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MEDICAL NEWS LETTER

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PREVENTIVE MEDICINE SECTION

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Policy

The U. S. Navy Medical News Letter is basically an official Medical Department publication inviting the attention of officers of the Medical Department of the Regular Navy and Naval Reserve to timely up-to-date items of official and professional interest relative to medicine, dentistry, and allied sciences. The amount of information used is only that necessary to inform adequately officers of the Medical Department of the existence and source of such information. The items used are neither intended to be nor susceptible to use by any officer as a substitute for any item or article in its original form. All readers of the News Letter are urged to obtain the original of those items of particular interest to the individual.

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Notice

Due to the critical shortage of medical officers, the Chief, Bureau of Medicine and Surgery, has recommended, and the Chief of Naval Personnel has concurred, that Reserve medical officers now on active duty who desire to submit requests for extension of their active duty for a period of three months or more will be given favorable consideration.

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Residency Training Policy for Reserve Medical Officers on Active Duty

BUMED INSTRUCTION 1520.7 dated 4 August 1954, promulgates and prescribes the Department of Defense policy with respect to residency training programs for medical officers of the Regular Navy and U. S. Naval Reserve.

1. In addition to medical officers of the Regular Navy, Reserve medical officers who are on active duty, and who have completed their obligations for active duty imposed by the Universal Military Training and Service Act, as amended, are now eligible to compete for assignment to residency training in naval hospitals, in those specialties in which there exists a definite shortage at the time of application for such training.

2. At the present time shortages exist in the residency training program in the following specialties: Anesthesiology, Otolaryngology, Ophthalmology, Pathology, Orthopedics, Obstetrics and Gynecology, Pediatrics, and Urology.

3. Eligible and interested Reserve medical officers should make application to the Bureau of Medicine and Surgery, via the chain of command.

Letters of application should contain an agreement to volunteer for the period of residency training requested, and to remain on active duty in the Navy for a period of 1 year following completion of the training, for each year of training received. In general, the Bureau prefers to approve officers for residency training on a year-to-year basis.

4. From time to time the list of medical specialties in which shortages exist will be revised and brought up to date, to reflect the then existing needs. (ProfDiv, BuMed)

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Cardiospasm

Cardiospasm is the term most widely used to indicate a clinical syndrome associated with dilatation or obstruction of the esophagus, or both. A number of other names have been applied to this condition, and in most a theory of pathogenesis is implied or a common finding emphasized. Other terms used are megaesophagus, simple ectasia, achalasia, phrenospasm, dystonia, and idiopathic dilatation.

The etiology and pathogenesis of cardiospasm are not understood. The fact that many theories of pathogenesis have been presented indicates that there is a lack of complete and sound proof for any of them. This disorder has been considered by some as a congenital deformity and has also been thought to be psychoneurotic in origin. The term "idiopathic dilatation of the esophagus" used over one hundred years ago appears to be the best possible designation for this condition because it more accurately reflects present understanding of this disease.

Cardiospasm is reportedly seen more commonly in females than males. The onset of symptoms may occur at any age, though most patients present themselves during the 3rd or 4th decade. A number of cases have been reported as occurring in infancy or childhood.

Dysphagia and regurgitation are the primary symptoms of cardiospasm. While substernal pain is a frequent complaint, the location of the pain may vary. It may be in the epigastrium, precordium, shoulder, neck or jaw, may simulate the pain of angina pectoris, and can be the initial symptom. When inflammation becomes a prominent factor, a substernal burning pain is the usual complaint and is persistent.

Relaxation may be brought about by drinking warm liquid or by assuming a state of serenity. Disturbances such as noises or the presence of strangers during mealtime are likely to precipitate or increase awareness of esophageal spasm. The fact that cardiospasm is characterized by recession and exacerbation, in addition to the fact that spasms may be initiated by slight disturbances, has led many to assume that there is a strong psychogenic element in the condition, if not the primary etiological factor. In this regard the presence of foul breath from decomposing, stagnant food retained in the esophagus and the regurgitation is a frequent source of embarrassment. Regurgitant eructations

become progressively more severe in advanced cases and likely to be increased when the patient is lying down. Aspiration of regurgitated material may occur during sleep.

Weight loss is usually present but some patients maintain unusually good nutrition despite the fact that they seem to regurgitate almost all they have eaten. Avitaminosis, hypoproteinemia, and anemia may accompany impaired nutrition.

The diagnosis of cardiospasm is usually easily made by Roentgen ray. The dilated esophagus may cast a shadow on the chest film, but more diagnostic is the finding of a smooth, funnel-shaped narrowing of the lower esophagus after barium swallow. This narrowing is usually in the region of the diaphragmatic hiatus, and there may be varying degrees of dilatation or tortuosity above this level.

The majority of cardiospasm cases can be treated by nonsurgical methods. A number of conservative recommendations have been made but these can be regarded, at best, as adjuvant therapy. There is some symptomatic benefit but no curative effect from such measures as bland diet, antispasmodics, antacids and psychotherapy. The treatment of cardiospasm lies either in dilatation or surgical intervention.

It has been reported that 70% of the cases can be cared for by dilatation alone, many by a single treatment. Of the remaining 30% many receive some benefit from dilatation, but could not be classified as satisfactory results. Approximately 20 to 25% of all cases require surgical intervention. Many prefer the Plummer modification of the Russel hydrostatic dilator. It is the author's opinion that repeated dilatation may well contribute to the production of esophagogastric inflammation and of cicatricial stenosis in this area.

According to Wangensteen, surgery is advisable if two or three attempts at dilatation are unsatisfactory Maingot lists as the indications for surgery: failure of dilatation, impracticability of dilatation, possibility of malignancy, and cases in infancy or early childhood.

A complete and satisfactory resolution of the problem is not at hand at the present time. Despite the fact that the etiology of this condition is unknown some relief may be offered by surgical means. Greater familiarity with surgery of the esophagus has reduced the operative mortality and has clarified to some extent the pathologic physiology of cardiospasm and the causes of postoperative reflux esophagitis. (Am. J. Med. Sc., Aug., 1954; C. J. Holt, M. D., College of Medicine, Wayne University, Detroit)

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Mitral Insufficiency with Mitral Stenosis

It has been observed that the presence of more severe degrees of mitral insufficiency associated with mitral stenosis increase operative mortality and morbidity and decrease the number of worthwhile operative results. The detection of this associated lesion is at times difficult and frequently not made

except by the surgeon's exploring finger in the left atrium.

This study is a review of 247 consecutive case histories taken from the first 500 patients who have undergone mitral commissurotomy. It is an attempt to determine clinical features which might aid in the detection of an associated mitral insufficiency.

Although pure mitral insufficiency and pure mitral stenosis appear to be two separate clinical entities, their apparently clear-cut dissimilarities are quickly lost when the two are combined. Mitral stenosis is the dynamic dominant and soon governs the clinical picture. However, certain dissimilarities remain to varying degrees in the individual patient and are useful in their clinical evaluation. Preoperative detection of more severe grades of mitral insufficiency associated with mitral stenosis is important. It has been observed that these patients have an increased operative morbidity and mortality, as well as a lessened degree of worthwhile postoperative results, when compared with patients with only pure mitral stenosis.

It has been observed upon reviewing 200 consecutive operated cases of pure mitral stenosis and 47 consecutive operated cases of mitral stenosis with an associated mitral insufficiency that careful evaluation of the natural history, auscultatory findings, electrocardiogram and fluoroscopy, permits a correct diagnosis of associated insufficiency a majority of the time. History and auscultation remain the internist's most valuable tools despite a large array of, as yet, incompletely evaluated mechanical measures.

Thirty percent of 200 patients with a pure mitral stenosis had a mitral systolic murmur in addition to a diastolic murmur. It is in this group that the question of significant associated insufficiency arises. The intensity of the mitral systolic murmur is the most useful differential feature of auscultation.

Further clinical aid can be gained by obtaining a chronologic and complete history of the disease. Systemic arterial embolization occurs much less frequently when insufficiency is associated with mitral stenosis than when stenosis exists alone. It occurred in 23.5% of the 200 patients with pure stenosis but only 6.4% when regurgitationlwas also present.

Fatigue rather than dyspnea usually plays the early dominant role in the symptomatology of those patients with severe associated insufficiency. Apparently, sustained pulmonary hypertension with its deleterious effects on the right heart and upon the lungs occurs later in such individuals than in those with pure stenosis, and thereby delays the onset of dyspnea.

The only value of the electrocardiogram in the differentiation of the predominance of mitral stenosis versus mitral insufficiency is the presence of left ventricular hypertrophy when insufficiency is predominant. In the experience of the authors, mitral valve commissurotomy in such cases has failed to produce beneficial results; in fact, such patients developed a significant mitral regurgitation after surgery which inevitably results in death from congestive heart failure.

The authors observed that massive dilatation of the left atrium with mitral stenosis and insufficiency indicates that the insufficiency is of dynamic significance. Of eleven patients in whom preoperative clinical diagnoses of massively dilated left atria were confirmed at operation, nine had a regurgitant jet of grade 3 or 4. The two remaining patients with massively dilated left atria were found in the 200 cases with pure mitral stenosis.

It is evident from the foregoing data that there is no single clinical or laboratory procedure that will predict the predominance of mitral insufficiency over mitral stenosis. Rather, it is a matter of integrating the historical and laboratory features of each patient. (Circulation, Aug., 1954; O. H. Janton, M. D., G. Heidorn, M. D., L. A. Soloff, M. D., T. J. E. O'Neill, M. D., and R. P. Glover, M. D., Hahneman Medical College and Hospital, Philadelphia)

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Cortisone in Preventing Pulmonary Fibrosis

This investigation was undertaken to determine whether or not cortisone would inhibit the formation of pulmonary fibrosis in patients receiving radiation therapy to the thorax.

Permanent damage to the pulmonary parenchyma after irradiation has been described by numerous authors. Although no threshold dose to pulmonary tissue which will result in fibrosis has been established, it is generally accepted that the greater the quantity of radiation and volume of tissue exposed, the greater chance of radiation fibrosis. It has also been shown that treatment over the hilus causes a greater degree of fibrosis than treatment over the periphery of the lung. Shields Warren classified radiation effects on the respiratory system into three stages. The early reaction consists of congestion, edema, lymphectasis, slight inflammatory cell infiltration, and minimal changes in the tracheal epithelium. Moderate reactions consist of active degeneration or obvious injury to the epithelium with formation of a hyaline membrane. Late effects from heavier doses consist of thickening of the alveolar walls, patchy atelectasis, vascular changes and fibrosis, especially if intercurrent infection is present.

