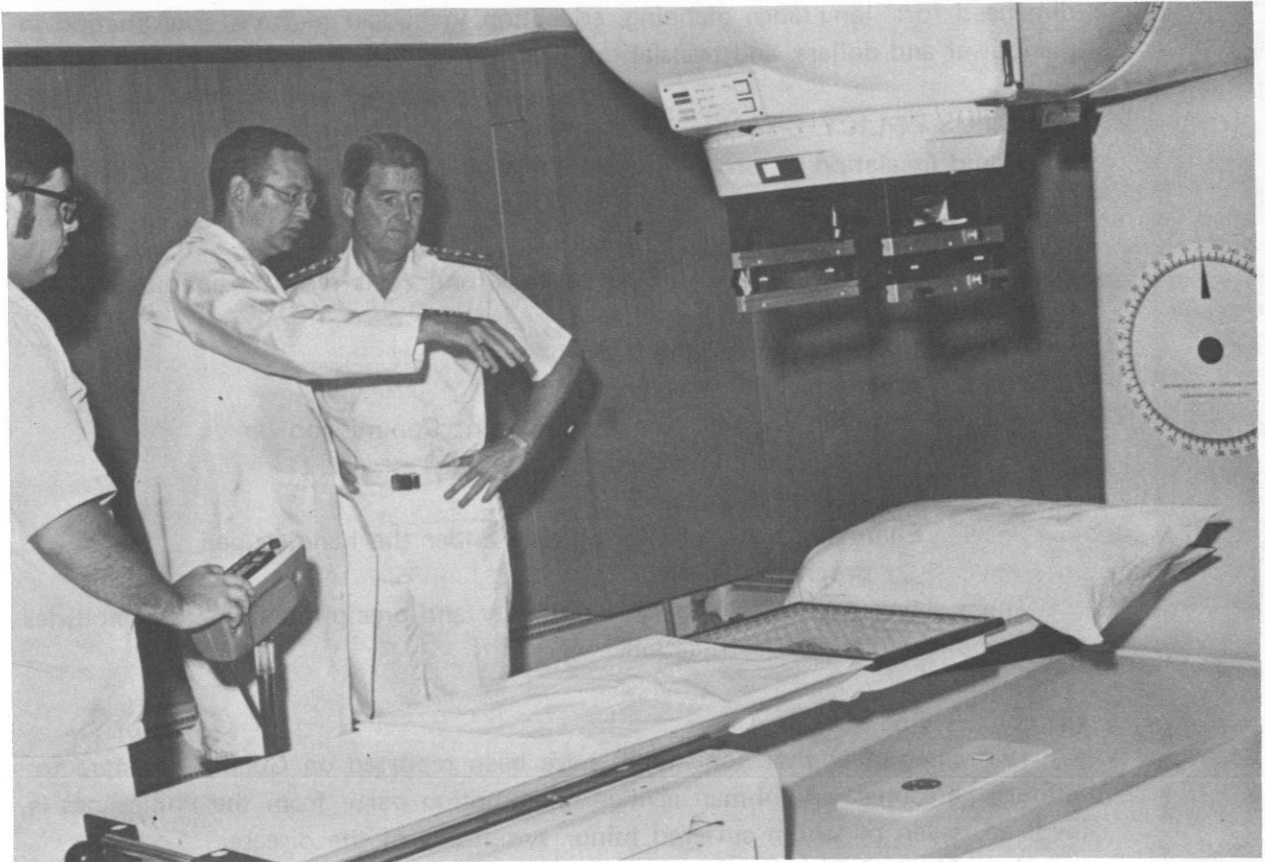
Acknowledgments:

The authors express appreciation to Mrs. Maglione for stenographic assistance; to staff pediatricians LCDR Allan M. Arbeter, MC, USNR and LCDR John L. Kirkland III, MC, USNR, for their assistance in reviewing the manuscript; and to photographers HM1 E.C. Moore and HM1 D. Smith of the Audio-visual Dept., NRMCC Philadelphia, Pa.

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NNMC INSTALLS COBALT MACHINE



COBALT CAPABILITY.—RADM R.G. Williams, Jr., MC, USN (right), CO of the National Naval Medical Center (NNMC), and CAPT Charles W. Ochs, MC, USN (center), chairman of the NNMC Department of Radiology, examine a recently installed cobalt-60 radiation therapy unit. The unit will be used to treat cancer patients at NNMC. Standing at the left is HM3 Ray Kennedy, USN, chief radiation therapy technician.—PAO, NNMC, Bethesda, Md. (Photo by HM2 William Jones, USN) 🍀

VIP STATUS

The implementing DOD directive on Variable Incentive Pay (VIP) has been signed by SECDEF and is being staffed by the Office of Management and Budget (OMB). Upon completion of OMB staffing, it will be forwarded to the President for approval as required by legislation.

In the meantime, DOD has authorized an interim VIP. Contracts have been mailed to eligible medical officers and an ALNAV will authorize payment by disbursing officers. In no case will the effective date of contract be sooner than 30 Jul 1974.

FINANCIAL PLANNING GEARS SHIFT

Financial resource perspectives will be affected by FY 1975 budget execution and proposed Congressional budget reforms that will begin 1 Oct 1976. The Senate and House will each have their own budget staff.

Note the following: cancellation of mid-year review for FY 1975; new capability acquired by CNO for monitoring financial plans at the command level; and new FY beginning 1 Oct 1976, leaving a 3-month hiatus from 1 Jul through 30 Sep 1976.

The impact on field installations will be increased fiscal responsibility, and dire need for: long-range planning, education in budget matters, coordination in manpower and dollars, and translation of objectives into improved resource levels.

CHAMPUS POLICY CHANGES

Rapid escalation of program costs has spurred critical review of Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) by various agencies including OMB, General Accounting Office (GAO), and Congress. Resulting policy changes in CHAMPUS coverage and costs recently announced by DOD include:

- Education under the basic program
- Psychotherapy limitations
- Required accreditation by the Joint Commission on Accreditation of Hospitals (JCAH)
- Cost-sharing rules, and
- Elimination of orthodontic care under the handicapped program.

These changes are receiving wide publicity and precipitate numerous inquiries about applicability and justification.

CHOLERA ON GUAM

Two cases of cholera (one fatal) have been reported on Guam, unrelated to military personnel. A 14-man civilian construction party from the Philippines is involved, seven of whom suffered minor symptoms of the disease.

Navy Medical Department is reassuring those concerned that no threat confronts Naval personnel in Guam so long as proper sanitation is maintained.

MENINGITIS IN BRAZIL

Group A and Group C meningococcal meningitis epidemics are erupting in Brazil, resulting in an estimated 4,000 deaths so far this year. This represents the first substantial outbreak involving the Group A strain that has occurred in the Western Hemisphere since World War II. The US military is responding to a plea for type-C vaccine from the Brazilian government; France has contributed 1 million units of type-A vaccine. No American military personnel are considered at risk, since none should contact the population elements that are involved.

A need for alternative prophylaxis could arise in view of the limited amount of available vaccine, which could run short this winter.

BUMED POLICY COUNCIL

The Surgeon General has established a BUMED Policy Council composed of assistant chiefs of the Bureau, directors of the Medical Department corps, the BUMED comptroller, and the COs of the Health Sciences Education and Training Command (HSETC) and the Navy Medical Research and Development Command (NMRDC). The Special Assistant to the Surgeon General will act as recorder for the meetings which will be scheduled to occur monthly, generally on the same day that the Navy Policy Council Meeting is held.

NMRI ACQUIRES MINICOMPUTER

The Naval Medical Research Institute (NMRI) of the Navy Medical Research and Development Command (NMRDC) is purchasing a minicomputer, to be interfaced with an ORTEC Spectrometer, in order to speed up the necessary calculations in measuring luminescent lifetimes of various, physiologically relevant compounds. Many biological specimens exhibit multicomponent features, rather than single luminescent lifetimes.

EQUAL OPPORTUNITY AVAILABLE

LTJG Richard B. Sison, MSC, USN has completed the 4-month Human Resource Management Specialist Course at NAS Memphis, and the 4-week Navy Race Relations Education Specialist Course He is now back in BUMED, and implementing the Human Resources Management Program.

Field commands are urged to contact this officer in order to effect the required involvement of personnel in the program. Call Autovon 29-44081, or write directly to BUMED Code 16.

LABIS INSTALLS PRINTER

The Laboratory Information System (LABIS) program is installing a Potter medium-speed printer in the hematology section of the Laboratory Service at NNMC, Bethesda, Md. The printer will be used in developing worklists, reports of unverified results, department logs, and other documents. It can also augment the high-speed printer in producing essential reports for the entire laboratory. 🍷

HUMAN VALUES IN MEDICINE:

A Discussion of an Old Interface

By LT Lowell H. Mays, CHC, USNR-R*

Last year I served two weeks of active duty training as a member of the chaplain's staff of Nav Hosp Portsmouth, Va. During most of the year I teach human values in medicine at the University of Wisconsin Center for Health Sciences; I therefore offered to teach this course to anyone at the naval hospital who was interested. The response was overwhelming. Even before I arrived at Portsmouth, CAPT Wayne N. Detrick, CHC, USN, the senior chaplain at the hospital, informed me that staff members from the departments of surgery, orthopedics, neurosurgery, anesthesiology, pediatrics, psychiatry and Ob/Gyn, as well as the nursing service, had expressed a desire to learn more about human values in medicine.

I talked to about 500 people at various times during my stay at Nav Hosp Portsmouth. Together we explored the interface of the disciplines of theology and medicine, considering the contributions that each discipline makes to human values in the healing and caring professions. Among the topics we discussed were human values in psychiatry, the right of suicide, patient-physician ethical conflict, prolongation of life, modern therapeutics, abortion, and medical "heroics."

The practice of medicine in the Navy offers special opportunities for dealing with human value systems. It is assumed in the Navy that there will be an interface between religion and medicine. In fact, in naval procedure it is regarded as a serious omission if the

disciplines do not function together, and someone will be held accountable for the oversight. The structure of the Chaplain Corps and the regular reporting of seriously ill patients to the chaplains are both significant. Furthermore, the fact that hospital chaplains and physicians are both on call 24 hours a day presumes a joint "ministry" to the patient. Other structured involvement, such as the chaplain's role in decedent affairs, guarantees the interface of theology and medicine during times of human crises.

The dimensions of moral concerns have been enlarged tremendously by complications growing out of modern medical advancements. Yet until now moralists have inadequately addressed the ethics surrounding such medical developments as organ transplantation and artificial prolongation of life, as well as the contingencies surrounding the process of informed consent. Many naval chaplains completed their training before these issues became prominent, and may not have given these problems due consideration.

Both the naval hospital chaplain and the naval physician serve the same patient population, are governed by the same military administration, and experience many of the same problems. In civilian life, however, there is often a notable difference between a clergyman and a physician in terms of awareness of a patient's condition, access to the health-care system, and interpretation of the professional role. Navy medicine is making a great contribution to the civilian scene by acquainting young physicians with the views of theology, and by urging them to make good use of the support which this discipline contributes.

Access, alone, is of great significance. The civilian clergyman may wait for days to have his phone call

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The opinions and assertions contained in the above article are those of the author and do not necessarily represent official views of the Navy Department or the naval service at large.

returned by a private physician; or he may spend years working with a specific roster of physicians, and one or two primary hospitals in his community, without ever being allowed to review the hospital charts of the patients whom he is called upon to counsel. The chaplain may well be able to offer more relevant and appropriate pastoral care to a patient if he has first read the progress notes that depict the patient's medical situation, if he comprehends what medications are being ordered, and if he has the benefit of the nurse's observations concerning the patient's morale and response to treatment.

Consider this case, which recently came to my attention. A 46-year-old man was hospitalized for treatment of high blood pressure. Over a period of three weeks he had become increasingly more anxious; his heightened blood pressure did not seem to abate despite increased medication. The hospital chaplain, aware of the course of prescribed therapy, spoke intimately with the patient about his feelings. The patient then revealed that he had become impotent over the past several days, and that he was experiencing considerable anguish and fear that he might never again regain and maintain his potency. Despite the intensity of his anxiety, the patient could not bring himself to discuss the problem with the nurses, or to ask a physician for advice; neither did he think that the hospital corpsmen were qualified to provide assistance in this area. The patient therefore kept his problem — and his worry — to himself.

From reading the hospital chart, the chaplain knew that the patient was being treated with methyldopa, an oral antihypertensive drug. The chaplain therefore expressed appropriate sympathy and understanding, suggesting that there was a good chance the medication might be related to the problem. He urged the patient to consult with his physician, who readily explained the possible side effects associated with the drug. Within

a short time the patient's anxiety disappeared, and subsequent management of his blood pressure proved entirely satisfactory.

The hospital chaplain has obvious need of medical orientation. While at Nav Hosp Portsmouth, I was impressed with the willingness of the medical staff members who provided in-service instruction to those of us engaged in the other healing and caring professions. For example, the chief of surgery and the chief of neurosurgery both invited the chaplains to observe surgical procedures and attend professional staff conferences, as part of a continuing program of in-service education. At the same time, the chaplains were able to offer the benefit of their own extensive knowledge of human values.

