



Editor - Captain L. B. Marshall, MC, USN

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Smallpox is Preventable: There have been 7 cases of smallpox contracted in the Far Eastern theater since October 1950, 6 since 1 January 1951. Two of these have died, and a third is critically ill.

There is no question but that smallpox is preventable, but success requires attention to small details. Failure is sometimes blamed on the vaccine; either it was not potent enough in the first place, under supposition that a "stronger" vaccine is needed to protect against the more virulent "Oriental" strains of smallpox; or that vaccine was not kept below freezing temperatures during shipping or storage and thus lost its potency. The former is a possibility for which little evidence exists. (Stronger vaccines can be made, and their procurement is being considered, but effective vaccination with present vaccines does protect.) The latter is a fair possibility, but a careful check on results of each vaccination will quickly reveal impotent vaccine provided the vaccination is done properly. Furthermore, a partially effective vaccine can be used effectively by increasing the amount of it carried into the skin.

Not a possibility, but a certainty, is that the most common cause of failure is the human element. In 2 of the serious cases, the record shows the only service vaccination entry as "No Take." Such cases must be revaccinated at once, and vaccination **MUST BE REPEATED** again and again until one of the three reactions is obtained, "primary," "accelerated," or "immune." Failure to obtain this is most often due to faulty technic, e.g., insufficient number of penetrations of the outer layers of the skin. The point of the needle should penetrate the epidermis at least 20 times but not draw blood, passing through the vaccine droplet each time. The droplet should be allowed to dry on the skin, not be wiped off by the person vaccinated. Another error is cleansing the skin with alcohol or an antiseptic that does not evaporate. Only acetone or ether must be used, and the skin must be dry before vaccine is applied.

A serious error is made by recording as immune reactions, small red scratch marks that should be recorded as "No Take." The need for immediate revaccination is thus missed. Death can result from this error. Full instructions are given in the Manual of the Medical Department.

One case of smallpox shows no vaccination entry in the whole service record. Whether this represents a failure to vaccinate or failure to record a vaccination given is unknown, but attention to this defect by any person having custody of this man's health record would probably have prevented this case. One of the deaths had not been revaccinated in 5 1/2 months, after his first vaccination had been recorded as "Immune Reaction." Although the period is longer than now permitted by current Far East directives, this death is believed unlikely had the original entry been correctly read as a true "Immune Reaction."

All records must be revised and vaccinations brought up to date. All cases not showing clear cut "Immune Reactions," "Accelerated" or "Primary" type reactions must be revaccinated at once and repeatedly, using more punctures and fresher vaccine if failures continue. SMALLPOX CAN BE PREVENTED. (Preventive Med. Div., BuMed)

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Modern Psychiatric Nursing: There is a growing realization that psychiatric nursing is not a particular nursing specialty. It is not a separate and exclusive type of nursing in which only highly skilled professional nurses may practice. Psychiatric nursing invades all fields of nursing and permeates the life of the modern nurse. Modern psychiatric nursing is moving out from the public and private mental hospitals into the general hospitals to the patients' bedside. It is being taken into the home by the public health nurse; into the factory by the industrial nurse and into the school room by the school nurse.

The nurse who understands how emotions influence the activities and responses of her patient will not be too disturbed over untoward behavior, uncooperativeness and attention demanding. She will understand that no abnormal behavior, or emotional disturbance is illogical, incomprehensible or without meaning. The nurse sees in many mentally ill patients the results of poor mental hygiene, emotional insecurity and human wreckage that might be salvaged through proper medical and nursing care. After hospitalization some patients will return to their homes; some will never return. Many will be rehabilitated and some will be able to live a rather happy life under proper supervision. The public, as a whole, does not realize the amount of nursing energy necessary to keep these patients from regressing. It is the function of the psychiatric nurse to endeavor to assist the patient to develop and practice desirable mental hygiene habits and to interest him in cooperating in his treatment. Under the guidance of the physician she interprets the type of treatment and how that treatment can be more effective through cooperation.

The amount of understanding and insight, of acceptance and forbearance that the nurse shows in handling her own emotions and her patient's emotions spells the difference between just a nurse and a good nurse. The criteria of ability to give good nursing care should lie in the ability to care for the most difficult patients as well as to work harmoniously with exacting members of any therapeutic team.

The field of psychiatric nurse specialist is fast becoming an envied field. The nurse here whether in clinic or hospital finds that she plays a role in the life of the patient over a period of months or even years. She becomes the patient's friend and his family's friend; she may work with the family

along with the psychiatric social worker under the direction of the physician or his assistant and so becomes a part of the community with many and varied interests. She assists as a therapist on the team through an active participation in the psychotherapy prescribed for the patient. She must read and think about her reading. She must put aside her prejudices and become thoroughly interested in people, note their reactions, their joys and sorrows, their interests and dislikes. She must become keenly aware of what constitutes an emotion, including symptoms that lead up to the expression of an emotion and how that emotion is controlled by the patient. She must have a broad understanding of physiology, anatomy, cultural anthropology and a foundation in chemistry and other physical sciences so that she can participate in such treatments as electric and insulin shock therapy. She must understand the principles of play and recreation and should possess a sound philosophy, religious understanding and teaching ability.

In order to practice modern psychiatric nursing the following principles are considered to apply: (1) All nurses should be prepared to understand and practice mental health in their personal and professional relationships. (2) Preparation for clinical practice in psychiatry should be begun early in the basic professional program. (3) Student nurses should have the opportunity of an adequate period of clinical practice in psychiatric hospitals, clinics or other agencies to develop desirable attitudes and habits for total nursing care. (4) All professional nurses who have not had psychiatric experience should have and should be able to avail themselves of the opportunity to develop the necessary skills for practicing psychiatric nursing in caring for all patients through supplementary courses and experience. (5) The nursing profession should take upon itself the responsibility of adequately meeting the needs of those who utilize the services of nurses for maintaining or reestablishing mental health. (6) The nursing profession should endeavor to interest an adequate number of promising professional nurses to prepare themselves in advanced psychiatric nursing to meet the present and future needs for nursing specialist and consultant. (Am. J. Psychiat., March '51, A. A. Dix, R. N.)

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What Field of Practice?: Specialization has developed rapidly in all aspects of American life in the past few decades. This limitation of the field of knowledge and endeavor is due to the fundamental limitation of the mind to master all the technical details of even the subdivisions of scientific knowledge. The extensive specialization in medicine has been due not only to this general tendency to specialization, but has been accentuated by two wars with intensive departmentalization of the military medical services, by the medical schools adopting departmentalized teaching to such an extent that undergraduate training is psychologically tuned to specialization, and by the higher prestige and economic value placed on specialization by the public. All this may be for the good, but if not balanced by sound judgment, it may

entirely unbalance the adequate distribution of medical care.

Doctors with wisdom, as differentiated from specialized knowledge, are needed as the foundation of our medical structure. The aim should be to furnish the American people a "balanced medical community" with an adequate number of well trained general practitioners to see the whole picture, to take care of the common ailments, and to act as family and personal health directors and counsellors, and with an adequate number of mature, trained specialists to act as consultants to care for the unusual case, the exceptionally difficult case, or the case requiring special technics and equipment. There is no question that a limited number of the alert physicians are needed to engage in the specialties, to make full use of their special abilities and to add their increment to the body of professional knowledge. However, entrance to the specialties should be limited by exceptional professional ability and skill and not by other considerations. Although there has never been a time when any man's knowledge could cover the entire field of medicine, our thinking would be more meaningful if the question were asked, "In what field of medicine do you engage?" rather than, "Are you a general practitioner or a specialist?"

In the past 30 years the tendency to specialization has manifested qualities of extreme enthusiasm, generated so readily in this country. If the natural processes of economics, social pressure and educational advantage are allowed to play their parts, this will taper off. This appears to be occurring at the present time, but there are still dangers that artificial barriers may interfere with the normal fluidity of the medical trend. The establishment of these artificial barriers was one of the major reasons for the organization of the general practitioners. The American Academy of General Practice will soon be the largest medical organization outside of the A. M. A. This organization has developed a strong position in American medicine, has restored to a certain extent the balance between the different fields of practice and is helping to remove some of the artificial barriers to the normal balanced medical community.

It will be absolutely impossible to give the young physician specific advice on what field to enter. Evolutionary and often revolutionary forces are at work. Certain of the special fields are contracting in scope. The use of antihistamines in hay fever has reduced the number of patients seeking relief. The advent of the sulfa drugs and the antibiotics has so reduced the field of nose and throat work that the Chairman's address before the Section of Otorhinolaryngology in 1949, recommended that the specialty be changed to a specialty on the head and neck. With penicillin, lancing of ear drums and surgical treatment of the after-effects of gonorrhoea have become markedly reduced or even eliminated from the surgical schedule. However, all fields of surgery are not contracting; chest surgery, neurosurgery, plastic surgery, and other branches are making interesting advances which will expand the number of candidates which they will be able to absorb. Nevertheless, it will be

impossible for these branches to absorb all the young men now in surgery and in training for surgery. Barring a war, it would appear that young surgeons are going to be in excess supply for some time to come.

