

UNITED STATES NAVY

# MEDICAL NEWS LETTER

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Vol. 19 Friday, 18 April 1952 No. 8

TABLE OF CONTENTS

The Use of Trypsin in Chest Disease.....	2
The Tricardiograph.....	3
Effect of Dextran on Blood Typing and Crossmatching.....	4
Dicumarol Therapy in Acute Myocardial Infarction.....	5
Liver Damage in Ulcerative Colitis.....	6
London's Water Supply in Wartime.....	6
A Review of 527 Mid Forceps Deliveries.....	7
Coronary Artery Disease in Pregnancy.....	8
The Antibiotics in Acute Bacillary Dysentery.....	9
Positive Serology in Collagen Diseases.....	10
Parenteral Administration of Calcium.....	12
Carotid Body Tumors.....	13
Urinary Colloids and Kidney Stones.....	14
Self-Examination of the Breasts.....	16
Reactions to Prophylactic Oral Penicillin.....	17
Distribution of NavMed P-1296 Restricted.....	18
Annual Venereal Disease Symposium.....	18
Annual Report of the Public Health Service, 1951.....	18
Dental Officers, U. S. Navy.....	20
Spun Glass Air Filters.....	21
Submarine Exposure Suit in Cold Weather.....	21
From the Note Book.....	22
Officers' Basic Course in Naval Medicine.....	32
Physical Examination of Inactive Aviators (CL 52-28).....	25
Syphilis; TPI Test for (CL 52-29).....	25
BuMed Circular Letters; cancellation of several (CL 52-30).....	26
BuMed Circular Letter No. 51-143; modification (CL 52-31).....	26
Blood Derivatives; Potency and Disposition (CL 52-32).....	27
Courses of Instruction for Medical Officers (CL-52-33).....	28
First Aid Instructions (CL 52-34).....	29
National and Naval Cemeteries; List of (CL 52-35).....	29
Information Re Births and Med Dept Activities (CL 52-36).....	30

### The Use of Trypsin in Chest Disease

In the 1930's, it was well understood that the treatment of empyema in general involved these fundamental principles: aspiration, adequate drainage at the proper time and re-expansion of the lung. In advanced, chronic cases where lung re-expansion was impossible empyema space closure was effected by thoracoplasty.

With the development of penicillin and subsequent antibiotics, the new concept of sterilization of the space became possible. This was greatly to be desired, but it frequently led to forgetfulness of the fact that cure of empyema consisted in re-expansion of the lung and return to optimum physiologic activity. As a result cases frequently were terminated in a state of sterile loculation and fibrothorax, a point of cure far short of optimum.

It was against this background that the initial investigation of trypsin as an agent for enzymatic debridement was undertaken. Pure, sterile, crystalline trypsin has been used in this work; 250 mg. of trypsin are dissolved in 50 cc. of a sterile solution of Sorensen's Phosphate Buffer. This 1/2 % solution is then administered intrapleurally. Prior to administration the patient is prepared with an antihistaminic, usually 20 mg. of benadryl intravenously 10 minutes before the trypsin, or 50 mg. of histadyl orally 30 minutes before the trypsin. Following the trypsin, 50 mg. of benadryl or histadyl are given orally every 3 hours for 3 doses.

After the patient is prepared, thoracentesis is performed. As much pus as possible is aspirated. The trypsin solution is then injected and the needle withdrawn. The patient is instructed to turn frequently in bed and sit up from time to time. On subsequent trypsin treatments, aspiration, saline lavage and trypsin instillation are carried out.

The results obtained in 17 cases of empyema have been interesting and most encouraging. Of the entire group 5 were nontuberculous and 12 were tuberculous or mixed. Of the latter tuberculous group 2 were negative on smear and culture before treatment began. One re-expanded in 16 days and the other remained completely unchanged.

In fibrinopurulent empyema tryptic debridement is definitely indicated. It quickly removes the pyogenic membrane, decreases the viscosity of the fluid and in a high percentage of cases sterilizes the space. It thus prepares patients ideally for surgical decortication or resection. In cases of less than 6 months' duration, tryptic debridement alone may frequently be expected to expand the lung. It is effective in both tuberculous and non-tuberculous empyema. The incidence of side effects in the nature of histamine-like reaction are few and of minor importance. Complete protection is offered by concomitant anti-histamine therapy. There have been no harmful results, and only 1 case of 17 is classed as a complete failure. Trypsin can be conveniently packaged, easily handled and used with a minimum amount of waste.

The use of tryptic debridement in post-traumatic clotted chest will supplant surgical decortication. It can be used in postoperative empyema without fear of damaging the process of tissue repair. Its use in the presence of bronchopleural fistula is not contraindicated.



Results thus far obtained warrant a continued investigation of the use of aerosol trypsin in cases associated with copious, tenacious and purulent sputum. (Dis. Chest., March 1952, L. C. Roettig, H. G. Reiser, W. Habeeb & L. Mark)

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The Tricardiograph: A Rapid Screening Method for Cardiac Disease

Routine miniature films of the chest in hospitals, public health and industrial surveys have placed the problem of case finding in tuberculosis on a practical, sound and relatively inexpensive basis. The need for an equivalent rapid, simple, accurate and inexpensive method for detecting "cardiacs" is obvious. Present day procedures for their detection are expensive and time-consuming, and do not permit simultaneous recording of several important objective aspects of cardiac function.

The authors have constructed a device which promises to be useful in screening groups of people for evidence of heart disease. This records on 6 1/2 by 8 1/2 inch film the slit kymogram of the left heart border for 1 1/2 seconds, electrocardiogram and ballistocardiogram for 6 seconds. These films give a permanent record of the contour and motion of the left heart border, the cardiac rhythm and intraventricular conduction, and an index of the vigor of systolic ejection, all in relation to the respiratory cycle. Less than one minute is required for each subject to take his place and complete his film.

Since this device triangulates on three important aspects of the heart, it is called a "tricardiograph." By adding additional channels for recording heart sounds, it may be converted into a true "omnicardiograph."

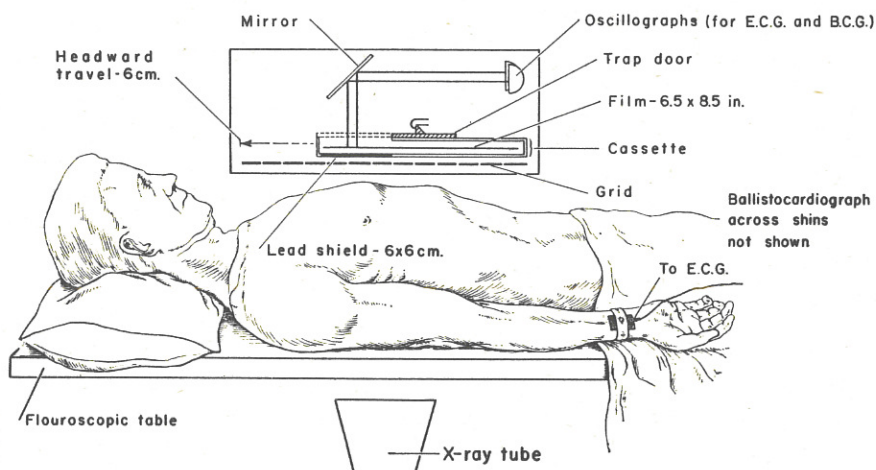


FIG. 1. Diagrammatic representation of the relationships of the tricardiograph for recording left heart border motion, the electrocardiogram, and ballistocardiogram. See text for description.

Figure 1 is a diagrammatic representation of the device. Essentially, it consists of a housing which fits onto the screen arms of a fluoroscope. The housing of the device contains two oscillographs, a lead grid and a constant speed motor moving a cassette. The cassette is a specially adapted type, the upper left hand corner of which has been replaced by a sliding door to allow 6 by 6 cm. of film to be exposed to the light beams from above, and the corresponding lower surface of the cassette in the left upper corner protected by a lead strip to prevent exposure of the film to the x-rays coming from below.

In operation the patient lies on the fluoroscopic table and the leads for the electrocardiograph and ballistocardiograph are connected to amplifiers which activate the oscillographs. The device is positioned over the subject's left precordial area. Pressing a button on the x-ray control box starts the motor and the cassette is driven headward at a speed of 1.0 cm. per second. The sliding door of the cassette opens and the light beams of the electrocardiograph and ballistocardiograph inscribe their traces. At the end of 3 seconds the x-rays are turned on by the cassette carrier and remain on for 1 1/2 seconds, recording the left heart border, with the electrocardiograph and ballistocardiograph still inscribing. The x-rays go off at the end of 4 1/2 seconds and an additional 1 1/2 seconds of electrocardiogram and ballistocardiogram are inscribed, at which time the oscillograph lamp is turned off and the cassette returned to its original position with the sliding door closed. The ballistocardiogram shows the phase of respiration in which the kymograms happened to occur. The entire cycle lasts only about 15 seconds.

