



UNITED STATES NAVY

MEDICAL NEWS LETTER

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

To: All Hands, Medical
Department of the Navy

"Reason's whole pleasure,
all the joys of sense,
lie in three words—
health, peace, and competence."

Alexander Pope
Essay on Man.
Epistle IV,
Line 79



For those who constitute the Medical Department of the Navy, the joys and pleasures of the Christmas season are enhanced by the genuine satisfaction of being engaged in the restoration and preservation of health.

Peace we wish for devoutly, but our vital mission must be fulfilled regardless of whether peace abides with us or is denied us.

The quality of competence is one for which each of us as an individual is responsible, and the performance of the Medical Department as a whole testifies that the competence of individuals, service and civilian alike, who comprise it, is indeed of a high order.

I am therefore singularly pleased to express once more my sincere gratitude to those who have so energetically and effectively exercised their competence during the past year as to make possible the excellent record of their Department.

It is moreover my happy prerogative again to extend to you all, and to all our many good friends and supporters, kindest regards and best wishes for a Pleasant Christmas and a Happy 1953.

LAMONT PUGH
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25 December 1952

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Measures to Attract Doctors and Dentists to the Regular Navy

Various mediums have been utilized in the recruitment and transfer of Reserve medical officers to the Regular Navy, such as: (a) Navy and Department of Defense press releases. (b) Publications, such as the Medical News Letter and the Armed Forces Medical Journal are distributed. In collaboration with the Audio-Visual Section of the Bureau, an Intern booklet is now ready for press and a revision of the brochure "Time for Decision" has been accomplished. Reserve units are supplied with medical training films and other audio-visual aids. By exhibits at various professional meetings an attempt is made to stimulate civilian doctors' interest in the Navy as a career. (c) All letters and questions, both official and personal, are promptly answered. (d) Recruiting circulars and bulletins are distributed to Navy Recruiting Stations and Offices of Naval Officer Procurement. (e) Questionnaires, such as the recent questionnaire to Reserve medical officers concerning proposed 3-year commissions, are prepared. (f) Numerous personal conferences between the Head of the Training Branch and prospective transferees emphasizing the advantages of transfer to the Regular Corps, have been held both in the Bureau and in the field at various teaching hospitals. Attendance at various short courses, symposia, regional meetings of the American College of Physicians, et cetera, is available to members. Indirectly through the Board of Reserve Consultants to the Surgeon General, it is believed that the caliber of the training program in the Navy is brought to the attention of many Reserve officers throughout the country.

The following legislation and programs designed to attract applicants in and the transfer of Reserve medical officers to the Regular Navy have been accomplished or proposed: (a) Inauguration of the Naval Intern Program in 1923. (b) Passage of the Staff Corps Equalization Act of 1926. (c) Navy V-12 Program; subsequent commissioning as Ensigns, HP. (d) Act of 18 April 1943 authorized commissioning of female physicians, with subsequent transfer to Regular Corps. (e) Residency Training Program. (f) Postgraduate Training Program in 1945. 1. Naval hospitals. 2. Civilian hospitals. 3. Short-term training in military medical specialties. 4. Courses in Neuropsychiatry at civilian institutions. (g) Moral Suasion Program, 1949. (h) Extra compensation, \$100.00 per month, Title I, Public Law 365, 80th Congress. (i) Transfer Program, Title II, Public Law 365, 80th Congress. (j) Discontinuance of professional examinations for appointment, 1951. (k) Proposed legislation to provide scholarships for medical education and subsequent obligated service. (Pers. Div., BuMed)

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Antibodies Against Influenza Virus

The hemagglutination-inhibition reaction has made available a convenient and now widely used procedure for determining the concentration of antibodies against influenza viruses in the serum of man and animals. An increase in the hemagglutination-inhibition titer of serum usually occurs after infection or immunization with influenza virus and tends to be correlated with analogous increases in the complement-fixation and virus-neutralizing titers. It has been shown that in large groups of individuals the hemagglutination-inhibition titer of the serum is, to a degree, correlated directly with resistance to infection with influenza virus.

Both the reliability and specificity of the hemagglutination-inhibition procedure for measuring the level of antibodies against influenza viruses are diminished by the presence of nonspecific inhibitors in serum. These substances, which may be present in widely varying amounts, have been demonstrated repeatedly in human serum as well as in the serum of many animal species. Because such substances inhibit hemagglutination by influenza viruses in a manner similar to that of specific antibodies, it is not possible in routine hemagglutination-inhibition titrations to distinguish between one and the other.

The nonspecific inhibitors in serum are relatively heat-stable and appear not to have any effect upon the infectivity of influenza viruses. These properties serve to differentiate these substances sharply from a heat labile component of serum which causes both hemagglutination-inhibition and neutralization of a number of viruses. The stable inhibitors are associated chiefly with serum alpha and beta globulins, are especially rich in so-called fraction IV-4 and are considered to be mucoproteins. Their inhibitory activity is destroyed on incubation with active influenza viruses or with filtrates of Vibrio cholerae cultures. Several procedures have been suggested for the elimination of stable inhibitors from serum but none appears to have been widely used with human serum. It appears that many workers hesitate to employ such procedures because of the possibility that the specific antibody might be affected.

This article gives an account of a study of the effects of nonspecific inhibitors on the measurement of antibodies in human serum against influenza viruses by the hemagglutination-inhibition technique. It is shown that such inhibitors can be inactivated completely on incubation with V. cholerae culture filtrates and that neither hemagglutination-inhibiting nor neutralizing antibodies are affected by the procedure employed. It is also demonstrated that inactivation of nonspecific inhibitors may make possible the demonstration of significant hemagglutination-inhibiting antibody responses against influenza and mumps viruses which could not be detected with untreated sera.

All influenza virus preparations and red blood cells which were examined in hemagglutination-inhibition tests with normal serum were affected by nonspecific inhibitors.

Experiments with human sera, from which influenza virus antibodies had been absorbed, showed that incubation with an equal volume of V. cholerae filtrate at 37° C. for 18 hours completely inactivates nonspecific inhibitors.

There was no detectable reduction in the titer of hemagglutination-inhibiting or neutralizing antibodies against influenza viruses in human serum treated with V. cholerae filtrate.

After elimination of nonspecific inhibitors with V. cholerae filtrate, specific antibody responses against influenza or mumps virus were demonstrable with paired sera which yielded negative results when tested in the usual manner. (J. Immunol., Nov. 1952, D. A. J. Tyrrell and F. L. Horsfall, Jr.)

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Diagnosis and Reporting of Influenza

Cases of influenza are reported from various naval activities from time to time throughout the year. It is most important that the greatest possible care be used in applying the diagnosis of influenza so that statistics reported under this diagnosis will actually reflect infections caused by the influenza virus. For the sake of the greatest possible accuracy in diagnosis and identification of influenza epidemics, it is desired that confirmatory serologic examinations be done to the extent practicable on cases suspected of being influenza. For this purpose 2 serum samples are needed. The first sample should be collected as early as possible during the acute phase of the disease. This serum sample should be refrigerated or frozen and held until the second sample is obtained. The second, or convalescent serum sample, should be collected approximately 10 days after the first, at a time when influenza antibodies in a significant amount have been produced. These 2 samples are called respectively, "acute" and "convalescent" serum samples.

There are several antibodies produced in human serum during an attack of influenza. The antibody easiest to measure, and the one most highly specific, is the "hemagglutination-inhibition" antibody. Influenza virus is capable of causing agglutination of red blood cells, when virus suspensions and red blood cell suspensions are mixed. When serum containing antibody is mixed with influenza virus the hemagglutination effect of virus is inhibited. The presence and the titer of the specific inhibiting antibody is measured by a relatively simple test, using several series of two-fold dilutions of serum, one for each of 3 or 4 known types of influenza virus, usually types A, A prime, B, and perhaps C. The red cells may be either human type O blood cells or chicken cells. The latter are more sensitive when egg-adapted influenza virus is used. The initial concentration is either 0.5% or 1.5% suspension of red cells, depending on the test used.

The influenza virus, formalinized, can be purchased from commercial sources, or obtained by special arrangement with laboratories that produce their own supply.

It is desired that all naval activities suspecting the occurrence of influenza attempt to confirm the diagnosis and identify the type of influenza using paired serum samples. Both specimens should be tested simultaneously for specific antibodies. The absolute level of either serum is of no significance, the change in titer from the acute to the convalescent stage is the element of diagnostic significance. All persons have some influenza antibodies from past exposures. A four-fold rise in titer on a dilution basis is accepted evidence of infection at the time the first specimen is taken. In expert hands, smaller rises in titer may be accepted as strongly suggestive of infection with an homologous or closely related strain of influenza virus.

Large clinical laboratories should, as a rule, be set up and supplied with materials for performing this test. Samples may be submitted to a nearby Navy Preventive Medicine Unit, Army or Air Force area laboratory, or cooperative arrangements may be worked out with a Public Health Laboratory.

All cases of confirmed influenza should be specially reported to BuMed, the initial report by dispatch or telephone, subsequent cases by weekly speedletter summary. On epidemiologic grounds, any sudden outbreak of respiratory disease spreading rapidly through seasoned and unseasoned troops alike, is likely to be influenza. It is the scattered case, occurring between major epidemics, which is of great epidemiologic interest. Consultation should be requested very early in an outbreak of influenza, from a laboratory capable of performing virus isolations from nasal and/or throat washings. If such a laboratory is not readily available, address requests to BuMed, Code 7211. (Prev. Med. Div., BuMed)

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Compulsory Smallpox Vaccination

A recent court opinion in Missouri upholding the validity of a compulsory vaccination regulation indicates that this subject is still a matter of active interest.

On August 5, 1919, the Board of Education of University City, Mo., adopted for the first time a compulsory vaccination regulation. The regulation was amended by the school board on February 7, 1929. Since the 1929 change, the regulation has provided: "No child shall be received into any public school unless he has been vaccinated against smallpox and evidence thereof sufficient in the judgment of the superintendent has been presented."

Court action to test the validity of the regulation of the University City Board of Education was filed in January 1952 by the parents of twin daughters.