Numerous reports have documented the ability of cortisone or ACTH to inhibit the formation of fibrous tissue. The cases selected were histopathologically proved carcinomas treated with intensive roentgen therapy. Cortisone was given orally in 100 mg. daily doses starting one week after the beginning of roentgen therapy and continuing one to two weeks after therapy was completed. The low dosage rate of cortisone was selected to avoid toxicity. All patients were weighed daily, questioned regarding cough, dyspnea, edema, appetite, and pain. Chest roentgenograms were taken semimonthly. The majority were markedly debilitated when first seen.

Precise evaluation of a study of this nature is impossible until the following questions can be answered: (1) What percentage of individuals receiving

deep roentgen therapy will develop fibrosis? (2) What time interval is necessary for its development? The answers are obviously not available. Patients receiving large tissue doses over large areas were chosen because of a higher probability of fibrotic reaction. Six patients who have been followed over three months have not shown clinical or roentgenological evidence of pulmonary fibrosis.

The dosage of cortisone was determined from previously reported data on the amount needed to obtain the maximum therapeutic effect with comparative safety from serious side effects.

Deserving special emphasis is the fact that none of the patients receiving cortisone developed radiation sickness. Two patients were able to tolerate their residual pain even after cortisone was discontinued without recourse to codeine. In general, appetite improved, weight was increased, and the cough decreased.

The report suggests that cortisone may be of value in inhibiting pulmonary fibrosis following irradiation. (Am. J. Roentgenol., Aug., 1954; R. M. Friedenberg, M. D., and S. Rubenfeld, M. D., Bellevue Hospital, New York)

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Action of N-allylnormorphine

Respiratory depression following the use of narcotics is commonly observed and is a most dangerous symptom of opiate intoxication. Treatment has been largely symptomatic and supportive, and in many instances, has been unsuccessful. Consequently, the introduction of N-allylnormorphine (nalline) into the therapy of opiate intoxication is of great significance. Nalline effectively counteracts the respiratory depression of narcotic overdosage and, in contrast to other analeptics, has a specific action.

The action of nalline on narcotized and non-narcotized human subjects was recently described by several investigators. In non-narcotized individuals Echenhoff et at. observed that the intravenous administration of 5-10 mg. of nalline resulted in a minor drop in respiratory rate, an average decrease of 35% in respiratory minute volume and little or no change in pulse or blood pressure. All of the cases showed a definite sedative effect. The toxic action of non-narcotic agents, including barbiturates and ether, was found to be unaffected by nalline administration.

In narcotized human subjects nalline was found to be as effective in overcoming respiratory depression as in the case of animals. Morphine and related drugs, including demerol, were inhibited or counteracted equally well.

The present study was an attempt to further evaluate the action of nalline on narcotized and non-narcotized subjects. Six separate groups totaling twenty-nine individuals were studied. From the data presented it appears that N-allylnormorphine has different effects in various circumstances. Given to non-narcotized individuals, it acts as a mild depressant upon respiration and to a lesser degree upon circulation. Given after the administration of a toxic dose of

opiates, it inhibits or antagonizes their depressant effect, causing a strong respiratory and circulatory stimulation. However strong the stimulating effect in narcotic poisoning, it does not appear to affect the respiratory or circulatory depression caused by non-narcotic agents.

The specificity of nalline is clearly shown in studies in which it successfully counteracted a large variety of natural and synthetic alkaloids, i. e. morphine, demerol, codeine, and nisentil. Its action upon the respiratory depression of narcotized patients is most dramatic. It elevates the previously depressed rate to normal levels in fifteen to thirty seconds after intravenous administration in doses of 5 to 10 mg. and reverses Cheyne-Stokes or irregular breathing consequent to opiate overdosage. Its action is instantaneous and therefore not comparable with that of other analeptic drugs.

The action of nalline upon circulatory depression is more gradual but just as marked. When depression or elevation of the blood pressure is present it returns to normal levels for that patient within ten to fifteen minutes after the administration of nalline. When the blood pressure has remained within the normal range no remarkable changes occur.

The action of nalline upon the sedative effect of narcotics is less apparent. The patient becomes more responsive in that there is definite lightening in the depth of sleep and the patient can be aroused more easily. He goes back to sleep, however, if left alone. The degree of this response is largely dependent upon the amount of narcotic given.

There is no ready explanation for the mode of action of nalline upon narcotic-induced poisoning. The optimal dose of the drug has not yet been established. No untoward effects have been observed in the present studies from any dose so far employed. In two instances a total of 40 to 60 mg. was given over a period of twenty minutes without ill effect. The administration of nalline did not appear to be effective against barbiturate poisoning. However, it did not increase narcosis and the patient's general condition did not grow worse.

Further study of the mode of action of nalline is indicated. Light may be thrown on the action of morphine and the possible separation of its analgesic and respiratory depressant effects by a new compound -- possibly by combined administration of morphine and nalline. (Am. J. Med., Aug., 1954; A. Salomon, M. D., P. S. Marcus, M. D., J. A. Herschfus, M. D., and M. S. Segal, M. D., Tufts College Medical School and Boston City Hospital, Boston)

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Effect of Barbiturates in Patients with Liver Disease

Although sedatives are frequently required in the treatment of patients with liver disease, barbiturates are believed to be contraindicated in the face of impaired hepatic function. Because the evidence incriminating the use of

barbiturates in liver disease seemed circumstantial, a study to obtain direct evidence was undertaken. Three questions seemed worthy of consideration: (1) Do barbiturates damage the liver itself? (2) Are patients with liver disease more sensitive to barbiturates because of impaired inactivation of these drugs by the damaged liver? (3) Are patients with liver disease more sensitive to barbiturates because of increased sensitivity of the nervous system?

Information bearing on these questions was sought by comparing the effect of barbiturates in control subjects and patients with liver disease. Pentobarbital was the barbiturate principally used because it is a popular drug and is said to be inactivated by the liver. The effects of both single doses and prolonged administration of barbiturate were observed.

Pentobarbital was given to 35 control subjects without liver or central nervous system disease and to 21 patients with liver disease. All of these patients except one had signs and symptoms of advanced hepatic damage. Seventeen of them had cirrhosis with an alcoholic background but at the time of the studies were suffering neither from alcoholism nor its withdrawal symptoms. After preliminary studies showed that oral doses were well tolerated, intravenous administration was used routinely in subsequent studies to eliminate the variables of intestinal absorption and to provide a sharp beginning point for both clinical and biochemical measurements.

At the beginning the dangers of administering barbiturates to patients with liver disease loomed so vividly that doses of 15-30 mg. were used with considerable hesitation. When the expected ill effects failed to materialize, the dose was increased until it appeared that standard hypnotic doses were well tolerated, even by patients with severe cirrhosis.

(1) Are barbiturates injurious to the liver? Because neither clinical nor biochemical impairment of hepatic function was evident following the use of barbiturates, it appears that the hepatotoxic potentialities of these agents have been overemphasized. The effect of barbiturates on several discrete hepatic functions was not studied, but the broad criterion afforded by the patient's clinical course did not inculpate pentobarbital as harmful to hepatic function.

(2) Are barbiturates dangerous to patients with liver disease because hepatic inactivation of these drugs is impaired? In spite of the contradictory evidence obtained by subjecting animals with surgically extirpated or severely damaged livers to barbiturate narcosis, no clinical indications were found that hypnotic doses of pentobarbital exert a deeper or more prolonged effect in patients with liver disease than in control subjects. Moreover, removal from the blood of barbiturates (or some degradation products) was not grossly different in the two groups. A delayed inactivation of barbiturates by patients with liver disease has, therefore, not been demonstrated by these studies

(3) Are barbiturates harmful to patients with liver disease because of increased sensitivity of the central nervous system? If the mental faculties of a cirrhotic patient are clouded by the unidentified metabolic factors of incipient hepatic coma, it seems reasonable to assume that the action of any central nervous system depressant will be at least additive. The additional effect of the sedative is, however, hard to assess, for the nervous manifestations of severe liver disease often pass spontaneously from restlessness to

coma whether or not sedatives are given. Failure to recognize this natural progression leads to statements that barbiturates are particularly dangerous for the cirrhotic patient with bleeding varices. In these cases a small dose of barbiturate given during the restless phase is often blamed for the ensuing coma, but this coma is usually the sequel of severe blood loss, not of sedation.

The possibility remains that patients on the verge of coma are actually hypersensitive to sedatives. If this is the case, the hypersensitivity appears to be a transient state conditioned by the metabolic abnormalities of hepatic coma.

Many patients with liver disease do not require sedation. Others who are confused, irrational, or restless, require sedation desperately, but barbiturates and other sedatives as well may merely intensify the coma which usually succeeds upon the restless phase of liver failure. On the other hand it is suggested that pentobarbital may be used cautiously but without apprehension for allaying such minor nervous symptoms as insomnia, anxiety, and tremors in patients with liver disease who do not exhibit the premonitory signs of coma.

No evidence was obtained that patients with liver disease were more sensitive to single injections of pentobarbital, or that the early removal of the drug from the blood of these patients was delayed. Prolonged administration of pentobarbital to patients with decompensated liver disease did not appear to retard recovery in 12 of 13 trials.

The use of sedatives in patients verging on hepatic coma is not recommended, but the specific dangers ascribed to barbiturates in patients with liver disease appear to have been overemphasized. (J. Clin. Investigation, Aug., 1954; J. T. Sessions, Jr., H. P. Minkel, J. C. Bullard, and F. J. Ingelfinger; Evans Memorial, Massachusetts Memorial Hospitals; Boston Veterans Administration Hospital; Boston University School of Medicine)

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Cigarettes and Circulation in Male Smokers

Although the annual consumption of cigarettes in the United States is large, few recent studies deal with the effect of smoking on the heart and circulation. To advise patients who are habitual smokers regarding smoking, it is important to know what changes in the cardiac output, pulse, or skin temperatures (reflecting peripheral vasoconstriction), ballistic wave forms or arrhythmias, and circulatory changes, may be produced in that individual by smoking. In an attempt to evaluate the effect of smoking on the heart and circulation, the ballistic wave pattern was obtained and cardiac output determined therefrom in normal subjects after smoking both their accustomed brand and commercial "low nicotine" brand cigarettes with the addition of a silica gel filter as a control. Simultaneous skin temperatures and pulse rates were recorded.

Statistically significant changes in cardiac output following the smoking of ordinary cigarettes could not be demonstrated with the ballistocardiograph in spite of the fact that concurrent significant changes were found to occur in heart rates and skin temperatures. These latter changes are caused by nicotine in producing both peripheral vasoconstriction and stimulation of the central nervous system.