This device is adaptable to the recording of other cardiac phenomena, and is fitted to the fluoroscope screen arms of a standard fluoroscope. It is a relatively simple matter to project the 1.5 cm. frames and trace them upon a conveniently ruled graph paper. This gives an easily interpreted record of the entire left border motion in relation to the electrocardiogram and ballistocardiogram inscribed synchronously. The records are small, permanent and easily filed.

It is hoped that this device will prove of aid in elucidating the respiratory variation in the waves inscribed by the ballistocardiogram, and also will provide a useful tool for the rapid screening of a population for latent heart disease. (Circulation, March 1952, J. L. Brandt, W. Dock, R. Landsman & C. Passannante)

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#### Effect of Dextran on Blood Typing and Crossmatching

Dextran is one of the newest of macromolecular substances which have been shown capable of expanding plasma volume. (See Medical News Letter, Vol. 16, No. 4, 8 September 1950.) In the past, one disadvantage to the intravenous injection of substances of large molecular size has been the clumping and rouleaux formation of erythrocytes which makes subsequent typing and cross-matching of blood difficult. Recent studies have shown that the larger molecular sizes of partially hydrolyzed dextran produce marked aggregation and even intravascular aggregation of erythrocytes. It was shown that this was related to the



proportion of large molecular fractions in the particular preparation used, since dextran of a small molecular size did not produce this effect. Dextran used clinically in Sweden and in England carries a precautionary note that blood for typing and crossmatching be removed prior to dextran administration. The present study was undertaken to investigate the effect of a partially hydrolyzed dextran on the blood typing, crossmatching and Rh determination in a large series of patients.

The dextran used in this study was hydrolyzed and fractionated so that the majority of the molecular sizes were distributed in the physiologic range of plasma proteins, particularly albumin. A 6 % solution in saline was used for injection in all except 3 patients, who received 12 % salt-free dextran. Blood grouping, crossmatching, and Rh determinations were done in the usual manner in the clinical laboratory by blood bank technicians. In one patient who had slight rouleaux formation, counts were made on the number of cell clumps in order to obtain an estimate of the change after dextran administration. Blood dextran levels were done by the method of Bloom and Willcox. (See Medical News Letter, Vol. 17, No. 3, 9 February 1951)

The authors' findings indicate that the introduction of partially hydrolyzed dextran into the blood stream of 26 patients with normal and abnormal circulatory dynamics in no way interfered with the later typing and crossmatching before transfusion of blood. This appears to be true irrespective of the blood group or the amount of dextran given. It is not necessary to take blood for typing, crossmatching or Rh determination prior to the administration of this substance as was necessary in the past when macromolecular substances were introduced into the blood stream as osmotic agents. One of the important specifications of a plasma volume expander to be used for emergency purposes is that after administration of the material, blood may be given without unduly complicating procedures. These observations would suggest another attribute of this material in emergency treatment requiring expansion of the blood volume. (Blood, March 1952, P. Roche, Jr., R. A. Dodelin & W. L. Bloom)

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#### Evaluation of Dicumarol Therapy in 287 Cases of Acute Myocardial Infarction

Two hundred and eighty-seven cases of acute myocardial infarction, among hospitalized patients surviving more than 24 hours, have been studied. Of these, 142 received dicumarol and 145 served as controls. Except for the use of anticoagulants in the one group, treatment in both groups was essentially the same. The death rate in the dicumarol group was 13 %, in the control series, 27 %. The incidence of thromboembolic complications was 14 % in the dicumarolized, and 26 % in the control group. In only 4 % of the dicumarol treated cases was death associated with clinically evident thromboembolic complications, in comparison with an incidence of 10 % in the control group. A marked reduction in the mortality rates in all age groups is seen among those receiving dicumarol.

Its administration produced 8 instances of minor hemorrhagic complications and an additional case in which death without apparent hemorrhage may well have been due to the use of the dicumarol.

This study supports the conclusion that acute myocardial infarction should be treated with anticoagulants routinely except when recognized contraindications are present. (J. Mount Sinai Hosp., Mar-April 1952, I. A. Rashkoff, L. E. Schaefer, M. G. Magida & H. Levy)

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### Liver Damage in Ulcerative Colitis

The examination of livers in 93 cases of non-specific ulcerative colitis showed various pathologic changes in 40 % of the cases. The frequency of some hepatic lesions in cases of ulcerative colitis exceeds by 5 to 10 times that in a large control series.

In this series degenerative changes occurred approximately twice as often as inflammatory lesions and with much greater frequency than previously reported. It is assumed that most of these changes are transitory. It is likely that most degenerative changes are related to recurrent attacks of diarrhea and are metabolic in origin.

Diffuse metaplasia of liver parenchyma is not common and actual cirrhosis is rare.

Severe, irregularly distributed, interlobular hepatitis was observed in almost 10 % of the cases. It is assumed that this lesion is portal in origin.

Definite correlations between the morphologic changes and clinical signs and symptoms could not be established because of incomplete clinical observations. Even under these circumstances, however, 10 % of the cases of ulcerative colitis revealed clinical evidence of liver involvement. (Am. J. Path., Mar-April 1952, P. Kimmelstiel, H. L. Large, Jr. & H. D. Verner)

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### London's Water Supply in Wartime

A report recently published by the Metropolitan Water Board describes the steps taken to maintain an adequate and wholesome supply of water during the war years. (Thirty-fourth Report on the Results of the Bacteriological, Chemical, and Biological Examination of the London Waters for the Years 1939-1946.) The author is Lieutenant-Colonel E. F. W. Mackenzie, the Board's director of water examination. Two schools of thought existed when defense plans were being prepared before war broke out: one considered that it was unnecessary to take precautions against disasters which might not occur; the other maintained that every practicable precaution should be taken to provide against any contingency. Fortunately for the people of London the second view prevailed, and how amply it was justified is set out clearly in the pages of the report.



The emergency plans of the Board were concerned first with the repair of mains damaged or broken by bombing (it took some time to discover that concussion from bombs exploding some distance away could fracture water mains without affecting the ground above them); secondly, with ensuring that laboratory tests could quickly be carried out in order to estimate the purity or otherwise of the supply after damaged mains had been repaired; and, thirdly, with the purification by the quickest possible method of repaired water channels after they had been contaminated by sewage. The value of prechlorination - chlorination before filtration - in such times of emergency was proved beyond any doubt, as will be appreciated by all who read the report. So successful was this procedure that in some places the old river intakes (for instance, at Hampton) were opened, and unstored river water was led to the filters. Steps were taken to protect wells also, though fortunately none of the Board's wells was very seriously affected by bomb damage.

The policy of the Board was that no repaired main should be brought back into service without prior disinfection. The methods of disinfection were remarkably successful. Samples were examined from 807 of the 875 large mains which were fractured by bombs, and of these 801 (99.3%) were negative to Bacterium coli. Of the 6 which fell below this standard, 5 contained fewer than 10 Bact. coli in 100 ml. The Board's work in fact was so efficient that even in official quarters some credence was given to a dangerous fallacy - that the non-appearance of epidemics meant that the dangers to the population from polluted water had been exaggerated. The report also describes the measures taken to guard against the contamination of water stored in reservoirs by the dropping of bombs charged with such materials as poisonous gases. Daily testing of the water was continued as a routine throughout the war, and on no occasion was there any evidence that poisonous matter had gained access to it. Apart from its technical interest the report is a tribute to the loyal devotion of the members of the team who performed a vital task under very difficult circumstances during 6 years of war. ("Annotations", Brit. M. J., 8 March, 1952)

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#### A Review of 527 Mid Forceps Deliveries

During the 10 year period from 1941 through 1950, 11,777 viable babies were delivered at The New York Polyclinic Medical School and Hospital. Of these, 527 (4.48 %) were delivered by means of mid forceps, including a set of twins. Four hundred and sixty of the mothers were private patients and 66 were ward patients, with 61 different physicians listed for the group. Three hundred and fifty-six women were primiparas and 170 were multiparas; the average age for primiparas was 27.8 years, for the multiparas 31.9 years. Thirty-eight women were classified as elderly primiparas. Thirty-three patients were delivered under caudal anesthesia; general inhalation anesthesia was used for the remainder. The average birth weight for the infants was 3,611 Gm. (7 pounds, 8 ounces), the smallest weighing 2,060 Gm. (4 pounds, 6 ounces) and the largest

weighing 5,210 Gm. (11 pounds, 7 ounces). Fourteen patients were delivered after a period of gestation of 37 weeks or less. There were no maternal deaths; the gross fetal loss was 3.03 % (corrected to 2.27 %) and the maternal morbidity rate was 2.28 %.