When their daughters were 5 years old the parents presented them to the public school and sought to enroll them in kindergarten classes. Entrance was refused when the parents would not permit their daughters to be vaccinated. The following year the parents again sought to have their children enrolled in the public school and their entrance was again refused. The failure of the parents to have the twins vaccinated and the refusal of school authorities to permit their entrance precipitated the filing of a misdemeanor charge against the parents for violating the compulsory school attendance law of the State of Missouri. This criminal case was tried on an agreed statement of facts and the parents were acquitted.

Because of the fundamental legal, medical, and social questions involved in this case, the attorney representing the school board secured as witnesses experts qualified to present the clinical, laboratory, and epidemiologic knowledge of smallpox to the court.

The case was tried in the circuit court of St. Louis, Mo., April 28, 1952. Since the basic facts had been agreed upon, the attorney for the parents of the twins took only 1 hour for his presentation. The attorney for the school board then called his witnesses, all of whom were specialists in public health or in related fields. Each physician testified regarding the effect of smallpox and the rapidity with which it spreads. Once infection occurs in a community, they advised the court, a person could become infected and transmit the disease before he himself noted symptoms.

One physician, after qualifying as an expert witness, testified as to the effect of smallpox upon the human body, the improbability of a cure without injury to the person, and that the best method known to medical science to lessen the liability to infection from smallpox is by vaccination. Thereafter, upon stipulation by counsel, each witness, after qualifying as an expert, was asked if his testimony would agree with that previously given. All answered in the affirmative.

After the last witness had testified, counsel for the school board summarized the testimony of the expert witnesses. He emphasized the point, made repeatedly in testimony, that, although there was no outbreak of smallpox evident in the area, the surest way of preventing one is by vaccination before it occurs. The trial was then adjourned.

One week later the judge of the thirteenth circuit handed down his opinion:

"In the light of testimony so overwhelming and statistical information so convincing of the protective value of vaccination against this once prevalent disease, the court must hold that the respondents are wholly within the exercise of a sound discretion in adhering to their rule requiring vaccination of children in their school system." (Pub. Health Rep., Nov. 1952, N. A. George)

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The Pathologic Effects of I^{131} on the
Normal Thyroid Gland of Man

Radioactive iodine (I^{131}) is now receiving widespread trial for the therapy of thyrotoxicosis, carcinoma of the thyroid, intractable angina pectoris, and congestive heart failure. Although its therapeutic efficacy in many patients with these conditions has been adequately demonstrated, only fragmentary knowledge of the histologic effect of I^{131} radiation on thyroid tissue, normal and pathologic, is available. Shapiro, Williams et al., and Chapman and Evans reported the radiation effects observed in a small number of thyroid biopsy specimens obtained in thyrotoxic patients treated with I^{131} . Acute cellular injury, noted shortly after therapy, was followed in several months by an increase in fibrous tissue and subsequently by pronounced fibrosis and "regenerative hyperplasia."

In the course of these studies with I^{131} in the induction of hypometabolism in euthyroid patients with intractable angina pectoris and congestive heart failure the thyroid gland and other tissues were examined in 16 euthyroid patients who died at varying intervals after I^{131} treatment. These observations of the pathologic effects of I^{131} and the correlation with the delivered radiation, form the basis for this report.

The pathologic findings are described in the 16 patients who died from 7 to 1,069 days after the oral administration of from 17 to 157 millicuries of I^{131} . Radioactive iodine was utilized in 15 of the 16 patients because of intractable angina pectoris or congestive heart failure; the remaining patient had primary carcinoma of the thyroid.

Seven days after administration of 17 and 20 millicuries of I^{131} , which delivered 14,500 and 31,000 rep, respectively, to the thyroid gland, no histologic changes were noted which could be attributed to I^{131} .

Fourteen and twenty-four days, respectively, after administration of 59 and 26 millicuries of I^{131} , marked central destruction of the thyroid gland was noted. There was edema and degeneration of the stroma, striking acute vasculitis with thrombosis and hemorrhage, epithelial swelling and vacuolization, follicular destruction, and polymorphonuclear infiltration. At the periphery of the thyroid gland radiation damage was less severe, but there was extensive disruption of follicles and colloid and round-cell infiltration.

The thyroid gland of patients who survived a longer period showed increased fibrous stroma, lymphocytic infiltration, arteriolar intimal thickening, and hyalinization. The follicular epithelium was desquamated and admixed with a fragmented or globular colloid. Atypical cells with large hyperchromatic nuclei were noted.

In patients who survived for from 316 to 1,069 days after treatment with I^{131} the thyroid gland was largely replaced by dense fibrous tissue. The small arteries were notably thickened. The remaining follicles were markedly disrupted, with fragmentation of colloid and destruction and

desquamation of the follicular epithelium. Atypical cells with large hyperchromatic nuclei were noted; mitoses were absent.

Continued degeneration of thyroid follicular epithelium was present long after the administration of I^{131} . The relative role of progressive vascular damage and increasing fibrosis in this process are discussed.

The parathyroid glands were examined in 9 cases. There was no evidence of abnormality except in Case 7 (10 weeks after administration of I^{131}). In this instance there was swelling and vacuolization of oxyphil cells in a fragment of parathyroid embedded within the thyroid gland.

Fibrosis of the pituitary was seen in 1 case but could not be clearly attributed to I^{131} . In the other pituitary glands examined, no histologic changes were noted which could be ascribed to I^{131} . No radiation injury to the trachea, larynx, or adrenal was found. No thyroid neoplasm was found which could be attributed to I^{131} . (J. Clin. Endocrinol., Oct. 1952, A. S. Freedberg, G. S. Kurland, and H. L. Blumgart)

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First Attack of Myocardial Infarction

All the case material in this study was derived from a series of 1,047 admissions for acute myocardial infarction to 3 New York hospitals. In every instance the clinical diagnosis of acute myocardial infarction was confirmed by one or more electrocardiograms. The age range for the entire series was 30 to 88 years with a mean age of 56.7 years. All the patients in this study were treated by conservative measures without the use of anticoagulants. The 489 patients who qualified as "good risks" presented none of the following poor prognostic criteria on the day of admission to the hospital: (1) previous myocardial infarction, (2) intractable pain, (3) extreme degree or persistence of shock, (4) significant enlargement of the heart, (5) gallop rhythm, (6) congestive heart failure, (7) auricular fibrillation or flutter, ventricular tachycardia or intraventricular block, and (8) diabetic acidosis, marked obesity, previous pulmonary embolism, varicosities in the lower extremities, thrombophlebitis (past or present), or other states predisposing to thrombosis.

Crude mortality statistics in unselected cases of acute myocardial infarction have created the impression that the immediate prognosis in this disease is always serious, regardless of the mildness of the attack. The statement is frequently made that the outcome of any episode of acute cardiac infarction is unpredictable because of the constant threat of sudden, unexpected death. Nevertheless, no statistics are available to indicate the frequency and probable time of occurrence of such fatalities in patients with "uncomplicated" first attacks who appear to be convalescing favorably. Such information might be of value to the clinician who often indulges in pure conjecture or reserves opinion as to prognosis until the patient has

made an uneventful recovery. The authors' analysis indicated that only 3.1% of the patients who had a first attack and presented a benign clinical picture at the time of admission, subsequently died during the period of hospitalization. Almost half of these few deaths, moreover, occurred suddenly and unexpectedly during the first 48 hours following admission to the hospital. In those patients surviving 48 hours, death from cardiovascular causes occurred later in the surprisingly low incidence of 1.2%.

In the light of this evidence, physicians should adopt a more optimistic attitude about the probability of recovery in all "good risk" patients. When such cases survive the first 2 or 3 days, there would appear to be even greater justification for such optimism. The fact that almost half of the total number of deaths in these patients occurred within the first 48 hours of admission to the hospital and were usually caused by cardiac standstill, ventricular fibrillation, profound shock, or congestive heart failure, indicates however, that even in these benign cases a critical period exists during the first few days following the attack. It also suggests a danger from the psychic and physical trauma attending needless removal to the hospital. The present vogue of administering anticoagulants routinely in all cases of acute myocardial infarction requires almost immediate admission to the hospital and thereby subjects the patient to a risk which is too frequently overlooked. In previous studies, the authors emphasized that anticoagulant therapy is unlikely to influence the outcome in the "uncomplicated" first attack. They have also shown that age, itself, is not a significant factor in prognosis in the individual case. Consequently, the favorable outlook for recovery in "good risk" patients applies to old age groups as well as to young. (Am. J. M. Sc., Nov. 1952, H. I. Russek and B. L. Zohman)

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Preparation and Use of Placental Serum

In June, 1945, the authors used the supernatant serum of Wassermann-negative placental blood as a topical application in a case of psoriasis. The patient was being treated simultaneously with intramuscular injections of autogenous blood. Nevertheless, the results were so dramatic that speculation was advanced about further research. After other experiences with topical application of vernix, and especially topical application of placental serum, it was believed that enough placental material might be collected from the obstetric service at St. Luke's Hospital to further a reasonably active survey. Collaboration with Dr. L. J. VanHecke, pathologist at the hospital, brought forth a method of pooling and keeping sterile serum for use in therapy.

In the regular obstetric "pack" a 50 ml. centrifuge tube, stoppers, and a sterile glass funnel are autoclaved.

At the proper time after delivery the umbilical cord is clamped with one instrument. Then the assistant grasps the cord about 3 inches proximal to the clamp, using sterile gauze in his gloved hand. The cord is then cut with scissors about half-way between the clamp and the gloved hand. No antiseptic is used on the cord. A small amount of blood is allowed to run free, "washing" the exposed surfaces; and the rest is drained through the funnel into the centrifuge tube. The stopper, used afterwards, is handled only at its largest diameter. The distal end of the cut cord is not allowed to touch the inside of the funnel. In this manner about 50 to 100 cc. of placental blood is collected from each case.

This blood is then allowed to clot under refrigeration, and subsequently the supernatant serum is pooled from 10 to 15 cases. After centrifuging, the serum is aspirated with syringe and needle. A microfloculation test for syphilis is done on the serum. After pooling, the serum is recentrifuged and the clear serum is filtered through a Seitz No. 3 filter. Cultures for sterility of each batch, both aerobically and anaerobically, are carried out.