In general, it would appear that with recent and anticipated advances in the effective therapeutic armamentarium, the curative aspects of medicine will be more specific and simplified and will, therefore, require less attention and smaller numbers of specialists in the future. With new drugs, new technics, new discoveries or war or depression the author believes he will still be happier and surer in general practice.

Young men, selecting special fields, have asked if they should fulfill the requirements for the Boards in their respective fields. This is a good question in view of the fact that many men, who are successful specialists are not Board Members; in view of the many years necessary to fulfill the requirements which often, to the young physician, seem arbitrary and impractical and also because of the tremendous amount of time used up just "doing hospital chores." At the present time, however, the author believes that every physician setting himself up as a specialist should attempt to become a Board member. Admittedly, the Boards are far from perfect, but before the advent of the Specialty Boards there was a temptation for physicians to take a few weeks or months away and come home a "specialist." To protect physicians from this temptation and to protect patients from incompetent or inadequately trained specialists, the Boards were set up as minimum standards for the training of men entering special fields. A Board certificate simply means that at the time the certificate was issued, the man had completed a certain required course of instruction and had been able to pass certain tests above an arbitrary and varying passing grade. There is no guarantee that the candidate, having passed the requirements, will keep up with medical progress or even retain and remember the things he had learned. The Boards have done a great deal of good, the standards of specialization have been raised and the minimum standards are high. It is emphasized that the physician planning to specialize should make every effort to fulfill the requirements for the Board of his specialty.

The student and resident should make a careful evaluation of the amount of training that it is profitable for him to take. A critic of the general practitioner called him a physician who could not afford or could not find a residency and therefore had to start in practice; critics of the specialists have said that the specialist is one who lacked confidence to face the world outside the sheltered hospital halls and therefore continued his training until he was literally thrown out on his own. Neither of these is true but there are men who have had insufficient training and also men who have taken years of residency, sometimes in 2 or 3 fields, thus remaining within the cloistered hall of the teaching institution, ostensibly for more training, but really because of some personal sense of inadequacy.

Medicine offers many fields of opportunity to challenge the skills, talents and interests of the finest of young men and women. Basically the need is for doctors who are interested in people; yet there is ample opportunity for those whose bent lies in one of many special fields from brain surgery to medical statistics. All are needed. It would seem most desirable, therefore, that before selecting a narrow special field the student should have the rewarding experience of general practice. He will then select more wisely and will bring to his specialty a more mature mind and greater wisdom. For the men and women who have a primary interest in people the most satisfying field will be general practice.

It is apparent that the tendency to overspecialization of the past two decades has definitely lessened; there is every reason to believe that an approach to a balanced medical community will soon be seen. (GP, March '51, S. R. Truman)

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Importance of Extrapleural Pneumothorax in the Collapse Therapy of Pulmonary Tuberculosis: Extrapleural pneumothorax continues to be one of the most controversial subjects in the collapse therapy of pulmonary tuberculosis. Claims are contradictory and confusing, in spite of published reports covering thousands of operations.

The concensus of the Association on Thoracic Surgery expressed at its annual meeting in 1948 was reported to be that extrapleural pneumothorax followed by air or oil refills should be reserved for patients with bilateral disease and low respiratory curve. Strenuous efforts have been made recently to rekindle interest in the procedure by focusing attention on lucite balls, fiber glass wool and plastic sponges to maintain the extrapleural collapse. The operation has been widely used outside of this country.

The author presents a review of 129 extrapleural pneumothorax operations in a consecutive series of 121 private patients (8 bilateral operations) under care for pulmonary tuberculosis for varying periods during a 12 year period. There were 91 successful operations (70.6 percent), 21 unsuccessful (16.2 percent) and 17 operative deaths (13.2 percent). Many stages and varieties of tuberculosis were represented, from acute fulminating or galloping consumption to chronic progressive, bilateral disease with deteriorated general health. All had either moderately or far-advanced disease at the time of surgery and with few exceptions were not suitable for, or could not benefit from other forms of collapse therapy. Pneumothorax was tried in all without success; in some, phrenic nerve interruption reinforced with pneumoperitoneum had also failed. In all patients accurate and detailed notes with repeated fluoroscopic, roentgenographic and sputum studies were kept. All patients in the series were adults: 119 whites, 2 Negroes; 68 males and 53 females. With few

exceptions these patients were confronted with progressive disease and an uncertain, if not hopeless outlook.

The results of the operation were evaluated either as successful, unsuccessful or operative death at the time this report was prepared. A successful result meant that all objectives of the operation had been accomplished: the diseased lung had been satisfactorily collapsed, the collapse well maintained, all cavities closed, the disease in the lung well controlled as shown by serial x-ray studies and complications originally present had either disappeared or were no longer troublesome. An unsatisfactory result did not necessarily imply that the patient received no important benefit from the operation. He may have had an excellent temporary result with cavity closure and negative sputum, only to have the cavity reopen in time and symptoms of toxemia reappear or even death supervene from progressive tuberculous disease.

One of the striking observations that emerged from a study of the late results of the 91 successful operations was the indispensability of this operation in any well-rounded collapse therapy program. In some patients with acute tuberculosis it was dramatically life saving; in others with chronic, but progressive, far advanced bilateral tuberculosis the operation was instrumental in bringing about a return to health and usefulness when other measures failed or could not be applied. In young women the operation proved more desirable than thoracoplasty. In other patients with uncontrolled pulmonary hemorrhage or pregnancy the operation was a logical and happy solution. In elderly individuals or in substandard risks the operation was of distinct value.

TABLE I. RESULTS IN 129 CONSECUTIVE EXTRAPLEURAL OPERATIONS (8 BILATERALS) on 121 PATIENTS*

TYPE OF CASE	NO. OF OPERATIONS	OPERATIVE DEATHS	UNSUCCESSFUL OPERATIONS	SUCCESSFUL OPERATIONS
I. Exudative Tuberculosis (79 cases)				
A. Acute (18 cases)				
a. Pred. Unilateral (7 cases)	7	1	2	4
b. Bilateral (11 cases)	13 (2 bilateral)	2 (1 bilateral)	2 (1 bilateral)	9
B. Sub-acute (61 cases)				
a. Unilateral (14 cases)	14	0	3	11
b. Pred. Unilateral (18 cases)	18	0	3	15
c. Bilateral (29 cases)	32 (3 bilateral)	3	5 (1 bilateral)	24 (2 bilateral)
II. Fibro-ulcerative (42 cases)				
a. Pred. Unilateral (13 cases)	13	1	2	10
b. Bilateral (29 cases)	32 (3 bilateral)	10 (1 bilateral)	4 (1 bilateral)	18 (1 bilateral)
Totals	129	17 (13.2%)	21 (16.2%)	91 (70.6%)

*Many stages and varieties of tuberculosis are represented from the acute fulminating to the chronic bilateral, progressive with deteriorated general health. The late results clearly indicate that this single stage operation can be used successfully in patients not suitable for either thoracoplasty or resection.

Based on the clinical and x-ray appearance of the disease at the time of surgery, the patients in this series fell into 3 main groups: (1) patients with acute exudative tuberculosis; (2) patients with subacute exudative tuberculosis; (3) patients with predominantly fibro-ulcerative but progressive tuberculosis. Each group in turn was subdivided into unilateral, predominantly unilateral and frankly bilateral tuberculosis. The results in these groups are presented in the table on Page 8. Patients with special problems at time of surgery, such as serious pulmonary hemorrhage or pregnancy were discussed separately.

Most of the poor results and deaths in the series occurred in the earlier years of the study before modern antibiotics became available and technical improvements evolved. Excluding the obviously very poor surgical risk, the overall mortality rate, it is estimated, can be reduced to less than 4 percent and operative failures to less than 5 percent.

Extrapleural pneumothorax fills a distinct gap in the collapse therapy of pulmonary tuberculosis not covered by other surgical procedures. Broadly speaking, the several groups of patients who can be benefited by extrapleural pneumothorax are: (1) patients with advanced bilateral, fibro-ulcerative tuberculosis, failing to respond to conventional treatment, other collapse procedures and in whom thoracoplasty is too hazardous, but who are still in fair general health; (2) patients with acute tuberculosis not responding to conventional forms of treatment and in whom other major surgical procedures are contraindicated or too hazardous; (3) elderly patients in the 5th and 6th decades of life with positive sputum; (4) patients with active disease and positive sputum and having in addition, hilar cavities, uncontrolled pulmonary hemorrhage or pregnancy and which cannot be resolved by ordinary means; (5) young people, particularly young women, who dread the thought of a thoracoplasty with its aftermath of psychic trauma.

The operation has lost favor because of the numerous postoperative complications and poor late results encountered by early operators. However these can be overcome, the operation should not be undertaken lightly as the postoperative management and follow-up are difficult and exacting. Once indicated, however, the operation should be performed without hesitation. Close attention to detail before, during and long after the operation, and the planned use of modern drug therapy are the determining factors in ultimate success.