A mid forceps delivery is defined as one in which the forceps are applied to the head in the mid station, i.e., with the leading bony point at or just above the plane of the ischial spines, the hollow of the sacrum nearly filled by the fetal head, and biparietal diameter below the inlet. In determining the station, account is taken of moulding, asynclitism, extension of the head and deformities of the pelvis as possible misleading factors.

The success of mid forceps deliveries depends to a large extent on the judgment, experience and ability of the operator. The type of pelvis, size and attitude of the fetal head and the condition of the cervix should meet the requirements necessary for a successful delivery by mid forceps. If these factors do not favor use of mid forceps, best results will be obtained by cesarean section. If vaginal delivery is decided upon, the choice of instrument will depend on the type of pelvis, amount of moulding and the position and attitude of the fetal head.

Determination of the exact station of the fetal head is necessary to exclude high forceps and also low-mid forceps. In the complicated case, a lateral roentgenogram of the pelvis aids in this determination. With proper diagnosis of station the hazards of the usually undesirable high forceps operation may be avoided. At the same time the less difficult low-mid forceps operation is not included and the results will not show a falsely favorable impression of the risk of the true mid forceps delivery.

Mid forceps deliveries can be extremely dangerous, especially when the case is poorly selected and the operation poorly executed. However, this is not sufficient reason to discard a valuable procedure which, when certain conditions are met, can produce satisfactory results. (Postgrad. Med., March 1952, J. R. Farrell & E. H. Dennen)

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### Coronary Artery Disease in Pregnancy

#### Conclusions.

1. Coronary artery disease is a rare complication of pregnancy occurring most commonly in patients over 35 years of age with hypertensive disease but is occasionally seen in younger women with normal blood pressure.
2. Electrocardiographic study should be made in patients with hypertensive disease and those with anginal syndrome.
3. Coronary artery disease per se does not necessarily imply that pregnancy is contraindicated.
4. Pregnancy can be successfully undertaken following coronary occlusion provided there are no other medical contraindications.
5. The management of pregnancy, delivery and the coronary disease should be based on knowledge of gestational hemodynamics, sound medical and



obstetrical practice.

6. There is no evidence to show that the physiological changes of pregnancy predispose to coronary occlusion.

7. Myocardial failure accompanying infarction is the most common cause of death in antepartum coronary occlusion.

8. Whereas hypervolemia of pregnancy probably adds to the dangers of myocardial failure at the time of infarction, it apparently does not lead to later decompensation.

9. Obstetrical interference should be withheld until the patient has recovered from the acute episode of infarction.

10. Hypertensive complications may subsequently require obstetrical intervention.

11. Coronary artery disease per se is not an indication for interruption of pregnancy or abdominal delivery.

12. Coronary artery disease is not a contraindication to interruption of pregnancy or cesarean section where other medical and obstetrical indications exist.

13. Anticoagulant therapy for coronary occlusion during pregnancy demands special considerations. (Am. J. Obst. & Gynec., Feb. 1952, C. L. Mendelson)

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#### The Antibiotics in Acute Bacillary Dysentery

Late in March 1951, a "Joint Dysentery Unit" was established to study the problem of dysentery among prisoners of war in Korea. This paper is a report of the work of this unit, which consisted of a civilian member of the Commission on Enteric Infections, Armed Forces Epidemiological Board (AVH), an Army member of the 406th Medical General Laboratory (RPM) and the Navy Fleet Epidemic Disease Control Unit # 1 aboard the USS LSIL 1091. The "Joint Dysentery Unit" functioned from May to December 1951. Its major purpose was to evaluate the efficacy of antibiotic and sulfonamide therapy.

On admission, the clinical history and physical examination were done by Korean ward physicians. Symptomatic treatment including fluids was prescribed. On the following morning patients in groups of 5 were given sterile bed pans and directed to pass a fecal specimen. This and the patient were taken immediately to the parasitology and sigmoidoscopy laboratory. The specimen was examined microscopically to determine the nature of the cellular exudate, and to search for E. histolytica trophozoites or other parasites.

Based on the authors' observations the division of cases was as follows: proved acute amebic dysentery, 10 %; clinical bacillary dysentery, 70 % (of which two-thirds would be confirmed bacteriologically). Most of the remaining 20 % would be discharged without specific therapy. Patients with a presumptive diagnosis of bacillary dysentery were assigned in rotation to aureomycin, chloramphenicol, terramycin, sulfadiazine and nonspecific therapy.

Experience revealed that bacteriologic and clinical relapses were rare after 2 weeks, and the patients were released 7 days after therapy if they had had 3 negative cultures.

A wide variety of Shigella was encountered in the studies. S. Flexneri IV (Boyd 103) and S. flexneri III predominated.

Four comparative series of patients, given varying dosages of antibiotics, were studied. In the first series, each of the 3 antibiotics was given in a 2 Gm. initial dose and 1/2 Gm. 4 times daily for 4 days, a total of 10 Gm. In the second series, a single 2 Gm. dose was given. In the third series, a 1/2 Gm. dose was given initially, following by 1/4 Gm. twice daily for 7 days, or a total of 4 Gm. In the fourth series, the antibiotic dose (most effective) was 2 Gm. initially and 1 Gm. at 12 and 24 hours, a total of 4 Gm. Sulfadiazine was given in an initial dose of 2 Gm., followed by 1 Gm. 4 times daily for 4 days (total 18 Gm.)

In all, 1600 cases of known or probable shigellosis were observed. There was a striking difference in the clinical course of patients on the three antibiotics as compared with those on sulfonamides or non-specific therapy. Clinical improvement in the former group began with initiation of antibiotic therapy; within 24 hours the patient would be relatively free from symptoms.

In bacillary dysentery the three antibiotics are all effective and any one of them may be recommended for use in sulfonamide-resistant infections. In amebic dysentery, however, terramycin was clearly superior, both clinically and bacteriologically, to either of the others. In view of the problem of differential diagnosis it is well to use the antibiotic which has the broadest coverage. Almost all Shigella were found very sensitive to terramycin in vitro, less sensitive to chloramphenicol and substantially less so to aureomycin. Terramycin had no troublesome side reactions in these patients.

For these reasons, terramycin is regarded as the antibiotic of first choice for known or probable bacillary dysentery, although aureomycin and chloramphenicol can also be expected to give satisfactory results. A low dosage of any of these is adequate. Two grams initially and 1 Gm. at 12 and 24 hours is recommended. (From the "Joint Dysentery Unit," 64th Field Hospital, Far East Command. A. V. Hardy, COL R. P. Mason (MC) USA, and LT G. A. Martin (MC) USN.\* This paper was presented in a Symposium on Antibiotics in Tropical Medicine, convened at the New York Academy of Science, and submitted by the Preventive Medicine Division, BuMed.) \*Note: Dr. Martin died in a plane accident in Japan in September 1951.

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#### The Incidence of Positive Serologic Tests for Syphilis in the Collagen Diseases

In view of the current increase in the number of patients hospitalized for the diagnosis and treatment of the various "collagen diseases," it seemed desirable to determine the incidence of positive serologic tests for syphilis in such persons.



For a number of years it has been known that positive serologic tests for syphilis occur in lupus erythematosus more frequently than might be expected from associated syphilitic infection or from chance alone. Keil, in 1940, described positive complement fixation and anticomplementary reactions in 10 cases of systemic lupus erythematosus. He noted that reversion to seronegativity occurred in several instances, and suggested that this trend might be used as a favorable prognostic sign. A small number of his cases of dermatomyositis gave positive serologic test for syphilis.

Since 1940, a number of publications have appeared on this subject, dealing almost exclusively with lupus erythematosus. Perhaps the most striking feature of these data has been the wide variation in results, ranging from one series in which there were no positive serologic tests for syphilis, to 44 % positive tests reported from the Mayo Clinic.

The reasons for this disparity are: (1) the sensitivity of the tests performed; (2) the number of different tests done on each serum; (3) the stage of the disease and (4) the frequency of the tests during the course of the disease.

Methods and Material. A retrospective study was made by reviewing the histories of patients admitted to the Johns Hopkins Hospital during the approximate period, 1943 to 1950, in the following diagnostic categories generally agreed to belong to the group of "collagen diseases": (1) rheumatoid arthritis, (2) rheumatic fever, (3) disseminated lupus erythematosus, (4) periarteritis nodosa, (5) dermatomyositis and (6) scleroderma. Cases were included only if a clear-cut diagnosis of one of these conditions had been established by weight of clinical evidence, biopsy or autopsy. Histories were analyzed with regard to age, sex, race, history of syphilis or its treatment, physical signs of syphilis and the results of serologic tests for syphilis. In this fashion, persons with unequivocal histories of early syphilis and those with clinical manifestations of late syphilis and/or positive cerebrospinal fluids were identified, and listed as "proved syphilis." When this group of patients was screened from the total number giving positive tests, there remained those who might have "possible" biologic false positive serologic tests for syphilis, in that they represented either symptomless latent syphilis or false positive reactors.