Much more could be said about calling upon the clergy for counsel and assistance in confronting such thorny problems as whether or not an individual can accept abortion, or how the hospital staff can come to terms with their personal feelings in relation to a particular form of therapy, or a tragedy; the clergy can also provide valuable service, as part of the therapeutic community, in psychiatry. These concepts are gaining increasing acceptance in the medical world.

New dimensions of medical-ethical considerations will continue to provide a challenging opportunity for physicians and clergymen to cooperate in caring for a patient's total needs. Through the interaction of its Medical and Chaplain Corps, the United States Navy is uniquely qualified to provide such combined care. Naval medical facilities may therefore wish to reexamine the nature and extent of coordination established with their local chaplains. Just as medical schools throughout the country are today adding theologians to their faculties, naval medical facilities may wish to augment their staffs by including the skills of Navy chaplains, in creative and innovative ways. ☛

SEAT BELTS NOW MANDATORY

All military personnel and civilian employees operating or riding in government motor vehicles, or in private motor vehicles being used for government business, must wear safety belts and/or use safety devices where such items are available, according to a new DOD safety policy.

Those members of the Armed Forces and civilian employees using motorcycles, government owned as well as privately owned, on government business, must wear approved safety helmets and protective devices covering the eyes.

In the operation of a motor vehicle or a motorcycle on a government installation, either the seat belts or the motorcycle protective devices must be used.

Overseas, in areas where local laws do not spell out the use of safety devices for cars or motorcycles, the local commanding officer will specify the protective devices that will be required for military personnel off base.

Details on the specific requirements of this policy are defined in the recent DOD Instruction 1000.16.—AFPS No. 1662, 30 Jun 1974. ☛

STUDY of the USE of ARTHROGRAPHY

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INTRODUCTION

Werndorff and Robinson¹ published the first paper on knee arthrography in 1905. Very little appeared thereafter in the literature until the 1930s and 1940s when reports of several detailed studies using oxygen, room air, and even the vacuum phenomenon were published.^{2,3} The advocated methods were greeted by a general lack of acceptance because little new information was added, and often the reported results could not be reproduced.

The single-contrast method of arthrography became popular however, and gave reproducible results. Associated with this method remained a high incidence of synovitis. In 1948, Lindblom⁴ published an extensive article about knee arthrography using the single-contrast method. He reduced the incidence of synovitis to five percent. Problems with the method required further study, i.e., small loose bodies were obscured by the thick media, anterior cruciate ligament tears were not well visualized, and problems involving the posterior horn of the lateral meniscus could not be diagnosed with great confidence.

In recent years, published reports of the use of double-contrast arthrography have generated new enthusiasm for the method as a diagnostic tool.^{5,6,7,8}

This paper presents a retrospective study of 100 patients, correlating preoperative single-contrast knee arthrography studies, and clinical and operative findings. The usefulness of single-contrast arthrography in establishing the preoperative diagnosis of intra-articular pathology of the knee is also addressed.

The opinions or assertions expressed herein are those of the author and may not be construed as reflecting the official views of the Navy Department, or the naval service at large.

PROCEDURE

Clinical Material

During the 11-month period from September 1970 to July 1971, 280 arthrotomies were performed. One-hundred patients were selected in a random manner. The only criteria for inclusion in the study were the availability of roentgenographic reports, operative reports, and arthrograms for review by the author.

A predominantly young male military population group was studied; only three female cases were included. The ages ranged from 15 to 59 years, with a mean age of 25 years.

Clinical evaluation and surgery were performed by the orthopedic residents and staff at the Naval Regional Medical Center, San Diego; the arthrogram was interpreted by the radiologist or radiology resident rotating through Special Studies, where the arthrograms were performed.

The average time from arthrography to arthrotomy was 20 days.

Equipment

The following items were utilized in each instance:

1. Routine arthrocentesis set with sterile drapes, syringes, and needles
2. Lead-shielded film holder with an 8 x 12 centimeter window
Three exposures on 8 x 10 inch cassettes were made
3. Special leg support in the form of radiographic sponge
4. High-speed GAF film, 8 x 10 in.

Technique

The Radiology Department selected the single-contrast method for arthrography, as an accurate and less time-consuming method of study.

The joint line was palpated and the lateral side was marked with a water-color pen. The patient was then placed in the supine position. The knee was prepared and scrubbed with Betadine solution. A sterile spinal sheet was draped over the area. The skin was infiltrated with lidocaine, and a sterile needle was introduced under the lateral midpoint of the patella. Aspiration of any

effusion was performed at this time. Ten cc. of Con-ray-400 (sodium iothalamate injection U.S.P.) contrast medium was injected into the joint, the amount being increased if excessive effusion was present. The needle was removed and the joint exercised.

The roentgenogram views used at Naval Regional Medical Center, San Diego (See Table 1) differ from those described in other studies. Various rotations of the knee allow for observation of different portions of the meniscus. A consecutive three-degree tube change provides stereoscopic viewing of the meniscus, as indicated in Table 1.

TABLE 1.—ROENTGENOGRAM VIEWS

VIEW	POSITION OF KNEE	TUBE TILT (DEGREE)	ADVANTAGE
1. AP	Neutral	3, 6, 9 — Caudal	Meniscal lesions
2. AP	45° Internal Rotation	3, 6, 9 — Caudal	Meniscal lesions
3. AP	45° External Rotation	0, 3, 6 — Cranial	Meniscal lesions
4. AP-Varus Stress	Neutral	0	Meniscal lesions
5. AP-Valgus Stress	Neutral	0	Meniscal lesions
6. Lateral	60° Flexion	0	Cruciates, and popliteal cysts
7. Sunrise	45° Flexion	45 Cranial	Chondromalacia
8. Tunnel	45° Flexion	0	Displays notch, intercondylar surfaces

TABLE 2.—SUMMARY OF RESULTS

GROUP	ARTHROGRAM PATHOLOGY		ARTHROTOMY PATHOLOGY		NOTES
	Positive	Negative	Positive	Negative	
I	78		78		Correlation — 100% 2 Loose bodies 4 Lateral meniscus pathology (2 cysts and 2 tears) 15 Medial meniscus pathology Medial meniscus tear not found at surgery
II		21	21		
III	1			1	
TOTALS	100 Cases		100 Cases		

TABLE 3.—FALSE NEGATIVES, ARTHROTOMY FINDINGS (21 CASES)

A. Loose bodies	2
B. Cystic lateral menisci	2
C. Lateral meniscal tear	2
D. Medial meniscus (15)	
1) Degenerative horn without tear	4
2) Peripheral detachment	2
3) Horizontal tear	1
4) Anterior-horn tear	2
5) Posterior-horn tear	5
6) Bucket-handle tear	1

RESULTS

In this review, a 78 percent overall accuracy of pre-operative diagnosis was obtained, with the results divided into three groups (See Table 2). The 21 false-negative patients of Group II were further subdivided (See Table 3). Detailed findings in the only false-positive instance are included in Case Study No. 4.

Normal arthrogram findings were recorded for 13 patients, and these findings were confirmed by arthrotomy.

Three patients who had previously undergone medial meniscectomies are included, two described as unremarkable except for the usual post-meniscectomy findings. In the remaining case, a tear in the retained posterior horn was demonstrated on the arthrogram (See Figure 1). The findings described in all three cases were confirmed at surgery.

Seven patients had a tear of the lateral meniscus, and five of these were diagnosed by means of the arthrogram.

Two cystic lateral menisci were not diagnosed by arthrogram.

Two patients with osteochondritis dissecans were identified by arthrogram, and confirmed at surgery.

CASE REPORTS

The following cases are briefly reviewed to illustrate the variety of lesions found at the time of surgery.

Case No. 1 Simple medial meniscal tear.

A 23-year-old male patient had twisted his knee while playing football one year prior to admission, with subsequent pain and stiffness of the knee. A positive arthrogram (See Figure 2) indicated a tear in the



Figure 1.—Arthrogram study reveals a tear in the retained posterior horn, following medial meniscectomy.

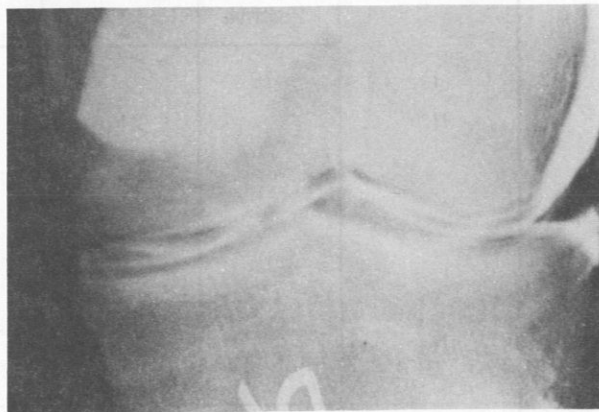


Figure 2.—An arthrogram study in Case No. 1 revealed a tear in the posterior horn of the medial meniscus.

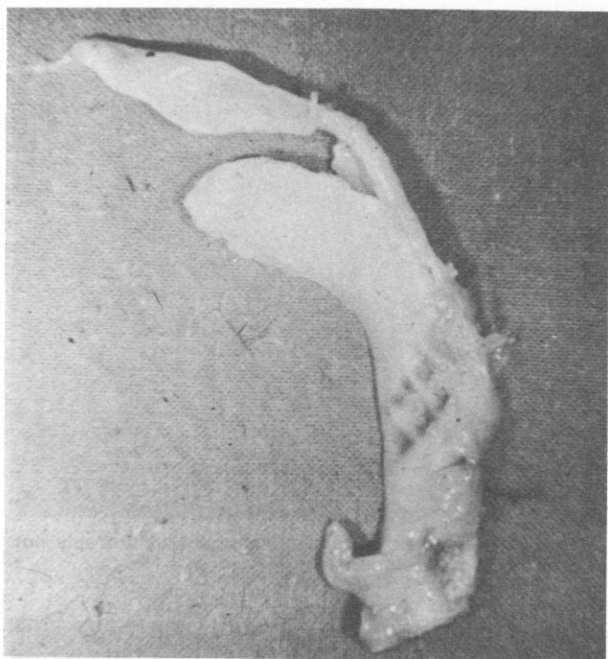


Figure 3.—A torn posterior horn of the medial meniscus is confirmed in Case No. 1.

posterior horn of the medial meniscus. Anterior and posterior capsular incisions were made and the meniscal lesion was exposed (See Figure 3).

Case No. 2 Bucket-handle tear, displaced.

A 20-year-old male had twisted his knee while playing football ten months before admission. He described

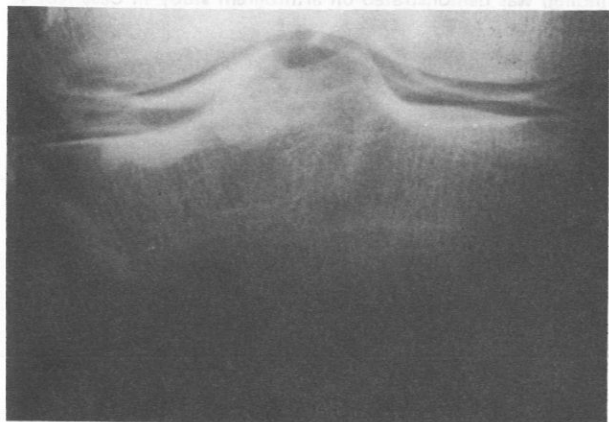


Figure 4.—An arthrogram study in Case No. 2 revealed a displaced bucket-handle tear of the medial meniscus.

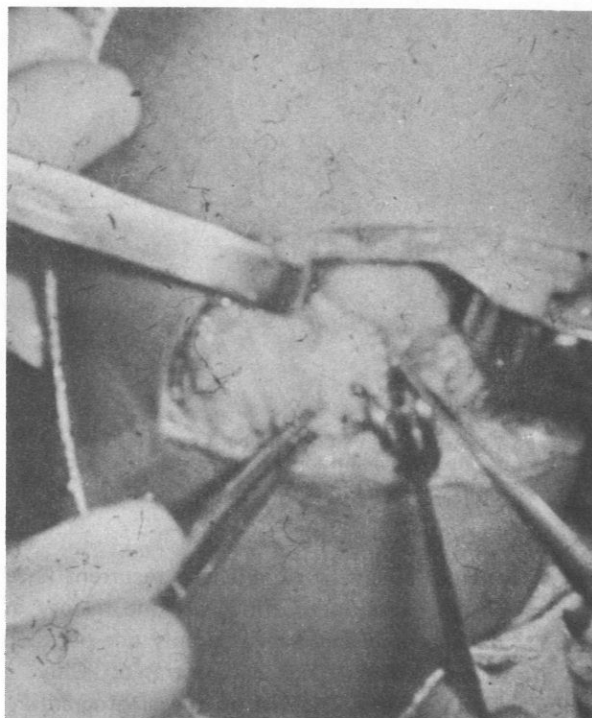


Figure 5.—At surgery the displaced bucket-handle tear (Case No. 2), demonstrated in Figure 4, was exposed.

several other episodes of "popping." More recently he had developed a moderate effusion and was unable to fully extend his knee. After aspiration, a 10-15° lack of extension persisted. The arthrogram revealed a displaced bucket-handle tear (See Figure 4). At surgery this lesion could be demonstrated (See Figure 5). The meniscus presented a recent tear of the bucket-handle type (See Figure 6).