Various observers disagree on the incidence of ballistocardiographic changes following smoking. Dock and associates found a high incidence of deterioration of the ballistic pattern in patients with angina pectoris or healed infarcts. Dock states also that, in apparently normal individuals, 10% will show ballistocardiographic changes after smoking. Levy and associates, studying the effects on the circulation of intravenous injection of nicotine using the ballistocardiogram, showed comparatively little effect on cardiac output, and was of the opinion that the changes described by Dock were explained on the basis of individual susceptibility or sensitivity to tobacco smoke. Starr and Hildreth noted no difference between the records of smokers and non-smokers. Henderson found in a recent study that in fifty normal young people the form of the ballistocardiogram remained unchanged after smoking.

Individuals who show deterioration of the wave pattern or who develop premature ventricular contractions or other arrhythmias, caused either by coronary atherosclerosis or individual susceptibility or both, should probably be advised not to smoke ordinary cigarettes. If changes persist, low-nicotine filtered cigarettes could be tried. If changes still persist, the patient should be advised to discontinue smoking, psychic factors being considered.

The evidence seems to indicate that while smoking will constrict peripheral vessels in normal young people, causing increase in heart rate and fall in skin temperature, the effect is not strong enough to change the form of the ballistocardiogram or affect the cardiac output except in cases of individual susceptibility or sensitivity. None of the subjects showed this latter effect. (Am. Heart J., Aug., 1954; D. L. Simon, M. D., A. Iglauer, M. D., and J. Braunstein, M. D., University of Cincinnati, Cincinnati, Ohio)

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Treatment of Tuberculous Meningitis in Infants

The addition of streptomycin to the therapeutic regimen has changed the natural history of tuberculous meningitis in both adults and children. This has been amply demonstrated in the case of children in the large series of patients treated by workers both here and abroad using streptomycin intramuscularly and intrathecally, usually in combination with a sulfone derivative. The universally fatal mortality of this disease has been markedly and significantly reduced by this method.

Despite these accomplishments, there is still a great need for improvement of therapeutic results in tuberculous meningitis. The number of fatalities, and the degree and number of significant neurological residua, have made it

incumbent upon the clinician to seek newer therapeutic agents or at least new combinations of existing anti-tuberculous agents.

This report is concerned with a preliminary evaluation of experience with the treatment of tuberculous meningitis in six children under the age of two years. All have been treated from the outset, except the first case, with streptomycin intramuscularly and isoniazid by mouth or intramuscularly without the intrathecal use of either streptomycin or isoniazid. Their clinical and spinal fluid response was sufficiently impressive to make their reporting seem worthwhile as a preliminary indication that streptomycin and isoniazid, when used in combination, may give results comparable to those obtained with the use of intrathecal and intramuscular streptomycin and promizole without the disadvantages of intrathecal therapy.

Even a preliminary report on the clinical effectiveness of a therapeutic regimen ordinarily has little justification when limited to so small a number as six cases. However, the mortality rate in untreated tuberculous meningitis in infants is for all practical purposes 100% within a relatively short time, rarely exceeding four to six weeks after onset of the disease. The mortality of tuberculous meningitis in children, when treated by the regimen of streptomycin intramuscularly and intrathecally, approaches an overall rate of from 30 to 50% in the series reported earlier. More recent results have shown a further reduction of mortality. Lincoln reports survival of two out of three infants when treated in that fashion. In recent Public Health Service studies there were 26 survivors out of 93 cases, 12 with gross residua. Most of the deaths, even in the series with optimal results, occurred within the first six or seven months, with the peak occurring within the first to the third month.

The infants in this study present a group of cases in which the expected mortality, even with the accepted regimen, would have been considerably higher than the overall rate. All were less than two years of age on admission, two were comatose and two were semicomatose, two had associated miliary tuberculosis, and four had impairment of visual and auditory acuity.

From the standpoint of clinical, bacteriological and cerebrospinal chemical findings, the regimen of streptomycin intramuscularly in association with isoniazid without intrathecal medication appears to have a decided effect on the course of tuberculous meningitis when compared with the two standards of the prognosis of the untreated disease and the prognosis using the optimal previous technique of streptomycin intramuscularly and intrathecally in association with a sulphone. These children have been treated for periods ranging from 4 to 13 months. All six have shown marked and progressive improvement in their clinical state and in their cerebrospinal fluid chemistry and cytology. All have gained weight and none has shown evidences of bacteriological relapse. All have achieved an afebrile state. (Dis. of Chest, Aug., 1954; E. D. Pellegrino, M. D., F. G. Petrik, and R. Horton, M. D., Homer Folks Tuberculosis Hospital, Oneonta, New York)

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Ferrous Sulfate Poisoning

Toxic effects from the ingestion of large doses of medicinal iron preparations have received increasing attention since 1947 when Forbes reported two fatal cases. Since his report 24 additional cases have appeared in medical literature. In all, 25 infants and 1 adult were involved. Ferrous sulfate was ingested in 25 cases and ferric shloride in 1 case. Thirteen cases were fatal and 13 recovered. There seems to have been no direct correlation between the amount of iron ingested and the final outcome, since the ingestion of as little as 3.0 gm. of ferrous sulfate has terminated fatally, whereas the ingestion of 15.0 gm. has resulted in an uneventful recovery.

There is a fairly characteristic set of symptoms of iron poisoning. Within an hour of ingestion of the tablets, vomiting develops, which in two to four hours usually becomes bloody. The child becomes pale, irritable, and often comatose. The blood pressure falls, the pulse becomes rapid, and the child appears to be in profound shock. Diarrhea may or may not be present at this stage. Following this period of shock, there is often a rapid improvement in the clinical picture, during which the patient regains consciousness and is out of shock, and the vomiting and diarrhea decrease. However, in many cases a sudden relapse occurs from 13 to 40 hours after ingestion, in which the child again goes into profound shock with coma, severe bloody vomiting and diarrhea, and frequently convulsions.

The necropsy findings are also fairly characteristic. In all but one of the autopsied cases there was marked dilation of the right heart, with pulmonary congestion and hemorrhage. Cloudy swelling or early necrosis of the liver were frequently observed. In general, a hemorrhagic necrotizing gastritis followed the ingestion of plain coated tablets, whereas a similar localized enteritis resulted from the ingestion of enteric-coated tablets, due to their liberation in the lower gastrointestinal tract. Three of the fatal cases involved enteric-coated tablets; one of these was associated with necrosis of the gastric mucosa, and the other two with necrosis of the small intestine. Plain tablets were ingested in the remaining 10 fatal cases. All showed necrosis or marked congestion of the gastric mucosa. Two of these also showed necrosis of the small intestine, one having ingested approximately 20 gm. of ferrous sulfate and the other 240 gm. In the second case it would appear that the enteric-coated tablets proceeded down the intestinal tract relatively intact until the enteric coating was finally dissolved at the isolated segment of necrotic ileum.

The treatment of iron poisoning is largely symptomatic. Immediate efforts should be made to make the child vomit in order to rid the stomach of any undissolved tablets or fragments of tablets. In addition, copious and prolonged gastric lavage should be done with sodium bicarbonate solution, leaving some in the stomach in an effort to convert the ferrous sulfate to insoluble ferrous carbonate. Shock should be combated with blood, plasma, and oxygen as indicated, and one should be alert for the possibility of a delayed exacerbation after initial improvement.

It is well known to radiologists that enteric-coated iron tablets are radiopaque. If an x-ray of the abdomen reveals iron tablets grouped together in the intestine, a localized patch of gangrene of the intestine, such as was found in the second case, is to be expected. If so, a laparotomy should be considered after recovery from the initial shock stage, to remove the tablets and to resect the necrotic segment of bowel. (Am. J. Dis. Chil., Aug., 1954; W. M. Clark, Jr., M. D., S. S. Jurow, M. D., R. L. Walford, M. D., and R. O. Warthen, M. D., Chanute Air Force Base Hospital, Rantoul, Illinois)

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Letterer-Siwe's Disease

Interest in nonlipoid reticuloendotheliosis (Letterer-Siwe's disease) has increased in recent years, since the suggestion by several investigators that this disease is probably related to the Hand-Schuller-Christian syndrome and eosinophilic granuloma.

A patient with Letterer-Siwe's disease exhibiting the unusual features of severe liver damage and generalized edema was observed, and forms the basis for the present report. This is the first reported case, to the authors' knowledge, in which chemical studies of some of the involved tissues have been attempted.

The classic diagnostic features of nonlipoid reticuloendotheliosis outlined by Siwe in 1933 consisted of: (1) its character as a nonfamilial disease of unknown etiology, usually occurring in infancy or early childhood and ending fatally after an illness of a few weeks' to several months' duration; (2) moderate to marked enlargement of liver and spleen; (3) moderately enlarged, discrete, nontender lymph nodes; (4) a hemorrhagic diathesis consisting chiefly of petechial skin lesions; (5) a progressive hypochromic anemia; (6) low-grade temperature elevation; (7) production of localized bone defects in some cases; and (8) generalized hyperplasia of the reticuloendothelial system involving the spleen, liver, lymph nodes, skin, bone marrow, and thymus gland.

The typical features with the exception of the localized bone defects were observed in this case. In addition, two unusual findings were noted: jaundice with laboratory evidence of severe liver injury; and generalized edema. The clinical features and histopathology of the lesions in the gingiva, thymus, lungs, lymph nodes, and thyroid gland are described. References are made to previous articles which have pointed out that Letterer-Siwe's disease is variant of the process which includes Hand-Schuller-Christian disease and eosinophilic granuloma.

Chemical studies of various involved tissues are reported for the first time. The values obtained are in agreement with the nonlipoid nature of this disease. (Arch. Path., Aug., 1954; J. H. Childers, M. D., and P. C. Price, M. D., Children's Hospital, University of Texas Medical Branch, Galveston)

Diverticulum of the Female Urethra

Diverticulum of the female urethra, although known for many years, is too often undetected, and until recently has been considered a rare abnormality. It is now generally agreed that the most common sequence of events in the development of urethral diverticula is: infection of the paraurethral glands and ducts (often secondary to trauma) followed by obstruction and abscess formation; rupture of the abscess into the urethra allowing free communication between the urethra and the infected gland; and intermittent edema of the communication which may produce recurrent obstruction with exacerbation of symptoms. A few instances of congenital cysts of the urethra have also been reported.

Most patients with urethral diverticula have a long history because physicians often fail to recognize their symptoms. Since dysuria and frequency of urination are the two most common complaints, the majority of patients are treated repeatedly for what is considered to be recurrent urinary infections. These symptoms fluctuate in severity, increasing when the diverticulum is infected and distended, and decreasing when it empties. A few patients may experience dribbling of urine after voiding due to emptying of the diverticulum, and some have pelvic pain after urination.