This procedure has been done with very little change since the first extractions, and contamination has been surprisingly low.

The use of placental serum in a variety of cases originally considered to be disorders to which the body showed maladjustment, produced some interesting and encouraging results. These cases were not studied with control expedients such as the use of alternate placebo. They were developed by careful patient control with subjective and objective clinical observations.

It is realized that in most of the types of diseases cited in this report, spontaneous remissions often occur. However, it would be illogical to assume that spontaneous remissions accounted for all the immediate results, even in the most aggravated cases, concomitantly with the use of placental serum. It is also realized that empirical treatment sometimes helps in diseases of hypersensitivity. However, in the cases in which other therapy had been used, no benefit was noted until placental serum was given. The possibility of psychologic influence was recognized, and every possible effort was made to minimize it.

The use of placental serum caused no adverse side effects. Larger doses seemed, in general, to be more effective, and while some were used intravenously, that method seemed to have no great advantage over intramuscular injection. The average therapeutic dose was 10 to 20 cc. 2 or 3 times a week. Maintenance doses were usually smaller and less frequent.

As was expected, in cases of malignant neoplasms, there was no detectable beneficial result beyond a temporary feeling of well-being.

No benefit was noted in malignant hypertension. In 2 patients with benign hypertension, 1 responded enough to encourage further study.

In the group of skin diseases, certain generalities are noted. Cases of seborrheic dermatitis, eczematoid dermatitis, and lichen planus had

excellent results, some of them dramatic. Atopic eczema in adults cleared, with only thickening of the skin remaining, while in infants the eczema cleared only partially. This difference in results—good in adults and poor in infants—may be partially explained by a difference in reactivity of the adrenal cortex in early life. It has been shown that there is rapid involution of the adrenal cortex in the first few weeks of life. Although hypoadrenalism of the newborn infant cannot be proved, the pathways that allow full response to stress may be undeveloped.

Psoriasis showed favorable response. Acne rosacea did not respond too well, and no effects were noted in neurodermatitis, but these cases were chronic and secondarily infected.

Four cases of respiratory allergies were observed but not long enough to be conclusive. However, the results so far have been hopeful.

Several chronic inflammatory disorders, nonspecific epididymo-orchitis and prostatitis with low back pain, were given dramatic relief. One case of postmeasles cervical adenitis of 2 months' duration responded very well within 1 week.

Two cases of mastalgia responded immediately with complete relief.

A patient with chronic colitis of 2 years' duration was able to return to work with lessening of the symptoms.

Several neurologic cases were observed. Those associated with acute inflammation, such as postinfluenzal neuritis, herpes zoster, and acute poliomyelitis, responded very well. The 2 polio cases had both bulbar and spinal involvement, and they had relief from pain and spasm in 3 and 5 days respectively. Both escaped bulbar residua, and one escaped spinal residua. Because it is generally believed that pregnant women are more susceptible to polio, placental serum was used in these cases on the assumption that some protective placental substance may be present in the serum, created in favor of the recipient and at the expense of the mother.

Migraine responded temporarily after each injection. This was also true in a case of Parkinsonism, and this patient and one with possible multiple sclerosis are showing progressive improvement under treatment.

Four psychoneurotics were treated. They appeared more alert and happier the day after each injection. None was treated long enough to permit any conclusions.

As in the skin and neurologic cases, so in the rheumatic disorders, it was found that the more favorable responses to placental serum therapy were found in those patients who had the more acute inflammations. The deformed, chronic, severe cases responded slightly, but poorly. In the more acute types associated with pain and spasm, there was almost universally a favorable response, varying from good to excellent. The most unusual and dramatic results of all were found with placental serum therapy in bursitis or tenosynovitis.

It should be expected that if placental serum contains an endocrine regulatory mechanism, then female pelvic disease should be influenced by

its use in treatment. In the few cases treated, all that can be said is that there was symptomatic relief and an improved regulation of the menstrual cycle.

Finally, a case of lipoid nephrosis, with severe anasarca, showed a dramatic improvement. Certainly this type of case requires further study, but this one case gave such outstanding results as to require reporting it. (G.P., Nov. 1952, C. F. McDonald and L. J. VanHecke)

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The Use of Thorium Dioxide

Thorium dioxide, in the form of thorotrast, presents an extremely difficult problem from the radiological safety standpoint. There are, doubtless, a few serious conditions which warrant the use of thorotrast especially if the prospective life expectancy of the patient is limited. The indications for such use must be balanced against future hazards. For example, there are several cases of liver tumor on record probably resulting from thorotrast by reason of the alpha-emitting isotope, thorium. If extreme care is not used during intravenous injection, there is a possibility of severe and hopeless induration accompanied by indolent ulceration about the elbow because of the extravasation of thorotrast. Radiographs of such cases clearly demonstrating the local deposition of thorotrast several years following injection have been taken at the U. S. Naval Hospital, National Naval Medical Center. Any decision concerning the use of thorotrast should be made in conference with the internist, surgeon, pathologist, and radiologist, or even referred to the local tumor board.

The Committee on Drugs and New Devices of the American College of Radiology has recently reported on thorotrast, and on page 55 of the 1952 Bulletin it states: "The use of thorium dioxide should be reserved for cases of extreme emergencies, where no other material would be satisfactory, or where life expectancy is considered to be short."

Thorium should be considered as serious a hazard as radium because they are both long-lived alpha-emitters. Thorotrast consists essentially of a 20% solution of thorium dioxide. In the past, for liver and spleen visualization, the usual dosage has been 75 cc. This is approximately equivalent to 1.5 micrograms of radium which is 15 times the maximum allowable body radium content. Although the percentage of this dosage of thorium permanently retained in the body is not known with certainty, intravenous injections of heavy atoms are usually accompanied by large retention percentages. (Special Weapons Defense Div., BuMed)

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Management of War Wounds of the Chest

From July, 1950 to January, 1952, during the Korean conflict, 1,535 chest casualties were admitted to Tokyo Army Hospital. Of these, 66% had penetrating wounds, 32% had perforating wounds, and 2% had crushing injuries of the chest.

Nine hundred fifty-two patients developed hemothorax; 74% of these remained sterile, and 26% became infected. Sixty-eight percent of these patients were treated by thoracentesis and antibiotics alone, and recovered and returned to duty. One hundred fifty-two decortications were performed without fatality. Eighty-eight percent of these patients were considered as having good results and returned to duty, 6.5% had fair results and returned to limited duty, and 5.5% were considered to have poor results and were sent to the Zone of Interior for further treatment. Ninety-two percent of the patients who required decortication had closed intercostal tubes inserted in Korea. In view of the fact that 79% of the patients with hemothorax recovered when treated by thoracenteses and antibiotics, the author believes that thoracentesis is the best early treatment for hemothorax and that, if this more conservative treatment had been carried out more frequently instead of closed thoracotomy drainage, perhaps decortication could have been avoided in some cases.

One hundred four patients had foreign bodies removed from their chests. Seventy-three thoracotomies for removal of foreign bodies were performed. Twenty of these patients also had partial lobectomies. All recovered uneventfully and returned to duty. Thirty-one patients had foreign bodies removed at decortication. All 104 patients returned to duty. Twenty-six patients were thoracotomized in forward areas for removal of foreign bodies. These had either fair or poor results because of increased morbidity and diminished pulmonary function. When compared with the results obtained by delayed removal, it would seem that it is best to leave the foreign body undisturbed, if possible, for later removal.

Nine patients with lung abscesses were treated by lobectomy or partial lobectomy and recovered and returned to duty.

One hundred eight patients suffered injuries to the diaphragm. These were repaired at thoracotomy. One hundred seventy-four patients had thoracoabdominal wounds. In general, those patients with serious liver infections, colostomies, multiple intestinal perforations, et cetera, were treated conservatively by open thoracotomy drainage with rib resection so that they might be safely evacuated to the Zone of Interior.

The 197 patients with serious nerve injuries were treated with thoracentesis or rib resection and thoracotomy drainage and then evacuated to the Zone of Interior. The 408 orthopedic injuries were treated in much the same manner.

The operative mortality at this hospital was 0%. The over-all mortality was 0.4%. (J. Thoracic Surg., Nov., 1952, MAJ. A. R. Valle, MC, A. U. S.)

The Management of Esophageal Perforations

The successful handling of esophageal perforations has changed considerably during the past decade. Prior to 1940, esophageal perforation, regardless of the etiology involved, carried with it a fearful morbidity and, unless surgical drainage was immediately instituted, a dependable mortality. In the recent literature, however, there have appeared several articles setting forth a newer concept regarding the management of known esophageal disruption with a sizable reduction in both morbidity and mortality statistics. The recent and rapid strides in thoracic surgery greatly aided by the coincidental discovery and production of versatile and germ-destroying antibiotics has been responsible in a large measure for the altered approach to this condition.

During the past 4 years 16 cases of esophageal perforation were seen by the author and Paul C. Samson. The etiology concerned varied widely and the treatment depended greatly on many factors which are individually discussed.

Of the 16 cases of esophageal perforation discussed, 11 were attributed to direct trauma caused by an endoscopic procedure. Because of the importance of prompt recognition and adequate treatment of instrumental esophageal rupture, particular attention was given to the 11 such cases in this series, 6 of whom had cervical perforations and the remaining 5 who had evidence of lower esophageal penetration.

Endoscopic removal of sharp bone spicules at the cricopharyngeal level may bring about pin point mediastinal penetrations because of pressure of the tip of the esophagoscope before the particles are removed. Such "stab" wounds of the mediastinum may be treated symptomatically with relative safety providing progressive clinical improvement is observed.

Prolonged operative time consumed in endoscopic procedures involving the lower esophagus may cause tears in the cervical area because of pressure of the body of the instrument over the prominent cervical vertebrae. These linear tears of the cervical esophagus should be repaired surgically as soon as the diagnosis is made.

Lower esophageal perforations caused by instrumentation should be treated by thoracotomy and primary closure unless extreme debility or sclerosing luminal lesions make the surgical approach impractical. Postoperative or so-called spontaneous rupture of the esophagus, while a relatively rare lesion, can be diagnosed by both clinical and radiologic signs and early thoracotomy with primary esophagus closure as the most effective treatment.