The serologic tests used were the qualitative Eagle flocculation or the Kline slide technic, performed on admission to the hospital. Tests were repeated, as a rule, and only at times on a quantitative basis, if the initial specimen were doubtful or positive. In this series, the newly developed treponemal immobilization test was rarely used as a means of identification of biologic false positivity, and is not considered here.

Only 20 of the 82 seropositive patients (24.4 %) fell in the category of proved syphilis; in the remaining 62 (75.6 %) the blood serologic findings might be interpreted alternately as due to syphilis or to biologic false positivity.

Results. The total incidence of positive serologic tests for syphilis was twice as great among patients with disseminated lupus and periarteritis nodosa as among those with rheumatoid arthritis and rheumatic fever. The difference is not accounted for by the factor of age. (Since no seropositive reactors were discovered among the few cases of scleroderma and dermatomyositis, these two small groups are excluded from further discussion.)

In the lupus-periarteritis group combined, the incidence of proved syphilis was 5.0 %; of possible biologic false positive reactors, 13.9 %. Comparable figures for the combined rheumatoid arthritis-rheumatic fever group are 1.9 % and 6.5 %. Thus, in both groups, but the one double the other, there are substantial numbers of seropositive patients in whom the existence of syphilitic infection could not be verified, and who are, at least on clinical grounds, possible biologic false positive reactors. When the cases are further compared by sex, even making allowances for the less obvious clinical course of syphilis in females, it is again suggested that in the lupus periarteritis group, and in both sexes, the incidence of possible biologic false positive reactors is about twice that in the rheumatoid arthritis-rheumatic fever group.

The same trend appears when the material is compared by race. The incidence of proved syphilis among the Negro seroreactors is roughly the expected 6 times that among white reactors; while the incidence of possible biologic false positive reactors is only about 3 times as great in the Negro race.

The lack of "verification" of the biologic false positive status, by means of the treponemal immobilization test, of most of the seropositive reactors in this and other similar reported series of cases of collagen disease grossly impairs the validity of any conclusion. It can only be suggested that biologic false positive reactors probably do occur with some degree of frequency in these conditions, especially disseminated lupus erythematosus and periarteritis nodosa. (Am. J. Syph., Gonorr. & Ven. Dis., March 1952, H. E. Zellmann)

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#### A Solution For The Parenteral Administration of Calcium

Calcium is the most plentiful mineral constituent of the body, there being more than a kilogram of it in the skeleton. In comparison with this large mass, the blood contains an arithmetically insignificant amount - less than 300 milligrams. But this tiny quantity is of the utmost physiological importance.

The normal serum calcium level lies between 9 and 11 mg. per 100 cc. Of this, about 2.5 mg. per 100 cc. exist as ionic calcium in equilibrium with the inorganic phosphate of the blood. About 4 mg. per 100 cc. are combined with the blood proteins and the rest occurs as an un-ionized complex, thought to be the citrate or some similar salt. This last fraction is apparently under the influence and control of the parathyroid hormone which enables the blood to dissolve more calcium than could be present because of the slight solubility of calcium phosphate.

Replenishment of diminished serum calcium can be accomplished in several ways. Oral administration of soluble calcium salts is effective, but very slow. Most of the ingested calcium is precipitated in the bowel as phosphates, the carbonate and soaps. Only a small portion is absorbed. Therefore, while alimentary calcium suffices to insure skeletal growth and to maintain a physiological level in the blood, when there is need for an increase in serum calcium in a therapeutically reasonable time a more rapid absorption is essential.



The intravenous administration of calcium solutions effectively raises the serum calcium and that route is most frequently employed. Unfortunately, the effect is too transient, the added calcium being excreted into the urine within a few hours. Most of the commercially available calcium solutions cannot be given intramuscularly because they often produce painful indurations which sometime break down into slowly healing sloughs. The subcutaneous tissues are particularly sensitive and sloughing is the frequent sequela to leakage from the vein.

Calphosan is a specially prepared 1 % solution of calcium lactate and calcium glycerophosphate in normal saline. It can be administered by any parenteral route. The authors have given it routinely in 10 cc. doses intragluteally. The injections are absolutely painless and leave no indurations. Its pH is 7.2 whereas all the other commercial calcium solutions tested by them had acidities ranging from 5.5 to 4.5. Of course, these are all 10 % solutions and Calphosan is only one tenth as concentrated. Dilution of the ordinary solutions to corresponding strength (i.e. with 9 volumes of water) should theoretically raise the pH by but one unit, which would still leave them too acid to be tolerated intramuscularly. The actual increase in pH was less than 1 because the buffer action of the salts mitigated the effect of dilution.

Calphosan has been found to be effective in raising low serum calcium levels. After 4 weekly injections of 10 cc., the level remained (in most cases) normal for almost a year. The injections were painless and produced no indurations or sloughs. The preparation was without effect on normal concentrations of serum calcium. (Am. J. Dig. Dis., March 1952, R. H. Hoffmann, E. M. Abrahamson & B. A. Josephson)

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### Carotid Body Tumors

Carotid body tumors are not frequently encountered, but due to the seriousness of these neoplasms and the importance of administering adequate treatment to eradicate them, 8 cases are reported. Early diagnosis, recognition of the extent to which such tumors may develop and prompt and adequate surgical care are essential in the management of these tumors. Their unusual location, in the carotid triangle, readily permits them to wind around and envelop the common, internal and external carotid arteries, the jugular vein, the vagus, hypoglossal and glossopharyngeal nerves and the sympathetic chain of nerves, and to encroach upon the pharynx. In addition, if permitted to persist, a substantial percentage undergo malignant change. Carotid body tumors must be differentiated from other tumors located in the same area whose growth is slow and persistent and which may also undergo malignant transformation.

The operative removal of carotid body tumors may be very perplexing and formidable even to the most adept neck surgeon. If permitted to persist and extend their growth, at times to the base of the skull, the technical difficulties encountered in their removal, especially when there is evidence of malignant change,

frequently result in considerable residual disability and in appreciable morbidity and mortality rates.

Their position may be very high or low in the neck, due to variance in the site of the bifurcation of the common carotid artery. The author discusses their diagnosis and pathology. In his series, 2 of the 8 cases reported were malignant, as shown histologically and by invasion of the sternomastoid muscle. The use of preoperative compression of the common carotid artery, anticoagulants and good surgical technic permit most of these tumors to be removed without mortality, and with low morbidity rate. (Surgery, March 1952, J. W. Hendrick)

\* \* \* \* \*

#### The Importance of Protective Urinary Colloids in the Prevention and Treatment of Kidney Stones

Most investigations concerning the prevention and treatment of kidney stones have so far been directed only toward trying to ascertain how the concentration of crystalloids excreted in the urine could be diminished. With the exception of correcting certain metabolic disorders, all attempts to control calculous formations have so far not proved entirely successful. It was felt that systematic study of the action of hydrophilic colloids might offer valuable information on how the formation of urinary concretions could be completely avoided or at least stopped. Such knowledge might even lead to the development of a more efficient method by which some stones could be removed without surgery.

From a colloid-chemical point of view urine must be considered as a supersaturated solution of extremely complex composition. The electrolytes and non-electrolytes in the urine of a healthy person remain in solution at a much higher concentration than their solubility in pure water would indicate; this is due to the presence of protective colloids which prevent precipitation, agglomeration and conglomeration of crystalloids.

If the concentration of such protective colloids is insufficient, stone formation begins or is accelerated. In 680 subjects the incidence of stone was found to be almost inversely related to the degree of protective urinary colloids present.

Since colloids are such a very important factor, the authors decided to study systematically the concentration of hydrophilic colloids in the urine of several hundred individuals, both male and female, of various races, living in different climates, and to correlate the results with the occurrence of kidney stones in these individuals. These tests were carried out on various islands in the Pacific Ocean and also in west Florida, which is recognized as an area of high stone incidence.

Systematic colloid-chemical studies, which included surface tension determination, ultramicroscopic investigation, determination of electric charges carried by the colloidal particles visible in the specimens and chemical analysis of the urine samples offered definite proof that the urine of individuals giving evidence of stone formation was deficient in protective colloids, and that this



was the main factor in stone formation. It could be ascertained that the incidence of stones in both sexes in different ethnic groups and nationalities is inversely proportional to the protective urinary colloids present. It was also found that the urine of females generally has a higher concentration of hydrophilic colloids than that of males. It was demonstrated that the concentration of ultramicroscopically visible protective colloid particles in the urine of pregnant women is larger than that in the urine of nonpregnant women.