Five important innovations in procedure are advocated: (1) The mesial aspect of the lung should not be stripped from the mediastinum. (2) Stripping from the remainder of the chest wall should be extensive, more extensive than is commonly practiced. (3) A small paravertebral incision followed by airtight closure of the wound with the first layer of wall consisting of spinal muscles and lumbodorsal fascia overlapping the sutured intercostals. (4) No immediate plombage. The disadvantages and failures are many. Filling of the extrapleural

space when considered desirable should be an independent procedure. (5) Use of streptokinase and streptodornase in the management of postoperative extrapleural fluid and in the control of obliteration of the space. (J. Thoracic Surg., March '51, J. W. Cutler)

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Resection of the Auricular Appendages: It has been stated that rheumatic heart disease is more often responsible for embolic episodes than is any other type of heart disease. As a means of preventing recurrent arterial embolism, resection of the atrial appendages has been proposed.

The frequency of mural thrombi in the auricles of patients with rheumatic heart disease and auricular fibrillation has been noted at autopsy in several studies. Bull stated in 1921 that the majority of peripheral emboli had their origin in the heart, and he recorded 5 cases of mitral stenosis in which the auricles were the site of formation of thrombi resulting in peripheral embolism. Danzis said (1933) that the predominating factors in the causation of arterial emboli are affections of the heart and blood vessels; 60 percent of cases are purely of cardiac origin. Garvin observed in 1941 that auricular fibrillation bore a highly significant relationship to the occurrence of mural thrombi. Other authors also have found a high incidence of thrombi in rheumatic heart disease associated with auricular fibrillation. Graef and his associates found atrial thrombi at autopsy in 11 of 14 patients with this condition; in no instance was a thrombus found in the chamber of the auricle proper, and the left auricle was affected more severely than the right. Hay and Levine reported auricular thrombus formation in 49 percent of 106 cases of rheumatic heart disease with auricular fibrillation.

The relatively high morbidity and mortality resulting from peripheral arterial emboli was stressed by McClure and Harkins, who reported a mortality rate of 40 to 59.4 percent, and amputation because of resulting gangrene in 18 to 22 percent. The serious nature of peripheral embolism has been more recently stressed by Andrus, who has also indicated the importance of the presence of cardiac failure in the prognosis of peripheral embolism.

Evidence obtained at post-mortem examinations indicated that the majority of peripheral emboli in patients with rheumatic heart disease and persistent auricular fibrillation originate in the auricular appendages. Removal of the auricular appendage, which can be accomplished in man with reasonable safety, seems to be one logical approach to the prevention of these serious vascular accidents.

Experimental studies suggested that resection of the auricular appendage need not interrupt normal heart action and that it may promote prolonged

survival. In dogs from which the atrial appendage was removed, endothelialization was complete at the site of amputation, and there was no apparent tendency for thrombus formation at the line of suture.

The report by Madden in 1949, indicated that this procedure was feasible in the human being. Stimulated by his report, the present authors performed resections of the auricular appendages in 3 cases.

Before surgical intervention, attempts at conversion to normal sinus rhythm were made in each of the patients in this series without success. This procedure should be considered prior to operation in similar cases; however, it was noted in the studies already mentioned that there is a significant incidence of mural thrombus formation in the auricles of patients who have rheumatic heart disease and mitral stenosis unaccompanied by auricular fibrillation.

Operative Procedure: For the operations performed on the patients in this series, endotracheal ether anesthesia was used following induction with intravenous sodium pentothal. Narcotics were used in minimal amounts in preoperative medication to prevent respiratory depression.

The operative procedure was as follows: The auricle was approached through an anterior incision in the third interspace. The pericardium was incised anterior and parallel to the phrenic nerve. A special non-crushing right angle clamp was placed across the base of the appendage and a continuous No. 0000 silk suture placed distal to the clamp. The appendage was partially excised distal to the suture and a second continuous suture of No. 0000 silk used to approximate the edges of the exposed cuff. The appendage was then excised entirely as the suture line progressed. Partial release of the clamp was followed in these cases by some bleeding along the line of suture. The insertion of a few additional mattress sutures of silk controlled the bleeding, after which the clamp was removed completely. The pericardium was closed with interrupted sutures and a small opening left in the pericardial closure to prevent tamponade. The chest was closed without drainage.

The 3 patients survived operation and are at the present time alive. In 1 case, bilateral mid-thigh amputation was required because of the occurrence of gangrene in the lower extremities. In each case digitalis administration and low salt intake have continued. There has been no evidence of further embolism.

Electrocardiograms obtained after removal of the auricular appendage in these patients demonstrated no significant changes when compared with the tracing made prior to operation.

The use of anticoagulants as a means of preventing formation or discharge of mural thrombi is worthy of consideration. Therapy by this means

would require prolonged administration and careful supervision and, at times, the use of these drugs may be hazardous.

Criteria for selection of patients for resection of the auricular appendage cannot be established on the basis of present limited experience. The decision for operative intervention in this series was made after consultation between the cardiologists and the surgical staff. Close cooperation between the cardiac and surgical services is required for the supervision of the patients' post-operative care, as well as for their evaluation as surgical possibilities before operations. (Dis. of Chest, March '51, W. P. Longmire, Jr. et al.)

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The Analgesic Effect of Dromoran Hydrobromide (3-Hydroxy-N-Methyl Morphinan Hydrobromide) in Postoperative Pain; The new synthetic morphine analogue, Dromoran Hydrobromide (3-hydroxy-N-methyl morphinan hydrobromide), has been recently introduced into clinical medicine. For the sake of brevity, it is referred to as "dromoran". It was synthesized in Switzerland, and its pharmacologic properties and analgesic and respiratory effects have been studied. The extent to which the drug raises the threshold of pain has been determined. It has been used for preoperative preparation, and for the supplementation of nitrous oxide anesthesia. The action of dromoran on smooth muscle has been observed and its addictive liabilities investigated.

The purpose of this study was to compare the analgesic effect of dromoran with that of morphine in postoperative pain, in a large number of patients. Side effects were also carefully observed and recorded. Morphine was chosen as a standard of comparison because its properties are well known and because it has been used more frequently than any other agent for the relief of postoperative and traumatic pain.

Dromoran (5 mg.) and morphine sulfate (10mg.) were administered subcutaneously to 311 and 312 patients respectively (5 mg. of dromoran compares favorably with 10 mg. of morphine). The first postoperative dose of dromoran gave complete relief in 66.5 percent of the cases, as compared with 46.2 percent with morphine. Following 1,336 injections of dromoran, complete relief was obtained in 75.0 percent of cases; after 1,097 injections of morphine sulfate, complete relief was obtained in 54.7 percent. The average duration of analgesia produced by dromoran (5 mg.) was 6.1 hours, as compared with 5.8 hours with morphine sulfate. The incidence of nausea and emesis was less with dromoran than with morphine.

Many problems confront the investigator of the effectiveness of a new agent in postoperative pain; among these are marked difference in pain sensitivity and in reactions to pain sensation and differences in personality and in

the intellectual and emotional backgrounds of the observers. In this study an effort was made to compensate for the many variants involved by relying on relatively large numbers, and by pairing of cases with regard to operative procedure, age and sex.

Several patients received dromoran for prolonged periods; one received 45 doses of the drug in 16 days. In no cases were there any signs of increasing tolerance of or habituation to dromoran. (New England J. Med., 22 February '51, E. Keutmann and Francis F. Foldes)

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An Analysis of Premature Delivery of Liveborn Infants: A series of 582 premature liveborn infants born to patients all registered and all having had adequate prenatal care is presented. The incidence of premature deliveries was 6.58 percent.

The majority of cases presented no evident etiology. Toxemias of pregnancy, multiple pregnancy, premature separation of the placenta, placenta previa, and previous uterine surgery were major complications causing premature delivery. If any improvement in neonatal mortality in prematures is to be sought, the obstetrician should direct his attention to preventing these conditions if possible, and where the condition already exists, his aim should be to obtain a larger, more viable fetus to present to the pediatrician upon birth.

A spontaneous or low forceps delivery was found to be best for the premature infant. Demerol analgesia was not found to be harmful during labor in contradistinction to morphine. In this study, the anesthesia seemed to make little difference in the results.

The corrected infant mortality was recorded as 7.0 percent, the larger infant having the better chance of survival. A high mortality rate was present in breech presentations. Any condition causing fetal anoxia, and particularly premature separation of placenta, placenta previa, and severe pre-eclampsia in the mother accounted for a high fetal mortality.

The majority of infant deaths were traced to the inability of the premature's vital organs to stand the rigors of delivery and vital functions after birth. Prematurity alone and intracranial hemorrhage were the principal causes of death. (Am. J. Obst. and Gynec., February '51, P. I. Bookstaver)

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Diffuse Bilateral Fibrocystic Disease of Lungs (Honey-Comb Lungs): Diffuse bilateral fibrocystic disease of the lungs is relatively rare. Its pathogenesis is not clear. Numerous terms have been applied to this condition,

such as polycystic lung and honey-comb lung. Cystic pulmonary lesions have been divided into 2 groups: (1) those derived from alveoli, as solitary alveolar cyst, pneumatocele, and cystic emphysema, and (2) those derived from bronchi, as solitary or multiple bronchial cysts or cystic bronchiectasis. Cysts of the lung manifest at birth or infancy are the result of faulty development and are derived from bronchi and bronchioles and not from the alveoli.