A nonirritating contrast medium should be used for esophageal x-ray visualization when perforation is suspected. (Dis. Chest, Nov. 1952, D. J. Dugan)

The Surgery of Trauma

The results of injuries impose an ever increasing burden on our nation. The casualties resulting from military activity are less numerous than those suffered from traffic, in the home, and industry. Safety campaigns, while of unquestioned value, have not been heeded sufficiently by the public to bring about the expected decrease in the civilian casualty rate. It is, therefore, important that the salvage rate from injuries be increased, not only in regard to life, but also to resulting handicaps.

The surgery of trauma is important in that it serves a large segment of the population at a time when expert help is badly needed. Frequently the early care of trauma patients dictates the type of end result. Evaluation of the condition of the patient and decisions for treatment usually are required promptly.

Nowhere in the field of medicine is the fallacy of dividing the responsibility for the care of the patient into segments based on systemic or anatomic grounds more strikingly illustrated than in the surgery of trauma. Injury is no respecter of specialty interests. Even when injuries are limited to a part, it is a whole person who is injured, and the entire patient must be cared for. When multiple injuries are present, the evaluation of the relative seriousness of the injuries, their effect on each other and, more important, upon the patient, must be evaluated on the basis of extensive knowledge and experience.

Interest in special fields has brought about advances within these fields. Recognition must be given to particular skills in the treatment of special problems. The requirements of the injured patient for the application of these skills must be related logically to the entire patient, not through the dictates of limited interest or knowledge. A patient who dies of a ruptured viscus is no less dead because of excellent alignment of the bones of his fractured extremity.

Accidents occur fortuitously and respect neither time nor place. Because they require prompt attention, it is important that the principles of the care of trauma be a part of the training of all medical men. The general practitioners see and care for more trauma, especially in rural areas, than any other medical group. Any doctor's office may become, at some time or other, a casualty clearing station. In urban areas, severe trauma is more likely to be cared for in large hospitals, especially municipal institutions. Many hospitals with otherwise excellent surgical training programs offer no training in the surgery of trauma. Many do not care to admit or care for trauma patients because of the unpredictable nature and timing of their problems. Hospitals, rural as well as urban, must accept responsibility, not only for the care of injured people, but also for training for the surgery of trauma. Where such programs are not assigned to general surgeons with broad interests and training, all specialty departments must cooperate in the trauma team. Specialty departments, limited in interest and training

to anatomic segments, cannot alone be expected to care adequately for injured patients, because injuries are not usually limited, even when they appear so to be.

Training in the surgery of trauma, undergraduate as well as graduate, must consider the injured patient as a whole person and not as a fracture, vascular, neurologic, thoracic, or abdominal case. Training, for the surgery of trauma to be effective, cannot be divided into anatomic segments. General surgeons caring for trauma patients must have broad training which includes subjects which overlap into what might be considered specialty fields, and the surgical specialist must have training in general surgery. If the salvage rate of our injured is to be increased, better education in all phases of care of the injured must be made available.

The responsibility for the care of trauma patients ought to be entrusted to those whose training and experience qualify them to care for the whole patient. Under no circumstance ought the care of injured patients be limited to one group or another on the basis of specialty designation. If hospitals believe that they ought to place restrictions on who shall and who shall not care for trauma patients, let it be done on the basis of ability, experience, and a broad knowledge of the care of the injured patient, and not on the basis of labels. (Surgery, Nov. 1952, C. G. Johnston) (Editorial)

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Lamellar Resection of Sclera in Treatment of Retinal Detachment

This preliminary report draws the attention of ophthalmic surgeons to the procedure of lamellar resection of the sclera, which consists of the removal of tangential strips of three-fourths of the scleral thickness in conjunction with diathermy coagulation. The sclera is shortened by means of buried nonabsorbable (silk) surgical sutures U. S. P., causing an infolding of the surgically thinned area. The operation is simple to perform and does not expose the globe to any of the complications attending penetrating scleral resections. Ordinarily, the number of cases seen in any individual clinical practice is not great enough to permit the collection of a mass of statistics in a short period. Therefore it is hoped that the experience of others will be an aid to a more accurate knowledge of the indications for its use and even to improvements in technique, to the end that this procedure will fall into its proper place in the treatment of retinal separation.

Nowadays, in the so-called good cases, 70 to 90% cures may be expected with the classic diathermy procedure. Using lamellar resection, Paufigue had success in 60% of so-called bad cases, i. e., cases in which the classic operation would undoubtedly have failed. He performed 66 operations on 57 eyes.

In the author's opinion, the length of the scleral strip excised should not be less than a third of the circumference of the globe; in most of his

cases he tried to remove almost half the circumference. This frequently may be done with the severing of one of the tendons of the rectus muscles. Of course, depending on the tears, even 2 of the muscle tendons may have to be severed. The conjunctiva and Tenon's capsule over the operative areas are dissected freely. With the scleral field exposed, the strip to be removed may be outlined with a toothpick dipped in methylrosaniline chloride solution. With experience, this step may be superfluous. The strip is then outlined with a Lundsgaard knife, and about one-third to one-half the scleral thickness is incised. The anterior edge of the strip is ordinarily placed about 2 to 4 mm. behind the muscle insertion, especially in cases in which no tears are found. In other cases, depending on the location of the tears, it may be placed nearer the equator. However, the vortex veins should be carefully avoided. The width of the strip found to be adequate is from 3 to 2 mm. It has been found easier to begin the dissection by making a cut across the center of the outlined strip. This cut is carefully deepened until about two-thirds of the scleral thickness is reached. When doing this, the operator is guided by the darker appearance of the depth of the incised sclera as the lamina fusca is approached. One of the edges is grasped and the dissection begun. Once started at the proper level, the strip comes off readily. However, the dissection should be kept at the same level to avoid perforation. The bottom of the trough appears slate-colored. After one-half is dissected, the other half is likewise resected. The edges of the scleral defect may be undermined for 1 mm. or so. The dissection having been completed, the bottom of the trough is treated with the ball electrode in a continuous way. The current should be light, about 30 ma., and applied so that the thin remaining floor is not completely destroyed. Sutures (braided 000 white silk) are then inserted either in mattress form or in a continuous manner. With a 1 or 1.5 mm. perforating diathermy needle single punctures are made slowly about 1 to 2 mm. behind the excised strip, so as to permit escape of the subretinal fluid. Further escape of fluid can be expedited by massage of the globe, or perhaps by enlarging one of the punctures with a probe, care being taken not to push the dilating probe deeper than 1.5 mm. Upon escape of the subretinal fluid, the globe softens and makes easy the approximation of the dissected scleral edges and the infolding of the thinned-out scleral floor. The detached muscle or muscles are reattached, and the conjunctiva is closed with absorbable surgical sutures. Atropine is instilled, and both eyes are bandaged.

Lamellar resection of the sclera is recommended in the cases of retinal detachment in which hitherto even before operation the prognosis has been considered poor with the usual classic diathermy operation. In these cases the resection should be done as a primary procedure. Although success has been reported when it was employed as a secondary or tertiary operation following failures with the classic procedure, it is understandable that in many such cases one may have to be satisfied with an anatomic im-

provement, because the retina may be so damaged as to preclude any remarkable functional result.

In cases in which doubt arises as to which operation should be the primary one it is suggested that when binocular bandaging and bed rest for a few days do not produce clinical improvement, lamellar scleral resection with diathermy coagulation should be the operation of choice.

Finally, although the time element in this operation is somewhat longer and the technique more difficult than the classic procedure, it is apparently harmless because as yet no extraordinary complications have arisen. (A. M. A. Arch. Ophth., Nov. 1952, M. L. Berliner)

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The Influence of Rotational Speed on Temperature Rise During Cavity Preparation

High speeds and heavy pressure have long been known to be a source of heat in cavity preparations. By using a thermocouple in the tooth substance, and by using balanced weights and known rotational speeds, temperature changes were observed in tooth structure within a few millimeters of the point of drilling.

The method of cutting used was an intermittent application of the bur—2 seconds cutting and 1 second rest. When the maximum temperature rise at the point of cutting, 10 seconds after cutting began, was compared with the temperature rise over the same period at a point 2 mm. from the point of cutting, the latter figure was found to be considerably lower. When 2 burs of the same type but of different size were used, the larger bur generated more heat under the same conditions of operation. When burs of different type were used, a spiral fluted bur of the fissure type generated more heat than the straight fissure bur; however, it has been shown that the spiral bur has a greater cutting efficiency. Over a great range of rotational speeds, a tungsten carbide bur consistently generated less heat than the same type steel bur, probably owing to the retention of sharp edges by the carbide bur over a longer period of time.

With an increase in pressure from 1/2 to 2 pounds, the temperature rise was considerable, especially at higher rotational speeds. High speed is considered to be 3,000 r. p. m. or more. An increase in pressure at low speeds had little effect on temperature rise, but with increased speed the temperature rose as much as 120° F. when 2 pounds of pressure were applied. However, with 1/2 pound of pressure at 10,000 r. p. m. a temperature rise of only 40° F. was noted.

It appears that pressure plays a greater role than the speed of the engine in the generation of heat during cutting. (J. Dent. Research, Oct. 1951, R. C. Vaughn and F. A. Peyton)

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Self-Curing Acrylics in Immediate Prosthetic Repairs and Temporary Bridgework

The self-curing acrylics make possible immediate emergency repairs of prosthetic appliances in one sitting. Many cases formerly presented such a tedious repair problem that reconstruction of the entire case was sometimes necessary. The use of self-curing acrylic permits repairs to be done quickly and easily.

For example, a broken pin facing in a bridge can be repaired by applying self-curing acrylic with a brush and building up the pontic in the mouth. Or, porcelain teeth broken out of dentures can be repaired, either by using the old tooth or by fabricating a new one. Various types of facings in bridges can be replaced; broken clasps can be repaired; broken dentures, either full or partial, can be restored to their proper shape.