The correlation of these results with the tendency to stone formation would indicate that from a colloid-chemical point of view the presence of capillary-active agents might be the predominant factor because of their action as protective colloids and dispersing agents, forming a reversible gel in combination with the crystal micelles, instead of permitting the micelles to grow into solid crystals of inorganic matter.

It was therefore decided to ascertain whether the concentration of protective urinary colloids could be increased by parenteral injections of a potent protective colloid and dispersing agent. Such an agent is Wydase (150 TRU) dissolved in 1 ml saline solution, because of its high capillary activity and pronounced protective action. This preparation is hyaluronidase, an enzyme with a fairly high molecular weight. Hyaluronic acid, one of the two substrates of hyaluronidase, is a complex mucopolysaccharide compound, of very high molecular weight, composed of alternating units of acetyl glucosamine and glucuronic acid. Extensive ultramicroscopic studies had already offered visual proof that it is the hyaluronic acid component which acts as a strong peptizing agent and protective colloid.

Subcutaneous injection of hyaluronidase (mixed with saline) causes a pronounced increase in protective urinary colloids. The colloids may form a gel and thereby prevent crystallization of the electrolytes present. They act as excellent dispersing agents, preventing the formation of stones.

The authors feel that this discovery of the action protective colloids exert in preventing the formation or development of stones might well open up a new and hitherto neglected field for medical science far beyond the treatment for kidney stones. This statement is based on recent observations which indicate that the formation of protective colloids in the human body virtually disappears during times of strong emotional stress.

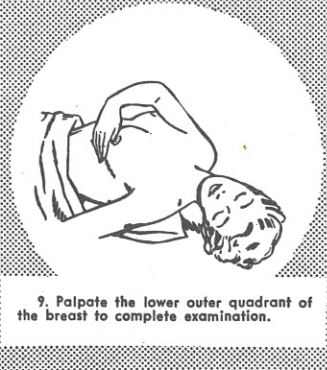
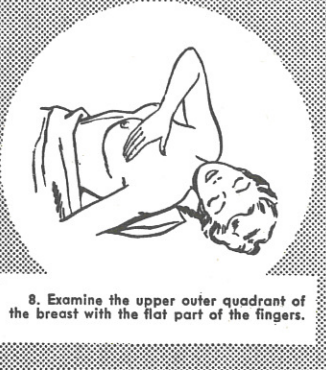
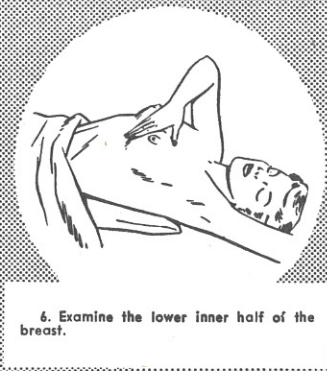
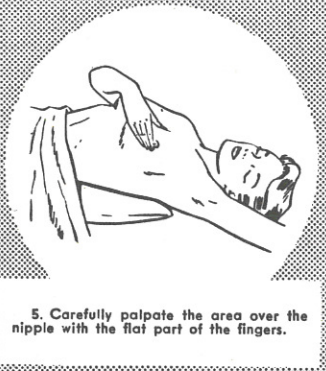
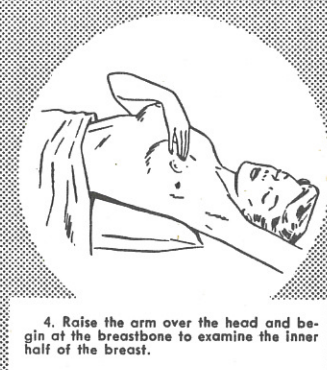
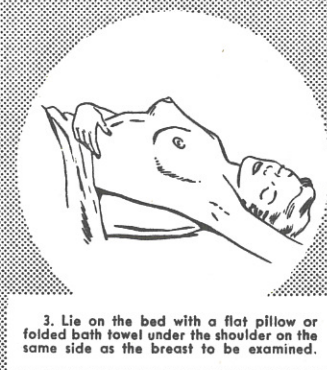
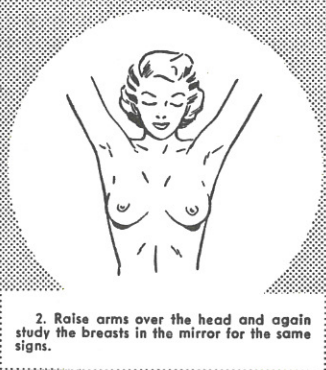
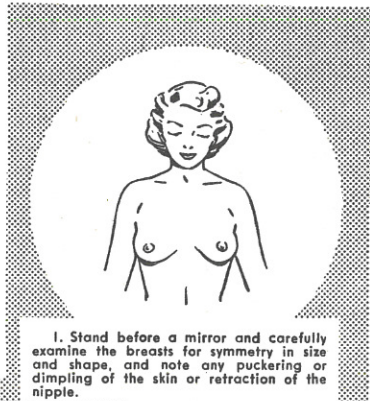
Hyaluronidase therapy has been effective in preventing the formation or recurrence of urinary calculi over a period of 11-15 months in 18 of 20 patients with a tendency to rapid stone formation. (Science, 21 March 1952, A. J. Butt & E. A. Hauser)

\* \* \* \* \*



# Self-Examination of the Breasts

Every year 50,000 women develop breast cancer. More than half of them die within five years. But if the woman herself were to discover the mass during the first month or two, surgery could save 80 per cent to 90 per cent of the proven cases.



**T**HE American Cancer Society suggests that nurses can help in promoting early diagnosis of breast cancer by:

1. Encouraging women to examine their breasts once a month, just after the menstrual period and, equally important, at regular monthly intervals after the cessation of the menses.
2. Telling women's organizations about the film on breast self-examination and advising them to see it.
3. Arranging for local film showings.
4. Taking part in the discussion of the film. Being prepared—knowing the signs that may mean breast cancer.
5. Helping to create healthy psychological attitudes.
6. Knowing the community resources where medical help is available, the physician's office, nearby hospitals, cancer clinics or cancer hospitals.



Reactions to Oral Penicillin Administered Prophylactically

Oral penicillin has been used prophylactically in two Naval Training Centers for the control of streptococcal sore throat and its attendant complications. In the second of these studies, 10,200 men were given one-half of a 250,000 unit tablet daily for 4 weeks.

The group was observed carefully for reactions and 45 reactions in all were observed, 38 of which followed oral penicillin alone and 7 of which occurred in men taking combined oral and parenteral penicillin. Nineteen men were excused from the prophylactic regime because of a history of previous penicillin reactions. Of the 38 reactions which were due to oral penicillin alone, 15 were mild urticaria, 19 were moderate urticaria, 3 were severe urticaria, 1 was mild serum sickness reaction. All severe reactions occurred in men with past history of penicillin reactions or in men with known allergy, but only one of these was severe enough to require admission to the sick list.

Of the 45 men with reactions, 8 had previously experienced penicillin reactions, 10 had a definite history of allergy, 28 had had penicillin by injection 21 days or more prior to beginning of the prophylaxis program, only 10 men had no past history of penicillin treatment, allergy or penicillin reactions.

It is especially interesting that there were two reactions among 1,800 men who were receiving placebos during this same period.

Medical officers using oral penicillin for prophylaxis of gonorrhoea in accordance with Circular Letter 51-3 report extreme variations in penicillin reactions to this regime. Careful checking of reports which have claimed that severe reactions were due to the oral penicillin have shown almost without exception that these reactions followed repeated doses of intramuscular penicillin frequently of the repository type. General impressions that the oral penicillin program has caused sensitization have not been confirmed and are not borne out by the experience in the majority of vessels reporting on the use of oral penicillin. Accurate histories in all cases of penicillin reactions which might be attributable to the use of oral penicillin are desired. Every such case should be evaluated with respect to the complete prior history of penicillin usage whether orally or parenterally, past history of allergy, and prior or concomitant fungus infections. In addition, the occurrence of allergic reactions in persons not taking penicillin should be studied and reported concurrently in order to evaluate the variety of possible causes, among which coincidental use of penicillin may lead to erroneous assignment of responsibility to the antibiotic.

At the present time no evidence exists to warrant rejection of oral penicillin prophylaxis on the grounds of possible sensitization of a significant number of individuals. Oral penicillin prophylaxis should of course be used only when a definite indication exists. (Preventive Med. Div., BuMed.)

\* \* \* \* \*

Distribution of NavMed P-1296 (Hospital Accounting Instructions)  
Restricted

Numerous requests for copies of Hospital Accounting Instructions, Nav-Med P-1296, have been received by the Bureau from various field activities through their local District Publication and Printing Offices.