Many patients notice a mass along the anterior vaginal wall. This mass varies in size from time to time and often is the cause of dyspareunia; when distended, dysuria and frequency are commonly noted. Some patients experience vague pelvic discomfort, such as a dragging sensation without any localizing symptoms. This bulge may also be entirely asymptomatic.

The duration of symptoms in 45 patients ranged from 3 days to 25 years with a mean of 2 years. Often they had seen many physicians and had been treated with antibiotics, urethral dilations, and other measures designed to relieve bladder symptoms. In some instances they had even been considered neurotic.

Several other lesions may occur along the anterior vaginal wall and, to avoid confusion, it is important to differentiate them from urethral diverticula. Gartner's duct cysts are common, symptomatic, and usually located lateral to the midline. They have no communication with the urethra. An adenoma of a urethral gland is rare and is usually movable, firm, and not tender. An adenocarcinoma may also develop in this same area, and it is possible for metastases in generalized carcinoma to appear in the suburethral area. There are two reports of carcinoma arising in a diverticulum of the female urethra. A urethral abscess is extremely tender and is considered to be a stage in the development of a urethral diverticulum. Urethrocele--a poor term--refers to the downward protrusion of the urethra from its attachment under the symphysis pubis coincident with anterior vaginal wall relaxation. Many of the symptoms of urethritis are similar to those caused by a urethral diverticulum, but no swelling is palpable along the vaginal wall. Swelling may be present in the first stage of the development of diverticula.

Some patients having urethral diverticula are asymptomatic and require no treatment. In these instances the urethral communication is large enough to provide adequate drainage of the sac. Eight patients had practically no symptoms related to the diverticulum and needed no surgical therapy, but are observed periodically. Various types of therapy were unsuccessfully attempted for a number of patients with symptoms. Antibiotics and chemotherapeutic agents will not cure the lesion and have proved ineffective in relieving infection often encountered prior to operation. Urethral dilations and manual expression of the sac may bring about temporary relief of symptoms, but recurrence necessitating frequent treatment is common.

The present practice is to excise all urethral diverticula which are causing symptoms, regardless of their size or degree of infection, if the patient's physical condition permits. In general an operation is performed only when a diverticulum is palpable along the urethra. If the presence of one is suspected but cannot be established by examination, the patient should be seen again at a later date. Because the urethral glands tend to girdle the urethra, diverticula may be located lateral to the urethra rather than beneath it. Here they are difficult to palpate and are often missed. One is occasionally justified in exploring the urethra transvaginally when a diverticulum is suspected but cannot be palpated.

Excision is the treatment of choice for all symptomatic diverticula. Thirty-three patients have been operated upon for this condition. Two patients with stones in the sac developed postoperative urethrovaginal fistula; one was successfully repaired and the other was not bothersome to the patient. Two others required reoperation for relief of symptoms due to incomplete excision. (Am. J. Obst. & Gynec., Aug., 1954; J. S. Krieger, M. D. &E. F. Poutasse, M. D., Cleveland Clinic Foundation and The Frank E. Bunts Educational Institute, Cleveland)

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Splenectomy in Far-Advanced Hodgkin's Disease

Failure of hematopoiesis is a frequent occurrence in patients with far-advanced Hodgkin's disease, and the treatment of this situation has been largely unsuccessful. The depression in the formed elements of the blood has been attributed to several different mechanisms which include: infiltration of the bone marrow by Hodgkin's disease; (2) bone marrow aplasia due to repeated insults by bone marrow depressants used in treatment, such as nitrogen mustard (HN2), triethylene melamine (TEM) and x-ray; (3) toxic depression of bone marrow function associated with other manifestations of systemic intoxication in Hodgkin's disease, such as fever, itching, weakness, and anorexia; and (4) hypersplenism.

Although each, or a combination of these mechanisms, may be responsible for the depressed or abnormal hematopoiesis in Hodgkin's disease, their relative importance in a given case is often difficult to assess. In this report the splenic factor will be considered.

Splenectomy did not produce any substantial clinical benefit in the series of five patients with far-advanced Hodgkin's disease, and they died within thirteen weeks following the operation. There was transient improvement in the leukocyte and platelet counts, and in three cases the hemoglobin level appeared to be maintained without transfusions for a slightly longer period. However, the course of the disease was not interrupted or alleviated, and in three instances the liver seemed to become larger, presumably due to infiltration with Hodgkin's disease. Since the leukocyte and platelet counts rose postoperatively, the factor in the spleen suppressing these normal cells preoperatively may have also restrained the growth of the neoplastic cells in Hodgkin's disease. While splenectomy was thought to be of some value in renewing the tolerance to nitrogen mustard in the four cases briefly reported by Rosenthal, it is not known if these patients would have responded to nitrogen mustard if it had not been given prior to the removal of the spleen. In the experience of the authors, splenectomy did not make the patients better candidates for nitrogen mustard therapy, and in two cases, HN2 given after splenectomy was without benefit. It does not seem likely, therefore, that the spleen plays an important role in the anemia, leukopenia, and thrombocytopenia which may occur in Hodgkin's disease.

Thirty cases of splenectomy in Hodgkin's disease are summarized. Other references to splenectomy in Hodgkin's disease are too brief to merit analysis. A number of reasons for splenectomy were given but the operation was of limited value in all but a few cases.

Five patients with far-advanced Hodgkin's disease and with evidence of hematopoietic failure were treated by splenectomy in order to determine whether (1) the course of the disease could be modified, (2) the hematologic picture improved, and (3) responsiveness to nitrogen mustard or x-ray therapy restored. These patients showed a transient slight improvement in their hematologic status, but the course of the disease possibly was accelerated, and all of the patients died within thirteen weeks without showing renewed suitability or increased responsiveness to therapy.

On the basis of the data and a review of thirty cases, it is concluded that splenectomy is not a useful procedure in Hodgkin's disease except for certain specific indications. These may be: (1) an apparently solitary splenic tumor; (2) acquired hemolytic anemia, although this process may be better controlled in some cases by treating the underlying Hodgkin's disease with x-ray, nitrogen mustard, or triethylene melamine; (3) thrombocytopenic purpura which appears to be more profound than is to be expected from the severity and extent of Hodgkin's disease; and (4) hypersplenism Hematopoietic depression, however, cannot be attributed to splenic overactivity or malfunction in the vast majority of patients with Hodgkin's disease. (Blood, Aug., 1954; M. P Sykes, D. A. Karnovsky, G. P. McNeer, and L. F. Craver, Memorial Hospital, New York City)

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Saddle Embolus of the Aorta

The occurrence of peripheral embolization as an immediate complication of mitral commissurotomy is one of the major hazards to be encountered in the operative management of mitral stenosis. The danger is greater in patients with a history of auricular fibrillation and embolization prior to operation. The first recovery from an aortic saddle embolus following commissurotomy was reported in 1952 by Bloomberg, Blumberg, and Haimovici. The embolectomy was carried out three hours after the initial operation. In 1953 Tropea and Entine reported embolization following surgery in 28 of 901 commissurotomies by Bailey and his associates in Philadelphia. The embolus was cerebral in 19 cases and peripheral in nine. A saddle embolus of the aorta was found in two cases. One patient was managed successfully by removal of the embolus five and one-half hours after commissurotomy. The result in the second case was not mentioned. The only fatality in the 21 cases of valvulotomy recorded by Cooley and DeBakey, in 1952, resulted from an aortic embolus.

Due to the limited number of reported survivals, it has seemed desirable to record a case in which a 4-cm. -long saddle embolus of the aorta was removed successfully four hours after mitral commissurotomy.

Until quite recently the prevailing tone of literature pertaining to saddle embolus of the aorta has been one of gloom. In 1951, Taylor was able to find reports of only 27 cases of "successful" embolectomy. Embolectomy was regarded as "successful" if the patient survived operation for at least two weeks. Even in the group of patients surviving more than two weeks the outlook for significant longevity was rather poor, largely due to the gravity of the precipitating cardiac disease. However, it is likely that current efforts to achieve operative relief of mitral stenosis may materially improve the long-term results because approximately 80% of aortic saddle emboli occur in patients with rheumatic heart disease. Reports of additional cases of successful aortic saddle embolectomy have appeared in the past two years, and the surgical management of this problem has been reviewed recently by Lord and Burke.

Although aortic saddle embolus is an awesome operative complication of mitral commissurotomy, fortunately it is rare and the results should be satisfactory in the majority of cases if it is promptly recognized and treated by embolectomy. Because alertness to its possible occurrence is the key to early recognition, it is of considerable importance that the status of peripheral arterial pulses be ascertained and recorded prior to operation, and that they be checked again immediately following operation, and during a period of several hours thereafter. It seems desirable that these studies be carried out on all patients to be managed surgically, especially those with a history of auricular fibrillation and previous embolization.

Spinal anesthesia appears preferable, not only as a means of avoiding administration of a second general anesthesia to these seriously ill patients

within a few hours, but also because of its role in decreasing peripheral vasospasm and improving collateral circulation. Lumbar sympathetic blockade immediately following embolectomy may be of value in selected cases in which there is a question of arterial insufficiency. The immediate use of anticoagulant therapy was considered in one case but was rejected because of the excellence of arterial circulation in both lower extremities, and the desire to avoid possible hemorrhage into the recently opened pleural and peritoneal cavities.

The frequent association in these cases of auricular fibrillation and embolization is apparent. Although there is a substantial incidence of embolization prior to and during operation, it is rarely encountered beyond the early postoperative period. For this reason the long-term use of anticoagulants to diminish the likelihood of recurrent embolization following operation does not seem to be indicated. Even the current relatively low incidence of embolism long after operation will probably be further decreased by the successful conversion of chronic fibrillators through the use of quinidine. (Ann. Surg., Aug., 1954; T. C. Moore, M. D. and E. J. Harris, M. D., Ball Memorial Hospital, Muncie, Indiana; and School of Medicine, University of Indiana, Indianapolis)

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Length of Patient Stay in a Tuberculosis Hospital

Recently there has been much discussion regarding the effect of present treatment methods on the welfare of the tuberculosis patient, his stay in the hospital, and on the degree to which home care is supplanting hospitalization and affecting future demands for hospital beds. This study was made to find what has happened to patients discharged from hospital care. The study covers the single hospitalization period from the time these patients were admitted or readmitted with active pulmonary tuberculosis to the time they were discharged.