Self-curing acrylics are also useful in the construction of temporary crowns and bridges. The following steps constitute an excellent method of making a temporary immediate replacement for anterior teeth which will later be replaced by a 3- or 4-unit bridge. 1. Take a small bridge impression with alginate before any operative or surgical work is started. 2. Complete preparations of abutment teeth and extractions. 3. Pack a thin mix of self-curing acrylic of the desired shade in the impression. 4. Without drying the teeth, replace the impression in the mouth until initial set of the acrylic takes place. 5. Remove the temporary appliance, trim, polish, and cement with temporary cement.

This procedure can be modified to fit many different types of cases in crown and bridge work. (Dental Survey, Sept. 1952, W. Pollack)

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Treatment of Periodontal Disease

Periodontal disease can be cured either by subgingival curettage or by gingivectomy. However, neither method can be successful without proper home care by the patient. The character of the gingiva involved determines which method should be used. In the case of intrabony pockets, the method to use depends upon whether the disease can be cured by subgingival curettage.

Several adjuncts, such as presurgical treatment, splinting, prosthesis, orthodontics, use of drugs, and occlusal adjustment, will aid the treatment.

There seems to be good reason to believe that Vincent's disease and herpetic stomatitis can be treated through the removal of all local factors, the débridement of necrotic tissue, and the correction of predisposing etiologic factors.

Periodontal treatment can be considered successful (1) if the gingival sulcus is approximately 0 mm. in depth and normal gingival form is present; (2) if the lamina dura is present and the alveolar crest appears cortical radiographically; and (3) if all the teeth are in physiologic function. (J. Am. Dent. A., July 1952,)

Disability Evaluation

The responsibility of evaluating the extent of disability in industrial and liability injuries is one more obligation added to the modernization of medical practice.

The patient with a monetary claim is often avoided because information and opinions on the case are subject to questioning in court and violate the private relationship of the doctor and his patient. Whether the medical profession approves or disapproves, the statutes provide that the extent of personal injury and permanent disability can be determined only through evidence established by medical opinion. The evaluation of disability would not be so difficult to determine were it not for the fact that the percentage of disability is placed on an economic basis, rather than on a physiologic and anatomic basis. Benefits are for persons who earn wages, in respect to their ability to perform useful services in varying degrees of the ordinary activities of life. The loss of these services results in monetary loss, either directly or indirectly. If it were possible accurately to vary and efficiently to measure disability on the basis of actual body loss, and not in terms of so much money, those medically trained would not feel reluctant to render an unbiased opinion.

The approach to the examination of a claimant for disability involves many factors that would not be considered in the regular doctor-patient relationship. The examination will include: (1) history, (2) clinical findings, (3) laboratory and x-ray findings, and (4) opinion and state of disability: (A) total disability, as to (a) temporary total and (b) permanent total, and (B) partial disability, as to (a) temporary partial, and (b) permanent partial.

The measuring rod of function may be applied to determine the ability to work at a single specified occupation or it may apply to work in the general labor market. For example: "A man working as a railroad brakeman might be 100% disabled in all factors for his particular job but for all other forms of labor his physiologic function would be only partially disabled."

Disability evaluation requires special knowledge and training. The author has presented the processes of arriving at a reasonable and trustworthy opinion in the rating of disabilities. (Industrial Medicine & Surgery, Nov. 1952, E. D. McBride)

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Change of Address

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

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Therapeutic Effectiveness of the Artificial Kidney

Sound evidence demonstrating that the artificial kidney offers a valuable method for treating acute renal failure has been difficult to obtain. Essentially it must be shown that some patients who would otherwise die will recover with use of the artificial kidney. Such salvageable patients should be found among those with acute renal failure who do not recover renal function when treated by conservative methods alone. For some of these, the additional days of life provided by use of the artificial kidney should lead to a return of adequate kidney function. In the authors' experience, patients of this type, who can be saved by treatment with the artificial kidney, are rarely encountered.

For those suffering from chronic renal failure, the artificial kidney may offer promise of some palliation, but, as might be expected, these patients will ultimately die of their diseases.

This report is an analysis of the effectiveness of the artificial kidney in treating 21 patients with various acute and chronic diseases.

Because attention has been called to the so-called three-phase conservative management of patients with acute renal insufficiency, there has doubtless been a substantial lowering in the fatality rate of lower nephron nephrosis. It is important to determine whether or not the artificial kidney offers a valuable supplemental method to this conservative regimen. Its use will prolong the lives of some patients with acute uremia and often temporarily improve their clinical condition, but this is not enough to ask of an apparatus as difficult and expensive to use as the artificial kidney. The crucial question is whether or not its use will save lives that might otherwise be lost. In the authors' experience it may have fulfilled this practical role for only 1 patient in this series.

It might be expected that use of the artificial kidney would lead to a salvage of those patients whose acute renal failure is complicated by other serious conditions, but with these the authors failed. It might also be possible to save some patients in whom recovery from a relatively uncomplicated lower nephron nephrosis has been slow, and in the present series one of these patients survived. The authors did not see enough of these patients to evaluate properly the effectiveness of the artificial kidney in their treatment, but they believe that this type of case is rarely encountered. Most of the patients presumed to have a lower nephron nephrosis, but not treated with the artificial kidney, began to have a return of urinary output after only 4 to 6 days of anuria.

The development of hyperpotassemia in anuric patients seems to be a valid indication for use of the artificial kidney, for dialysis provides a rapid and efficient means of correcting this dangerous complication. The one surviving patient had a serum potassium level of 9.4 mEq. per liter before dialysis. It was reduced to 7.6 by the temporary expedient of intravenous injection of dextrose and insulin and then lowered to 3.6 mEq. per liter by use of the artificial kidney.

Overhydration with pulmonary edema in the anuric or oliguric patients is another good indication for dialysis, but correction of this condition has not been as efficiently accomplished as the reduction of serum potassium levels.

In patients with chronic uremia the artificial kidney has a limited usefulness. It might be an aid in preparing some of these patients for operations to correct the defects which led to their uremia. However, all patients with chronic uremia do not improve clinically when treated with the artificial kidney. One child who was prepared for surgery twice with the artificial kidney had convulsions shortly after the second dialysis.

The authors had no success with use of the artificial kidney in treating 1 patient with cirrhosis and hepatic coma and have as yet gained no experience in treating some of the other clinical conditions for which its use has been suggested, such as barbiturate poisoning and certain shocklike states. (A. M. A. Arch. Surg., Oct. 1952, F. J. Lewis, M. P. Reiser, R. H. Egdahl, and K. T. Chung)

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Acute Carbon Monoxide Poisoning

An analysis of findings in 105 patients admitted to the Grace-New Haven Community Hospital between Jan. 1, 1920, and Dec. 31, 1948, with a diagnosis of acute carbon monoxide poisoning is presented. A number of manifestations previously considered unusual were common in this series, namely, skin lesions, transient respiratory findings, excessive sweating, liver enlargement, localized pain or soreness, and localized edema. All these signs except pain or soreness and edema were correlated statistically with severity of poisoning, as were 9 others, namely abnormalities of the nervous system or skin color, evidence of bleeding, "pseudorecovery," temperature of 102° F. or higher, respirations of 30 per minute or higher, leukocyte count of 18,000 per cu. mm. or higher, albuminuria, and abnormal urinary sediment. Study of differential counts of leukocytes showed that neutrophils were about 3 times the normal level, while lymphocytes and eosinophils were significantly lower than normal in severely poisoned patients.

Nine manifestations were almost as common in patients with mild as with severe poisoning, namely, suffused mucous membranes, irregular cardiac rhythm, localized edema, vomiting, headache, pulse rate of 110 per minute or higher, abnormal blood pressure, erythrocyte count of 5,200,000 per cu. mm. or higher, and glycosuria. It is suggested that the latter group of findings were precipitated by responses of the autonomic nervous system and that the extent of response is a function of the individual more than of the degree of intoxication. In contrast, the signs which correlated with severity may have been manifestations of direct hypoxic injury to the oxygen-sensitive cells of the brain as well as stimulation of pituitary-adrenal

mechanisms. Despite the existence of general characteristics of acute carbon monoxide poisoning, individual patients showed widely variable manifestations within the general framework observed. (Archives of Industrial Hygiene and Occupational Medicine, Oct. 1952, J. W. Meigs and J. P. W. Hughes)

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Malakoplakia of Urinary Bladder

Malakoplakia of the urinary bladder, first diagnosed by von Hansemann in 1903, has become a well-defined gross pathologic entity. The disease is characterized by soft plaques which have given the lesion its name. These plaques are yellow to brown in color and often have central umbilication or ulceration and peripheral hyperemia. Microscopically, they are formed predominantly of large mononuclear phagocytic cells, some of which contain calcospherites of Michaelis and Gutmann. Reported cases of the lesion are rare, a total of 59 now being available, in only 34 of which autopsy was done. The great majority of reported cases are in the German literature, only 15 having appeared in the English language. There is divergence of opinion concerning the etiology of the disease, especially with regard to the association with tuberculosis, sarcoidosis, and cystitis follicularis, and there are wide gaps in our knowledge of the pathogenesis of the disease.

This report presents 4 new cases of malakoplakia in which autopsy was done; in 3 the condition was associated with tuberculosis and in 1 with megacolon, megacholedochus, megaintestine, and megaureter. Also 2 cases are described to illustrate significant similarities among malakoplakia, banal cystitis, and cystitis follicularis. In one of these cases there was an associated sarcoidlike lesion of regional lymph nodes. The distinct lack of transition between cystitis follicularis and malakoplakia is emphasized. A phagocytic cell response similar to malakoplakia is also described in a case of common cystitis and in one of cystitis follicularis.

Analysis of these new cases and of the previously reported cases indicates the frequent association of the disease with urinary tract infections, especially those caused by the coliform organisms, the frequent association of the disease with tuberculosis or sarcoidosis, the association of the disease with malnutrition, and the relative selection of female patients.

The origin of the predominating component cells from histiocytes is indicated by their reticulum production and their phagocytic behavior. The similarity of Michaelis-Gutmann bodies to other calcospherites is indicated.

The hypothesis is presented that the disease is due to an interaction of urostasis and coliform infection, with a mononuclear trophism due to marasmus and chronic granulomatous infection. (Arch. Path., Oct. 1952, V. R. Bleisch and N. F. Konikov)

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Study of Fluoridating of Communal Water Supply

Dental caries creates a health problem of considerable magnitude because of its high rate of prevalence and the numerous sequelae that result from its neglect. The far-reaching consequences—systemically—of an impaired masticatory apparatus cannot be denied. Scientific studies, rather than personal experience and opinions, have proved without doubt the need for a healthy dentition.