Roentgenographic differentiation of cystic lesions of the lungs may be difficult. It is the authors' impression that the single or several large cysts seen in patients during or past middle age and often with emphysema are examples of alveolar cysts and may be termed cystic emphysema. The lobular or lobar areas of cystic bronchiectasis are no problem, being simply a variation of bronchiectasis.

Diffuse bilateral fibrocystic disease of the lungs (polycystic lungs or honey-comb lungs), however, appears to be a different entity, occurring in younger patients, usually males, being bilateral, and often leading to secondary effects in the lungs and heart (cor pulmonale) with subsequent death. The lesions may be congenital or acquired, with differentiation being practically impossible to make in any given case unless the lesions are discovered soon after birth or in infancy.

The cause of congenital polycystic disease in general is still unknown. Norris and Tyson believe the fundamental lesion to be focal segmentation preceded or followed by focal dilation of small bronchi and bronchioles. Isolated segments of bronchi may develop into gradually enlarging cysts. The lesions and sequence of polycystic lung changes are similar to those described in polycystic kidney, liver and pancreas. Oswald and Parkinson in an excellent review of "honey-comb lungs" note 16 cases of cystic disease, with small, thin-walled cysts distributed uniformly throughout both lungs. Seventeen previously reported cases are also reviewed and classified. In 23 cases, including 6 of these authors' cases, the diffuse bilateral fibrocystic pulmonary lesions were associated with a general medical disease, as xanthomatosis, biliary cirrhosis, tuberous sclerosis, or pituitary disease (4 cases of diabetes insipidus, and one pituitary dwarf). In the other 10 cases the diffuse bilateral fibrocystic pulmonary lesions were an isolated finding and no cause was found.

As with all developmental defects, treatment is unsatisfactory. Avoidance of bronchopulmonary infections and prompt treatment of these with antibiotics are indicated. The ultimate prognosis is poor. (Dis. of Chest, February '51, L. Hyde et al.)

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Some Observations on Dental Caries in Central China: The author examined the teeth of 3,349 persons, students from 8 schools in Hunan Province

(Central China). The age varied between 12 and 24 years in the 1,650 girls and between 12 and 27 years in the 1,699 boys. He found a low incidence of caries among the Chinese of Central China, involvement of single teeth in otherwise caries-free persons, striking prevalence of persons with only 1 tooth affected, freedom from caries of the anterior teeth, slowness of the process associated with small amounts of soft and leathery dentin, absence of acute or rampant caries, and predominance of involvement of teeth with morphologic defects (pits and fissures), all indicating considerable immunity to caries of the natives of this part of China.

It has been repeatedly stated that an adequate diet comprising all the essential nutrients is an all-important factor in immunity to caries. However, there is no conclusive evidence that an adequate, optimal, or balanced diet would influence the caries attack rate. From several observations, it appears that caries is more prevalent in well-nourished than in malnourished individuals. Although, as judged by the standards of the Food and Nutrition Board, National Research Council, the overwhelming majority of the students examined were malnourished, the caries attack rate was found to be significantly lower than in well-nourished people of other countries.

Most often blamed for the initiation of the carious process are carbohydrates, as substances providing an easily fermentable substrate which leads, through bacterial activity, to formation of acids on the surface of the teeth with subsequent decalcification of the enamel. If diets high in carbohydrates do indeed predispose to caries, the Oriental diet, supplying as much as 82 percent of the calories from carbohydrates should predispose to rampant caries. In fact, it has been stated that Polynesians eating taro (alkaline residue) have only 4.59 percent of persons affected by caries, while Polynesians eating rice have 98.5 percent incidence of caries, the inference being that the rice diet was responsible for the high caries rate. The author's observations carried out among the Chinese consuming this type of diet disprove the validity of this statement. On the contrary, it seems beneficial in the production of caries immunity. In so far as it has been demonstrated that the restriction of sugar, either refined or natural, is effective in the control of dental caries, the author is prone to agree with the observers who assert that it is not the amount of carbohydrates consumed, but their type (mono- or disaccharides) and the degree of their refinement that play the important role. His observations on children support this assumption.

Chinese immune to caries do not develop caries during their sojourn in Western countries subsisting on Western, native, or mixed diets from 2 to 8 years. None of over 50 persons examined between 20 and 45 years of age developed caries while abroad. Disinclination of many of them to certain foods supposedly conducive to caries, such as sweets, cakes, beverages, etc., should be borne in mind.

It has been stated that a diet rich in animal proteins and low in carbohydrates is inducive to dental health (Eskimos). That the reverse is also true is shown by this survey.

Low intake of calcium does not seem to predispose to caries. In this survey, the low consumption of minerals was associated with low caries rate. The same phenomenon is observed in cases of repeated pregnancies followed by prolonged periods of lactation (exceeding well over a year) in women subsisting on low mineral diets in this part of China. While caries is uncommon in such instances, periodontal disease is rampant. There is no evidence that children born of such mothers are predisposed to caries.

It is of interest to note that in diabetics examined (18 persons), the incidence of caries was very negligible (1 person), while diffuse periodontal disease was present in every case.

It was observed that Chinese from southern coastal provinces are more susceptible to caries than natives of Central China. Most of those examined lived in Hunan from 2 to 5 years. How many cavities they might have developed had they lived in their respective provinces can only be conjectured. Lau stated that the incidence of caries among the natives of Kwangtung is 90.8 percent against 75.0 percent among those residing in Hunan as determined in this survey. It appears that the local diet, although low in essential nutrients, does not predispose to caries. It is pertinent to note that the southern provinces, coincidentally, have had the strongest influence of Western civilization over a long period of time. The reverse is true of Mongolia with extremely low caries incidence. High consumption of fat by Mongols has been held responsible for their immunity.

Lack of detailed dietary surveys precludes evaluation of dietary factors in other parts of China. Differences in dietary habits, mode of preparation of food, consumption of refined carbohydrates, and variations in fluorine content of water and foodstuffs in different provinces may play an important role. Vitamin B complex intake may also be of significance.

The author concludes that the local effect of foodstuffs and dietary habits appear to be of greater importance in susceptibility to caries than the nutritional status of the person. Lack of easily fermentable carbohydrates and sticky foods, frequency of meals, and absence of eating between meals may be considered as major factors in immunity. (J. Dent. Research, February '51, D. Afonsky)

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The National Foundation for Infantile Paralysis: In many states, state and local health authorities, the medical profession, hospital administrators

and local chapters of the National Foundation for Infantile Paralysis have established wise programs to meet the community and hospital emergencies caused by poliomyelitis. The basic structure of the Foundation is the local chapter organization where men and women of each community volunteer to represent and to work in the interests of this public trust.

One of the three fundamental activities of the Foundation is professional education. Professional and technical institutes and seminars are frequently held. The use of Foundation scholarships and fellowships has multiplied the number of personnel available for polio care. Long-term specialized training has been provided for members of the Medical profession, research workers, medical record librarians, health educators, nurses, medical social workers and physical therapists.

There is no validity to the popular concept that a polio patient is a patient of the Foundation. As a patient to receive medical services, he is a responsibility of the community health resources. The role of the Foundation is to assist and augment the community resources in meeting the problem and to aid those patients in need.

It is recognized that the overall nursing load in this disease is greater than in most categories of disease. Under encouragement by the Foundation many communities have established local polio nursing committees. The Foundation provides advice concerning the recommended structure and procedure in this direction. In a number of states such activity has better defined nursing emergencies. They have been able to draw a high percentage, even to 100 percent, of the supplemental nursing staff from local resources, thus eliminating the need to call upon the Foundation and the Red Cross for out-of-state recruitment.

In the emergency of overwhelming polio incidence, the Foundation is occasionally called upon to recruit aid teams of doctors, nurses, and other experienced personnel. Such teams assist local activities in the first crush of incoming cases. The disaster staff organization of the American Red Cross has been most helpful in recruiting necessary nurse personnel. These nurses become part of the hospital staff and their salary is in part the regular staff rate paid by the hospital and a supplemental salary payment, up to a national rate, paid by the Foundation through the hospital.

For the first time, there are now specific measurements of polio patient stay. During 1950 nearly 700 hospitals, admitting polio patients, participated in census reports to the National Foundation. These reports showed the number of admitted patients and the length of stay (exclusive of deaths) for paralytic and nonparalytic cases. The 1950 study of discharges showed that for the

country as a whole, 76 percent of the admitted cases were discharged within 30 days. Based upon the discharge rate, excluding deaths, 21 percent of the polio patients left the hospital within 1 week; 29 percent were hospitalized for from 7 to 14 days; 26 percent were hospitalized for from 15 to 30 days; 12 percent from 30 to 60 days and 4 percent more within 90 days. Only 8 percent of approximately 26,630 reported patients were hospitalized more than 90 days.