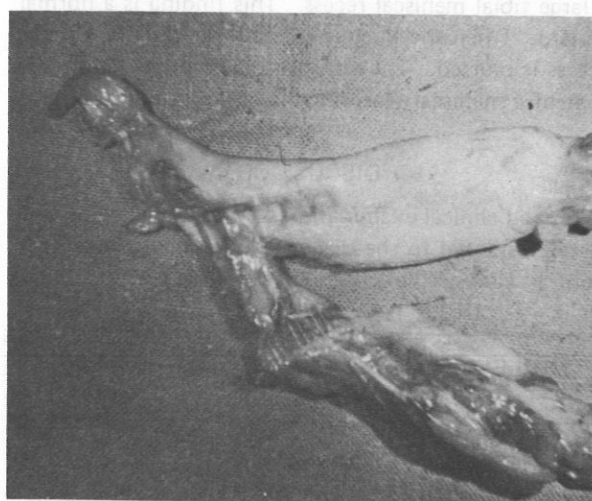


Figure 6.—The bucket-handle tear of the medial meniscus, shown in situ in Figure 5.

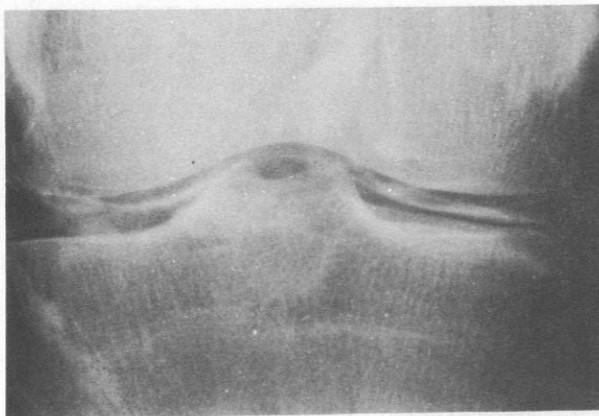


Figure 7.—Arthrogram study was performed in Case No. 3, and demonstrated minimal findings.

Case No. 3 Old pedunculated tear.

A 41-year-old male had experienced recurrent knee effusion over a two-month period, with no history of trauma, locking, or giving way. On only one occasion was a positive McMurray sign demonstrated. Only minimal findings were observed on the arthrogram (See Figure 7). At surgery a large pedunculated tear was discovered, which appeared older than his symptoms had indicated (See Figure 8).

Case No. 4 Roentgenographic lesion, not confirmed by surgery.

A 38-year-old male with persistent left medial joint line pain presented a history of intermittent locking and effusions. By arthrogram a tear in the medial meniscus was anticipated. Arthrotomy revealed other findings (See Table 4).

A review of the arthrogram (See Figure 9) reveals a large tibial meniscal recess. This finding is a normal variant. When the knee is rotated (See Figure 10) the recess is blurred. The arthrographic interpretation was that of a meniscal tear, but this was not correct.

DISCUSSION

A good clinical examination of the knee remains completely essential to the diagnosis of any knee dysfunction. In almost all of the studies reviewed, arthrotomies

TABLE 4.—FALSE POSITIVE, ARTHROTOMY FINDINGS IN

- | |
|----------------------------------------------------------------------------------------|
| A. Not found — Meniscal tear |
| B. Present — Small loose bodies, patello-femoral arthritis, and chondromalacia patella |

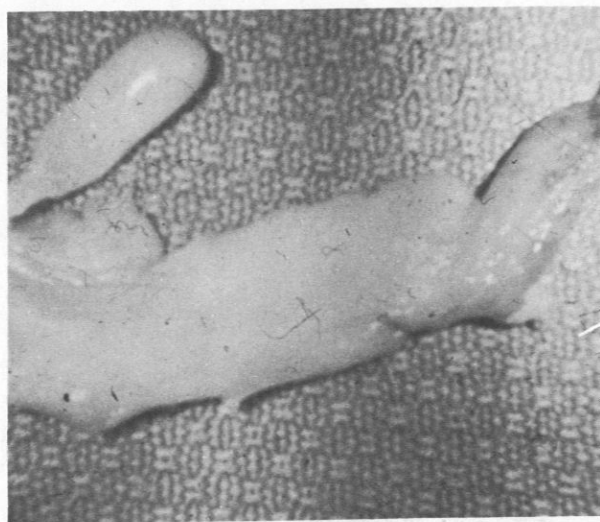


Figure 8.—Large pedunculated meniscal tear, probably not of recent origin, was found at surgery in Case No. 3.



Figure 9.—A large tibial meniscal recess (a normal variant finding) was demonstrated on arthrogram study in Case No. 4.

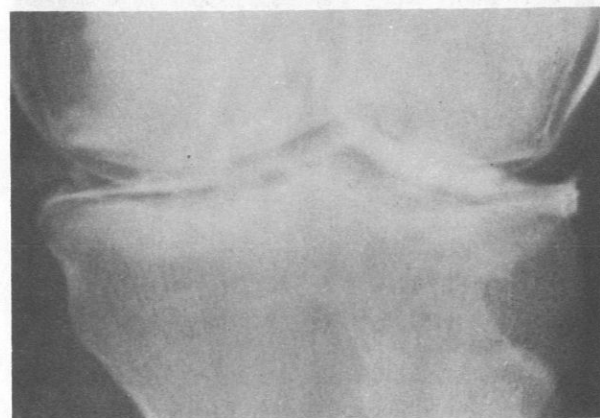


Figure 10.—On rotation of the knee in Case No. 4, arthrogram study reveals blurring of the tibial meniscal recess demonstrated in Figure 9. The arthrographic interpretation of "meniscal tear" was incorrect.

were performed despite reports of normal arthrograms. Plain X-ray studies contribute little information about intra-articular pathology, while arthrography remains a useful adjunct; no complications occurred.

It is reassuring to both the physician and patient when pathology can be demonstrated on film. In this series only one false positive (Case No. 4) was recorded. Other authors report similar experience.^{5,6,7,8,9}

One patient complained of intermittent locking sensation and lateral joint line tenderness. The patient was known to have osteochondritis dissecans of the lateral femoral condyle, and an arthrogram was performed to detect loose bodies. The arthrogram demonstrated a radiolucent loose body, which the orthopedic surgeon found *only after* removal of the lateral meniscus.

Arthrography appears to be a valuable adjunct in the management of patients with symptoms following a meniscectomy. Both methods (single- and double-contrast) are highly accurate in establishing a diagnosis of retained posterior horn, and can serve to delineate a tear in the retained fragment.^{2,3,4,5,9}

The time interval between arthrography and arthrotomy does not appear to be prolonged: an average time of 20 days. One patient whose bucket-handle tear was diagnosed on arthrogram and confirmed at surgery, had presented a normal arthrogram three months prior to the date that abnormal X-ray studies were obtained. Therefore, the torn meniscus could have been present but not detected on the previous arthrogram, or the patient may have sustained a new injury.

This author does not wish to infer that every patient with knee dysfunction should undergo arthrography. As an orthopedic surgeon gains experience, his clinical accuracy improves. However, Nicholas, *et al.*,⁹ reported only an 80% correlation between their clinical examination and arthrotomy findings. It is herein proposed that, after adequate history, physical examination and programmed physical therapy are conducted, the problem patient should then be further studied with arthrography.

The data recorded in this study of the single-contrast method correlates with other reports of arthrography.⁵ However, if compared to the double-contrast method⁹ in which 96.5% of meniscal lesions and a significant percentage of associated pathologic conditions are diagnosed, there is a lag in accuracy using the single-contrast method.

Howard¹⁰ has presented an improved method for performing double-contrast arthrography which minimizes the length of time required for examination, i.e., five minutes.

A good working relationship between the radiologist and orthopedist is essential to obtain the maximum benefits of preoperative arthrography of the knee.

There are no known published data comparing the accuracy of the positive-contrast and the double-contrast methods of arthrography in the hands of a single investigator.

SUMMARY AND CONCLUSIONS

1. Arthrography is a useful diagnostic procedure. The single-contrast method does not appear to be as accurate as the double-contrast method.
2. In 100 cases studied here, there was a 78% overall accuracy. If two cases of small loose bodies are excluded from consideration, there would be an accuracy figure of 80%.
3. The single-contrast method appears to be accurate in the evaluation of post-meniscectomy patients who require reexamination.
4. No unquestionable anterior cruciate ligament tears were diagnosed preoperatively by this method.
5. There were no complications of arthrography in this series.

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Radiation from Tinted Spectacle Lenses

By LCDR J. Louis Pecora, MC, USNR*
and
Alexander V. Munton, BS

INTRODUCTION

Before exiting from a radiation-contamination-control area, employees who work with radioactive materials at the Naval Shipyard Portsmouth, NH, are monitored with an RM3 Ratemeter utilizing a DT-304/PDR probe. Through such examination of an employee, a source of radiation confined to his spectacles was detected. Decontamination attempts were unsuccessful. Investigation disclosed that the source of radioactivity was permanently contained in the tinted lenses of his new pair of eyeglasses.

LABORATORY FINDINGS

Laboratory tests with a gamma spectrometer identified thorium isotopes as the radioactive component of the lenses. It is believed that minerals containing thorium have been added to the glass to obtain the desired tints. (See Table I)

Radiation Dose

To evaluate the possible radiation hazard for an individual wearing these tinted lenses, calculations were made to estimate the probable radiation dose to the

eye. It was assumed that the lenses of the spectacles were about 12 mm from the eye. The highest radiation dose is imparted to the precorneal film and corneal epithelium of the eye by the high-energy alpha particles. Applying a quality factor of 20,[†] and with

TABLE I.—RADIOACTIVITY MEASUREMENTS OF SAFETY PRESCRIPTION LENSES

LENSES	TINT	Gross ¹ gamma cpm ⁴	Gross ² alpha cpm	Gross ³ beta cpm
SOFTLITE	No. 1	2137	5.8	119
CRUXITE	A	314	0.7	44
CRUXITE	AX	2733	7.4	260
CRUXITE	B	467		
SOFTLITE	No. 2	2391	4.3	175

¹Gamma counted in contact with 3" sodium iodide detector at 25% detector efficiency and 400-channel gamma spectrometer.
²Alpha counted at 1/2" with alpha scintillation crystal of 10% efficiency.
³Beta counted at 1/2" with GM tube of 12% efficiency.
⁴Counts per minute.

[†]Ordinarily, a quality factor of 20 is specified only for particles heavier than protons, with sufficient energy to reach the lens of the eye. These criteria are not met for thorium emissions. Here a quality factor of 20 is being applied for the dose calculations of the alpha particles to the corneal epithelium. The probability of radiation damage to the cornea is yet controversial.—Ed.

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The opinions and assertions contained in the above article are those of the authors, and do not necessarily reflect the views of the Navy Department, or the naval service at large.

a release of energy deposited in the first few cells of tissue surface, the alpha dose is estimated to be as high as 10-30 millirems (mrem)/hr. At a depth of 0.2 cm, the beta dose is calculated to provide a tissue dose of 0.07 to 0.20 mrem/hr; whereas the gamma dose is estimated at 0.006 to 0.030 mrem/hr for the entire eye.*

Wearing the lenses for 16 hours a day could expose the eye to an annual dose of 1.5 rem from beta/gamma radiation, and the corneal epithelium could receive substantially more from the alpha particles. Such exposure is unnecessary, since similar tints produced by electronic deposition processes have been found to contain no radioactive material. Dyed plastic lenses have also been found to be nonradioactive, as are photosensor lenses.

Observation

Careful biomicroscopic examination of long-term thorium glass lens wearers has failed to demonstrate any abnormalities of the tissues.

DISCUSSION

Alpha particles emitted by thorium and its daughter isotopes have a short range and are generally absorbed by the epidermal layer of the skin or cornea. The tear film which coats the human cornea has a thickness of between 7 and 10 micrometers.¹

The total range of a 4 million electron volt (mev) alpha particle in air is about 20 mm; that of an 8 mev alpha particle is about 80 mm.² Many of the alpha particles emitted by the thorium contained in such lenses may be capable of penetrating the tear film and stopping within the corneal epithelium.

The amount of radiation from the beta particles and gamma rays is much smaller, but penetrates to a greater degree.³ The total dose which can accumulate is well

below that cited as being needed to cause manifest disease.⁴

Exposure of the eye to radiation from thorium-glass lenses is unnecessary because alternative methods of tinting lenses may be used.

SUMMARY

Ophthalmic lenses tinted by incorporating thorium salts into the glass have incidentally been found to represent a source of radiation. Since any exposure to radiation is a potential hazard, thorium-tinted spectacle lenses should be avoided.

It is a common practice among some refractionists to provide the patient with a prescription calling for tinted lenses. The alleged reason for prescribing tinted lenses is to reduce unwanted glare. Where glare exists, the conditions responsible for the glare should be corrected.