Ideally, this study would take the admissions in the various years and determine the length of hospitalization of each admission. This, however, cannot be done for the later years as many of the admissions are still in the sanatorium. Instead, the discharges for each of the years from January 1, 1946, through October 31, 1953, were analyzed.

Patients admitted with minimal active tuberculosis are not shown separately because of their small number but were included in the total. Because of different patterns the status of discharged patients who had moderately advanced or far advanced tuberculosis on admission to the sanatorium, is described separately. For patients with moderately advanced tuberculosis, the trend in discharges appears to be toward a larger proportion leaving with medical advice and fewer leaving against medical advice. The proportion of patients dying has remained relatively constant.

A definite trend toward "discharged with advice" and away from "discharged patient against advice" and "dead" is apparent for patients with far

advanced tuberculosis. However, the most pronounced finding for all cases of tuberculosis is the decrease in the numbers and proportions of persons discharged against medical advice.

The duration of hospital stay of patients with moderately advanced tuberculosis discharged with medical advice appears to be decreasing from a peak of 820 days in 1949 to an average of 261 days in 1953. There is no obvious trend in the average stay of those discharged against advice but the numbers for any year are small. The small number of deaths in this stage makes impossible any analysis of duration of stay for that category. In general, the duration of hospital stay for cases admitted with moderately advanced tuberculosis appears to have increased from 1946 to 1949, in which year the average hospital stay was 682 days per case discharged. A gradual decline from 1949 to 1953 is apparent with the average duration of discharges decreasing to 249 days in 1953.

The duration of hospital stay for those patients with far advanced tuberculosis discharged with medical advice appeared to increase through 1949 and has remained rather high since that time. The hospital stay of far advanced cases dying from tuberculosis appear to have increased slightly since 1946. In general, the hospital stay for far advanced tuberculosis increased from 1946 to 1949 and possibly has leveled off since that year.

The duration of hospital stay for all pulmonary tuberculosis patients discharged with medical advice seemed to increase through 1949 and then level off. The duration of stay of all patients who died from pulmonary tuberculosis seems to have increased, with the highest average number of days in 1951. In general, the duration of hospitalization increased by 1949 to a peak of 686 days per patient discharged. The average in 1953 was 533 days, which was much less than the peak in 1949 but still greater than the 1946, 1947, and 1948 peaks.

Since 1951, a large proportion of patients, discharged with advice, have been placed on "home care." Persons with active tuberculosis are handled as are cases of other communicable diseases and are closely supervised either in or out of the sanatorium. The duration of hospitalization of such home care cases has declined precipitously. The average stay of those discharged in the period, July-October 1953, was less than one-quarter of that in 1951. This trend appears to be affecting the average duration of moderately advanced tuberculosis which is now approximately half of what it was in the years 1949 and 1950, and as low as in the years 1946 and 1947.

In studying duration of single hospitalizations it is important to distinguish between what has happened since 1949 and what has happened since 1946. The recent declines for moderately advanced tuberculosis in duration of hospital stay--about half that of 1949, 1950, and 1951--have brought the average stay down to the level of 1946 and 1947.

The real gain in the hospitalization of tuberculosis patients has been the change from discharged "against advice" to discharged "with advice" and a decline in the case fatality rate. (Pub. Health Rep., Aug., 1954; A. Gelperin, M. D., L. J. Galinsky, M. D., R. J. Anderson, M. D., and A. P. Iskrant, M. A., Broadlawns Polk County Hospital, Des Moines, Iowa)

Physical Rehabilitation and Reemployment of Handicapped

Proper restoration of handicapped persons depends on three things: (1) appropriate, definitive treatment and physical rehabilitation of the handicapped person in the hospital; (2) proper vocational rehabilitation; and (3) well-established programs for employment of the handicapped.

The modern hospital, faced with increasing numbers of patients who are chronically ill or seriously disabled, should make every effort to provide the best possible facilities for the physical treatment and rehabilitation of the handicapped. These disabled persons must be fitted physically and emotionally to make the most of what they have left, so that they can be reemployed to best advantage and lead productive lives. In order to recreate not only the body but also the mind and the will power of handicapped persons, it is necessary to train many hundreds of physicians and literally thousands of therapists who are endowed with certain special qualities and who can make special efforts, beyond the average range of hospital duty, which will help to fit handicapped persons for employment. Such specially trained workers now staff the modern departments of physical medicine and rehabilitation in hospitals. They must act in close cooperation with all the other specialists in the hospital as well as with the vocational rehabilitation counselors and reemployment specialists outside the hospital.

After the handicapped person has had his physical and emotional status improved in the hospital, frequently he will require vocational training in one of the excellent programs of vocational rehabilitation now being developed by the various state governments in cooperation with the Federal Office of Vocational Rehabilitation.

The President has urged that the government extend greater assistance to the states for specialized training of personnel for research for clinical facilities, rehabilitative services, and the development of community centers and special workshops.

Such efforts toward expansion of national and state programs for physical rehabilitation in the hospitals and for vocational rehabilitation are humanitarian projects of the greatest significance. They must be followed by increased efforts to obtain employment for the handicapped.

If these efforts are to be successful and happiness is to be achieved by rehabilitated citizens, jobs must be waiting for them. It will be futile to help handicapped persons across the long valley from disability to employability unless there are suitable jobs waiting for them so that they can become self-supporting, self-respecting citizens.

A person who is disabled insofar as one function of the body is concerned usually can still perform well in many types of activity. "All a man needs is a heart and a brain." Many of the handicapped are ready, willing, and able to work, and more and more, are being employed.

In order to reach the goal of rehabilitation and employment of 200,000 persons a year which has been set by President Eisenhower, a miracle of

humanitarian endeavor must be performed. It is good to maintain and encourage life; it is bad to destroy or obstruct it. Certainly, then, it is good to maintain and encourage the lives of handicapped persons by finding them suitable work. Extraordinary efforts must be made to find employers who will aid these handicapped persons to obtain jobs and achieve proper rehabilitation. "Rehabilitation is a bridge, spanning the gap between uselessness and usefulness, between hopelessness and hopefulness, between despair and happiness." (Archives of Industrial Hygiene and Occupational Medicine, July, 1954; F. H. Krusen, M. D., Mayo Clinic, Rochester, Miss.)

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Site of Bureau of Medicine and Surgery

The plan of the Federal City (now Washington, D. C.), as presented to the first Commissioners appointed July 16, 1790, to lay out the city and to take measures for the erection of Federal buildings, showed the area now partially occupied by the Bureau of Medicine and Surgery. The area was recommended to be designated "for the use of the United States forever," and extended between 23rd and 25th Streets, N. W., and between E Street and the Potomac River.

In 1842, President Tyler selected the reservation as a site for the Naval Observatory. The building now known as Building 10 was completed in 1844. It housed the Naval Observatory until transferred by the Secretary of the Navy, on January 18, 1894, to the Bureau of Medicine and Surgery for use by the Museum of Hygiene. In 1902, the Naval Medical School was established and housed in Building 10.

The original reservation of about 21 acres, consisted of a portion of two tracts of land--a tract known as the Vineyard and a tract known as the Widow's Mite. A part of this land, together with a portion of the Vineyard tract, patented to Mr. William Hutchinson in 1696, with portions of other tracts, was merged into a tract called Mexico. This piece of land was owned in 1790 by Mr. Robert Peter, a leading merchant of Georgetown, whose buildings extended along Rock Creek and the Potomac River.

On the original plan of the Federal City, this tract of land was marked with the number 4 on it. The proprietor, Mr. Robert Peter, gave one-half of this area to the Government and received from the Commissioners in exchange for the other half another parcel of land. In a letter written by George Washington concerning this plot of land, the south boundary was given as the Potomac River. In later years, as a result of the filling in and extension of the land southward into the Potomac and the construction of the old Georgetown Canal, that canal passed along the southern edge of the reservation.

In 1775, General Edward Braddock, then Commander of the British forces in America, launched a campaign against Fort Duquesne which was then situated at the present site of the city of Pittsburg. According to tradition, General Braddock was joined by Virginia troops at Alexandria, and

in crossing from Alexandria to Georgetown, landed half his troops on a large rock then known as the "Quay of All Quays," or "Key of Keys," but now known as Braddock's Rock. A portion of this rock may still be seen at the bottom of a 10-foot deep brick-walled rectangular well situated at the southern edge of the reservation at a point on the north edge of the parking lot south of Building 13. It is said that a portion of Braddock's Rock was used in the foundation of the Capitol and the White House.

The hill on which Buildings 4, 10, and 2 of the Bureau of Medicine and Surgery now stand is still known as Observation Hill by many of the older Washingtonians. This hill, however, dates back further than the memory of any of the older inhabitants of the national capital. It was used as a camp ground by American troops during the Revolutionary War and known as Camp Hill. The fact that in the early part of the 18th century the ruins of a fort could be seen here tends to sustain this assertion. During the War of 1812, not only the District troops, but detachments from Maryland and Virginia, and U. S. troops, used the hill as a camp ground.

Though not generally known, Thomas Jefferson thought this section--the highest in the city--the ideal one for the Capitol.

Jacob Funk, a German resident living near Frederick, Maryland, owned a tract of land that included a portion of the site now occupied by the Bureau of Medicine and Surgery. This tract of land he divided into building lots, in 1768, making a town called Hamburgh, also known as Funkstown. This tract of land extended from a short distance west of what is now 19th Street, N. W. to west of 23rd Street, and from H Street south to the Potomac River. It consisted of 287 lots but few houses were built. Graves found on Observation or Camp Hill during the War of 1812 were thought to be those of former Hamburgh or Funkstown residents.

The Bureau of Medicine and Surgery moved to Potomac Annex in 1942. Previous to this time, from 1906 until 1942, the buildings now occupied by the Bureau with the exception of Building 10 were occupied by the Naval Hospital, Washington, D. C. Building 10 was occupied by the Naval Medical School. (BuMed Information Memo)

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Dental Research Contracts

The following research contracts have been awarded to universities and non-profit research institutions for periods of one to three years during the first half of fiscal year 1955:

1. Development of an Artificial Mouth for In Vitro Studies of Dental Caries. Dr. Ward Pigman, University of Alabama.
2. Salivary Enzymes Related to Oral Disease. Dr. Vincent F. Lisanti, Tufts College Dental School.