The services of the American Physical Therapy Association have been also utilized. Financed by the Foundation, 122 qualified therapists were provided to hospitals in emergency situations in 1950. The following data indicate the measure of relationship between hospitals of the United States and the Foundation during 1950: nurses recruited 1,787; physical therapists recruited 122; medical residents, 26; orthopedic nurse consultants, 127; respirators provided, 664; hot pack machines, 332; cribs, 143; beds, 76; and wool packing, 1,933 pounds.

The accomplishment of services to hospitals and the payments for hospitalization in 1950 involved an expenditure of more than \$25,000,000. Available funds from the March of Dimes were exhausted and 1951 opened with debts to hospitals of approximately \$5,000,000. There is no authoritative measurement of polio hospital costs which have been met by the Blue Cross, private funds or other sources. (Hospitals, March '51, H. T. Wagner)

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List of Recent Reports Issued by Naval Medical Research Activities:

Naval Medical Research Institute, NNMC, Bethesda, Maryland.

Comparative Tests of Dried Peptone and Pancreatic Digest of Casein for Certain Bacteriological Purposes, NM 005 048.13.01, 28 February 1951.

Naval Medical Field Research Laboratory, Camp Lejeune, North Carolina.

Photochemical and Photobiological Action of Vacuum Discharge With Liquid Jet Electrode. Studies on Inactivation of E. coli-B and the Conversion of l-tyrosine, NM 005 052.13.06, January 1951.

Naval School of Aviation Medicine, Naval Air Station, Pensacola, Florida.

Safe Human Tolerance for High Concentrations of CO Over Short Periods of Time. Project Report No. NM 001 059.24.01, February 1951.

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Statement on Medical Research by Rear Admiral Lamont Pugh, (MC) USN, Surgeon General of the United States Navy: The purpose of the Medical Department of the United States Navy is to prevent disease and injury of the men, women and officers of the fleet and of the Marine Corps, to adopt and develop modern methods of treatment of casualties and illness and to cooperate with the other Armed Services, the U. S. Public Health Service and numerous governmental and private agencies both here and abroad.

To serve these purposes the U. S. Navy maintains hospitals and dispensaries in this country and in the combatant zones. Within its Medical Department are medical research institutes and laboratories here and abroad, all manned by highly qualified personnel devoted to the health of the Navy. Through the Office of Naval Research many research organizations in universities contribute greatly to the program. The success of treatment of battle casualties in Korea and of prevention of the spread of communicable diseases among soldiers, sailors and Marines is a lasting tribute to medical research.

The Navy is a highly technical service and the medical work must be closely coordinated with the needs of the forces afloat, of the submarine service, of the Naval Air Commands and of the Marine Corps on the land and in the air.

The Navy would be disastrously handicapped if its medical research were restricted in any way. It is fully aware of the need for experimental approach to its medical problems. How are we to learn about the treatment of battle wounds afloat and ashore, of dangers in submarine operations and of flight, of diving and escape from underwater hazards, of spread of infectious diseases, of types of warfare in addition to the use of missiles and explosives, including atomic warfare, if we cannot use all possible methods of study?

The Navy uses laboratory and clinical investigations in the solution of its many medical problems. It depends in great measure on the use of animals, from mice to dogs and larger animals. Neither the Navy nor any other scientific group would undertake studies on human subjects without previous careful and precise experiments on lower animals. And these animals must be available in sufficient number and variety if the Naval personnel is to be satisfactorily and adequately protected. The research workers of the Navy fulfill every requirement of prevention of pain and humane management of the experiments. The quarters provided by the Navy for the animals are not merely adequate; they are of the best design and construction, are clean and well ventilated and are staffed by people who carefully respect the comfort of the animals.

If any restrictions offered by well-meaning but misguided persons are effected, the Navy and all its personnel cannot be given the medical care which a grateful nation expects.

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From the Note Book

1. The Civil Defense Administration has published a small 34-page pamphlet on "What You Should Know About Biological Warfare." The pamphlets may be obtained from the Government Printing Office, Washington 25, D. C., for 10 cents each or with a 25 percent discount for orders of 100 or more. (Washington News, J. A. M. A., 17 March '51)

2. A total of 131 senior students, graduating from medical schools in the United States in 1951, have been selected to serve their internships in U. S. Naval Hospitals, beginning 1 July 1951. (BuMed PIO, 14 March '51)

3. Leaves of various common tomato plants have been used successfully to synthesize a series of important steroid hormones. This discovery should facilitate treatment of menstrual disturbances, cervical cancer and several other conditions. The discovery was announced by Surgeon General L. A. Scheele, PHS. (Washington News, J. A. M. A., 10 March '51)

4. An International Congress of Physical Medicine will be held in London from 14 to 19 July 1952. The Congress was organized by the British Board of Management of the International Federation of Physical Medicine. The meetings of the Congress will be reserved for matters dealing with the clinical, remedial, prophylactic and educational aspects of physical medicine and with the diagnostic and therapeutic methods employed in physical medicine and rehabilitation. (Baruch Committee on Physical Medicine and Rehabilitation, F. N. Krusen)

5. Methods developed by Army Research to simplify and improve the treatment of extensive radiation burns were discussed at the annual postgraduate assembly and convention of the College of Medical Evangelists, Los Angeles, California, by Col. W. S. Stone, MC, USA. (Dept. of Defense PIO, 11 March '51)

6. "Surgery of the Lens in Infancy and Childhood" is discussed in the A. M. A. Archives of Ophthalmology. (February '51, P. A. Chandler)

7. A method, with modifications to suit diverse purposes, is described for the rapid staining and mounting of hair and skin scrapings. The method gives permanent slides in which fungous structures stand out clearly against the substrate. (A. M. A. Arch. Dermat. & Syph., March '51, M. A. Gordon)

8. A research program to investigate burn injuries resulting from blast and thermal radiation has been launched by the Physiology Branch, Bio Sciences Group, Office of Naval Research. The program is designed to fill important gaps in the knowledge and understanding of this medical problem, so important to both civilian and military personnel in times of disaster. Dr.

J. L. Lilenthal, Jr. is the administrator. (Bio Sciences Group, ONR)

9. Dr. Gladys Anslow, Smith College, Northampton, Mass., investigator for ONR on "A Physio-chemical Study of Biologically Important Molecules", received the Research Award of Sigma Delta Epsilon for 1950, the top scientific award for women. (Bio Sciences Group, ONR)

10. "The Use of Streptokinase and Streptodornase in the Treatment of Postpneumonic Emphysema" is discussed by Tillett, Sherry and Read in the Journal of Thoracic Surgery, March 1951. (Refer to Medical News Letter, vol. 17, no. 2, 26 January '51)

11. A report on "Bilateral Symmetry of Dental Caries" appears in Journal of Dental Research, February 1951. (M. G. Wheatcroft et al.)

12. "The Anticonvulsive Properties of Desoxycorticosterone" is discussed in J. A. M. A., 10 March 1951 by R. Baird and G. S. Gordan.

13. The 17th annual meeting of the American College of Chest Physicians will be held at the Ambassador Hotel, Atlantic City, from June 7 through 10 June 1951. (News Release, ACCP, March '51)

14. A discussion of adhesive tape dermatitis appears in the A. M. A. Archives of Dermatology and Syphilology, March '51 (S. M. Peck et al.)

15. An extremely interesting article on fire hazards found in 171 registered hospitals in Missouri, by R. Hudenberg, appears in Hospitals, March '51.

16. It is reported that more than 30 million children all over the world have been tuberculin tested and that more than 14 million, found to be negative reactors, have been vaccinated with BCG as a preventive measure. (Healthier World, February '51, FSA Division of International Health)

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Surgeon General's Symposium: The date of the Surgeon General's symposium is now planned for 23d, 24th and 25th May 1951. (Refer Medical News Letter, Vol. 17, No. 4 of 23 February 1951.) Officers nominated to attend the symposium will be notified by letter from the Surgeon General prior to receipt of official orders. (Assistant Chief of Bureau for Personnel and Professional Operations, BuMed)

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Radioactive Isotope Study and Therapy, NavHosp, Bethesda, Md.: The Radioactive Isotope Laboratory of the U. S. Naval Hospital, National Naval Medical Center, Bethesda, Maryland, is equipped to study and administer therapy to the following cases:

- (a) Cancer of the thyroid
- (b) Cancer of the prostate with early bone metastases
- (c) Cancer of the breast with early bone metastases, or pleural involvement
- (d) Early chronic lymphatic leukemia
- (e) Cancer of ovaries with early peritoneal metastases
- (f) Polycythemia vera

The Radioactive Isotope Laboratory also does radioactive iodine uptake studies in cases of thyroid disease, and is prepared to treat with radioactive iodine those cases of hyperthyroidism in which surgery or other therapy are contraindicated.

Cases of the above types who are ambulatory and in fairly good general physical condition may be transferred to the U. S. Naval Hospital, Bethesda, Maryland, for appropriate study and therapy.