A tint frequently prescribed is a rose tint, known by several names depending on its depth of color and manufacturer. Lenses obtained from several manufacturers were tested, and the radiation levels were similar. The products of the two manufacturers who supplied most of these lenses to Nav Hosp Portsmouth, NH,† were used for the studies herein reported.

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*Rem = the quantity of ionizing radiation with biological effect equal to that produced by one roentgen of X-rays.
†Prior to August 1973.

NOW IT'S CHEMLINE

The TOXLINE Chemical Dictionary (See *US Nav Med* 64(1):46, Jul 1974), an on-line data base containing the nomenclature and structural elements for a collection of 60,000 compounds, has been renamed CHEMLINE. Information about this data base may be obtained from the National Library of Medicine, Toxicology Information Program, 8600 Rockville Pike, Bethesda, Md. 20014.—*National Library of Medicine News*, Vol XXIX, No 7, Jul 1974. ☛



ACTIVE RESERVE PARTICIPATION

To the Editor: Speaking as a four-year veteran of the Ensign 1915 Program in the Ninth Naval District during the 1960s, I would like to echo CAPT Backer's plea for active reserve participation of the 1975 Ensigns (*U.S. Nav Med* 63[5]:37-41, May 1974). Reserve meetings offered me an opportunity to become acquainted with Navy physicians who could provide invaluable insight into the organization I had joined. Some of the things I learned included: proper wearing of the uniform before arriving at a clerkship, who to call at BUMED for information, and the merits of various clerkships and hospital training programs. This exposure provided an important balance to offset the innumerable negative comments I received about the military from other students and medical school faculty members.

Ensigns need to feel they are part of an organization, and it takes more than a paycheck and frequent mailings from BUMED to achieve that goal. To run this type of program the Navy needs capable Naval Reserve officers, but they are being unrealistic if they expect them to donate large blocks of time without recompensation for at least a portion of that time.

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OPERATIONAL MEDICINE UPPED

To the Editor: In response to the June 1974 "From the Chief" message in *U.S. Nav Med* prepared by RADM Waite, I would like to offer my ideas and views. I find it very heartening that we now have an operational medicine command, and also that RADM Waite

is running it. It frequently has seemed that people in operational medical specialties have had to play second fiddle to the hospital/clinical specialties. RADM Waite rightly points out that support of the fleet is the one thing that makes Navy medicine unique. Navy medicine cannot survive if we neglect our responsibility to support the fleet.

I am one of those physicians who became committed to a naval career after getting into an operational specialty. I believe I learned more in six months of submarine and diving medicine training than in any other equal time span. The excitement, challenge, and satisfaction of undersea medicine, plus the association with the fine people in the submarine community, decided the course of the rest of my career and eliminated all uncertainty as to what I wanted to do. I now have a Ph.D. in Radiation Biology and board certification in Occupational Medicine. I expect to spend the rest of my career in research and operational medicine. I feel much more secure in my career plans, knowing that RADM Waite and his newly established position are there.

I am a bit concerned about our ability to continue to fill junior operational billets, however. The VIP Bonus, while certainly necessary to attract volunteer Navy physicians, will, I fear, also dissuade them from taking first-tour operational assignments. Those coming in with no obligated service will be reluctant to take operational tours initially, because they will lose the bonus if they decide to go into a Navy residency. Those with initial obligations such as the Navy medical-scholarship holders, or interns will be reluctant to take first-tour operational billets, because taking a residency at a later time will result in a longer delay in getting the bonus. Everyone will want first-tour residencies, and very few boarded specialists will be willing to take junior operational billets. This problem is further compounded by the fact that a number of current Navy residents are resigning their residencies, rather

than lose both their continuation pay and the VIP bonus.

I believe Navy medicine is moving forward, and, for this, I am pleased and grateful. I also believe there may be some rather severe growing pains over the next few years. However, if we keep in mind our obligation to support the operating forces, I am sure we will come through with a vigorous and dynamic Navy Medical Department.

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KUDOS FOR CORPSMEN

To the Editor: On the occasion of the 76th anniversary of the Hospital Corps, your publication did a highly commendable job in its recent presentation of articles on the men of the Hospital Corps (*U.S. Nav Med* 63[6]:8-22, June 1974). The individuals and the Corps were rightfully honored. As a writer, I value particularly the historical piece.

As an Ensign in the Hospital Corps, Allied Science Section, I learned to respect the corpsman's abilities in 1944. By the time of my retirement as an officer of the Medical Service Corps, I knew well the invaluable aid of the corpsmen who specialized in medical technology.

May I add my very sincere appreciation for continued receipt of your informative, *U.S. Navy Medicine*.

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"WHO'S GOT THE BOOZE?"

To the Editor: A few months ago, I started what was supposed to have been a routine controlled drugs inventory at a Naval Station Dispensary. The count went smoothly until the inventory team reached the item, ethyl alcohol, on the ledger. Instead of 13 gallons of 95% ethanol, all that could be accounted for was 3 gallons. Each of the 3 possible controlled drug storage areas was doubly checked, but nothing surfaced. The thought flashed into my mind, "Who's got the booze?"

The pharmacy technician didn't have a clue. Neither

did the custodian, nor the Supply Chief, and the plot thickened. A closer inspection of the storage area showed clear evidence of tampering with the locking mechanism. A further suspicious event had occurred the evening before. A young hospital corpsman, whom some of the staff had reluctantly placed on night duty, had not shown up for work at 2200 on that evening. Could it have been that this man celebrated too heartily with his recent acquisition of 10 gallons of ethyl alcohol? Being responsible for the dispensary on a part-time basis, I phoned the Naval Intelligence Office and the Provost Marshall to report the loss. Their investigation pointed to evident tampering with the locked storage room, and likely theft of the alcohol.

I couldn't sleep comfortably that night. It seemed logical to ask the security investigators to search the night corpsman's residence in town. However, counsel with the legal department the next morning eliminated that approach.

Fortunately, by 1100 the second day, the 10 gallons of alcohol were accounted for. One pharmacy technician, the one standing a rifle-range watch on the day of the inventory, had remembered taking 10 gallons of alcohol from the storage room and making alcohol sponge solution from it over the past 4 weeks. He had been certain that the two 5-gallon cans had only contained "denatured alcohol." He had been mistaken however, and had accidentally misappropriated 10 gallons of ethyl alcohol.

Why should dispensaries go through a hectic search to answer the question, "Who's got the booze?" Here are some valuable lessons learned which may spare others from spinning a useless web of intrigue:

1. Need for senior supply hospital corpsman to evaluate chain-of-custody procedures, and to speak up if he has doubts about safeguards.

2. Need to conduct spot inventory for even a temporary change of custodians.

3. Need for inventory members to evaluate security of storage of controlled drugs.

4. Need to isolate controlled items as much as possible from noncontrolled items.

5. Need to carefully read descriptive labels on contents before using them.

6. Need to have dead-bolt locking mechanisms on doors that secure controlled items.

7. Need to have storage area entrances in open hallways rather than in secluded places remote from observation of normal traffic.

8. Need to explore possibilities of error by pharmacy staff, before suspecting theft and calling outside investigators.

Best of luck to others in dispensaries which may be

less formal than larger naval hospitals in handling the custody of controlled drugs. By exercising a little foresight, you may avoid having to ask some day, "Who's got the booze?" — (Name and duty station have been withheld by editorial prerogative.)

IN THE NATURE OF A SALUTE

To the Editor: On page 58 of the May 1974 issue of your journal, I was interested in the warm welcome

that VADM Boone received in his 1955 visit to BUMED — Particularly from the welcoming officer nearest the camera. Yours for smarter salutes,

Richard F. Clapp, PHS
Assistant to the Chief
Environmental Health Services Div.
Center for Disease Control
Atlanta, Georgia 30333

(We may not always be smart, alas, but we sure are warm hearted. — Ed.) 🍀

NAVY NURSES SUBMERGE

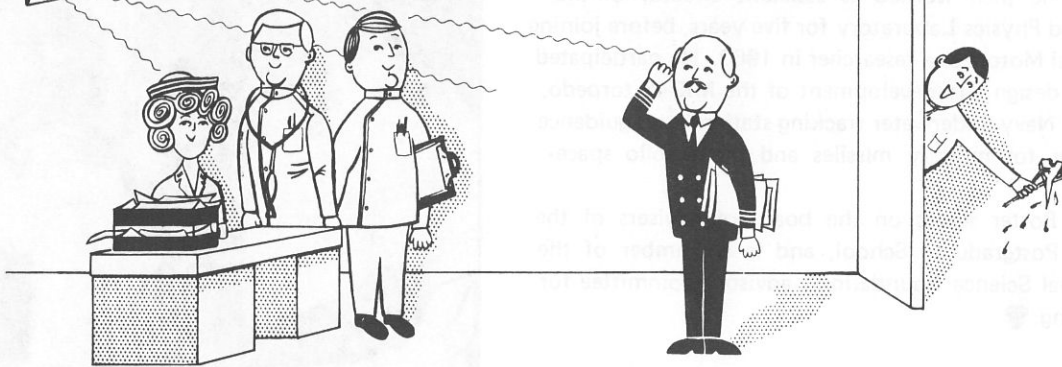
In order to learn about living and working conditions aboard submarines, nine Navy nurses from the Naval Submarine Medical Center New London, Conn., spent a day at sea in USS *Jallao* on 1 Mar 1974.

The nurses manned the conning tower and participated in each step of diving and surfacing.



DAY AT SEA.—Pictured with the USS *Jallao* commanding officer, CDR G.R. Carlson, USN, (back row, center), are nine Navy nurses (from left to right): in back row — ENS Barbara Steel, LTJG Dolores Little, ENS Alice Koller, and ENS Sandra Clouse; in front row — LCDR Virginia Hogan, ENS Elizabeth Ferrier, ENS Linda Wallace (partially hidden), ENS Elizabeth Hewett (partially hidden), and ENS Jean McNerney. 🍀

Notes and Announcements



DOD TO HIRE RETIRED MILITARY DOCTORS

The Department of Defense (DOD) has received approval from the Civil Service Commission to waive the provisions of the Dual Compensation Act in order to hire regular retired military physicians. The Dual Compensation Act provides that retired regular officers who work for the Federal Government must forfeit half their retired pay in excess of \$3,250.41 a year.

The waiver is expected to help ease the critical shortage of military doctors by allowing regular retired military physicians hired by DOD to draw full military retired pay, as well as Civil Service salaries.

The combined staffing of Navy general medical officers and flight surgeons will have decreased from 1,800 in Fiscal Year 1973, to slightly less than 800 in Fiscal Year 1975. This shortage is not expected to affect medical care for active-duty personnel and their dependents; however, medical care for retirees and their dependents is already a problem at several Navy bases, forcing retirees to make more use of CHAMPUS.

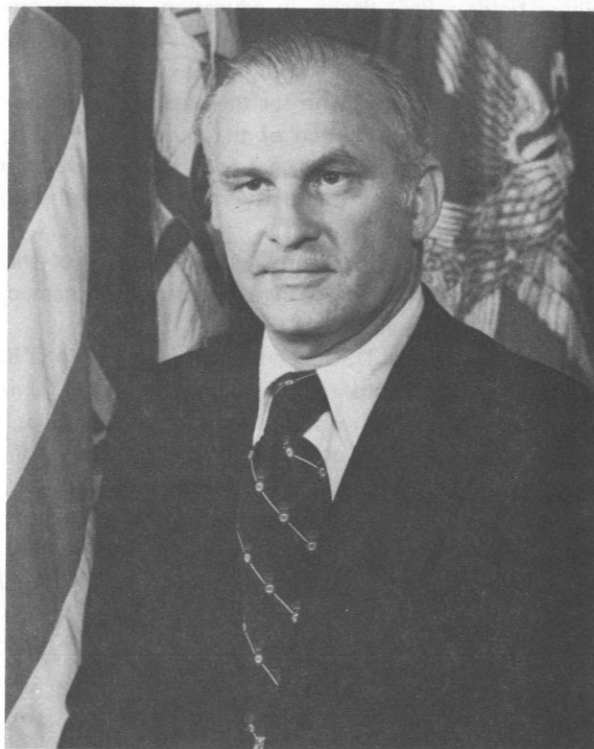
Although DOD has not yet determined the exact number of physicians to be hired by any one Service, physicians given appointments in the Civil Service will work in hospitals and clinics in ratings of GS-11 through GS-14. Appointments will be limited to a period of one year, but may be renewed by the Civil Service Commission. — CHINFO Newsgram, 31-74. ☛

DAVID POTTER NOMINATED FOR UNDER SECNAV

David S. Potter, PhD, Assistant Secretary of the Navy for Research and Development, has been nominated for the position of Under Secretary of the Navy.

Senate approval of the nomination is anticipated, at which time Dr. Potter will assume the post formerly held by Secretary of the Navy, J. William Middendorf II, who was sworn in as SECNAV on 20 Jun 1974.

A native of Seattle, Wash., Dr. Potter was a naval officer from 1943 to 1946, receiving a BS degree in physics from Yale (in the Navy Group Training Program in 1945), and serving in the ammunition ship



FUTURE UNDER SECNAV.—David S. Potter, PhD, the top Navy civilian in the field of research and development, has been nominated for the position of Under Secretary of the Navy.