3. Specific Anti Hyaluronidases in Serum. Dr. Zareh Hadidian, Tufts College Medical School.
4. Amino Acid Deficiencies in Bone and Tooth Metabolism. Dr. Lucien A. Bavette, University of Southern California.
5. Mechanism of Calcification and the Caries Problem. Dr. Albert E. Sobel, The Jewish Hospital of Brooklyn.
6. Clinical and Experimental Investigation of pulpotomy in Permanent Teeth. Dr. Isaac Schour and Dr. Maury Massler, University of Illinois.
7. Effects of Tryptophane Deficiency on the Teeth and Periodontium. Dr. Lucien A. Bavetta, University of Southern California.
8. Research in Periodontal Disease. Dr. David F. Mitchell, University of Minnesota.
9. Proteins and Mucopolysaccharides of Teeth. Dr. Walter C. Hess, Georgetown University.

(Dental Branch, Biological Sciences Division, Office of Naval Research)

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Change of Address

Please forward requests for change of address for the News Letter to: Commanding Officer, U. S. Naval Medical School, National Naval Medical Center, Bethesda 14, Md., giving full name, rank, corps, and old and new addresses.

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Correspondence Course, Physical and Psychobiological Standards and Examinations

In accordance with BuPers ltr Pers C1126A-rj-File 113.1 of 9 August 1954, the Medical Department Correspondence Course, "Physical and Psychobiological Standards and Examinations," has been discontinued and is no longer available for distribution. (Naval Medical School, NNMC)

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Privileged Communication

1. Under what conditions other than the obvious, e. g., communicable disease, trauma, the need for emergency surgery. food handlers with infectious disease, et cetera, must the diagnosis of patients be made to the Captain, Executive Officer, or other officers?

It is believed that the diagnosis by the medical officer, including obvious conditions such as communicable disease, trauma, need for emergency surgery, food handlers with infectious disease, of

a patient who is a member of the service on active duty would be made known to the Captain or Executive Officer in accordance with the general or specific instructions, orders, or inquiries of those officers. The diagnosis would be made available to other officers who require the information in connection with performance of the duties to which these officers are assigned. In this connection, attention is invited to Article 1330, United States Navy Regulations, 1948, and to Article 151c(2), Manual for Courts-Martial, United States, 1951.

2. If privileged communication is revealed to any of these individuals through necessity, are there any sanctions to insure preserving the material as privileged?

Information revealed to any officers or other members of the service through necessity, is subject to the requirement of Article 0714, Naval Supplement to the Manual for Courts-Martial, United States, 1951. This article states that members' records are deemed confidential for good cause found except to persons properly and directly concerned, including the serviceman himself, and personal representatives. I note that you refer to the diagnosis as a privileged communication and I am advised that in the case of members of the service the report of details of injuries or illness is an integral part of the military duties of the persons concerned. No privilege exists. A medical officer may as a matter of principle feel bound in conscience to withold certain information but if a superior officer commands disclosure of a fact communicated in the line of duty, a medical officer may not rely upon the physician-patient privilege. This is considered to be a recognized exception in the law of physician-patient privileged relationship. The relationship between a medical officer and a patient, who is a member of the service, is not one of physician and patient. A consultation should be considered to be merely the performance of a military duty subject to disclosure as a military necessity. Article 0714, Naval Supplement, insures preservation of the confidential nature of any record to the member of the service and revelations of diagnostic information acquired by officials of the service in the performance of duty is permitted only as authorized by the member of the service or by the Naval Supplement and the Manual of the Medical Department.

3. Under what conditions must health records be made available to any officers who are not doctors?

Health records may be made available to officers who are not medical officers on the basis of military necessity and specific assignment of the medical officer to duty requiring that information as

indicated above. It will be proper to caution any such officer of the confidential character of the information concerned.

4. Is there any phase in the initial training of the corpsmen devoted to the rights of the patient and his being able to expect his case history, diagnosis, and treatment will not be the object of social intercourse unless he so chooses to reveal it himself?

In the initial training of corpsmen, a specific amount of time is not devoted to teaching the expectations and rights of the patient in protecting case history, diagnosis and treatment from unauthorized persons.

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From the Note Book

1. Rear Admiral B. W. Hogan, MC USN, Deputy and Assistant Chief of Medicine and Surgery returned from a visit to Naval medical installations in the British West Indies, Puerto Rico, Cuba, and the Canal Zone. Lt. H. E. Sinclair, MSC USN, Admiral Hogan's Executive Assistant, accompanied the Deputy Surgeon General on his trip which began August 1. (BuMed Info. Memo)

2. During the past year, the membership of Naval Dental Corps officers in the American Dental Association increased 25.8%. There were 750 officers of the Naval Dental Service on the membership rolls as of July 31, 1954. (TIO BuMed)

3. Commanders S. Holmes and K. L Longeway, DC USN presented papers at the annual meeting of the Canadian Dental Association held at St. Andrews, New Brunswick, Canada, September 5-8, 1954.

4. The Fifth Annual Meeting of the Metropolitan-New York Society of Oral Surgeons will be held at the Naval Hospital, St. Albans, September 15, 1954. Dental officers of the Oral Surgery Section of the Dental Service will give a series of case presentations. The new Naval Dental Service film, "Aseptic Procedures in Oral Surgery," will be shown to a civilian audience for the first time during this meeting. (TIO BuMed)

5. The scientific exhibit, "Experimental Therapy of Leukopenia, Thrombocytopenia and Bone-Marrow Aplasia Induced by X-Radiation," will be shown at the Sorbonne, Paris, France, during the International Congress of Hematology.

Two exhibits will be shown at the 55th Annual Meeting of the Roentgen Ray Society in Washington, D. C., September 21-24, 1954. These exhibits are: "The Late Effects of Internally Deposited Radioactive Materials," and "Fibrous Dysplasia of the Skull, Facial Bones and Jaws." (TIO BuMed)

6. When Aviation Medicine was accepted in 1953 as a sub-specialty of the American Board of Preventive Medicine, Navy flight surgeons and aviation medical examiners became eligible to qualify for Board certification in Aviation Medicine. At that time, also, a Founders Group consisting of a limited number of flight surgeons was authorized to implement the formation of the Aviation Medicine Board, and the Advisory Committee of the Aviation Medicine Panel was established. This ten-member Committee, composed of 2 Navy, 2 Air Force, and 6 civilian members has made its recommendations concerning membership in the Founders Group to the American Board of Preventive Medicine following a review of the applications submitted. (TIO BuMed)

7. A report of a study of 90 cases of perforation of the gallbladder in Acute Cholecystitis appears in Annals of Surgery, August 1954. B. Pines, M. D., J. Rabinovitch, M. D.

8. The intake and urinary output of fluid, sodium, chloride, and potassium, in a series of treated burned patients are described in Lancet, 3 July 1954. J. P. Bull, M. D., N. W. J. England, M. B.

9. The use of succinylchloline chloride as an aid in the reduction of the hip after operative placement of upper femoral prostheses is reported in the American Journal of Surgery, August 1954. L. V. Martin, M. D., E. O. Kraft, M. D., O. P. Hampton Jr.

10. Chronic cor pulmonale is much more frequently seen at autopsy than the clinical diagnosis would indicate. Awareness of the situation in which cor pulmonale is particularly prevalent and the use of appropriate diagnostic study should make clinical appraisal of the patient more accurate and lead to more effective treatment. (Diseases of the Chest, August 1954; I. Walzer, M. D., T. T. Frost, M. D.)

11. Wegener's Granulomatosis is a syndrome identified pathologically by necrotizing granulomatosis, generalized arteritis, and focal glomerulitis. Clinically it may be recognized by the combination of severe sinusitis or pulmonary inflammation, variable symptoms of arteritis and terminal renal insufficiency. (Am. J. Med., Aug., 1954; J. L. Fahey, M. D., E. Leonard, M. D., J. Churg, M. D., G. Godman, M. D.)

12. A study was made of the nonoperative method of treating inevitable and incomplete abortions. By this method it was possible to complete the abortion in approximately two-thirds of the cases without admission to a hospital. (Am. J. Obst. & Gynec., Aug., 1954 C. A. Johnson, M. D., D. Brawner, M. D., W. V. Skiles, M. D., J. R. McCain, M. D.)

13. Oral hydrazinophthalazine (apresoline) was used as the sole therapeutic agent in 91 ante-partum clinic patients with early toxemia, hypertensive vascular disease or toxemia superimposed on hypertension. Results were excellent in 36 patients, good in 9, fair in 6, and poor in 40. (Am. J. Med. Sciences, August 1954; F. A. Finnerty, Jr., M. D.)

14. The diagnosis and surgical management of obstructive uropathy in childhood is discussed in the American Journal of Diseases of Children, August 1954; R. M. Nesbit, W. C. Baum)

15. A 2-weeks course in the laboratory diagnosis of tuberculosis will be available November 15-26, 1954, at the Bacteriology Laboratories of the Communicable Disease Center, Chamblee, Ga. No tuition or laboratory fees will be charged. (Public Health Reports, August 1954)

16. A clinical pathological study of a congenital skeletal disease with retarded growth, hypophosphatasemia and renal damage (osteodysmetamorphosis fetalis) appears in the Journal of Pediatrics, August 1954; B. Engfeldt, M. D. R. Zetterstrom, M. D., Stockholm)

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Recent Research Reports

Naval Medical Research Institute, NNMC, Bethesda, Md.

1. Glutathione in Radiation Injury. Lecture and Review Series 54-1, NM 007. 097, 3 Jan 1954.

Naval Medical Research Unit No. 3, Cairo, Egypt

1. Ornithodoros D. Delanoei Roubaud and Colas-Belcour, 1931 (Ixodoidea, Argasidae); Its Identification and Distribution, Incidence, and Habitats in Egypt. NM 005. 050. 29. 19, 1954.
2. The Susceptibility of Some Desert Rodents to Experimental Infections with Shigella and Brucella Organisms. NM 005 083. 03. 01, 1954.
3. Summary of the Research Program of the U. S. Naval Medical Research Unit No. 3, Cairo, Egypt (Jan. 1946 - June 1954)
4. A New Concentration Technic for the Demonstration of Protozoa and Helminth Ova in Feces. NM 005 050. 01. 06, 1954.

Naval Air Development Center, Johnsville, Pa.

1. Physiological Investigation of Increasing Resistance to Blackout by Progressive Backward Tilting to the Supine Position. NM 001 060. 01. 03, 30 June 1954.
2. Spectrophotometric Determination of Blood Oxygen Saturation. NADC-MA-5408, NM 001. 060. 03. 06, 16 July 1954.

Naval Medical Research Laboratory, New London, Conn.

1. Effects of Prolonged Exposure to Carbon Dioxide in Air on Pituitary-Adrenal Inter-relations in the Male Albino Rat. NM 002 015. 11. 03, 16 Mar 1954.
2. Report on American Optical Company Goggle Number 88. Memo Report 54-6 related to NM 002 014. 08. 05, 18 May 1954.
3. Report on Pre-Production Samples of Flying Goggles Type II (American Optical Company). Memo Report 54-8 related to NM 002 014. 08. 06, 11 June 1954.