The approval of the Bureau of Medicine and Surgery must be obtained in each case before such transfer is effected. All requests for such transfer should be routed to the Bureau of Medicine and Surgery, via the Commanding Officer, U. S. Naval Hospital, National Naval Medical Center, Bethesda, Maryland, stating the patient's name, age, dependent or active service with service number and diagnosis. (Professional Div., BuMed)

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Distribution of the Manual of Naval Hygiene and Sanitation - NavMed P-126

The 1949 revision of the Manual of Naval Hygiene and Sanitation was originally distributed to all ships and stations having a Medical Department representative, all Medical Service Corps and Hospital Corps Officers on active duty and all active duty Medical, Dental and Nurse Corps Officers. Since the initial distribution, large increases in personnel as well as of ships and stations have occurred. Efforts have been made to meet this expansion with subsequent distribution, but it is evident that many personnel and activities have not received a copy of the Manual. The Bureau of Medicine and Surgery is highly desirous that the intended original distribution be completed. Copies may be obtained by those West of the Mississippi River by submitting requests on NavExos 158 after 20 April 1951 to:

Officer in Charge, Publications Division
 Publications Supply Depot
 Code 608
 Naval Supply Center, Building 222-1
 Oakland, California

All others may request copies immediately on NavExos 158 through:

Officer in Charge
 Publications Supply Center
 Building 101
 Naval Station
 Norfolk 11, Virginia

In the interests of economy, requests should be consolidated by districts or fleet commands wherever practical.

It is anticipated that the present supply of the Manual will be exhausted early in the 1952 fiscal year. With this in mind, action has already been initiated to revise and improve the current edition. Recommendations and constructive criticism have been received from many Public Health Service specialists and from reports of a survey of 28 ships and 56 personnel contacted last year in the Atlantic Fleet. Further studies on methods of improving shipboard sanitation, including inspecting and reporting of all relevant factors, will be conducted in the Pacific Fleet this year. The Bureau is anxious to obtain additional comments on the current edition and suggestions for content, size and type of publication which will most nearly meet the needs of ships and shore activities. Suggestions should include the use of various inspection forms including sample forms, contents or excerpts from other official Department of Defense, Public Health Service or Department of Agriculture publications which may not be available to or easily interpreted by Medical or Dental Department personnel.

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Selected Research Reports

Studies on the Shwartzman Phenomenon. I. The Inhibitory Action of Nitrogen Mustard (HN₂): The inhibition of the Shwartzman phenomenon by HN₂ was confirmed in this study. While protection of the preparatory site from HN₂ fails to influence the inhibition, protection of the lower limbs from the action of HN₂ by aortic occlusion decreases or prevents the inhibition. (Project NM 000 018.05.01, NMRI, NNMC, Bethesda, Md.)

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A Multiple Choice Box Using Light Aversion as Motivation: The choice box is divided into 2 identical chambers by a partition in which there are as many as 5 doors. One chamber is lighted, the other is not. An animal placed in the lighted chamber attempts to escape to the darkened one. After he has done so, he is given a brief fixed period in the dark at the end of which the lights in the previously-darkened chamber are turned on and those on the other side are turned off. The animal then returns to the original side and the cycle is repeated. The apparatus consists of 3 parts: the problem box, described above; the control mechanism, which operates a pair of lights and locks or unlocks doors in a prescribed sequence; and the recording system, which yields a permanent record of the operation of the doors, the animal's attempts to open them and its successes.

The advantages of this apparatus are: (a) a variety of selection problems can be presented in comparable situations and (b) the animals work at this sort of problem for considerable lengths of time without showing any diminution of drive. (Project NM 000 019.01.01, NMRI, NNMC, Bethesda, Md.)

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The Effect of Adrenalectomy on Radiation Induced Mortality of the Mouse: The adrenalectomized or "adrenal insufficient" mouse is more sensitive to irradiation than the normal mouse, and the survival time is shortened. The cause of death in the adrenalectomized irradiated mouse is apparently due to mechanisms other than infection and hemorrhage. (Project NM 006 012.04.30, NMRI, NNMC, Bethesda, Md.)

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ALNAV 21

14 March 1951

Subj: Cowpox Virus

ALNAV 21. Basegram. Cowpox virus should not be disposed of merely because it has been outside of refrigerated temperatures somewhat in excess of time permitted by Article 22-22(3) Manual Medical Department, or because it exceeds expiration date unless there is already on hand sufficient fresh vaccine to meet all possible emergencies. Due to supply and distribution problems some latitude must be exercised in use of vaccine not fully meeting requirements of Man-MedDept. Use special care in observing immune and apparent accelerated reactions at five days for evidence of potency. Coldest possible storage conditions must be maintained at all times.

Francis P. Matthews

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BUMED CIRCULAR LETTER 51-46

12 March 1951

From: Chief, Bureau of Medicine and Surgery
To: All Medical Department Personnel

Subj: Laboratory service available at U. S. Naval Medical School, National Naval Medical Center, Bethesda 14, Md.

Ref: (a) BuMed Cir Ltr 45-172
(b) BuMed Cir Ltr 50-51
(c) BuMed Cir Ltr 50-74
(d) BuMed Cir Ltr 49-142
(e) BuMed Cir Ltr 50-8
(f) BuMed Cir Ltr 50-50 (amended by BuMed Cir Ltrs 50-125 & 51-25)
(g) BuMed Cir Ltr 50-140

1. References (a), (b), and (c) are hereby superseded and canceled.

2. Laboratory service.--The Naval Medical School provides routine clinical laboratory service to the National Naval Medical Center. In addition the laboratories serve for instruction of Medical Department personnel. Limited use of these facilities is also extended to the service at large. Shipments of material shall comply with postal regulations, for details of which consult reference (d).

a. Pathology.--Existing regulations reference (f) and (g) require that pertinent surgical pathological materials and all autopsy materials be forwarded to the Director, Armed Forces Institute of Pathology, through the appropriate histopathologic center designated in reference (f). The Naval Medical School, National

Naval Medical Center, Bethesda, Maryland, is the histopathologic center for the 4th, 5th, 6th, and 10th Naval Districts, the Potomac and Severn River Naval Commands, foreign stations not serviced by histopathologic centers, and ships at sea. The Commanding Officer, Naval Medical School, National Naval Medical Center, Bethesda, Maryland, desires portions of interesting and unusual pathologic materials, which routinely are forwarded to the Armed Forces Institute of Pathology. These materials are utilized for instructional purposes and should be forwarded in the form of blocks of tissue 1/2 x 2 or 3 cm., preserved in ten times their volume of 10 percent formalin, to which a small piece of calcium carbonate has been added. If the tissue is to be examined for viral, protozoan, or rickettsial diseases, it should be fixed in Zenker's fluid for 12 to 24 hours, and then transferred to 70 percent alcohol for shipment. All requests for pathological examination should be accompanied by Standard Form #515, properly filled out.

b. Parasitology--

(1) Blood specimens for malaria, trypanosomiasis and filariasis--Both thick and thin blood smears should be submitted with the necessary identification data. Stained and unstained preparations should be provided. Unstained thin smears should be fixed with methyl alcohol. Thick smears should be dried, then laked with distilled water and fixed with methyl alcohol.

(2) Stool specimens for intestinal Protozoa--The stool should be fixed and preserved in a modified Schaudinn's polyvinyl alcohol solution. About 2 grams are well mashed up in 5 to 10 times the amount of fixative. (Schaudinn's polyvinyl alcohol solution is made as follows: Dissolve 20gms. polyvinyl alcohol powder in the following solution: mercuric chloride saturated aqueous solution, 130 cc.; 95 percent alcohol, 60 cc. and liquefied phenol (88 percent) 50 cc. Immediately before use glacial acetic acid is added to the strength of 5 percent. The specimen should be shipped immediately. The label on the bottle should note that the specimen is fixed and preserved in Schaudinn's polyvinyl alcohol solution.

(3) Stool specimens for helminth ova--Macerate the stool specimen thoroughly in enough 10 percent formalin solution to give a liquid consistency. It should then be placed in a bottle with approximately twice its volume of 10 percent formalin, sealed and properly labeled.

(4) Worms, adults and larval forms--Place directly in hot (80° C.) 70 percent alcohol where they may remain indefinitely. They should be properly labeled as to source of material and preservative used.

c. Serology--

(1) Flocculation and complement fixation tests are available for the diagnosis of the various diseases for which they are valuable. The specimen should consist of at least 5 cc. (and preferably 10 cc.) of clear sterile serum or 10 cc. of

spinal fluid. The specimen should be forwarded in sealed tubes and in order to avoid bacterial contamination when the transportation is prolonged, 1 mg. per cent of powdered merthiolate should be added. Pertinent data must be enclosed. Delivery should be expedited.

(2) Serum titrations for anti-Rh agglutinins will be performed on request.

d. Bacteriology--

(1) Pertinent epidemiological and clinical data shall accompany all specimens.

(2) Bacteria or fungi for identification should be pure cultures on agar slants, corked, well padded and shipped in double mailing cases.