Dental caries is one of the chronic disease yet to be controlled and is perhaps the most prevalent of all diseases. Until recently, the best protection against tooth loss from decay was the technical intervention of the dentist. A partial control of this chronic disease has now been found—the fluoridation of communal water supplies. "Of all the preventive methods in use, including toothbrushing, restriction in the consumption of concentrated sugar, and topical application of sodium fluoride, fluoridation (of public water supplies) offers the greatest hope for preventing caries because of its easy application for large numbers of people and its relatively low cost."

In certain infectious diseases, the illness can be treated, the vector controlled, and the individual prevented from developing the disease even when exposed. However, with dental caries, the disease cannot be effectively treated, because dental defects accumulate 4 to 5 times faster than they can be corrected by presently available dental personnel. The vectors, in this case the oral flora, in part at least, have escaped adequate control, and disease prevention had been unknown. Until recently, no effective means of control at any of these points has been applicable to dental decay.

Fluoridation meets part of this problem by reducing the incidence and, therefore, the prevalence of dental decay and brings it within treatable bounds; fluoridation thus controls the vector and prevents the disease.

A survey was undertaken of all communities fluoridating their communal water supply as of October 15, 1951.

The 98 communities reporting fall into the following population categories: 22 less than 5,000 population; 22 between 5,000 and 10,000 population; 35 between 10,000 and 50,000; 12 between 50,000 and 100,000; and 7 over 100,000.

Fifty-four percent of those reporting are using sodium fluoride. Forty-three percent of those reporting are using sodium silico fluoride. Three percent of those reporting are using hydrofluosilic acid or hydrofluoric acid.

None reported difficulty in obtaining their chemicals.

Fluoride dosage of water varied from 0.5 ppm for the summer months in the southern states to 1.4 ppm for the winter months in the northern states, dependent on water consumption, which in turn is dependent upon mean minimum and mean maximum temperatures.

Ninety percent of reporting cities report fluoridation financed from water revenue. The remaining 10% report fluoridation financed from general funds (6%) and health department and other funds (4%).

Ninety-eight percent of all reporting communities had fluoridation brought about through action by dental, medical, and public health groups as well as an informed public.

In only 2% of the cases was fluoridation submitted for public referendum.

With reference to complaints received concerning fluoridation, 80% reported no complaints at all. The remaining 20% reported isolated complaints, but these were purely imaginative because in almost every instance the complaint was registered between the date of the announcement of fluoridation and the actual date of inception of the fluoridation program.

Fluoridation is feasible, has tremendous public support, is inexpensive, and within optimum limits it is safe and beneficial. (Am. J. Pub. Health, Nov. 1952, L. F. Menczer)

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Training Courses for Volunteer Naval Reserve MC, MSC, and HC Officers in Malariology and Insect Control

Training courses of 2 weeks' duration for Volunteer Naval Reserve MC, MSC, and HC officers in Malariology and Insect Control are scheduled to convene on the first and third Wednesday of each month at the U. S. Navy Malariology and Mosquito Control Unit, U. S. Naval Air Station, Jacksonville, Fla., during the third quarter, Fiscal Year 1953.

The purpose of these courses is to provide information and techniques to be employed in insect control and practical field experience which are not readily available to Volunteer Naval Reserve MC, MSC, and HC officers in their civilian occupation, yet invaluable to their function in the event of mobilization.

The uniform of the day is service dress, khaki, or khaki working. It is desirable that all personnel have service dress blue uniform and civilian dress available while on duty. Meals and sleeping quarters will be available at the Bachelor Officers' Quarters for those officers who desire such accommodations. Motor courts are usually available near the Naval Air Station for use of personnel under training if they are accompanied by dependents.

The 3rd, 4th, 5th, 6th, 8th, 9th Naval Districts and Potomac River Naval Command have been assigned quotas for these courses for the third quarter, Fiscal Year 1953.

Inactive Volunteer Reserve MC, MSC, and HC officers are encouraged to take advantage of the opportunity to attend these courses on active training duty orders in a pay status. Officers who desire to attend these courses should submit their request to the Commandant of their home naval district at the earliest practicable date. (Reserve Div., BuMed)

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From the Note Book

1. Rear Admiral Clarence J. Brown, MC, USN, Deputy and Assistant Chief of the Bureau, represented the Navy, Dec. 2-5, 1952, at the Sixth Clinical Session of the American Medical Association at Denver, Colo. Admiral Brown is the Navy member of the House of Delegates of the American Medical Association. (TIO, BuMed)

2. Yellow fever vaccine, heretofore produced exclusively by the Public Health Service of the Federal Security Agency, will be manufactured in the future by a nationally known pharmaceutical firm. Withdrawal of the Government from yellow fever vaccine production is in accord with Public Health Service policy of turning over to the pharmaceutical industry the manufacture of biological products once large-scale production becomes feasible. This step was taken following several conferences with many of the major pharmaceutical houses in the United States. (F. S. A., P. H. S.)

3. The Bureau of Medicine and Surgery's scientific exhibit "Congenital Diseases of the Skin (Genodermatosis)" and the training film "Sciatic Pain and the Intervertebral Disc" were shown during the Clinical Session of the American Medical Association, Dec. 2-5, 1952, Denver, Colo. (TIO, BuMed)

4. The Annual Report, 1951, of the National Bureau of Standards, summarizes the scientific and engineering investigations conducted by NBS during the fiscal year 1951. This booklet contains accounts of current activities as well as more detailed descriptions of especially important scientific developments. Its text provides a general description of work done in the 15 scientific and technical divisions and gives many specific examples of significant projects of NBS during the year.

5. Eighteen hundred and twenty-nine might be considered as the beginning year of modern cancer therapy. In that year Joseph Claude A. Recamier published a monograph containing the first description of metastasis in malignant disease. (The Cancer Bulletin, Sept. -Oct. 1952)

6. The care of thoracic and thoracoabdominal wounds in the combat zone in Korea is discussed in the Journal of Thoracic Surgery, Nov. 1952, MAJ. E. E. Rockey, MC, AUS.

7. A study of the clinical effects of Butazolodin and Butapyrin in arthritis and gout appears in California Medicine, Nov. 1952, W. C. Kuzell and R. W. Schaffarzick.

8. An interesting set of 8 colored slides depicting how, when, and what mastectomy patients should be taught about breast prostheses, and the importance of properly fitted brassieres has been prepared by the Cancer

Nursing Section of the National Cancer Institute. They are available on a loan basis from the Cancer Reports Section, National Cancer Institute, Bethesda 14, Md. (Cancer Control Letter, P. H. S., 31 Oct. 1952)

9. The management of patients with renal lithiasis requires the cooperation of the urologist, endocrinologist, chemist, and bacteriologist to detect the underlying causes of stone formation and to institute appropriate therapy. (Postgraduate Med., Oct. 1952, C. G. Higgins)

10. Two articles discussing certain aspects of making individual escapes from a sunken submarine and involving the use of the Submarine Escape Appliance and Free Escape appear in A. M. A. Archives of Industrial Hygiene and Occupational Medicine, Oct. 1952, CDR. H. J. Alvis, MC, USN.

11. During surgical convalescence an insulin-resistant type of decreased carbohydrate tolerance occurs as a part of the metabolic response to trauma. (Surgery, Nov. 1952, M. A. Hayes and R. L. Brandt.)

12. A report of 100 cases of spinal fusion with the use of "H" bone grafts following disc removal appears in A. M. A. Archives of Surgery, Oct. 1952, F. E. Stinchfield and W. A. Sinton.

13. The life histories of persons with diabetes mellitus and observations of their responses to events and situations in their daily lives, are consistent with the concept that life experiences are of great importance in the onset and course of the disease. (J. Mt. Sinai Hosp., Nov.-Dec. 1952, L. E. Hinkle and S. Wolf)

14. Orchestral tape recordings soon are to be introduced commercially, featuring noted conductors and soloists. To be played back at 7.5 inches per second, the tapes will be divided into 2 tracks, each giving high-fidelity reproduction of musical tones of 50 to 15,000 cycles. (Science News Letter, 22 Nov. 1952)

15. Commander Karl M. Lacer, MC, USN has recently been certified in the specialty of Internal Medicine by the American Board of Internal Medicine.

Lieutenant Commander Bruce H. Smith Jr., MC, USN has recently been certified in Clinical Pathology by the American Board of Pathologists. Dr. Smith is also certified in Pathologic Anatomy.

Commander Robert B. Johnson, MC, USN has recently been selected for a Fellowship in the American College of Surgeons. Captain Henry G. Bullwinkel, MC, USN has been certified by the American Board of Ophthalmology, and Lieutenant Commander Henry R. Cooper, MC, USN has been certified by the American Board of Internal Medicine. (TIO, BUMED)

16. An evaluation of extrapleural pneumonolysis based on a follow-up study of 70 cases with Lucite plombage appears in Diseases of the Chest, Nov. 1952, J. Zimmerman, J. B. Grow, and A. Hurst.

17. A review of the anatomy of the orbit brings out many features of interest. These cavities are formed by the frontal, zygomatic, maxillary, ethmoid, lacrimal, and palatal bones. An attempt is made to study them in detail and to demonstrate their various radiologic appearances. (Radiology, Oct. 1952, L. E. Etter)

18. There were approximately 118,500 newly reported cases of tuberculosis in 1951. This compares with the high of 136,000 cases reported annually in 1947 and 1948. Deaths from tuberculosis as well as the number of new cases of the disease have fallen steadily in recent years. (F. S. A., P. H. S.)

19. In an effort to help protect personnel exposed to electrons, the National Bureau of Standards has determined the response characteristics of two film types suitable for monitoring these radiations. The response of the two films, Minimax Dental X-ray Film Extra Fast and du Pont Dosimeter type 552 single film packet, when exposed to electrons in the energy range of 0.5 to 1.4 Mev, was found to be linearly proportional to the dosage received and independent of the energy of the incident electrons. The investigation was conducted under the sponsorship of the Atomic Energy Commission. (N. B. S., Dept. of Commerce)

20. The number of cases of streptococcal sore throat which includes scarlet fever has been increasing in recent weeks. For the week ending 1 November, 1,564 cases were reported as compared with 860 for the same week last year. The number of cases reported during the 4 weeks prior to the current week were 1,105, 1,098, 1,214, and 1,419 respectively. (F. S. A., P. H. S.)