USS *Mount Katmai*. He received his PhD degree in physics from the University of Washington in 1951, where he then worked as assistant director of the Applied Physics Laboratory for five years, before joining General Motors as a researcher in 1960. He participated in the design and development of the MK-45 torpedo, several Navy underwater tracking stations, and guidance systems for military missiles and the Apollo spacecraft.

Dr. Potter serves on the board of advisers of the Naval Postgraduate School, and is a member of the National Science Foundation's advisory committee for planning. ☞

ADDITIONS TO USUHS STAFF

The Uniformed Services University of the Health Sciences (USUHS) is slowly taking shape, as directors of various divisions are appointed.

LCDR James Schweitzer, MSC, USN has been named Director of Personnel, and will oversee administrative details for all military and civilian personnel employed by the new medical university.

LTCOL Donald Ebner, MSC, USA will fill the dual roles of Registrar and Director of Admissions. LTCOL Ebner holds a PhD degree in education, and was previously a member of the staff at the Army Academy of Health Sciences in San Antonio, Tex.

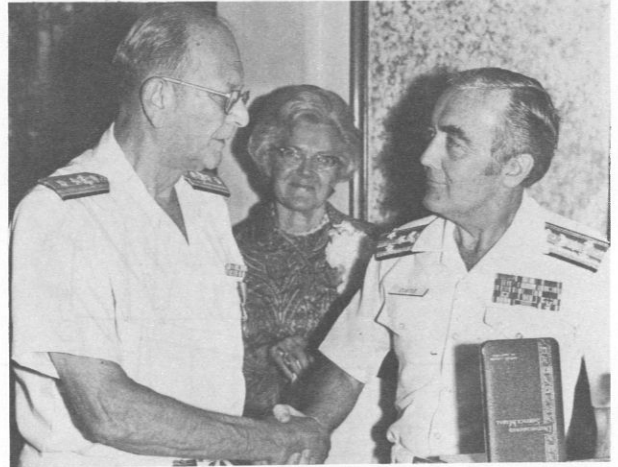
Mr. Charles Wagner, who for the past ten years has served in the grants section of the Bureau of Health Manpower Education, HEW, has become available on a loan basis to the new university for three months, to serve as Director of Facilities.

Mr. Neil Bassford, formerly with the Office of the Joint Chiefs of Staff at the Pentagon, has been named Director of Finance.

In another area of USUHS administration, Philip O'B. Montgomery, MD, professor of pathology at the University of Texas Southwestern Medical School, Dallas, has replaced Dr. Anthony Curreri on the Board of Regents and will serve until the current term expires in May 1977. Dr. Curreri was appointed president of the USUHS earlier this year. — CAPT M. Museles, MC, USN, Executive Secretary, Board of Regents, USUHS. ☞

RADM ETTER RECEIVES DISTINGUISHED SERVICE MEDAL

RADM Harry S. Etter, MC, USN, retiring Deputy Chief of the Navy Bureau of Medicine and Surgery, was awarded the Distinguished Service Medal on 28



AWARD TO THE WISE.—At a luncheon honoring his retirement, RADM H.S. Etter (left) received the Distinguished Service Medal in recognition of his wisdom, professional competence, uncommon leadership, and outstanding management ability. Mrs. Etter shares in our appreciation as VADM Donald L. Custis, Navy Surgeon General, presents the award to his retiring Deputy Chief of the Bureau of Medicine and Surgery.

June 1974 in recognition of his exceptionally meritorious service as principal staff advisor to the Navy Surgeon General.

Presentation of the medal was made by VADM Donald L. Custis, MC, USN, Chief of the Bureau of Medicine and Surgery, at a luncheon honoring Dr. Etter. The citation accompanying the award hailed RADM Etter as "an extremely competent, imaginative, and resourceful leader [who], as second senior officer in the Navy Medical Department, was responsible for coordinating the efforts of some 49,000 personnel who provide high-quality medical care to active duty and retired Navy and Marine Corps personnel and their families." It was noted in the citation that Dr. Etter was instrumental in modernizing and promoting the regionalization of naval medical facilities in the US.

RADM Etter retired from active military duty on 1 July 1974, after 34 years as an esteemed Navy physician. ☞

RADM KAUFMAN HEADS CODE 4 IN BUMED

RADM Paul Kaufman, MC, USN, former commanding officer of NAVREGMEDCEN Jacksonville, Fla., has been named Assistant Chief for Planning and Logistics (Code 4) at the Bureau of Medicine and Surgery, Washington, D.C.

RADM Kaufman was born in Bay Shore, N.Y., on 24 Mar 1923. After receiving his BA degree from New York University in 1943, he earned his MD degree at

George Washington University School of Medicine in 1947. Following internship at the District of Columbia General Hospital, he completed a two-year pediatric residency at Children's Hospital, Washington, D.C.

Upon entering the Navy in Sep 1950, RADM Kaufman reported for duty at the Naval Gun Factory, Washington, D.C. He later served as a staff pediatrician at Nav Hosp Bethesda, Md., and as a medical officer in the USNS *General W.T. Gordon* (T-AP-118). Dr. Kaufman was released from active duty in Dec 1952, and established a private pediatric practice in Arlington, Va.

In 1959, the Admiral returned to active naval service as chief of pediatrics at the Naval Dispensary in Washington, D.C. For his meritorious service as deputy surgeon on the staff of the Commander in Chief, US Pacific Fleet (1962-1965), he was awarded the Joint Commendation Medal.

RADM Kaufman next served as deputy director of the Planning Division, BUMED, with additional duty as medical adviser in logistics on the staff of the Chief of Naval Operations (1965-1970). In July 1968, RADM Kaufman became director of the Planning Division, subsequently receiving the Navy Commendation Medal for his meritorious service in that capacity.



RETURNS TO BUMED.—RADM Paul Kaufman, MC, USN has been named Assistant Chief for Planning and Logistics (Code 4), Bureau of Medicine and Surgery, Washington, D.C.

From 1970 to 1972 he was director of clinical services (executive officer) at Nav Hosp Bethesda, NNMC, while performing additional duty as personal physician on the staff of the Chairman of the Joint Chiefs of Staff. For outstanding service in the latter capacity, RADM Kaufman was awarded the Meritorious Service Medal and an Oak Leaf Cluster. In July 1972, he assumed command of NAVREGMEDCEN Jacksonville, Fla.

RADM Kaufman is certified by the American Board of Pediatrics. He is also a Fellow of the American Academy of Pediatrics, and the American College of Physicians; a Diplomate of the National Board of Medical Examiners; and a member of the American Medical Association.

RADM WAITE HEADS NEW CODE 5

RADM Charles L. Waite, MC, USN has been named head of the newly developed Office of the Assistant Chief for Operational Medical Support, now designated Code 5, in the Bureau of Medicine and Surgery (BUMED).

Effective 1 July 1974, the former Office of the Assistant Chief for Operational Medical Support (Code



HEADS NEW CODE.—RADM Charles L. Waite, MC, USN heads the newly-developed Office of the Assistant Chief for Operational Medical Support (now designated Code 5), BUMED.

8); Office of the Assistant Chief for Aerospace Medicine (Code 5); Fleet and Marine Corps Medical Support Division (Code 49); Marine Corps Headquarters Liaison Officer (Code 17); Submarine, Diving, and Radiation Medicine Division (Code 74); Preventive Medicine Division (Code 72); and Industrial Environmental Health Division (Code 73), were combined and redesignated within Code 5.

The new code is composed of the following divisions: Aerospace Medicine Division (Code 51); Surface Medicine Division (Code 52); Undersea Medicine Division (Code 53); Fleet Marine Force Medicine Division (Code 54); Preventive Medicine Division (Code 55); and Occupational Environmental Health Division (Code 56).

The new office for Code 5 is located at BUMED in Building 7, Room 7109. Telephone numbers are: Autovon 294-4185, or 294-4257; commercial (Area code 202) 254-4185, or 254-4257. ☛

CDR GODFREY HEADS HOSPITAL CORPS DIVISION

CDR Walter A. Godfrey, Jr., MSC, USN is the new director of the Hospital Corps Division at the Bureau of Medicine and Surgery. He relieved CDR A.J. Zseltvay, Jr., MSC, USN, who has become executive officer at the Naval Hospital Annapolis, Md.

CDR Godfrey was born in Newark, N.J., on 13 Jul 1929. He enlisted in the Navy as an apprentice seaman on 3 Oct 1946, and completed recruit training at the Naval Training Command, Bainbridge, Md. After graduation from the Hospital Corps School, Great Lakes, Ill., he served on the staff as a ward corpsman at Nav Hosp Newport, R.I.

Upon completion of training as a dental technician in Feb 1948, CDR Godfrey was assigned to duty at the Naval Air Station in San Diego, Calif. Included among the commands where he subsequently served are: Nav Hosp Yokosuka, Japan; Nav Hosp Philadelphia, Pa.; USS *Navarro* (APA-215); Naval Training Center, Bainbridge; and Nav Hosp Portsmouth, Va.

CDR Godfrey was commissioned ENS in the Medical Service Corps in Sep 1959, and joined the staff of Nav Hosp St. Albans, N.Y. In 1961 he became administrative officer at the Naval Dental Clinic, Guantanamo Bay, Cuba. Following graduation from the Naval School of Hospital Administration in Bethesda, Md., in Aug 1964, he joined the staff of Nav Hosp Philadelphia, Pa., serving consecutively as security officer, chief of fiscal and supply, and chief of personnel.

In 1968 CDR Godfrey became fiscal and supply officer at the NSA Station Hospital in Danang, Republic



HEADS HOSPITAL CORPS DIVISION.—CDR Walter A. Godfrey, Jr., MSC, USN joins the BUMED staff.

of Vietnam. The following year he reported for duty to the Office of the Chief of Naval Operations in Manpower and Reserve Affairs, where he assumed responsibility for the control and management of Navy Medical Department billets, and Navy billets with the Marine Corps.

CDR Godfrey earned a bachelor's degree in business administration and an MS degree in administration from The George Washington University, Washington, D.C. He has been awarded the Meritorious Service Medal, and also holds the Navy Commendation Medal with Combat V, the Navy Unit Citation with Bronze Star, the Navy Meritorious Unit Citation, the Vietnam Meritorious Unit Citations (Cross of Gallantry and Civic Action), the Korean Service and Armed Forces Expeditionary Medals, and the United Nations Service Medal. ☛

CAPT WATSON FROCKED

Dr. C. Gordon Watson, executive director of the American Dental Association (ADA) since 1970, has advanced to the rank of CAPT in the US Naval Reserve.



EXECUTIVE TALENT.—During promotion ceremonies, CAPT C. Gordon Watson, DC, USNR-R (center) is assisted by his wife and RADM W.H. O'Neil, USN, commandant of the Ninth Naval District. Dr. Watson is executive director of the 119,000-member American Dental Association.

A native of Rexburg, Idaho, Dr. Watson is the chief executive officer of the 119,000-member ADA, headquartered in Chicago. He is a graduate of Brigham Young University, and received his dental degree from Northwestern University Dental School in 1946. He also studied at the University of Chicago Graduate School of Business, and graduated from the Institute for Organization Management, University of Santa Clara, Calif., in 1967.

As a practicing dentist for 14 years in San Diego, Calif., Dr. Watson has served in an editorial capacity; as secretary of the San Diego County Dental Society; and as chairman of the Council on Dental Health, Southern California Dental Association. He has also completed a 4-year term as assistant secretary of the ADA, and was executive director of the Southern California Dental Association from 1964 to 1970.

CAPT Watson is listed in Volume 37 of *Who's Who In America*. In 1972 he received the Key Award of the American Society of Association Executives, in recognition of his outstanding leadership in association management.—PAO, Ninth Naval District.

HM1 (now HMC) JOHN R. HEWITT — SHORE SAILOR OF THE YEAR

In the early 1960s, Hospital Corpsman John R. Hewitt decided to see what it was like to be a civilian. Eighty days later he was back in the Navy. "I really missed the medical work," he says today. "I was working in construction in Washington, D.C., and I realized that I preferred medicine. I like to help people."

His ability and willingness to help Navy people brought then HM1 Hewitt the highest honor of his career: the title of Shore Sailor of the Year for Fiscal Year 1974. He has now been advanced to the rate of chief hospital corpsman.

A native of Jacksonville, NC, HMC Hewitt distinguished himself at the Naval Receiver Facility Northwest, Norfolk, Va., as Medical Department Representative of the Naval Regional Medical Center (NRMC) Branch Dispensary. After arriving at the Naval Communication Station Norfolk, in July 1971, he established excellent managerial practices in the daily operation of the dispensary where he served without the support of a local physician. He developed outstanding rapport with his patients, winning their confidence and trust. He also implemented and managed recurring, base-wide, sanitary inspections, and a pest-control program.

HMC Hewitt has also served as a health benefits counselor, an advisor for drug and alcohol abuse, and as advisor to the athletic programs committee at the command. He has been deeply involved in many military and civilian community activities, ranging from Little League baseball to service with the Northwest Baptist Church, where he became an ordained deacon.