This instruction manual constitutes a specialized field of accounting and is published in mimeograph form only. Therefore, the Bureau has restricted distribution to:

Naval Hospitals  
 District Medical Officers  
 Hospital Corps Schools (Staff)

The District Publication and Printing Offices have been so informed and future requisitions by activities other than those listed above will not be processed. (Comptroller Div., BuMed.)

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Annual Venereal Disease Symposium, 1-2 May 1952

All naval personnel interested in the problem of venereal disease are cordially invited to attend the Annual Venereal Disease Symposium which will be held at the auditorium of the Federal Security Building, Washington, D. C., on 1-2 May 1952. The Symposium will be jointly sponsored by the National Institutes of Health and the American Venereal Disease Association. Two papers, one on the venereal disease situation in the Far East and one on non-gonococcal urethritis in the Navy, will be presented by Naval personnel. Authorization orders ONLY may be issued for those desiring to attend the Symposium. (Preventive Med. Div., BuMed)

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Annual Report of the Public Health Service 1951

While the battle for public health progressed markedly during 1951, and the lowest death rate in the Nation's history was recorded, the year's end found 40,000,000 Americans still without the protection of full time local health services.

Only half of the 3,070 counties of the United States are served by public health departments. Another 550 counties receive advisory and supervisory services from some 60 State health districts.

State programs placed increased emphasis during the year on the prevention and control of chronic diseases. Control programs for cancer and heart disease received particular attention. Control activities in other chronic disease problems such as diabetes, arthritis and rheumatism also moved forward in many areas.



Research in chronic disease kept pace with the expansion of control measures. Important investigations in heart disease research centered around the major problems of rheumatic fever, hardening of the arteries and high blood pressure.

Progress also is reported in cancer research, in mental health research and in dental research. To promote more extensive research in other fields, two new institutes were established during the year, the Institute of Arthritis and Metabolic Diseases and the Institute of Neurology and Blindness.

Construction of the new Clinical Center building was reported 59 % completed at the close of 1951. The center, which will be ready for occupancy in 1953, will give the National Institutes of Health its first opportunity to conduct clinical research on a wide scale.

The Public Health Service is greatly concerned with health problems related to the National emergency. Among projects undertaken in this area during the past year were the development of a plan for the rapid detection and reporting of disease epidemics, the study of the effects of radioactive wastes on water uses and special training in radiological health.

The Service has also responded to increasing demands for advice and counsel on health matters, for the loan of experts for defense activities and for the staffing and conduct of special projects.

The health status of the average American continues to be strengthened, according to the report. The death rate for 1951 was 9.6 per 1,000 population, 10 % lower than in 1940. The average life expectancy at birth has risen to 68 years, compared with 47 at the turn of the century.

The infant and maternal mortality figures, illustrative of the importance of improved health services and medical care, dropped to the lowest point ever recorded in the United States. Infant mortality has fallen from 100 per 1,000 live births in 1915 to an estimated 20 per 1,000 in 1950. Maternal deaths dwindled from 57 per 10,000 births to an estimated 7 last year.

New gains were reported in the fight against some of the communicable diseases. The death rate from tuberculosis dropped to 22 per 100,000 population, about 50 % lower than the rate 10 years ago.

Less syphilis was reported in 1950 than in any year since 1929; and less gonorrhoea than at any time since 1942. The 33,209 cases of poliomyelitis in 1950 represented a 21 % decrease over the all-time high of 1949. Only 42 cases of smallpox were reported during the year.

With the increased numbers of persons living longer, the chronic diseases, however, are taking a greater toll. Diseases of the heart and cancer caused two-thirds of all deaths in 1950.

The advances toward longer and healthier American lives have been brought about by medical research, expanded hospital facilities and improved local health services, the Report pointed out. During the past year all 53 States and Territories surveyed their hospital resources and reported that there are now slightly more than 1 million hospital beds available. There was an increase of 142,000 beds during the year, half of them constructed with assistance under the Hill-Burton program administered by the Public Health Service. (FSA, PHS, 1 April 1952)

Dental Officers, U. S. NavyDistrict Dental Officers.

First Naval District.....CAPT C. E. Kelly (DC) USN  
 Third Naval District.....RADM H. R. Delaney (DC) USN  
 Fourth Naval District.....CAPT M. G. Martin (DC) USN  
 Fifth Naval District.....CAPT A. F. Miller (DC) USN  
 Sixth Naval District.....CAPT E. W. Willett (DC) USN  
 Eighth Naval District.....CAPT W. D. F. Stagner (DC) USN  
 Ninth Naval District.....RADM A. R. Harris (DC) USN  
 Tenth Naval District.....CDR M. G. Turner (DC) USN  
 Eleventh Naval District.....CAPT J. A. Tartre (DC) USN  
 Twelfth Naval District.....RADM H. P. Riebe (DC) USN  
 Thirteenth Naval District.....CAPT L. F. Snyder (DC) USN  
 Fourteenth Naval District.....CAPT J. L. Purcell (DC) USN  
 Fifteenth Naval District.....CDR K. L. Longeway (DC) USN  
 Seventeenth Naval District.....CDR A. D. Eastman (DC) USN

Staff Dental Officers.

PRNC.....CAPT F. G. Ulen (DC) USN  
 SRNC.....CAPT M. M. Maxwell (DC) USN  
 FMF, LANT.....CAPT E. K. Patton (DC) USN  
 FMF, PAC.....CAPT K. O. Turner (DC) USN

Fleet Dental Officers.

CinCLANT.....CAPT E. B. Hoag (DC) USN  
 CinCPAC.....CAPT C. W. Schantz (DC) USN

Force Dental Officers.

ComNavPHIL.....CAPT W. A. Thompson (DC) USNR  
 CinCNELM.....CAPT H. J. A. MacInnis (DC) USN  
 ComNav FE.....CAPT B. H. Faubion (DC) USN  
 ComNavEast LANT.....CDR W. B. Chesterfield (DC) USN

Commanding Officers and Dental Officers in Charge.

Naval Dental Clinic, Washington, D. C.....CAPT F. G. Ulen (DC) USN, CO  
 Naval Dental Clinic, Brooklyn, N. Y.....CAPT R. W. Malone (DC) USN, CO  
 Naval Dental Clinic, NOB, Navy #926, SF.....CAPT M. C. Craig (DC) USN, CO  
 Naval Dental Clinic, Navy #128, SF.....CAPT T. V. Joseph (DC) USN, CO  
 Naval Dental Clinic, Navy #115, NY.....CAPT R. H. Barrett (DC) USN, CO



Commanding Officers and Dental Officers in Charge. Cont'd.

- Naval Dental Clinic, Camp J. H. Pendleton.... CAPT A. W. Borsum (DC) USN, CO
- Naval Dental Det., MC RecDep, PISC..... CAPT F. V. Lydon (DC) USN, CO
- NavDentSchol, NNMC, Bethesda, Md..... CAPT L. D. Mitchell (DC) USN, CO
- NavDentTechSchol, NTC, Great Lakes, Ill.... CAPT R. D. Pitton (DC) OinC
- NavDentTechSchol, NTC, San Diego, Calif.... CAPT A. Siegel (DC) USN, OinC
- NavDentTechSchol, NTC, Bainbridge, Md..... CAPT V. A. LeClair (DC) USN, OinC

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Spun Glass Air Filters for Bacteriological Cabinets, Animal Cages,  
and Shaking Machine Containers

A spun glass filter unit having a capacity of 250 cubic feet of air per minute has been constructed and tested. The unit was found capable of removing 99 % of the test organisms from an air stream. This efficiency will permit the discharge of air, originally containing infectious bacteria and viruses, to the outside atmosphere, except when there are several million organisms per cubic foot of air. However, filtration efficiencies of 99 % cannot be considered adequate when the air is to be recirculated.

An animal cage having a spun glass filtered air supply has been developed. Use of this cage may prevent possible cross-contamination and avoid the release of pathogens to the atmosphere.