21. Dr. B. F. Wyman, South Carolina State Board of Health, reports outbreaks of infectious hepatitis in 2 universities. The first case in one school occurred about the middle of October, and since that time 165 cases have been diagnosed clinically. This epidemic is under investigation and is reported to be subsiding. (F. S. A., P. H. S.)

22. In Vol. 20, No. 8 of 31 Oct. 1952, page 30, item 13 the credit line should read J. E. Johnson Jr. and J. M. McCarthy instead of K. I. Fetterhoff, C. X. Holmes and G. E. Martin.

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BUMED NOTICE 6710

19 Nov 1952

From: Chief, Bureau of Medicine and Surgery

To: All Ships and Stations

Subj: Typhus Vaccine, 20 cc; SN1-617-650; suspend
issue and use of

Ref: (a) Alnav 48-52 of 10 Oct 1952

1. This notice reissues ref (a) and is cancelled effective 30 Nov 1952

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BUMED INSTRUCTION 6150.5

19 Nov 1952

From: Chief, Bureau of Medicine and Surgery

To: Distribution List

Subj: Requests for Medical and Service Records of personnel whose
appearance before physical evaluation boards is anticipated;
information concerning

1. This instruction sets forth the procedure for requesting subject records; it reiterates the importance of expediting such requests and determining as far in advance as possible those records which will be required by physical evaluation boards. BuMed C/L 51-52 and BuMed Ltr 33 over QB/P2-5 of 15 Feb 1952 are cancelled.

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BUMED NOTICE 5215

19 Nov 1952

From: Chief, Bureau of Medicine and Surgery

To: Chief of Naval Personnel

Commandant of the Marine Corps

To: All Ships and Stations

Subj: Joint Letters; cancellation of several

1. The following joint letters are cancelled, identified by BuMed C/L Numbers 49-96, 51-16, and 51-9.

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BUMED INSTRUCTION 6270.1

19 Nov 1952

From: Chief, Bureau of Medicine and Surgery
To: All Ships and Stations having Medical/Dental Personnel
Subj: Oxygen Cylinders; precautions in storage, handling and use of
Ref: (a) Recommended Safe Practice for Hospital Operating Rooms- National Fire Protection Association- NFPA No. 56 (1951)
Enc: (1) Special Precautions in handling oxygen cylinders

1. This directive reemphasizes the tremendous fire hazard of oxygen cylinders and details safe handling practices that must be vigilantly followed.

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BUMED INSTRUCTION 1551.1

25 Nov 1952

From: Chief, Bureau of Medicine and Surgery
To: All Medical Department Activities and Facilities
Subj: Medical Audio-Visual training aids; production and procurement of
Ref: (a) Manual of Naval Photography, OPNAV Instruction 3150.6

1. This directive promulgates the manner in which medical training films and other medical audio-visual aids are to be produced and procured on an indefinite or permanent loan basis. BuMed C/L 50-24 is cancelled.

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BUMED INSTRUCTION 6222.2

19 Nov 1952

From: Chief, Bureau of Medicine and Surgery

To: All Ships and Stations

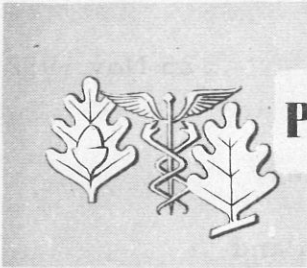
Subj: Venereal Disease prophylactic measures

Ref: (a) NavMed P-1288 (Rev. 10-52), Interviewer's Aid for VD
Contact Investigation

(b) BuMed C/L 52-22, NDB, 15 Mar 1952, 52-114

1. This instruction directs the discontinuation of intra-urethral medication for prophylactic purposes and to change the name "pro station."

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PREVENTIVE MEDICINE SECTION

Redesignation of EDCU's

SecNav Notice 5450 of 12 November 1952 redesignated U. S. Navy Epidemic Disease Control Units and the U. S. Navy Malaria and Mosquito Control Unit as U. S. Navy Preventive Medicine Units which is more in keeping with their broad purposes—to render complete preventive medicine service to the areas to which they are assigned. All activities should call upon these Preventive Medicine Units for assistance in any preventive medicine problem, not merely in the laboratory analyses of epidemics after they arise.

This Notice lists each existing unit with its new title and present location. A BuMed instruction will be forthcoming, designating Preventive Medicine Unit No. 1 at Jacksonville as a vector control type unit, with its capabilities and functions limited to vector control problems.

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Tuberculosis Control

Pulmonary Cavitation With Negative Sputum

When pulmonary cavitation appears on an x-ray film, particularly in the upper lobes, it is usually diagnosed by internists and general medical practitioners as tuberculosis, even when the sputum is not positive. Though this diagnosis often proves correct, it is not because cavitation is specific for tuberculosis but because, of all the pulmonary diseases causing it, tuberculosis is the most common.

It is true that sputum may be negative even though a patient has had cavernous tuberculosis for many years. Before a diagnosis of tuberculosis is made for a patient having negative sputum and an x-ray showing apparent tuberculosis symptoms, exhaustive studies should be made to rule out other possibilities. These should include Papanicolaou smears for malignant cells, fungus studies of the sputum, skin testing, and serologic tests for the cavity-producing fungus diseases, cardiac evaluation, and studies of other organ systems for indications of polyarteritis. These studies will aid in avoiding many mistaken diagnoses of tuberculosis and tragic delays in surgery, even though the final diagnosis must often be made by a pathologist. (Dis. Chest, July 1952, E. G. Balchum and J. Zimmerman)

Insect and Rodent Control

Use of Insecticides

The large number of new insecticides developed during recent years has, in many cases, intensified rather than reduced our insect-control problems. This has resulted in part from the much greater potential toxic hazard, but mainly from the widely prevalent misconception that more powerful and newer insecticides are the solution of all problems. This attitude probably is an outgrowth of the extreme and unjustified optimism which followed the advent of DDT. "Part-time" pest-control "experts" are particularly prone to adopt these temporary solutions, but even professional, experienced entomologists or pest-control operators occasionally disagree as to the most judicious selection of control materials and methods. The following information is provided to assist in understanding the limitations of insecticides and to emphasize again the necessity for permanent controls at established bases.

The most common reason given for a change to a different insecticide is resistance to DDT. The change is usually to another of the chlorinated hydrocarbons, but laboratory and field experience has demonstrated beyond any question that the rate at which resistance develops to the other types of these materials is more rapid after resistance has developed to one of them.

In many areas successful housefly control by the use of any or all of the chlorinated hydrocarbons, such as DDT, lindane, chlordane, and dieldrin, became impossible within 2 years. A responsible officer may be concerned only with his immediate problem, but this attitude will often result in even greater troubles for his replacement. The effectiveness of lindane vaporizers has been so reduced after one season over large sections of the country that at least one manufacturer has withdrawn his product from the market. The waste which might well have resulted in a few years if large-scale procurement of these devices had been approved by the Navy is obvious.

Mosquito resistance to DDT and other chlorinated hydrocarbons has been less common because it is slower in development, but has occurred in some areas. It is much less common than reported, however. Many naval activities have assumed that they had a mosquito resistance problem when, in fact, the unsatisfactory control was due to faulty techniques, equipment, or unusually heavy and rapid infiltration of migratory mosquitoes. At 4 naval activities where resistance was suspected, controlled tests with DDT-treated cages and fogs demonstrated that the prevalent species were not resistant.

In brief, the substitution of one chlorinated hydrocarbon insecticide for another is often entirely uncalled for, and when a substitution is made, it usually is not a solution but is a temporary expedient which only serves to increase the resistance problem in most areas. It is highly significant that resistance to insecticides has developed for the most part only where sanitary conditions permit continued breeding of large populations and where larvae and adults have been continually exposed to insecticides. Military bases where these conditions did not exist have rarely been troubled by the resistance problem. It is obvious that permanent elimination of breeding sources should be the first and the major consideration in any insect control program at established bases. Change of insecticides is often, in effect, an admission of failure in the sanitation of the station or ineffective liaison with local health authorities.

When activities seek new and more powerful insecticides, they often turn to several insecticide emulsifiable concentrates which are listed in the Catalog of Navy Material. Three of these—lindane, chlordane, and dieldrin—are highly toxic either by absorption through the skin, ingestion, or inhalation. They may also be dangerous over a period of months or years through vapors released from residual deposits if such deposits are applied to excess in living quarters. These concentrates are expensive and if not properly diluted and selected for efficient usage, great waste results. Past experience has shown that insecticide items are often procured and used by untrained or partly trained personnel. In the case of DDT, the physical nature of the material and the safety margin are such that minor discrepancies would not be serious, whereas misuse or mishandling of the newer and unfamiliar items could be dangerous. It should also be remembered that the dispersal of these materials is normally such that there is much

greater possibility of human exposure than with older insecticides such as arsenicals, fluorides, and nicotines. The latter are highly toxic by ingestion but are used only in limited situations and are widely known as dangerous poisons so that careless use and continued exposure to vapors are not likely to occur frequently. Therefore, lindane, chlordane, and dieldrin concentrates are issued only after approval of requisitions by the Bureau of Medicine and Surgery. This is an interim measure to promote safe and efficient use of these items pending publication of revised technical manuals and establishment of adequate standards for supervisory personnel. Requisitions for lindane and chlordane concentrates will be approved only when they bear the name of a medical officer, sanitation officer, or a medical entomologist or public works (DD-600) entomologist, who will be responsible for the use of the material. Requisitions for dieldrin will be approved only for experimental programs by specially qualified personnel after submission of details of proposed usage.