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BUMED NOTICE 6310 30 July 1954

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations Having Medical Personnel Regularly Assigned

Subj: BUMEDINST 6310. 3 CH 1 (Instructions and definitions relating to certain diagnositc titles, individual statistical report of patient, and morbidity report)

Encl: (1) Subject change

This notice provides replacement pages 4, 17 through 31, 50, 59, through 61, and 64 for enclosure (1) of BUMEDINST 6310. 3.

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BUMED INSTRUCTION 1500. 3A 4 Aug 1954

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

Subj: Medical intern training program

Ref: (a) Essentials of an Approved Internship, Revised to December 4, 1952, prepared by the Council on Medical Education and Hospitals of the American Medical Association

This instruction sets forth pertinent data pertaining to medical intern training in naval hospitals.

BUMED instruction 1500. 3 is cancelled.

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BUMED NOTICE 5700 6 Aug 1954

From: Chief, Bureau of Medicine and Surgery
To: Naval Hospitals, Hospital Ships, and Stations Having Medical Officers Attached

Subj: BUMED Instruction 5700.1 CH 1 (Red Cross activities in the Naval Medical Department)

Encl: (1) Subject change

This notice provides a replacement for page 9 of BUMED Instruction 5700.1. The enclosed page, in paragraph 16, corrects a discrepancy in the administrative handling of material contained in Red Cross social service reports.

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BUMED INSTRUCTION 6222. 8 6 Aug 1954

From: Chief, Bureau of Medicine and Surgery
To: Continental Stations Having Medical Personnel Regularly Assigned

Subj: Telegraphic reporting of contacts of early syphilis patients; procedure for

Ref: (a) Art. 23-135, ManMed Dept
(b) OPNAVINST 2800. 2

This instruction modifies the procedure for telegraphic reporting of contacts of early syphilis patients.

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BUMED NOTICE 6710 11 Aug 1954

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations Having Medical/Dental Personnel Regularly Assigned

Subj: Antibiotics; extension of potency dates

Ref: (a) Medical and Dental Materiel Bulletin (MDMB), Edition No. 45 of 1 August 1954

This notice provides authority to extend the potency dates of certain antibiotics.

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BUMED INSTRUCTION 6320.4B 11 Aug 1954

From: Chief, Bureau of Medicine and Surgery
To: All Stations Having Medical/Dental Personnel Regularly Assigned

Subj: Hospitalization and subsistence rates for fiscal year 1955

Ref: (a) Art. 21-3, ManMed Dept
(b) Par. 043123 and 024195, NavComptMan
(c) Par. 043116-2, NavComptMan

This instruction reissues current instructions regarding per diem rates to be collected locally for in-patient medical care and subsistence furnished certain supernumerary patients at naval medical facilities and meal rates to be collected locally for rations sold authorized personnel from naval hospital messes.

This instruction incorporates BUMED Dispatch 241848Z of June 1954 and ALNAVSTA 5 of 29 June 1954, and cancels BUMED INSTRUCTION 6320.4A.

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BUMED NOTICE 6750 12 Aug 1954

From: Chief, Bureau of Medicine and Surgery
To: Ships and Stations Having Dental Personnel Regularly Assigned

Subj: Precious metal scrap; disposal of

Ref: (a) Art. 6-93(2), ManMed Dept

This notice provides advance notice of a change in the method of disposal of precious metal scrap pending a revision of reference (a).

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BUMED INSTRUCTION 6320.9A 25 Aug 1954

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations Having Medical Personnel Regularly Assigned

Subj: Outpatient Report, DD Form 444

This instruction revises and clarifies in a single directive the instructions for the preparation and submission of subject report.

BUMED instructions 6320.9 and 6320.12 are cancelled.

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PREVENTIVE MEDICINE SECTION

Communicable Disease Control

Vaccination Against Influenza

A forthcoming Bureau of Medicine and Surgery Notice directs the immunization of all military personnel under cognizance of the Navy, against influenza, during the fall months of 1954. This immunization was recommended by the Armed Forces Epidemiological Board and is in accordance with an agreement between the Army, Navy, and Air Force.

Immunization is aimed at reducing non-effectiveness of military personnel in the event epidemic influenza occurs in areas where they are located.

Epidemics usually occur during the winter months in North American latitudes, and high morbidity rates may continue for two or three weeks. Ten to twenty percent of the population in the area where an epidemic occurs may become ill during this period of high morbidity. In some years epidemics are nationwide and start in widely separated geographic areas almost simultaneously; under these circumstances the disease tends to be worldwide and the strains of virus collected in all parts of the world are essentially the same. In other years, localized outbreaks are reported but the nationwide or worldwide morbidity tends to be low. Where military populations have been studied, epidemics of some degree have occurred every winter since 1947, particularly in trainees.

The acute febrile illness which characterizes influenza cannot be clinically distinguished from several other febrile respiratory infections presumed to be caused by viruses, except during epidemics.

During epidemics the admission of relatively large numbers of patients with similar clinical pictures distinguishes the disease as much as does any particular combination of clinical findings. Outbreaks of acute febrile, nonpneumonic, respiratory infections in any naval population, other than recruits, should be suspected as being due to influenza. In recruits, epidemics of other respiratory diseases make the differentiation more difficult. Epidemics of influenza are designated according to the virus type which is etiologically related. This is of little clinical importance since the two types, influenza A and B, can be differentiated only by laboratory methods. Major epidemics of influenza A throughout the United States have occurred in 1947, 1949, 1951, and 1953. Lesser epidemics have been reported in 1948 and 1950. Influenza B was prevalent in 1952 in many parts of the country with the last severe epidemic during the fall of 1945. A few small outbreaks of this type of influenza were also reported during the spring of 1954.

One of the major problems in the preparation of effective vaccines against this disease has been variation in the antigenic structure of influenza viruses causing epidemics. Vaccines prepared during World War II were demonstrated to effectively protect against both influenza A and B. In 1947, the same vaccine failed to protect and it was found that the influenza A virus causing the epidemic that year differed considerably in antigenic characteristics from influenza A viruses isolated in previous years. Additional changes have occurred in influenza A viruses isolated during epidemics in subsequent years. Intensive studies have shown that these changes in the antigenic structure tend to occur gradually rather than abruptly. Controlled vaccination studies conducted by several groups affiliated with the Commission of Influenza of the Armed Forces Epidemiological Board, and with the National Institutes of Health, have indicated that the amount of illness during epidemics can be markedly reduced by immunization, provided the strains of influenza viruses used in the vaccines are carefully selected on the basis of their antigenic properties. It is foreseen that frequent changes in the composition of the vaccines may be necessary as the viruses responsible for epidemic change, if effectiveness is to be maintained.

The vaccine to be used during the winter of 1954-55 has been prepared according to the recommendations of the Commission on Influenza and contains the FM-1 and Conley strains of influenza A virus plus the Lee strain of influenza B virus. The antibody titer following a single subcutaneous dose of 1.0 cc. reaches its peak in two to four weeks and is expected to remain elevated for at least three to six months in most persons. By giving the vaccine on or before 15 November 1954, the highest antibody levels should be attained during December, January, and February, the months in which epidemics are most likely to start.

Influenza vaccines are prepared by growing the virus in the allantoic cavity of embryonated chicken eggs. Although the virus is concentrated and purified as much as possible, sufficient amounts of egg protein are still present in the vaccine to cause anaphylactic or other hypersensitivity reactions in persons sensitive to eggs or chickens. For this reason, medical officers should ensure that such persons are carefully screened out and do not receive the vaccine. They should also carefully supervise the administration of the vaccine and be prepared for untoward reactions, even though the incidence of reactions in the past has been neglible and few reactions are anticipated with the present vaccine.

Because of the difficulty of manufacturing large amounts of the vaccine, it has been necessary to utilize almost the entire productive capacity of manufacturers to obtain enough vaccine for the Armed Forces during the coming winter. For this reason immunization of dependents has not been authorized.

Effectiveness of the vaccine will be reflected only by absence of sharply defined epidemics which can be established by laboratory methods as being influenza. Isolation of the virus from nose or throat washings will be of particular importance and it is urged that medical officers suspecting influenza outbreaks among populations under their cognizance submit the information to the Bureau of Medicine and Surgery (Code 721) by telephone or dispatch as early as possible and request instruction on obtaining virological studies. It is also particularly important that strict adherence be made to the influenza detection program initiated during the winter of 1953-54.

(BUMED INSTRUCTION 6220.1 of 24 September 1953). Individuals who have been vaccinated within a period of two weeks should not be selected for bleeding in connection with that program if other patients are available, since antibody response to the vaccine may be interpreted as evidence for the occurence of influenza.

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Leprosy Incident to Military Service

Leprosy is usually contracted in childhood, but exposure in adult life may be effective. For patients admitted to Kalaupapa, Hawaii, during the decade 1890 to 1899, the peak of the age curve occurred in the group of 10

to 19 years. In subsequent years, as the incidence of disease declined, the average age at admission increased. In the studies of the Philippine Department of Health and the Leonard Wood Memorial, the highest attack rates were in children 10 to 14 years of age. In the United States the age at the time of admission to hospital is usually much older; late diagnosis is not a completely satisfactory explanation of this discrepancy.

The idea that, in order to be effective, exposure must occur in childhood has gained some currency but is contrary to a reasonable interpretation of the facts. McCoy and Goodhue reported that about 5% of healthy "Kokuas" (usually wives or husbands) who accompanied patients to Kalaupapa, and 3 of 23 adult male Caucasians who came into close contact with patients, including the celebrated Father Damien, contracted the disease. There are many other well established instances of infection occurring in adult life in missionaries, colonial civil servants, and others born in countries where leprosy is rare or absent. Prolonged residence in an endemic area is not essential, a point which is illustrated by the occurrence of leprosy in veterans of the armed services of the United States who have served in such areas and who had very remote chances of having been infected elsewhere. The facts concerning these veterans will be briefly reviewed.

Prior to the Spanish-American War there were no records of leprosy in the United States Army. The Revolutionary War was fought in areas where the disease was rare or absent. During the War of 1812 troops were engaged in New Orleans in the vicinity of an old endemic focus, but the number of men involved was small and the duration of the conflict short. The Mexican War of 1846 involved the possible exposure of appreciable numbers of men; as Aycock and Gordon state, the disease may have occurred years later among veterans of the Mexican campaign and the association with military service may have been overlooked. The Civil War was fought chiefly in nonendemic areas.