A shaking machine container is described which completely encloses the flask, yet provides through a spun glass filter sufficient air for satisfactory bacterial growth. (J. Bact., March 1952, H. M. Decker, F. A. Geile, J. B. Harstad & N. H. Gross)

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A Report of the Use of the Submarine Exposure Suit in Cold Weather Operations

Special clothing designed for use on the submarine bridge in foul weather was tested aboard 4 submarines during Atlantic Fleet exercises in cold waters (Micowex-52). Data were obtained by use of a questionnaire, by interview and by personal observations of the accompanying medical officer, concerning fit of the suit, ease of donning, comfort, waterproof features and degree of satisfactory-ness of the suit, hood-vest, gloves and boots. Results indicate a high degree of satisfaction with the present outfit, the least satisfactory item being the gloves. (CDR J. L. Kinsey (MC) USN, Proj. NM 002 013.01.01, NMRL, NewLondon, Conn., 10 March 1952)

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From the Note Book

1. Rear Admiral Lamont Pugh, Surgeon General of the Navy, spoke on "The Relationship of Navy Medicine to Ophthalmology and Otolaryngology" before the 25th Annual Spring Congress in Ophthalmology, Otolaryngology, and Allied Specialties on 9 April 1952, at the Gill Memorial Eye, Ear and Throat Hospital, Roanoke, Virginia. While in Roanoke, Admiral Pugh also addressed the Roanoke Chapter of the University of Virginia Alumni Association on the evening of April 10. (PIO, BuMed)
2. Dr. Melvin A. Casberg, Vice Chairman of the Armed Forces Medical Policy Council, has been appointed Chairman of the Council, following the resignation of Dr. W. Randolph Lovelace II, effective 1 April 1952. (PIO, Dept. Def., March, 1952)
3. Appointment of 35 advisers to the Public Health Service, Federal Security Agency, to assist in the operation of services of the Claimant Agency health and sanitation program has been announced. Twenty-one of the advisers are consultants from the public health field; 14 are liaison representatives from trade associations dealing with materials required in the health and sanitation programs. (News Release, PHS, FSA, 26 March 1952)
4. Chest x-ray and microscopical study of bronchial washings were made of 500 persons apparently well but who were living in the homes of persons who had contagious tuberculosis. Twenty percent of the 500 cases presented x-ray shadows suggesting tuberculosis lesions. In 14 cases of essentially clear x-ray films tubercle bacilli were recovered from bronchial washings and lesions in the trachea or bronchi or both were detected by bronchoscopy. (Dis. Chest, March 1952, J. J. Castillo, Havana, Cuba)
5. Excessive doses of volatile 1-cyclohexyl-2-methylamino-propane (Benedrex Inhaler) failed to produce any undesirable side-effects, such as angina attacks or vasopressor responses in 20 patients with severe angina pectoris due to coronary arteriosclerosis. No significant electrocardiographic changes were observed. (New Eng. J. Med., 20 March 1952, J. B. Burnett & S. M. Gunderson)
6. The National Society for the Prevention of Blindness favors continued use of 1 % silver nitrate solution as the preferred prophylactic agent in preventive treatment of ophthalmia neonatorum. There has been considerable research in the last few years on the use of penicillin as a prophylactic agent. Additional scientific research should be carried on to explore further the effectiveness of various antibiotics, the question of sensitivity and the possibility that strains of some bacteria may develop a resistance to certain of the antibiotics. (Am. J. Nursing, April 1952)



7. "The first day of life is the most dangerous; if the number of deaths on the first day of life were to continue for the first 100 days, no infant would survive beyond that time," statisticians of the Metropolitan Life Insurance Company report. (Science News Letter, 22 March 1952)

8. An analysis of causes of death among 580 patients in 716 successive anesthetics over an 18 month period is presented in Surgery, March 1952, P. H. Lorhan and W. Merriam.

9. Further exploration into the nature of the hemorrhage produced by radiation injury with respect to the presence or absence of circulating anticoagulants is reported in the Journal of Laboratory and Clinical Medicine, March 1952, by LTJG D. P. Jackson (MC) USNR, CDR E. P. Cronkite (MC) USN, G. V. LeRoy and B. Halpern.

10. In scrub typhus, killed vaccines have been completely disappointing in human trials. Very many strains of scrub typhus exist, practically all different, and killed vaccine provides little cross immunity. Present technic: inoculate with living organism, follow it with chloramphenicol 4 Gm. every 4th day, beginning on the 7th, ending on the 23 day. Leptospirosis (Weil's disease, icterohemorrhagic fever) was very common in jungle patrols in Malaya; 4 cases occurred in 28 men in 1 month, each of the men showing a different strain of organism. Eight cases were seen among 76 men and 5 different strains were seen in this group. In all, 8 different strains have been found, making for a complex problem similar to scrub typhus. (Preventive Med. Div., BuMed)

11. Land leeches are a big problem in Borneo. M-1960 insect repellent in clothing prevented leech attachment. (Preventive Med. Div., BuMed)

12. In ancient Rome, leather was so precious that the wearing of high shoes was restricted by law to patricians, while the poor had to wear primitive sandals or walk barefoot. (Science News Letter, 29 March 1952)

13. The Navy Medical Department's Dental Training Film, "Complicated Exodontia," produced by the Bureau of Aeronautics under the direction of the Naval Dental Corps, has been awarded the 1951 Silver Award (first prize) for dental films at the International Exhibition of Cinematographic Art held at Venice, Italy. This is the second time that a Navy dental film has won this high award. The first, "Endodontia," was awarded the Silver Award for 1949. (PIO, BuMed)

14. Small lakes may soon be made more pleasant for summer swimming through the use of a chemical that controls the bloom of blue-green algae. Extremely small doses of the chemical, 2-3-dichloronaphtho-quinone will kill the bloom producing algae but leave other plant growth untouched. The chemical is apparently harmless to fish and other organisms in the water; however, additional tests must be made to determine the effect after long exposure. The compound

was found by University of Wisconsin botanists, Dr. F. Skoog, G. Fitzgerald and G. C. Gerloff. (Science News Letter, 8 March 1952)

15. "The Clinical Significance of Postassium Metabolism" by G. W. Pedigo, Jr. and "The Clinical Use of Potassium in Common Disorders" by R. S. Dyer appear in the Journal of the Kentucky State Medical Association, March 1952.

16. The surgical principles involved in the clinical use of streptokinase and streptodornase are discussed in Postgraduate Medicine, March 1952, J. M. Miller and P. H. Long.

17. "Essentials in Interviewing," by Anne F. Fenlason, a new volume of Harper's Social Science Series, is recommended to all personnel whose work requires interviewing, either occasionally or routinely. (Preventive Med. Div., BuMed)

18. The pathogenesis and clinical picture of spontaneous rupture of the esophagus is discussed in the American Journal of Digestive Diseases, March 1952, A. R. Small and L. J. Boyd.

19. CAPT G. A. Gray, Naval Hospital, Chelsea, Massachusetts, was recently certified by the American Board of Surgery and LCDR John H. Cheffey, Naval Hospital, Key West, Florida, by the American Board of Orthopedic Surgery. (PIO, BuMed, 26 March 1952)

20. An article on anesthesia for long or technically difficult ophthalmologic and otolaryngologic surgical procedures appears in A. M. A. Archives of Otolaryngology, March 1952, D. C. Moore and J. F. Tolan.

21. Full mouth rehabilitation in terms of its aim to restore function is discussed in the Journal of Prosthetic Dentistry, March 1952, by I. Goldman.

22. A discussion of the famous and useful Gram Stain will be found in Bacteriological Reviews, March 1952, J. W. Bartholomew and T. Mittwer.

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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 address.

\* \* \* \* \*



JOINT LETTER

BUMED CIRCULAR LETTER 52-28

24 March 1952

From: Chief, Bureau of Medicine and Surgery  
Chief of Naval Personnel  
Commandant of the Marine Corps

To: All Ships and Stations

Subj: Physical examination of naval and Marine Corps aviators, inactive

Ref: (a) BUMED-BUPERS-MARCORPS Joint Ltr, BUMED-535:dpk P2-5/A21  
(BUMED Cir Ltr No. 50-20), Pers-2112-ohp of 20 Feb 1950; NDB  
Jan-Jun 1950, 50-137, p. 315 re subject

1. Reference (a) is hereby cancelled in view of adequate coverage by articles 15-71(2), 15-78, and 15-79, Manual of the Medical Department.

2. This letter shall be considered cancelled after appropriate cancellation action has been taken.

H. L. Pugh

L. T. DuBose

Lemuel C. Shepherd, Jr.

\* \* \* \* \*

BUMED CIRCULAR LETTER 52-29

27 March 1952

From: Chief, Bureau of Medicine and Surgery

To: All Ships and Stations having Medical Department personnel aboard

Subj: Syphilis; Treponemal Immobilization Test for

Ref: (a) BuMed Cir Ltr #51-59 of 9 Apr 1951

(b) Medical News Letter - Vol. 18, No. 12, of 21 Dec. 1951, page 6

1. Paragraph 2b (2) of reference (a) is hereby changed to read as follows:

(2) Mail serum to Naval Medical School, Bacteriology Department, National Naval Medical Center, Bethesda 14, Maryland. Use airmail where necessary in order to reduce the delay in transit and to speed the return of results. Label "For TPI Test".

2. Attention is invited to additional information relative to the TPI Test contained in reference (b).

H. L. Pugh

Circular Letter 52-29 will not be printed in the Navy Department Bulletin.