(3) Sputum or gastric washings for acid-fast studies should be neutralized and concentrated before shipment.

(4) Sera for agglutination studies (Shigella, Salmonella, Brucella, etc.) should be obtained aseptically and mailed in sterile screw-capped vials. Add 0.1 cc. merthiolate (1-1000 solution) for each cubic centimeter of sera. Hemolyzed or turbid sera is unsatisfactory. It is advisable to submit several samples at weekly intervals.

(5) Samples of water for bacteriological examination should consist of at least 100 cc. in sterile containers. Time elapsing between collection and beginning of the analysis should not be more than 6 hours for impure water. If the specimen is to be sent some distance, it should be packed in ice. Do not pack in dry ice. Chlorinated waters, especially from swimming pools, should be collected in sodium thiosulfate bottles, containing 6 milligrams of sodium thiosulfate in 100 cc. of the water sample.

(6) Smears for examination should be submitted on clean slides. The films should be flamed but not stained.

(7) Virus studies--

(a) Serological tests for virus: Sera (at least 10 cc.) for virus antibody determinations are treated as in paragraph 2. (d) (4) above. The sera must be paired since only a rise in antibody titer is positive evidence of disease. The first sample should be collected as early in the illness as possible and the second 2 to 4 weeks later.

(b) Virus isolation studies: Material for virus isolation studies (brain, cord, biopsies, spinal fluid, nasal washings, etc.) must be completely sealed off, packed and shipped in dry ice. If facilities for freezing tissue specimens are not

available, the tissues may be placed in 50 percent buffered glycerin.

e. Physiological Chemistry.--

(1) Chemical examination of blood.--Fifteen cubic centimeters of oxalated blood (containing 15 mg. of lithium oxalate as an anticoagulant) in a tightly stoppered bottle should be forwarded for the following determinations: chlorides, non-protein nitrogen, urea nitrogen, uric acid, creatinine, cholesterol, sulfonamides and alcohol. Ten cubic centimeters of non-hemolyzed serum, separated from the blood clot, should be forwarded for potassium, sodium, thymol turbidity, calcium, total proteins, albumin and globulin. It is not advisable to send specimens, except by messenger, for inorganic phosphorous, acid and alkaline phosphates, bilirubin, icterus index, ascorbic acid, amino acid, prothrombin, amylase, lipase, cholesterol esters, cephalin flocculation, and glucose. These latter specimens should be in the laboratory within 2 hours after withdrawal.

(2) Chemical examination of spinal fluids.--Five cubic centimeters of spinal fluid should be forwarded for chlorides and total protein. It is not advisable to send spinal fluid for glucose determination except by messenger.

(3) Endocrinological tests.--

(a) Pregnancy tests.--

Qualitative Ascheim-Zondek Test. Forward at least 30 cc. of the first-voided morning urine specimen after patient has been kept without fluids since the previous evening. The specific gravity must be at least 1.015. One drop of tricresol must be added for every 30 cc. as a preservative if forwarded by mail. Instead of urine, 12 cc. of blood serum is preferable if specimen will be in transit more than one day.

Quantitative Ascheim-Zondek.--For females forward 50 cc. of urine with specific gravity over 1.015 and state titer desired or the presumptive diagnosis for which the test is indicated. For tumor studies of the male send 200 cc. of urine with specific gravity over 1.015. No quantitative studies are available on serum.

Presumptive Frog Test.--(3 hour) Forward 30 cc. of freshly voided morning urine; specific gravity over 1.015 without the addition of any preservative. Urine must be received in laboratory within 4 hours after voiding.

(b) Keto Steroids.--Collect a 24 hour specimen preserved with 15 cc. of 50 percent sulfuric acid. Send 300 cc. for analysis. The total volume of the 24 hour specimen must be given. Specimen should arrive within 3 days after voiding to prevent undue decomposition.

f. General Chemistry.--

(1) Chemical analysis of water.--The accompanying letter should state the purpose for which the water is to be used and also the source, locality, and any other pertinent information. The minimum amount required is 2 gallons. Forward in all-glass containers, preferably of pyrex glass.

(2) Toxicological examination.--A complete history is most important. The determinations desired should be clearly indicated. For shipping instructions consult the Manual of Pathologic Technique of the Naval Medical School, 1950.

g. Hematology.--Pertinent clinical history and laboratory data should accompany the request. At least six well-prepared films of blood or bone marrow aspiration should be made on clean, grease-free slides, fixed in absolute methyl alcohol, left unstained and forwarded in a suitable container that has provision for the separation of the slides.

h. Entomology.--Mosquitoes, flies, bugs, lice, ticks, mites, spiders and related forms which affect man directly or indirectly may be sent in for identification. Full data as to date of collection, locality, elevation, habitat, and abundance should accompany the specimens. Mosquitoes should consist, if possible, of at least 10 males, 10 females and 10 larvae of each species. Larvae should be dropped in hot water (not boiling) for 15 or 20 seconds, transferred to 50 percent alcohol for an hour and then shipped in 70 percent alcohol. A small air bubble should be present in the larger vial to allow for expansion. Mosquito adults, when dry, are exceedingly fragile. Pack specimens while fresh in pill boxes between layers of cellucotton (not plain cotton). The packing should be sufficient to prevent shifting, but not so much as to cause crushing. Large flies may be submitted in the same manner as adult mosquitoes. Sand flies, fleas, black flies, spiders, scorpions, lice, bedbugs, maggots, and other softbodied forms may be preserved in 70 percent alcohol and shipped in vials.

3. Tumor Registry.--The Commanding Officer, Naval Medical School, National Naval Medical Center, Bethesda, Maryland, operates a Tumor Registry and pathologic consultation service for the U. S. Naval Service at large. Specimens of rare or unusual character are especially desired for teaching and demonstration purposes and for registry in the Naval Medical School Tumor Registry Service. Selected tissue blocks from the gross specimens are particularly desired; however, those materials available are sufficient in such cases where the gross specimen is small. Attention is invited to reference (f) which established the Armed Forces Institute of Pathology as the final Repository for all pathological materials collected within the U. S. Naval service. The provisions of this letter do not in any way obviate legal responsibility relative to the forwarding of pathological material from the U. S. Naval Service to the A.F.I.P.

4. Loan slide collections.--A limited number of histopathological slide sets are available on loan to medical officers desiring to review the histopathology of the various organs.

5. Biologicals and Laboratory Standards.--The following biologicals and laboratory standards are available to naval activities upon letter request to the Commanding Officer, U. S. Naval Medical School, Bethesda 14, Maryland:

a. Kahn presumptive antigen.

b. Kahn standard antigen.

c. Colloidal gold solution.

d. Diagnostic bacterial antigen: E. typhosa ("O" and "H"), S. paratyphi, S. schottmulleri, P. tularensis, B. abortus, Proteus, OX19 and OX-K.

e. Alcohol standards for Bogen's test.

f. Albumin standards, artificial, for urinary albumin with sulfosalicylic acid.

6. Photography.--

a. The Naval Medical School maintains photographic laboratory facilities and is prepared to furnish the following type of work: black and white and color photography; still and motion pictures of clinical, surgical, and pathological interest; clinical and general photomicrography; the copying and reproducing of roentgenograms, charts, and drawings. It can render assistance in all types of medical illustrative work.

b. As noted in section IV of reference (f), the Medical Illustration Service of the AFIP can furnish reproduction work in a similar fashion. In addition it has a library of 3 1/4" x 4 1/4" and 2" x 2" lantern slides, in both black and white and color, covering a vast variety of pathological subjects. Some of these materials are in the form of worked-up cases suitable for presentation in clinical pathological conferences.

H. L. Pugh

The above letter will not be printed in the Navy Department Bulletin.

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BUMED CIRCULAR LETTER 51-47

12 March 1951

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations

Subj: Deceased MSTS civilian marine employees; care of remains of

Ref: (a) BuMed Cir Ltr 50-131

(b) Part III, Chapter IV, Manual of the Medical Department, 1945

1. Reference (a) is hereby cancelled.
2. Pursuant to the Secretary of Defense directive of 2 August 1949 establishing the Military Sea Transportation Service under the control of the Department of the Navy, the Medical Department of the Navy has assumed responsibility for the care and disposition of the remains of deceased civilian marine employees on a reimbursable basis.
3. In cases involving the death of a member of the Navy or Marine Corps on board a MSTS vessel, appropriate instructions contained in the Bureau of Naval Personnel Manual, Manual of the Medical Department, and Marine Corps Manual should be followed.
4. In cases involving civilian marine employees of MSTS, instructions contained in Civilian Marine Personnel Instructions (Interim) 21 shall be followed, and also, insofar as they are applicable, instructions contained in Paragraphs 4129 and 4130, Manual of the Medical Department, 1945. Generally, allowances for funeral expenses of MSTS employees will be the same as allowances for funeral expenses of other civilian employees payable under Paragraphs 4129 and 4130; however, should death occur under circumstances peculiar to the transitory nature of MSTS employee duties the maximum allowance of \$200 imposed by Paragraph 4130 may be exceeded to the extent compelled by due regard for decent burial. The experience of the Bureau of Medicine and Surgery with respect to funeral expenses of MSTS employees has shown that duties of MSTS employees resemble the transitory duties of uniformed personnel rather than those of other civil employees in mere travel status or performing duties at or in the vicinity of U. S. overseas bases and activities. Wherever circumstances are comparable allowance of funeral expenses will be uniform for all categories of civilian employees.
5. Inasmuch as all supplies and services required for the care and disposition of remains of civilian crew members of MSTS will be provided by the Medical Department of the Navy on a reimbursable basis, all expenditures from Medical Department funds in these cases shall be reported to the Bureau of Medicine and Surgery. It is therefore required that all Medical Department activities furnishing such supplies and services submit to the Bureau the following information on NavSandA 127 in quadruplicate:
 - a. Name of deceased, vessel, and port to which assigned, "Z" number, and rating.
 - b. Itemized list of supplies and services furnished, with the cost of each

c. Certification of receipt of such supplies and services signed by an authorized representative of the MSTs.