The 36-year-old chief hospital corpsman first joined the Navy on 26 Aug 1958. Since then his career has included assignments to: Naval Operational Base Dispensary, Norfolk; USS *Orion*; Marine Corps Base Dispensary, Camp Lejeune, NC; and Force Logistics Command, 3rd Military Police Battalion, Danang, Republic of Vietnam. He was recently accepted into the Physician's Assistant Program, and began training in July at Sheppard Air Force Base, Tex.



SHORE SAILOR OF THE YEAR.—HM1 (now HMC) John R. Hewitt, USN (right), 1974 Shore Sailor of the Year receives a Navy Commendation Medal from VADM Donald L. Custis, MC, USN, the Navy Surgeon General.

For his outstanding work at the Naval Receiver Facility Northwest, Norfolk (1971-1974), HMC Hewitt was presented the Meritorious Service Medal. His other awards include the Bronze Star Medal with Combat Distinguishing Device, Combat Action Ribbon, Republic of Vietnam Meritorious Unit Citation Medal Color with Palm, Vietnamese Cross of Gallantry with Palm, four Good Conduct Medals, and a Navy Commendation Medal. He also holds the National Defense Service Medal, Vietnam Service Medal with FMF Device, and Vietnam Campaign Medal with Device. — BUMED, Code 34. ☸

NAVY ESTABLISHES SECOND REGIONAL DENTAL CENTER

The Navy's second regional dental center has been established at Great Lakes, Ill., under the direction of CAPT Carlo A. DeLaurentis, DC, USN. The new center includes dental departments of the Naval Administrative Command; Naval Air Station, Glenview, Ill.; and Naval Air Facility, Detroit, Mich.

All the dental facilities at Great Lakes are now integrated into a new coordinated regional dental center; individual annexes provide care for military and Service School Command personnel, boot camp trainees, and incoming new recruits.

The Naval Regional Dental Center at Norfolk, Va., was the first regional dental center to be established. Plans have been submitted to the Chief of Naval Operations for extension of dental regionalization to other geographic areas. — BUMED, Code 61. ☸

75TH CEREMONY FOR NAVAL GRADUATE DENTAL SCHOOL

LCDR Lawrence W. Blank, DC, USN walked off with two awards for academic excellence and professional achievement during the 75th graduation ceremony of the Naval Graduate Dental School (NGDS), held 21 June 1974 at the National Naval Medical Center (NNMC), Bethesda, Md. A graduate of the general dentistry program, LCDR Blank won the Commanding Officer's Award for General Excellence and the NGDS Award for Achievement in Research Methods.

LCDR Richard B. Finger, Jr., DC, USN won the Commanding Officer's Award for Excellence in Operative Dentistry.

Also honored was Dr. Grover L. Angel, professor of education at The George Washington University, Washington, D.C., who received the Commanding Officer's



TWO-AWARD WINNER.—RADM George D. Selfridge, DC, USN (left), commanding officer of the Naval Graduate Dental School (NGDS), NNMC, Bethesda, congratulates LCDR Lawrence W. Blank, DC, USN, who received two awards during graduation ceremonies at the NGDS.

Annual Award for Civism and a plaque from the NGDS.

During the ceremony, recognition was given to 22 dental officers who had completed the NGDS's first-year graduate level courses, for which The George Washington University grants an MS degree in special studies (oral biology). Eleven officers had completed residencies in dental specialties. Included among the graduates were one US Air Force dental officer, and one dental officer from the Royal Navy.

Principal speaker Dr. John J. Salley, dean and professor of oral pathology at the University of Maryland School of Dentistry, discussed "Education and the Quality of Life," indicating methods by which professionally educated persons can enhance the quality of life by using reasoned judgments to develop understanding and tolerance.

Among the distinguished guests attending the ceremony were: RADM Robert G. Williams, Jr., MC, USN, commanding officer of the NNMC; RADM George D. Selfridge, DC, USN, commanding officer of the NGDS; Anthony R. Curreri, MD, president of the Uniformed Services University of the Health Sciences; and MAJGEN Roger Hombs, DC, USAF, Air Force Assistant Surgeon General for Dental Services. — PAO, NNMC, Bethesda, Md. ☸

NAVY WO1 PHYSICIAN ASSISTANTS

The first 30 Navy physician assistants have graduated from the two-phase training program, and have been appointed to the rank of warrant officer (WO1).

Eight students graduated on 31 July 1974 after completing one year of didactic training at the US Air Force School of Health Care Sciences, Sheppard Air Force Base, Tex., and one year of supervised practical training at the following naval medical facilities:

NAVREGMEDCEN Camp Pendleton, Calif.

HMC Michael S. McGrath, USN

NAVREGMEDCEN Long Beach, Calif.

HM1 John Kenneth Martin, USN

HMC James Douglas Sallee, USN

NAVREGMEDCEN San Diego, Calif.

HMC Timothy Lee Gardner, USN

NAVREGMEDCEN Great Lakes, Ill.

HM1 Steven D. Beaver, USN

NAVREGMEDCEN Charleston, S.C.

HMC Michael C. Hardy, USN

NAVREGMEDCEN Jacksonville, Fla.

HM1 Robert P. Aitken, USN

HM1 Christopher C. Handy, Jr., USN

The 14 students listed below graduated on 2 Aug 1974. They completed the one-year academic portion of their training at The George Washington University, Washington, D.C., and acquired one year of practical training at the indicated naval medical centers:

NATNAVMEDCEN (NNMC) Bethesda, Md.

HM1 Ronald Marsden Cope, USN

HMC Robert Bruce Dunlap, USN

HM1 Guy William Eastman, USN

HMC Daniel Joseph Hutchinson, USN

HM1 Jose Pascual Rodriguez, USN

NAVREGMEDCEN Philadelphia, Pa.

HMC Richard L. Beck, USN

HM1 Charles David Crossman, USN

HMC Barry Martin Serota, USN

HMCS Thomas J. Kennedy, USN

HMC Raymond T. Arsenault, USN



PA GRADUATES.—The first group of 30 hospital corpsmen to be trained as physician assistants have completed both phases of their training, and have now been appointed to the rank of WO1. The 13 students shown above were appointed to the rank of WO1 in ceremonies held 2 Aug 1974 at NNMC, Bethesda, Md. Standing from left to right are: (front row) RADM R.G. Williams, Jr., MC, USN, CO of NNMC; WO1 Jose P. Rodriguez; WO1 Richard O. Clark; WO1 John P. Boothe; WO1 Pedro A. Colon; WO1 Charles L. McMillan; and CAPT J. William Cox, MC, USN, CO, Naval Health Sciences Education and Training Command. (Middle row) CDR Joseph Cassells, MC, USN, PA project director at NNMC; WO1 Ronald M. Cope; WO1 Robert B. Dunlap; WO1 Donald W. Hahn; WO1 Stanley R. Rundall; and WO1 Guy W. Eastman. (Back row) WO1 Gregory E. Monroe; WO1 Philip A. Contino, Jr.; WO1 Daniel J. Hutchinson; and CAPT Carl Voyles, MC, USN, chief of outpatient services and medical director of PA Program at NNMC. — PAO, NNMC, Bethesda, Md. (Photo by HM2 Garry Silk, USN).

HMC Roger E. Boyd, USN
HMC Frank F. Folio, USN
HM1 Steve J. Hernandez, USN
HMC George Mara, USN

The original pilot group of eight students, who completed a three-year training program, also graduated on 2 Aug 1974. These corpsmen first served a two-year preceptorship at selected naval medical facilities, and subsequently completed one year of didactic training at The George Washington University while attached to the Naval Medical Training Institute, Bethesda, Md. The first graduates of the three-year training program are:

HM1 John P. Boothe, USN
HM1 Richard O. Clark, USN
HM1 Pedro A. Colon, USN
HMCS Philip A. Contino, Jr., USN
HMC Donald W. Hahn, USN
HMCS Charles L. McMillan, USN
HMC Gregory Eugene Monroe, USN
HMCS Stanley R. Rundall, USN

The new physician assistants have been appointed to the rank of WO1, and assigned to duty at various naval medical facilities located throughout the US. — BUMED, Code 34. ☛

MONEY-SAVING IDEA FOR DENTAL EQUIPMENT REPAIR

The two parts of the dental oral cavity evacuator (FSN 6520-00-935-1002) that most frequently require repair are the small white nylon hose which carries air for suction, and the locking button which regulates the air flow. Occasionally the larger grey hose which carries debris out of the mouth must also be replaced. In the past, these items have been obtained through a standardized repair kit (FSN 6520-262-3229), available through the Federal Supply Catalog at a cost of \$58.

However, the hoses and the locking button can be purchased as individual items from A-Dec Company, Newberg, Ore., permitting local repair by the dental repairman. The total cost for the items is less than \$10.

If the latter option was implemented throughout all Navy dental departments, this method of repair would represent a substantial savings. — DTC James M. Maine, USN, Naval Dental Clinic, Camp Pendleton, Calif. ☛

Because there is no accumulated, accurate, clinical data on intrauterine devices (IUDs), the actual risk of complicated pregnancies or fatalities associated with the use of various types of IUDs cannot be precisely computed. The Food and Drug Administration (FDA) is therefore asking physicians to make a special effort to report on their clinical experience with all brands of IUDs. Specifically, the FDA wants to know:

- The number of patients in whom each IUD brand was inserted during the period from 1 July 1973 to 1 July 1974.
- The number of IUDs removed and reason for removal (e.g., expulsion, adverse reaction, voluntary removal for nonmedical purposes).
- Any adverse reactions associated with each IUD, such as septic abortions, complicated pregnancy, septicemia, pelvic and uterine infections, perforations, and imbedding.
- Any deaths associated with IUD use (describe cause, if known).

All case reports should include IUD brand names. Reports should be forwarded to: IUD Survey, Bureau of Medical Devices, FDA, 5600 Fishers Lane, Rockville, Md. 20852. — *FDA Drug Bulletin*, July 1974. ☛

TIME IN GRADE REQUIREMENTS WAIVED FOR RETIREMENT

BUPERS has announced that time-in-grade requirements for CDRs and CAPTs who wish to retire have been waived for another year, until 1 Jul 1975. A minimum of 6 months in grade will suffice for requests for retirement, rather than the 2 or 4 years that were formerly required. The waivers are effective immediately, and apply to all personnel in pay grades 0-5 and 0-6 except officers having a 14XX (Engineering Duty of officers), 210X (MC) or 250X (JAGC) designator. Requirements for 14XX and 250X officers remain unchanged, but 210X CAPTs now need only 2 years time in grade prior to voluntary retirement.

According to BUPERS, early submission of retirement requests will be advantageous to officers who wish to retire. Requests must be received by the Chief of Naval Personnel no later than 1 Jul 1975, to be eligible for the waiver. Officers whose retirement requests have been previously deferred in order to complete time-in-grade requirements may resubmit their requests. Additional details on the waiver are contained in BUPERS Notice 1811 of 9 Jul 1974. — *CHINFO Newsgram*, 29-74. ☛

NATIONAL SECURITY SEMINAR

A National Security Seminar, sponsored by the Charlotte Chapter Naval Reserve Association and conducted by the Industrial College of the Armed Forces, will be held at Central Piedmont Community College in Charlotte, NC, on 4-15 Nov 1974.

The seminar will feature a series of factual presentations on national and international problems affecting the national security of the US. Lectures will be supplemented by visual aids, question periods, panel discussions, and films.

Selected topics for discussion should help participants improve their knowledge and understanding of national security, and increase their awareness of the many issues and problems affecting the security and well-being of the US in a rapidly changing world.

There is a \$5 registration fee for retired military officers, and a \$10 fee for civilians; there is no registration fee for active duty and Reserve military officers.

For further information, contact:

CAPT Barry Miller, USNR
Central Piedmont Community College
Post Office Box 4009
Charlotte, NC 28204

SYMPOSIUM ON MEDICINE AND RELIGION

Present day medical-moral questions in the fields of human reproduction and bioethics will be discussed at the Sixth Annual Symposium on Medicine and Religion, to be held at the Naval Regional Medical Center (NRMC) Portsmouth, Va., on 24 Oct 1974. The symposium will be presented by chaplains of the NRMC Portsmouth, in conjunction with the American Medical Association and the Virginia Medical Association's Department of Medicine and Religion.

Guest speaker for the symposium is Andre E. Hellegers, MD, director of The Joseph and Rose Kennedy Institute for the Study of Human Reproduction and Bioethics, Georgetown University, Washington, D.C. As in previous years, the program will focus upon enriching the quality of human life; physicians and clergymen will have the opportunity to discuss their mutual task of caring for the human person who is a patient.

Specific topics to be addressed include: methodological causes of new bioethical problems; the issue of consent; the quality of life, law-making, and ethics; and the problem of population and ethics. A question-and-answer period will follow each discussion.

All members of the Navy Medical Department are welcome to attend. Registration will begin at 0845 on 24 Oct, at the entrance to the main auditorium of the NRMC Portsmouth. There is no registration fee.