The earliest records are of cases in men who served in the Spanish-American War, the Boxer Rebellion, or the Philippine Insurrection. These have been reported by Hasseltine. They did not occur during the hostilities, but at intervals over subsequent decades. From 1921, when the institution was taken over by the Federal Government, to 1940, thirty-two of these veterans were admitted to the U. S. Public Health Service Hospital (National Leprosarium), Carville, Louisiana. Of these, 28 had served in the Army, 3 in the Navy, and 1 in the Marines. Thirty had military service outside the continental United States in places known to be foci of leprosy, 25 of them in the Philippines. For 2, one born in Louisiana and the other in Texas, there is no record of foreign service. Five of the 32 were born outside continental United States, 8 in states where leprosy is endemic, and 19 in parts of the country where the disease rarely occurs. For 18 of the 19 born in nonendemic states, the periods of service in endemic areas varied from 9 months to 32 years. The average age of Spanish-American War veterans on admission to Carville was 52 years. Their stated dates of onset were from 1901 to 1938, and in all except 4, after 1910.

Faget states that from 1921 to 1940, fifty-one World War I veterans were admitted to Carville. Forty-one had service in the Army; 1 in the Students Training Corps; 8 in the Navy; and 1 in the Marine Corps. The records of 33 show no service outside the continental United States; 12 had served in France; 2 in Mexico; and 1 each in Hawaii, Panama, the Philippines, and Puerto Rico. Eighteen were born outside the continental United States; 15 in Louisiana, 10 in Texas, 5 in Florida, 2 in Mississippi, and 1 in Georgia. None was born in a northern state. The dates of onset range from prior to 1917 to 1938. The average age on admission was 33.2 years.

The writer has secured records of 77 patients who were admitted to the U. S. Public Health Service Hospital at Carville or to leprosaria in Hawaii or the Philippines and who had service in the Armed Forces of the United States subsequent to 1940 and prior to March 15, 1953. Five had been treated at Carville prior to military service and 10 others had signs of the disease prior to service. Of the remaining 62, all except 7 had possible sources which seem more proximate than those of military service during World War II; 12 in their families, 23 in endemic areas of birth (Philippines, et cetera), 15 in endemic areas of residence in civil life, and 5 in endemic areas of peacetime military service (prior to 1940).

Four of the remaining 7 were born in sections of Texas where the disease is endemic, but also had military service which may have involved exposure. Two who had served in the South Pacific Theater had onsets within a few months of enlistment, and their sources were probably in Texas. For one with service in North Africa and Italy, and another who served in the Pacific, there is no basis for a decision as to probable source.

There remain 3 cases in which military service during World War II is by far the most probable explanation.

Case 2004: White male; born in Montana in 1919; no other residence prior to enlistment in U. S. Marine Corps in 1939. Family history: negative; served in American Samoa, 9-1-42 to 12-7-43; discharged in 1945. Onset probably in 1945 when loss of sensation to pain was noticed in right arm. Admitted to National Leprosarium 2-27-49; diagnosis: tuberculoid leprosy.

Case 2106: White male; born in Arkansas in 1911; family moved to non-endemic area in northern Texas in 1915; no record of other residence or of travel prior to enlistment in U. S. Army in 1938. Family history: Negative; prisoner of war in Philippines, November 1941 to March 1945; discharged in 1946. About April 1950, noticed patch on left foot, about 3 centimeters in diameter. Admitted to National Leprosarium 1-19-51; diagnosis: tuberculoid leprosy.

Case 2154: White male; born near Dallas, Texas, in 1923; lived there exclusively until entering U. S. Army 9-21-44. Family history: negative; served in Honolulu for 2 weeks, Saipan for 2 weeks, Okinawa for 6 months, and Japan for 12 months; discharged in November 1946. Onset probably

in 1947 when loss of sensation in lower left leg was noticed. Admitted to National Leprosarium 8-3-51; diagnosis: tuberculoid leprosy.

Two additional cases have been reported in Marines who have not been admitted to Carville. Both were residents of the same town in Michigan prior to enlistment. They were tattooed at the same time by the same tattooer in June 1943 in Melbourne, Australia. Subsequently, they served together in endemic areas in the Pacific. They developed tuberculoid leprosy during the first half of 1946. The first lesion in each case occurred in a tattooed area. (Veterans Administration Technical Bulletin 10-98, March 15, 1954. James A. Doull)

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Industrial Medicine

Guiding Principles of Occupational Health

This outline has been prepared by the Council on Industrial Health, with assistance from the Industrial Medical Association and other organizations and individuals. The definition and purpose of occupational medicine are stated. The scope of service includes prevention of occupational diseases, medical examinations, health education and counseling, and medical and surgical care. The duties of the industrial physician and the limitations of his service, with relation to both compensable and noncompensable disability, are specified. The general relations of the industrial physician are described, including professional status and relations with the employer, the employee, nurses, consultants, official health agencies, workmen's compensation and rehabilitation agencies, and medical organizations. (J. A. M. A., May 22, 1954, A. M. A. Council on Industrial Health, C. M. Peterson, Chairman)

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The Lung Cancer Problem. Possible Contributions by the Physician in Industry

The physician in industry has a unique opportunity to influence favorably the present alarming increase in lung cancer deaths. Three areas of endeavor are recommended: (1) optimal use of contacts with "well" employees to detect the earliest possible evidences of lung cancer; (2) critical collection and study of morbidity and mortality data with specific attention to job assignments and possible environmental hazards; and (3) recognition and elimination of real or potential environmental hazards. (Ind. Med. & Surg., June 1954, L. Wade)

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A Clinical Examination of Workers with More than Five Years' Continuous Welding Experience

An account is given of the results of a clinical examination of 110 welders who had been engaged in electro-welding for 5 years or longer. The majority of the welders declared that the work with basic electrodes caused irritation of the throat and respiratory passages, ascribed to fluorides in the fumes. Eye trouble was the chief complaint among those working with certain "neutral" electrodes. A few cases of lead effects, metal fume fever, and one of nitrous gas poisoning occurred. Spirometric examinations revealed a few cases of heightened residual quotient. Summarized clinical assessment showed 2 cases of pronounced emphysema, and 2 of apparent mild emphysema. In 67 cases more or less impairment of hearing was noted; most of the workers were in noisy environments. (Bull. Hyg., April 1954, A. Ahlmark and B. Lonnberg)

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Notes Pertaining to Industrial Hygiene

Benzol and Toluol Toxicity. Two seamen were recently overcome in a small unventilated compartment while applying Deck-tred Safety Adhesive to non-skid treads.

Deck-tred Safety Adhesive is a cement containing approximately 80% commercial toluene, and the benzol content of such toluene is usually between 10% and 15%.

The two exposed seamen had applied this material for 45 minutes on one day and for 10 minutes on the following day, when one was found unconscious and the other was found confused and unco-ordinated in motor function. An air sample taken 20 minutes after exposure showed a concentration of 2600 parts per million calculated as toluol. The upper permissible limit for an 8-hour exposure is 35 p. p. m. for benzol, and 200 p. p. m. for toluol.

These men appeared to recover rapidly when treated at the dispensary. Laboratory findings on the more seriously exposed man showed a white blood count of 27, 450 and a differential count of 66% neutrophils, 31% lymphocytes, 1% monocytes, and 2% eosinophils. The hippuric acid content in his urine was 5, 395 milligrams per liter. The other man showed no abnormal blood picture; his urine contained 5, 050 mg/l. of hippuric acid.

These men will be followed for two years because of the possibility of latent bone marrow depression, the principal toxic manifestation of both toluol and benzol.

It is re-emphasized at this time that, whenever work is undertaken in a small compartment with a toxic solvent, adequate precautions should be taken before work is begun. These precautions for toluol should include the following: (1) Sufficient mechanical ventilation to bring the concentration

of fumes down to below 200 p. p. m. (2) When conditions make the attainment of this level impractical by means of ventilation, an air line respirator, provided with a pure air supply, should be worn. (3) A protective cream should be applied to the hands prior to the start of work, and good personal hygiene should be observed in order to prevent irritation to the skin.

In addition to these health precautions, smoking should be prohibited and a fire-watch posted in order to avoid the dangers of fire and explosion. (Report of Medical Department, Boston Naval Shipyard, 26 July 1954)

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General Sanitation

Swimming-Pool Sanitation

Anyone who has attempted to attain further proficiency in the art of manipulating a typewriter well remembers the exercise: "Now is the time for all good men to come to the aid of their party." This statement could well be adopted by preventive medicine personnel as a late summer warning to be increasingly diligent in their sanitary inspection of swimming pools.

The safe and sanitary operation of a pool involves many factors. Guidance can be obtained from the Manual of Naval Hygiene and Sanitation, NavMed P-126, and Special Service Facilities, NavDocks TP Pw-13. A few essential factors are listed:

The recommended chlorine residual and pH levels should be maintained. This requires that swimming pools and wading pools be checked before opening and at intervals while they are in operation.

Lifeguards should be in attendance at all times while the pool is in operation.

A 3-foot-wide area around the pool should be surfaced or covered with nonskid material. There should be a gutter drain around the pool.

The pool should be clear. The bottom should be visible at all times. The depths should be marked.

Each bather should be required to take a shower before entering the pool. Persons with infectious or contagious diseases should not be allowed to enter the pool water. Expectorating in pool should not be permitted.

The bather load should be observed to prevent overcrowding. No skylarking should be permitted. If there is no separate wading pool, the shallow end of the pool should be reserved for children.

There should be adequate toilet and locker room facilities.

Instructions to bathers should be posted in the locker rooms. Diving board and diving stand safety precautions should be included.

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Insect and Rodent Control

Human Filariasis in the Marquesas Islands

In 1952 six of the inhabited islands of the Marquesas group were visited for the purpose of making a brief filariasis and mosquito survey. Relatively little information has been available previously on human filariasis (Wuchereria bancrofti) in the Marquesas, although it has been known that Aedes polynesiensis Marks, a vector elsewhere in Polynesia, occurs on several of the islands of this archipelago. The study indicated that both the parasite and its mosquito vector have become endemic in these islands since the beginning of European influence in Polynesia. Filariasis and elephantiasis are now endemic in the six inhabited Marquesas Islands surveyed. This archipelago forms the northeastern limit of the distribution of endemic filariasis and of mosquitoes of the scutellaris group in the Pacific Area. (Am. J. Trop. Med. & Hyg., July 1954, L. Rosen)

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DEPARTMENT OF THE NAVY
BUREAU OF MEDICINE AND SURGERY
WASHINGTON 25, D. C.

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