6. All claims for the secondary burial allowance should be processed through the Bureau of Medicine and Surgery in the same manner as in cases involving active duty naval personnel.

7. Revised instructions concerning the handling of deceased MSTs civilian marine employees will be promulgated in the very near future by both this Bureau and the Commander, Military Sea Transportation Service.

H. L. Pugh

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BUMED CIRCULAR LETTER 51-48

12 March 1951

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations

Subj: Publication; downgrading of

Ref: (a) Art. 4-13, USN Security Manual for Classified Matter
(b) Art. 4-30, USN Security Manual for Classified Matter

1. The necessity for retaining the original security classification of the following publication, originated by the Bureau of Medicine and Surgery, no longer exists. Therefore, it is hereby downgraded from Restricted to Unclassified:

NavMed-1079, Annotated Bibliography on Human Factors in Engineering Design, Project X-651 (Av-340-a), February 1946

2. Custodians of the above publication shall cause this change in classification to be indicated on the document as directed by reference (b).

H. L. Pugh

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BUMED CIRCULAR LETTER 51-49

12 March 1951

From: Chief, Bureau of Medicine and Surgery
To: All Naval Hospitals

Subj: Hospitalization of Department of Army and Department of Air Force Personnel on Active Duty

- Ref: (a) BuMed ltr BUMED-2333 of 25 Sep 50
 (b) BuMed Cir Ltr No. 50-129
 (c) Par 4142, ManMedDept, 1945
 (d) Par 4143, ManMedDept, 1945
 (e) BuMed Cir Ltr No. 50-58

1. References (a) and (b) are hereby canceled. References (c) and (d) are modified to the extent that written requests for hospitalization are not required. Instructions for reporting subject personnel on DD Form 7, Report of Hospitalization Furnished Pay Patients, Hospitalization Furnished, as prescribed in the note appearing at the end of paragraph 4B(3) of reference (e), are amplified herein.
2. By previous agreement with the Departments of Army and Air Force, billing for hospitalization furnished subject personnel in naval medical facilities has been accomplished only in cases where subsistence was furnished and a hospital bed was occupied. A recent reciprocal agreement requires that this Bureau effect reimbursement on the following basis:
 - (a) At the rate of \$7.50 per diem for hospitalization and subsistence furnished.
 - (b) At the rate of \$7.50 per diem, less the value of the hospital ration, for such periods as officer personnel have been authorized to subsist out.
 - (c) No billing will be made for periods of authorized leave.
3. Effective with the March, 1951 report, the following additional information shall be reflected in Column 11 of the DD Form 7 in case of subject personnel:
 - (a) For officer personnel: Indicate the number of days authorized to "subsist out", preceded by letters "SO"; number of days authorized leave preceded by letters "OL". Example: An officer carried continuously on the sick list during the month of February was authorized leave for 5 days and authorized to "subsist out" for a period of 3 days. Report as:

SO	3
OL	5
 - (b) For enlisted personnel: Indicate the number of days authorized leave preceded by the letters "EL". Example: An enlisted person carried continuously on the sick list during the month of January was on authorized leave for 4 days. Report as:

31
EL 4
4. Addressees having Army Administrative (Technical Service) Units and/or Air Force Liaison Units attached, and who have been individually authorized to report

in summary total on DD Form 7 the sick days applicable to enlisted patients (Line 44 and/or Line 48 of NavMed 36, Ration Record) shall indicate thereon the total number of days authorized leave preceded by the letters "EL". If this number is not in agreement with that reported in Column III(b) of the Ration Record, appropriate explanation shall be made on both reports.

H. L. Pugh

The above letter will not be printed in the Navy Department Bulletin

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BUMED CIRCULAR LETTER 51-50

14 March 1951

From: Chief, Bureau of Medicine and Surgery
 To: Commanding Officers of the U. S. Naval Hospitals
 Subj: American Red Cross services in naval hospitals
 Ref: (a) BuMed Cir Ltr No. 51-36
 Encl: (1) Statement of Program for American Red Cross Service
 in Military Hospitals

1. Enclosure (1) which has been transmitted by the American Red Cross to its workers in the field through Red Cross channels is furnished for information and guidance. This statement of program reflects the action of the Board of Governors of the American Red Cross, concurred in by the Secretary of Defense, that responsibility for the conduct of medical and psychiatric social work in military hospitals will be assumed by the Armed Forces July 1, 1951.

C. J. Brown
 Acting

The above letter will not be printed in the Navy Department Bulletin

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BUMED CIRCULAR LETTER 51-51

14 March 1951

From: Chief, Bureau of Medicine and Surgery
 To: All Ships and Stations
 Subj: Dependents of Military Personnel--Hospitalization and medical care in activities of the Medical Department of the Navy
 Ref: (a) BuMed Cir Ltr No. 48-106
 (b) BuMed Cir Ltr No. 45-78

- (c) BuMed Cir Ltr No. 49-45
- (d) Para 415, MMD 1945
- (e) BuMed Cir Ltr No. 50-58
- (f) BuMed Cir Ltr No. 50-67
- (g) BuMed Cir Ltr No. 50-65 - amended by NavAct 1-51

1. References (a) and (b) are hereby canceled upon receipt of this letter.
2. The Secretary of Defense has declared it to be the policy of the Department of Defense that the several services afford medical care for dependents on a reciprocal basis, within the limits of facilities, funds, and personnel to an extent consistent with the over-all preparedness and efficiency of the Department of Defense; and that the rates charged for medical care of dependents be uniform throughout the Department of Defense.
3. The use of the terms "several services" and "Department of Defense" is defined to include the Department of the Army, Department of the Navy, and Department of the Air Force. The term "medical care" is defined as including in-patient and out-patient care. The term "dependent" as defined in reference (d), is hereby modified in accordance with the provisions of this letter.
4. Naval activities having facilities for medical care of dependents are authorized to provide such medical care to the dependents of all military personnel on active duty or retired with pay, in like manner as is now provided for personnel of the Department of the Navy subject to the following conditions, emergency cases excepted:
 - a. The Navy has adequate medical facilities available for the care of such dependents and
 - b. The Army or Air Force has no medical facilities for the care of dependents available in the area
5. Dependents of personnel of the Department of the Navy including Marine Corps personnel on active duty or retired with pay may be provided medical care at Department of the Army and Department of the Air Force medical facilities in like manner as now provided at naval medical facilities, subject to the following conditions, emergency cases excepted:
 - a. The Army or Air Force has medical facilities available for the care of dependents and
 - b. The Navy has no medical facilities for the care of dependents available in the area
6. For identification purposes, dependents of Department of the Navy personnel including Marine Corps, may be required to present a Dependents

Identification Card, NAVPERS 1343, in making application for medical care at any Department of Defense medical facility. When this form is not available, Navy and Marine Corps dependents may employ a current Commissary or Navy Exchange Permit as a means of identification or such other official identification card as will establish identity to the satisfaction of the medical officer concerned. For identification of dependents of Army and Air Force personnel, naval medical activities are authorized to accept a current Commissary or Post Exchange Permit or such other official identification cards as may be available and will establish identity to the satisfaction of the medical officer concerned.

7. The per diem charge for in-patient hospitalization of all dependents of the Department of Defense who are hospitalized at naval medical activities within and outside the continental limits of the United States will be \$1.75. Money so collected will be accounted for in the manner set forth in references (f) and (g). There will be no charge for out-patient treatments.

8. Naval hospitals shall report dependents of Department of Defense personnel on the Ration Record, NAVMED 36 as outlined in references (e) and (f). Hospitalization of all dependents should be reported by activities other than hospitals in appropriate columns on NAVMED 1316(8-50), Local Collections for In-Patient Medical Care Furnished. Report of. Detailed instructions for completing this form are contained thereon.

9. Instructions for reporting Department of the Army and Department of the Air Force patients on Monthly Summary Medical Care of Dependents, NAVMED 669 are contained in reference (c).

H. L. Pugh

NAVY DEPARTMENT
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