For further information, write:

CDR James C. Rittenhouse, CHC, USN
Box 567
NRMC Portsmouth
Portsmouth, Va. 23708

SELECTION BOARD SCHEDULE ANNOUNCED

BUPERS has announced the schedule for the Fiscal Year 1975 selection boards for officers on active duty. The schedule is as follows: Line CAPT board convened on 20 Aug; line CDR board convenes on 24 Sep; staff CAPT board convenes on 8 Oct; line LCDR board convenes on 30 Oct; and staff CDR and LCDR boards convene on 3 Dec. Commands are urged to insure that the latest regular fitness reports for all eligible officers are submitted to BUPERS in time for the board meetings.

Personnel who will have their records screened by one of the boards have the right to forward official communication, inviting attention to any part of the record considered important, to the president of the selection board via the Chief of Naval Personnel. Such communication can be submitted any time not later than 10 days after the board convenes.

Eligibility requirements for early promotion, and further details on the selection board schedule are contained in SECNAVNOTE 1421 of 10 Jul 1974.—
CHINFO Newsgram, 30-74.

DOD LEAVE POLICY SIGNED

Deputy Secretary of Defense William P. Clements has signed a Department of Defense directive which expands current military leave and liberty policies. The new policy establishes leave programs as a military requirement and directs commanding officers to take all necessary steps, including dropping nonessential requirements, to ensure that their personnel have ample opportunity to take leave.

In addition, the directive is designed to encourage all Service members to take their 30 days' leave a year, and to discourage personnel from intentionally accumulating leave for the purpose of "selling" it at the time of retirement, reenlistment, or separation.

Under the new policy: "Officers in command shall encourage and assist all members to use, on the average, their entire 30 days' leave each year. The Congress has provided compensation for members who were not able to use their leave because military requirements have prevented it, and personnel should not be required to use leave immediately prior to separation simply for the purpose of reducing leave balances. On the other hand, use of the leave system as an extra-money program, either as a method of compensation or as a career continuation incentive, defeats the intent of the Congress to provide for the health and welfare of Service personnel. It is, therefore, specifically intended that large leave balances shall not be accrued expressly for settlement upon separation or release from active duty."

The directive also seeks to reduce the amount of leave lost, especially leave for which there is no compensation, once Service personnel accumulate more than the 60 days maximum that is permitted by Law. Individuals will continue to be compensated for up to 60 days' accrued leave, in accordance with Public Law, upon separation, retirement, or reenlistment. The new DOD policy amplifies a policy issued by the Navy in a 1972 NAVOP. In the NAVOP, the Chief of Naval Operations directed all commanding officers to encourage their personnel to use their 30 days' leave a year, with at least one leave period each year of 14 to 21 consecutive days.

Further details on the new DOD leave policy are contained in DOD Directive 1327.5 of 28 June.

Navy leave policy guidelines are contained in NAVOP 262346Z/234 of 26 Dec 1972, and in BUPERS Manual.—*CHINFO Newsgram*, 27-74. 🇺🇸

CAPT STAHL NAMED HONORARY FELLOW AMERICAN COLLEGE OF LEGAL MEDICINE

CAPT Charles J. Stahl III, MC, USN, chief of the Forensic Sciences Division, Armed Forces Institute of Pathology (AFIP), Washington, D.C., recently became the first military physician to be named Honorary Fellow of the American College of Legal Medicine. The title was conferred during the 14th International Conference on Legal Medicine held in Atlanta, Ga., on 10-12 May 1974.

The academic distinction is bestowed upon persons who have made outstanding contributions to the practice of legal medicine in the US, and who possess both a medical and a law degree. In the 15 years since the College was established, only nine other persons have been so honored.

CAPT Stahl has long been recognized as one of the foremost military authorities on forensic sciences and



HONORARY FELLOW.—CAPT Charles J. Stahl III, MC, USN is the first military physician to be named an Honorary Fellow of the American College of Legal Medicine. He is recognized as an eminent military authority on forensic sciences and forensic pathology.

forensic pathology. He has been editor of the *Journal of Forensic Sciences* for the past two years, and helped develop the cooperative master of science degree program of the AFIP and The George Washington University, Washington, D.C. CAPT Stahl is a professional lecturer in forensic sciences at The George Washington University.—PAO, AFIP, Washington, D.C. 20306. 🇺🇸

1974 SAVINGS BONDS DRIVE

With hard-driving National Chairman and Secretary of Agriculture, Earl L. Butz, and HEW in a strong supporting role, the 1974 Savings Bonds Campaign proved highly successful.

The aggressive program chose "Share a Common Bond" as the theme, linking it to the American tradition of patriotism and the "Spirit of '76."

The combination of a new 6% rate of interest and shortening of the maturity period also contributed to increased sales of Savings Bonds in 1974, topping 1973 sales by 20% or more. Consider the following retirement plan:

Buy an E
Bond each
month for
15 years at:

Your
original
investment

Interest
from
E Bonds

In 15 years
your 180 E
Bonds will
be worth

Exchange
your E
Bonds for
H Bonds*

Average
monthly H
Bond interest
for 10 years

\$ 18.75	\$ 3,375	\$ 1,974	\$ 5,349	\$ 5,500	\$ 27.85
37.50	6,750	3,949	10,699	11,000	55.70
56.25	10,125	5,923	16,048	16,500	83.54
75.00	13,500	7,897	21,397	21,500	108.86
150.00	27,000	15,794	42,794	43,000	217.72

*Add cash to purchase next multiple of \$500.



SAVINGS BONDS TIGERS.—Federal Chairman of the 1974 Savings Bonds Drive, Secretary of Agriculture Earl L. Butz (center) admires the informative, first, Federal Savings Bonds brochure circulated during the campaign. His dynamic supporting team includes, from left to right: Campaign Administrative Aide (borrowed from HEW), Martin T. Walsh; Jack Dunn, Federal Sales Director; Campaign Vice Chairman (and Assistant Secretary of Agriculture) Joseph Wright; and Campaign Public Affairs Aide (on loan from Dept. of HEW), V. Anne Russell.



PROMOTING THE THEME.—Attractive Anne Armstrong, Counsellor to the President, shares a common bond with Deputy Secretary of Defense William P. Clements, Jr. (left), (just named Chairman of the upcoming Combined Federal Campaign). DOD Savings Bonds Coordinator and fellow Texan, COL William McSpadden, USA (right) seconds the motion.



AT THE FEDERAL KICKOFF.—The famous US Navy Color Guard presents colors. Standing at right are Treasury officials, from left to right: Robert Fredlund, Walter Johnson, and John Carlock. Beside them are LGEN Leo E. Benade and MGEN Ralph J. Richards (far right).



THE HARD SELL.—Assistant Secretary of Agriculture and Campaign Vice Chairman, Joseph Wright (left), and your Editor, urge viewers to do themselves and their Nation a favor by investing in Savings Bonds.

Vice Chairman for the 1974 Savings Bonds Drive was the able Assistant Secretary of Agriculture Joseph Wright. The dynamic HEW promotional team, V. Anne Russell as Public Affairs Aide and Martin T. Walsh as Administrative Aide, utilize every opportunity to remind Federal employees to keep investing in US Savings Bonds throughout the year. With the Bicentennial approaching, it's especially apropos to take stock in America.

Secretary Butz has suggested reconsulting the informational Federal Savings Bonds Campaign brochure (BUMED NOTICE 5120, cancelled Jun 1974) all year, continuing to promote bond sales, and including new and transferring employees. It hardly seems necessary to point out that in this instance, helping your country is at the same time helping yourself. 🍀

TETANUS — ONE FOR THE RECORD

This Bureau was recently informed of a case of tetanus presenting in an active duty Navyman. Our curiosity was sufficiently aroused to prompt investigation into the date of the last reported, previous case. Our research revealed several reported cases in recent years; when the hospital records were retrieved, however, the diagnosis could not be substantiated. We think we can safely conclude that there has not been a single proven case of tetanus occurring in active-duty Navy and Marine Corps personnel since World War II.

But what about this recent case? Does it blemish the record? It seems the man had been sworn into the Navy while overseas, less than 24 hours prior to hospital admission, and was awaiting travel to CONUS. The patient denied prior immunization with tetanus toxoid. How was he infected? The report stated he had undergone circumcision several weeks before the onset of his present illness.—CDR R.J. Kinney, MC, USN, BUMED Code 551. 🍀

LTJG TODD TOP POP

LTJG Michael L. Todd, MSC, USN really earned his Father's Day cigar this year. On Father's Day, 16 June, he graduated with high honors from the University College of Northeastern University, Boston, Mass., receiving a BS degree in management in health agencies and institutions.

A 9-year Navy veteran and the father of two small boys, LT Todd is currently chief of data processing at Nav Hosp Chelsea, Mass. He expects to begin graduate training in health management soon, and plans to continue his career in the Navy Medical Service Corps.



THE GRADUATE.—LTJG Michael L. Todd, MSC, USN is congratulated by his wife, Rosemary; and their two children, Matthew (lower left) and Michael, following graduation ceremonies at Northeastern University in Boston. LT Todd received his BS degree in health management on Father's Day. 🍀

SGLI INCREASED TO \$20,000

Servicemen's Group Life Insurance (SGLI) coverage for active-duty military personnel has been increased from \$15,000 to \$20,000. All active-duty personnel are automatically covered in the amount of \$20,000, unless they decline participation or elect a lesser amount.

The additional coverage will result in a monthly premium increase of probably less than one dollar. The cost of the \$15,000 SGLI coverage is currently \$2.55 a month.

The new SGLI increase also applies to cadets and midshipmen of the Service academies.

On 1 Aug 1974 the following new insurance benefits also became effective:

- Ready Reservists and National Guard personnel can obtain up to \$20,000 full-time insurance coverage, so long as they perform at least 12 periods of inactive duty training a year.

- Ready Reservists and National Guard personnel who complete 20 years of service creditable for retirement purposes can keep the \$20,000 coverage until

they begin drawing retirement pay or reach the age of 61 years, whichever occurs first.

● SGLI policies of persons on active duty can be converted to a newly enacted "Veterans Group Life Insurance" (VGLI) policy within 120 days after separation or release from active duty. VGLI will become effective at the end of the 120-day free coverage *only if payment is made* for at least the first month, *prior to the end of the 120-day period*. This will be a non-renewable, 5-year term policy, for the same amount of coverage as the Service member carried under SGLI.

All VGLI premiums must be paid directly to the Office of Servicemen's Group Life Insurance. The amount of coverage can be no greater than that amount held at the time of discharge, retirement, etc.

Monthly VGLI premium rates will be: \$3.40, at 34 years of age, and younger; \$6.80, at 35 years of age, and older. ☘

MEDICAL COMPLICATIONS OF ALCOHOL ABUSE

A summary of the 1973 AMA Washington Conference on Medical Complications of Alcohol Abuse has been prepared by White House Physician RADM William M. Lukash, MC, USN, and CDR Raymond B. Johnson, MC, USN. Published by the American Medical Association (AMA), the attractive monograph summarizes significant information provided by leading professionals who participated in the 1973 Conference, jointly sponsored by the AMA Committee on Alcoholism and Drug Dependence, the National Council on Alcoholism, the National Institute on Alcohol Abuse and Alcoholism, and the Veterans Administration.

RADM Lukash, Chairman of the Department of Gastroenterology at NNMC, Bethesda, Md., organized and coordinated the outstanding program for the Conference. Commenting on the Navy's positive approach to alcohol rehabilitation, RADM Lukash has enumerated some significant goals which the Navy must bear in mind when dealing with alcoholism: 1) Improve physician awareness in the management of alcoholism as a disease; 2) Disseminate information on the availability of treatment resources to all commands, retirees, and dependents; 3) Ensure confidentiality concerning alcoholism in medical records; and 4) Protect job status and promotion opportunity after treatment.

The monograph was produced pursuant to Contract No. NOL-AA-4-0005 with the National Institute on Alcohol Abuse and Alcoholism; Alcohol, Drug Abuse and Mental Health Administration; Dept. of Health, Education and Welfare. ☘

NAVY BIRTHDAY 1974

"Navy Birthday — A Proud Tradition" is the theme for the 1974 celebration of the establishment of the US Navy. This theme brings recognition to the historic contributions of all members of the Navy family — active-duty personnel, Reservists, retirees, civilian employees, and dependents — and acknowledges their important role in building the Navy's proud traditions.

Navy Birthday kits prepared by the Office of the Chief of Information (CHINFO) are currently being distributed. The kits contain booklets, bumper stickers, posters, and other promotional materials designed to assist commands in conducting appropriate Navy Birthday observances. Additional supplies of bumper stickers, posters, and Navy Birthday stickers are available at Naval District and type commander (TYCOM) public affairs offices.

The Navy film, "People, Pride, Traditions," MN11505, which contains historic footage and interviews with people reflecting on their Navy experiences, will be issued in early September through the Chief of Naval Operations' SITREP distribution system. Commands are encouraged to use this film in conjunction with their Navy Birthday programing.

Planning for this important event should be under way now, to ensure that the impact of this year's Navy Birthday will equal or exceed that attained in previous years.—*CHINFO Basegram*. ☘

BELLY UP TO THE BOARD, BOYS!