Lindane is the gamma isomer (99%) of benzene hexachloride and, because of cost, it is to be used only where the more odorous isomers present in benzene hexachloride are objectionable. For most outdoor applications, lindane should not be used because a spray with equal gamma concentration prepared from benzene hexachloride costs approximately one-half that of a spray prepared from lindane. A benzene hexachloride preparation will soon be available in the Catalog of Navy Material for issue on the same basis as DDT concentrates. Lindane will then be required only for interior residual applications where DDT is not effective and where sanitary controls are not possible. Where lindane is used in living quarters, the following limitations apply:

Residual application of lindane in living quarters should be limited to spot applications with an 0.5% concentration until more information on the toxicity of lindane vapors is available. Spot applications should not cover more than from 10 to 15% of the total square feet of the wall area.

Although the use of benzene hexachloride or chlordane for large-scale outdoor applications may be justified on the basis of economy under certain conditions, other factors must be considered. At present prices, it will be more economical to use the newer insecticides only when 1/2-% gamma benzene hexachloride or 2% chlordane formulations give as satisfactory control as 5% DDT spray. Higher concentrations will usually be as expensive as DDT, and any change will probably accelerate the development of resistance. The loss which usually results from shrinkage or waste in the handling of expensive concentrates is also of considerable significance.

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The printing of this publication has been approved by the Director of the Bureau of the Budget, June 23, 1952.

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Venereal Disease Control

The Case Against Legalized Prostitution

A popular misconception—that venereal diseases could be controlled to some extent by legalizing houses of prostitution and having them supervised by public health departments—was shared by fully 85% of students attending the VD contact interviewers' school in Norfolk, Va., according to Robert R. Lugar, Public Health Service representative at one time in charge of the training program there. Many people erroneously believe that—

1. Enforced segregation or "red light" districts removing prostitutes from the street, and medical supervision with daily prophylactic injections of penicillin, would eliminate the main sources of infection.
2. Designation of a certain area for the prostitute should make it relatively simple to locate her if she is named a contact.
3. The more brothels in a community, the fewer cases of rape and other sex crimes.

Instructors at the school refute these beliefs with the following factual evidence:

1. Law-enforcement agencies have found it impossible to restrict prostitutes to one neighborhood if they wish to move to another. Furthermore, the prophylactic treatment of the prostitute falls far short of its goal. Even if the girl can be induced to take the penicillin, it does not afford protection from all of the venereal diseases, and infection is still possible.
2. Location of a contact is difficult even if she works in a certain area. No cooperation can be expected from her in giving her true name or permanent address. The glimpse the man gets of her is insufficient for him to describe her. On those rare occasions when the contact report form does adequately describe her, the investigator is rebuffed by an unscrupulous "madame" whose only concern with her charges is in their earning power, certainly not in their health or that of their customers.
3. Experience in city after city has shown that the existence of brothels in a community is more apt to increase than to decrease the incidence of rape, and also that sex crimes have always shown a clear decline in areas where prostitution has been reduced to a minimum.

Training and Visual Aids

Standard Food-Sanitation Training Certificate

A standard Navy food-sanitation training certificate (NavMed-1348 (9-52)) has been published and is available upon request from distribution centers. These certificates need not be used to replace cards which have already been

issued, but may be used in the future for new trainees and for those taking refresher courses in food sanitation. Further information regarding the issuance of these certificates may be found in a forthcoming OpNav Instruction on the subject of the Navy food-sanitation training program.

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Sanitary Food-Service Training

A letter from the New Mexico Department of Public Health states that some of the material from NavMed P-1333, "Instructor's Guide—Sanitary Food Service," which was introduced by Navy, Air Force, and Public Health Service representatives on a nationwide tour last spring, has been incorporated in a training program for food-service employees there. "This was the fourth time a training program has been held in the community and a number of the individuals stated that it was the best one of the four," Mr. Carl Henderson, Supervisor of Food Sanitation, wrote. The department plans to acquire sufficient materials to make the course complete, in keeping with the Guide.

* * * * *

EST Course 2 Years Old

The Environmental Sanitation Technician Course conducted at the U. S. Naval Hospital, Oakland, Calif., observed its second anniversary on 1 Nov 1 November. Captain Robert S. Poos, Officer in Charge, declared, "Reports from graduates . . . and from activities where graduates are stationed indicate that the school is providing a real service to the Navy." One hundred twenty students have graduated from 7 classes so far, and 2 more classes are currently enrolled.

"Hospital corpsmen who can qualify for the 5-month course offered by the school receive training in the standards, inspections, and laboratory procedures necessary to give assurance of a safe supply of food and water, proper refuse disposal, insect and rodent control, and how to eliminate unsanitary conditions that are a health hazard to naval personnel. Field trips and demonstrations, with the cooperation and assistance of State and local health departments, enable students to understand the practical application of the techniques and procedures of environmental sanitation."

Two instructors, HMC's L. G. Estes and W. A. Mitchell, have been commended for their services on the staff. Both have recently been detached to duty elsewhere. (From The Oak Leaf, publication of the U. S. Naval Hospital, Oakland, Calif., 1 Nov. 1952)

General Sanitation

Medical Examination of Food Handlers

Efforts at legislation requiring medical examination of food handlers for both the city of Baltimore and the State of Maryland have been successfully opposed in the past year, it has been reported. Arguments in opposition to the medical examination of food handlers asserted that it was based on a fundamental lack of knowledge of the means of spread of the communicable diseases; that it would give a false sense of security, because a food handler could be ill for some time before or immediately after an examination; that it is unnecessary because of current sanitary control measures; that health departments, both here and abroad, which have had this type of legislation found it to be "ineffective in the prevention of disease and excessively costly in time and appropriations." One such experience was that of New York City, and statements in opposition to the measure were quoted from Dr. Hugh S. Cumming and Dr. Thomas Parran, both of whom have been Surgeons General of the U. S. Public Health Service.

Baltimore's alternative constructive approach to the prevention of food-borne disease, resulting in its virtual elimination, is the proper heating, cooking, and refrigeration of food, and personal instruction of food handlers "in the essentials of personal hygiene, sanitary handling and preparation of food, and the sanitary cleaning and disinfection of food utensils." (Quotations from a statement of the Commissioner of Health of Baltimore, carried in the August 1952 issue of the Baltimore Health News)

The foregoing applies to complete health examinations, including laboratory tests, and should not be considered as discrediting daily or weekly inspections of food handlers.

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Environmental Sanitation Notes

The environmental sanitation officer of the Tenth Naval District is disseminating information in the form of mimeographed "Environmental Sanitation Notes" to assist public works and sanitation officers and others in the district interested in the subject. The Notes are issued as often as sufficient informative material is available—usually every 2 weeks.

Some of the items in a recent issue concern the dangers of promiscuous use of commercial devices for electric insecticide vaporizing, hazards of organic phosphates and halogenated hydrocarbons; accidental ingestion of chlordane; a suggestion for making a "washcloth and germicidal soap in one piece" for prophylaxis aid stations; the recent Navy Preventive Medicine Conference in Cleveland, Ohio; and a suggestion that personnel anticipating attendance at the 1953 conference request earmarking of funds for that purpose from the travel allowance of the local command.

This type of information release is especially useful for disseminating items of local interest.

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Metal Poisoning at Party

"At a party attended by 250 persons early this year, 30 guests were taken ill after eating a sauerkraut dinner. Fifteen had to be hospitalized. Analysis of the foods revealed 22 p. p. m. of cadmium in the sauerkraut samples, which had a pH of 4.4. The sauerkraut had been prepared the day before the party in two 50-gallon kettles, and had been left in them for nearly 30 hours. The outbreak was attributed to the kettles, which were cadmium plated." (Health Officers News Digest)

In the Navy, cadmium poisoning has occurred on a number of occasions when lemonade and other acid-based drinks were mixed and stored in unlined cadmium-plated containers.

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Symposium on Aspects of Food Preservation

Among the subjects of a symposium on aspects of food preservation held in Cambridge, England recently were the following:

1. Observations on the microbiology of raw and heat-treated liquid egg. Although hen's eggs are seldom incriminated in food poisoning, 6 out of 144 samples at an egg-drying plant were positive for Salmonella, 4 of them yielding S. typhimurium, and 4 Salmonella samples remaining positive after heat treatment. Duck eggs were found to be frequent conveyors of Salmonella, particularly S. typhimurium, and it was emphasized that eggs infected with the latter strain may cause acute gastroenteritis if ingested, even though the ducks may be symptomless fecal excretors of this strain.

2. Sterilization by means of high-frequency electric fields. —Dr. M. Ingram concluded from his experiments that when heat had been taken away from food samples undergoing treatment, no protective effect of high-frequency currents could be demonstrated.

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Food Poisoning in England and Wales

An increase of 64% over the previous year in the incidence of food poisoning in England and Wales in 1950 is reported. Of 3,979 cases, 2,021 were traced to Salmonella strains, 1,564 being due to S. typhimurium, 82 to staphylococci, 24 to Clostridium welchii (a relatively new proved cause),

43 to other organisms (without definite proof in most cases), 2 to chemicals, and 1,807 to unknown causes. The figure of 82 cases associated with staphylococci is small as compared with that for the United States.

In only 435 outbreaks was the incriminated food known. In three-fifths of the cases meat dishes were responsible, and in most of these the meat was processed, reheated, or in soup or stock. About 13% were associated with desserts such as ice cream, custard, and cream buns; next in importance were eggs (especially duck eggs), then canned meat (part of which was contaminated after opening, but about a third at the factory), milk, fish, vegetables, fruit, and cheese. (Monthly Bulletin, Ministry of Health and Public Health Laboratory Service, Oct. 1951)

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Problems? Solutions?

Because the Preventive Medicine Section of the Navy Medical News Letter is intended to disseminate helpful information to those in the field, your questions on any subject of preventive medicine or your experiences in solving problems are invited. Brief articles of from 200 to 500 words are desirable. It is no longer possible to use photographs with these items, but pen-and-ink graphs and diagrams may be included.

Items should be addressed to Preventive Medicine Editor, Code 72-M, Bureau of Medicine and Surgery, Department of the Navy, Washington 25, D. C.

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Permit No. 1048

OFFICIAL BUSINESS

WASHINGTON 25, D. C.

DEPARTMENT OF THE NAVY
BUREAU OF MEDICINE AND SURGERY

PENALTY FOR PRIVATE USE TO AVOID
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