BELLY BOARD AWARD.—RADM William M. Lukash, MC, USN (left), chairman of the National Naval Medical Center (NNMC) Department of Gastroenterology, presents the sixth annual Belly Board Award to NNMC surgeon CDR Herbert Steimel, MC, USN (center). CDR Steimel was honored for his contributions to the recognition of digestive disease as a major health problem in the Navy, and for his valued instruction on the surgical management of gastrointestinal disease. CDR Raymond B. Johnson, MC, USN (right), assistant chairman, Department of Gastroenterology, adds his congratulations.—Dept of Gastroenterology, NNMC, Bethesda, Md. ☘

AMERICAN BOARD CERTIFICATIONS

American Board of Allergy and Immunology

LCDR David S. Hurewitz, MC, USNR
LCDR Michael W. Yocum, MC, USNR

American Board of Anesthesiology

LCDR William S. Dempsey, Jr., MC, USN

American Board of Ophthalmology

CDR Thomas L. Clark, MC, USN
LCDR Elias S. Rosenblatt, MC, USNR
LCDR Jan Z. Winkelman, MC, USNR

American Board of Otolaryngology

LCDR Thomas M. Kidder, MC, USNR

American Board of Pathology

LCDR Lee T. Wegener, MC, USNR

American Board of Pathology in Forensic Pathology

LCDR Harry L. Taylor, MC, USNR

American Board of Plastic Surgery

LCDR Charles F. Converse, MC, USNR

American Board of Preventive Medicine in Occupational Medicine

CAPT John H. Baker, MC, USN
CDR Joseph J. Bellanca, MC, USN
CDR William C. Milroy, MC, USN

American Board of Surgery

CDR James M. Geeslin, Jr., MC, USN
LCDR Bruce L. Daniels, MC, USN
LCDR Donald J. DePinto, MC, USNR
LCDR Charles L. Rice, MC, USN
LCDR David E. Smith, MC, USN

**American Board of Endodontics*

CAPT James E. Ainley, Jr., DC, USN
CAPT Edward M. Osetek, DC, USN

**American Board of Oral Pathology*

CDR Benton E. Crawford, Jr., DC, USN
CDR John M. Foley, DC, USN
CDR Gerald L. Pierce, DC, USN

**American Board of Periodontology*


CAPT Joseph J. Lawrence, Jr., DC, USN
CAPT Milton R. Wirthlin, DC, USN

**American Board of Prosthodontics*

CDR Gerald W. Eastwood, DC, USN
CDR James R. Holton, DC, USN
CDR Mark M. Stevens, DC, USN

**American Board of Oral Surgery*

CAPT Meredith S. Burch, DC, USN
CAPT James H. Scribner, DC, USN
CDR Keith W. Besley, DC, USN
CDR Thomas E. Bollinger, DC, USN
CDR Charles A. Brown, DC, USN
CDR Jimmie L. Burk, Jr., DC, USN
CDR Paul C. Charbonneau, DC, USN
CDR Ronald E. Hillenbrand, DC, USN
CDR Hugh C. Howarth, DC, USN
CDR Charles S. Huttula, DC, USN
CDR Joseph P. McMahon, DC, USN
CDR James J. Verunac, DC, USN

*Boards recognized by the American Dental Association. 

AWARDS AND HONORS

MERITORIOUS SERVICE MEDAL

CAPT Charles E. Brodine, MC, USN
CAPT Wendell A. Johnson, MC, USN (now retired)
CAPT William E. McConville, MSC, USN
CAPT Melvin Museles, MC, USN
CAPT Orville E. Smith, MSC, USN (now retired)

NAVY COMMENDATION MEDAL

CAPT John H. Baker, MC, USN
CDR Eugene M. Bryant, Jr., MSC, USN
CDR Virginia M. Seledyn, NC, USN (now retired)


NAVY COMMENDATION MEDAL (Cont.)

CDR Robert L. White, MSC, USN
LCDR Richard L. Boyle, MSC, USN

NAVY ACHIEVEMENT MEDAL

LTJG Dennis M. Davidson, MSC, USN
HMCS James S. Fallat, USN

SILVER STAR MEDAL

HMCM Gilyard H. Bates, USN 

✠ In Memoriam ✠

RADM Raymond J. Mansfield, MC, USN (Ret.), whose military career included service in both the Army and Navy Medical Corps, died 10 Jun in Stamford, Conn.

Dr. Mansfield was born in New Britain, Conn., on 26 Apr 1894. After earning his BS degree from Colgate University in 1917, he had enlisted service in France with the US Army Medical Corps, American Expeditionary Forces, participating in the St. Mihiel and Meuse-Argonne offensives. He attended Yale University in 1920, and thereafter earned his MD degree from the University of Pennsylvania in 1923.

From 1925 to 1927, Dr. Mansfield was a member of the Hawaiian National Guard while practicing medicine in Honolulu. He completed postgraduate work at the University of Vienna, Austria (1928-1929) and the University of Berlin, Germany (1933), and for the next seven years was a member of "The Medical Group" in Honolulu, serving on the staffs of Queen's Hospital, Kapiolani Maternity and Gynecological Hospital, and the Kauhaleolani Children's Hospital.

RADM Mansfield was commissioned in the US Naval Reserve as a LT in 1933. Called to active duty shortly before WWII, he served at Nav Hosp Mare Island, Calif., from 1941 to 1942. For the next two years he headed the medical department in the USS *Haywood*, which participated in the seizure and occupation of enemy-held Attu Island, Aleutian Islands. For his outstanding performance of duty during this campaign, Dr. Mansfield was awarded the Legion of Merit with Combat "V," "for exceptionally meritorious conduct . . . [that] . . . enabled his department to maintain a remarkably low death rate among battle casualties."

From April to July 1944, Dr. Mansfield undertook instruction in neuropsychiatry at Nav Hosp Philadelphia, Pa., after which he returned to Nav Hosp Mare Island as chief of the neuropsychiatry service. In Aug 1945 he became senior medical officer at the Naval Ammunition Depot, Mare Island, a position he held until his release from active duty four months later.

Dr. Mansfield returned to active duty in 1948, to serve as medical officer at the Mare Island dispensary. On 4 Aug 1949, he transferred from the Naval Reserve to the US Navy in the rank of CAPT. In Sep 1952 he joined the medical staff at the Naval Shipyard Brooklyn, NY. On 1 May 1956 his name was placed on the Retired List, and he was advanced to the rank of RADM on the basis of a combat award.

In addition to the Legion of Merit with Combat "V," RADM Mansfield received a Letter of Commendation

from the US Army. He held the WWI Victory Medal, American Defense Service Medal, American Campaign Medal, Asiatic-Pacific Campaign Medal with silver star, WWII Victory Medal, and National Defense Service Medal. He was a Fellow of the American College of Surgeons, and a member of the AMA and the Los Angeles County Medical Society.

CAPT Edgar Neptune, MC, USN (Ret.), noted biochemist and specialist in lipid metabolism, died 27 Jul at the University of Maryland Hospital in Baltimore, Md. He was 49 years of age.

Born in Boston, Mass., Dr. Neptune graduated from the Phillips Exeter Academy and received a bachelor's degree from the University of Rochester. In 1949 he received his MD degree magna cum laude from Syracuse University, after being elected to Phi Beta Kappa. Prior to being commissioned in the Navy in 1951, Dr. Neptune was a research chemist at Harvard Medical School and Peter Bent Brigham Hospital in Boston.

Dr. Neptune spent much of his naval career at the Naval Medical Research Institute, Bethesda, Md., as head of the lipid metabolism laboratory. He also completed a tour of duty in Korea, and served on the National Research Council from 1952 to 1954. He was a member of the staff at US Naval Medical Research Units in Cairo, Egypt (1954-1956) and Taiwan (1963-1965), before retiring from active military service in 1972.

Dr. Neptune was one of the first physicians to explain the function of lipid as a source of energy in skeletal muscle function. He also studied bacterial metabolism, stress and underwater physiology, and the mechanism by which cells fight invading microorganisms. At the time of his death, he was professor of surgery and director of research in the department of surgery at the University of Maryland Medical School, Baltimore.

CAPT Neptune was a member of the American Physiological Society, and the Society of Experimental Biology and Medicine. He is survived by his wife, Margaret, a physician and division director in the Food and Drug Administration, and two daughters. The family lives at 11921 Goya Dr., Rockville, Md., 20854.

HMCS Wayne D. Norris, USN, assistant to the Inspector General, Medical for enlisted affairs, and an enthusiastic supporter of *U.S. Navy Medicine*, died on 15 Jun in an airplane crash in North Carolina.

Chief Norris was born on 6 Oct 1933 in Mt. Vernon, Tenn., and enlisted in the Navy on 27 Sep 1951 as a

seaman recruit. His first duty station was the Naval Recruiting Station in Knoxville, Tenn. From 1952 to 1953 he served in the USS *Kearsarge* (CVA-33), after which he attended the Hospital Corps School in San Diego, Calif.

As a hospital corpsman, Chief Norris had duty assignments at Nav Hosp Bremerton, Wash., and at the Naval Air Station, Whidbey Island, Wash., from 1954 to 1955; during 1955 he also served with the 3rd Marine Division, 3rd Battalion, Fuji, Japan. He subsequently completed a year of training at Nav Hosp Oakland, Calif., and was assigned to the staff at Nav Hosp Camp Lejeune, NC (1958-1960).

In 1960 Chief Norris attended Submarine School in New London, Conn., and his heart remained in the "silent service" thereafter. He served in the USS *Angler* (SS-240) that same year, and returned to the *Angler* in 1961 after completing sonar training in New London. Chief Norris also served in the USS *Cubera* (SS-347), USS *Torsk* (SS-423), USS *Sailfish* (SS-572), and USS *Bang* (SS-385) during his career. He reported to his last duty station at the Naval Regional Medical Clinic, Bureau of Medicine and Surgery, Washington, D.C., in Oct 1972, and had been fervently anticipating return to submarine duty in 1974.

The home address of the Norris family is: PO Box 147, Williamston, NC 27892. Many associates and admirers of the late HMCS Norris extend to his family their sympathy, and mutual sorrow at the tragic loss of a true friend and dedicated Naval colleague.

CAPT Caldwell J. Stuart, MC, USN (Ret.), who served 32 years in the Navy Medical Corps, died on 19 Jun in San Antonio, Tex. He was 78 years old.

Dr. Stuart was born in Washington, Va., on 20 May 1896. In 1917 he interrupted his studies at the University of Virginia in Charlottesville to join the US Army Air Service. He served as an Army pilot until Feb 1919, when he returned to the University of Virginia where he subsequently received a BA degree in 1920, and his MD degree in 1923.

As a neophyte physician, Dr. Stuart commenced a career in the Navy Medical Corps by joining the staff of Nav Hosp Chelsea, Mass, in 1923. From 1924 to 1926, he served in the USS *Wyoming*. The next year he joined the staff at Nav Hosp Philadelphia, Pa., where he remained until 1929; he then reported to the US Naval Station, St. Thomas, Virgin Islands, for about two years. Dr. Stuart later practiced on the staff at Nav Hosp Norfolk, Va. (1931-1933); at the Naval Proving Grounds in Dahlgren, Va. (1933-1935); and in the USS *Relief* (1935-1937). He was a member of the staff at Nav Hosp Washington, D.C., from 1937 to 1940, and subsequently served at the US Nav Hosp Pearl Harbor, Territory of Hawaii.

During World War II, Dr. Stuart served in the USS *Whitney* (1941-1943) and at Nav Hosp Jacksonville, Fla., (Mar-Aug 1943); he was officer in charge of the field hospital at Camp Lejeune, NC (Aug 1943-Jan 1944); senior medical officer at Coco Solo, Canal Zone (Jan-Nov 1944); and executive officer of the US Nav Hosp Balboa, Canal Zone (Nov 1944-Apr 1945). He subsequently became executive officer at Nav Hosp Great Lakes, Ill., and 2 years later served at the Naval Station Treasure Island, San Francisco, Calif., as senior medical officer.

In 1949, Dr. Stuart served at the Naval Recruiting Station in Norfolk, Va., and in 1950 became a member of the staff of the Fifth Naval District. He subsequently became commanding officer of Nav Hosp Portsmouth, Va. At the time of his retirement in 1955, he was a member of the staff of Commander Naval Forces Far East.

CAPT Stuart held the WWI and WWII Victory Medals, the American Defense Service Medal with Fleet Clasp, American Campaign Medal, and Asiatic-Pacific Campaign Medal with one Star. He was a Fellow of the American College of Surgeons, and the AMA.

CAPT Stuart is survived by his widow, Alice, of 7711 Broadway, Apt. 2C, San Antonio, Tex. 78209.



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UNITED STATES NAVY MEDICINE

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NEONATAL INTENSIVE CARE UNIT.—At the Naval Regional Medical Center (NRMC) Philadelphia, Pa., physician and nurse staff members of the Pediatric Department coordinate their efforts on behalf of an acutely ill newborn. The geographic system of triservice regional perinatal care has been implemented successfully at NRMC Philadelphia, and has been in operation since 1 Sep 1972.

U.S. NAVY MEDICINE