\* \* \* \* \*

BUMED CIRCULAR LETTER 52-30

27 March 1952

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

Subj: BUMED circular letters; cancellation of several

The following BuMed Circular Letters are cancelled:

46-147, 47-19, 47-43, 47-62, 47-156, 48-14, 48-97, 48-101 49-31, 49-60, 49-66, 49-108, 50-14, 50-32, 50-71, 50-77, 50-108, 50-123, 50-136, 50-144, and 51-20.

This letter considered cancelled after compliance.

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BUMED CIRCULAR LETTER 52-31

27 March 1952

From: Chief, Bureau of Medicine and Surgery  
To: Medical Department Activities and Facilities

Subj: BUMED Circular Letter No. 51-143 (Red Cross activities in the Naval Medical Department); modification of

Ref: (a) BUMED Cir Ltr No. 51-143

1. Paragraph 16 (Section VI, CONFIDENTIAL STATUS OF REPORTS) of reference (a) is modified as follows:

"16. The collection of social data is an important phase of Red Cross activity in naval hospitals. Such social case histories are usually obtained by local chapters and cooperating civilian agencies and individuals with the understanding that the information will be held and treated as confidential. Case reports obtained from or through the Red Cross shall be held as strictly confidential and provision shall be made to prevent the reports falling into the hands of unauthorized persons. Under no circumstances shall information as to the contents of a Red Cross report be communicated to the patient, his relatives, friends, or other unauthorized persons. Such reports shall not be included in clinical records of patients, nor in the records of proceedings of physical evaluation boards. Information contained in social service reports may be embodied in the clinical records by abstracting the information and incorporating it as part of the case history



without identification of its source, in a manner similar to that employed in entering case material obtained from sources other than the physician's history; verbatim copying shall not be employed."

H. L. Pugh

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

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BUMED CIRCULAR LETTER 52-32

31 March 1952

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

Subj: Albumin, Serum, Human; Plasma, Normal, Human, Dried and other  
Blood Derivatives; Potency Data and Disposition Instructions

Ref: (a) BUMED Cir Ltr 49-51  
(b) A1Nav 49-51  
(c) A1Nav 98-50

1. References (a) and (b) are cancelled and superseded by this letter.
2. The potency periods of blood derivatives enumerated below are as follows:

(a) Albumin, Serum, Human, 25 Gm., 100 cc, Stock Number 1-582-010:  
7 years from date of manufacture.

(b) Albumin, Serum, Human, 25 Gm., 100 cc, Stock Number 1-582-045  
(formerly salt poor): 5 years from date of manufacture.

(c) Globulin, Immune Serum, Human, 10 cc, Stock Number 1-605-505:  
2 years from date of manufacture.

3. Reference (c) extends the expiration date of all dried plasma indefinitely.
4. Reference (b) directed that all existing stocks of Fibrin Foam and Thrombin, Human, Stock Number 1-604-785, be destroyed. Stock Number 1-604-775, Fibrin Film, Human, has a potency period of three (3) years from date of manufacture and shall be destroyed when the expiration date is reached.
5. All stocks of outdated serum albumin and defective blood plasma shall be returned to the nearest Naval Medical Supply Depot on S&A 127, at book value, with notation "No transfer of funds."

H. L. Pugh

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## JOINT LETTER

BUMED CIRCULAR LETTER 52-33

31 March 1952

From: Chief, Bureau of Medicine and Surgery  
Chief of Naval Personnel

To: All Ships and Stations

Subj: Courses of instruction for medical officers in Aviation Medicine or  
Submarine and Diving Medicine

Ref: (a) BUMED-BUPERS Joint Ltr (BUMED Cir Ltr No. 51-66) of 23 Apr  
1951; NDB Jan-Jun 1951, 51-309, p. 209  
(b) NAVPERS-15795, List of Navy Schools and Courses  
(c) BuPers Cir. Ltr. 120-51; NDB 31 July, 1951, 51-548

1. Reference (a) is hereby cancelled.

2. Henceforth, medical officers of the Regular Navy and Naval Reserve making application to the Bureau of Medicine and Surgery for assignment to courses of instruction in Aviation Medicine or Submarine and Diving Medicine shall include in their requests the applicable service agreement indicated below:

a. For a course in Aviation Medicine:

"I agree to remain on active duty for 6 months following the period of service for which I am currently obligated, or for 1 year following completion of the course, whichever is longer."

b. For a course in Submarine and Diving Medicine:

"I agree to remain on active duty for 12 months following the period of service for which I am currently obligated, or for 18 months following completion of the course, whichever is longer."

3. "Currently obligated service" is that period of service which applicants for the above courses may be required to serve in accordance with the provisions of reference (c), or other established policy, regulation, or law.

4. Information on continuing availability of subject courses is published in revisions of reference (b), and by special announcement when the circumstances require.

H. L. Pugh

L. T. DuBose

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BUMED CIRCULAR LETTER 52-34

1 April 1952

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

Subj: First Aid Instructions

Ref: (a) Art. 3-10(3), ManMedDept  
(b) Art. D-2503, BuPersManual  
(c) Art. 0970, Navy Regulations

1. It has been observed that many field activities are not conducting well-regulated instructions in first-aid measures as required by references (a), (b), and (c).
2. It is directed that medical department representatives on all ships and stations institute, immediately, a program of continuous first-aid instruction. Attention is invited to the teaching of the Holger-Nielsen method of artificial respiration which is the accepted method and should be utilized.
3. This letter shall be considered cancelled after compliance has been assured.

H. L. Pugh

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BUMED CIRCULAR LETTER 52-35

1 April 1952

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

Naval Dispensary, San Francisco, Calif.

Naval Air Stations: Denver, Colo.; Miami, Fla.; Atlanta, Ga.; Glenview, Ill.; Olathe, Kans.; Patuxent River, Md.; Grosse Ile, Mich.; St. Louis, Mo.; Lincoln, Neb.; Niagara Falls, N. Y.; Akron, Ohio; Columbus, Ohio; Quonset Point, R. I.; Dallas, Tex.; Brunswick, Maine

Naval Stations: Long Beach, Calif.; New Orleans, La.; Tongue Point, Astoria, Oreg.; Orange, Tex.; San Juan, P. R.; Sangley Point, Republic of the Philippines; Subic Bay, Republic of the Philippines

Submarine Base, New London, Conn.

Naval Auxiliary Air Station: El Centro, Calif.; Sanford, Fla.

Naval Advanced Base Depot, Port Hueneme, Calif.

Subj: National and naval cemeteries; list of

Ref: (a) BuMed Cir Ltr No. 47-151  
 (b) BuMed Cir Ltr No. 48-115  
 (c) BuPers Cir Ltr No. 39-52

Encl: (1) List of national and naval cemeteries

1. Enclosure (1) lists national and naval cemeteries available for burial of the remains of those who die while on the active or retired list of the Navy and Marine Corps and have had honorable service therein. Reference (a) and (b) are hereby superseded and cancelled.

2. Except at Arlington National Cemetery, Fort Myer, Va.; Golden Gate National Cemetery, San Bruno, Calif.; Fort Snelling National Cemetery, Minneapolis, Minn.; and Long Island National Cemetery, Farmingdale, N. Y., the national cemeteries have limited facilities for receiving and caring for remains, the services usually being limited to the opening and closing of the grave. Relatives should be apprized of these limitations and informed that they must make all funeral arrangements with the superintendent of the national cemetery. Naval honors may be provided at those cemeteries in the vicinity of a naval activity in accordance with instructions contained in reference (c).

H. L. Pugh

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

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BUMED CIRCULAR LETTER 52-36

1 April 1952

From: Chief, Bureau of Medicine and Surgery  
 To: All Medical Department Shore Activities and Facilities

Subj: Dissemination of information regarding births and medical department activities of general interest to the public

Ref: (a) BuMed Circular Letter 47-101  
 (b) BuMed Circular Letter 48-147  
 (c) Article 1252.3 Navy Regulations 1948  
 (d) Article 1-19 (Adv. change 1-3 of 26 Sept 1951) Manual of the Medical Department

Encl: (1) Form letter to be used in reporting births to Fleet Hometown News Center, USNTC, Great Lakes, Ill.

1. This letter combines pertinent information contained in references (a) and (b) and is effective upon receipt. References (a) and (b) are hereby cancelled.



2. The Secretary of the Navy has stressed that informing the American public fully of the work of all units of the naval establishment is a paramount responsibility of all commanding officers. The Bureau of Medicine and Surgery receives official reports dealing with professional and statistical material from all Medical Department units. There are, however, numerous Medical Department events and activities which are of continuing general interest.
3. It is desired that items regarding professional work; research; medical, dental and scientific meetings; anniversaries of the establishment of hospitals and dental clinics; personal items concerning either patients or the staff of medical and dental units, etc, that might be of interest to local or hometown papers be considered for possible press release.
4. Many station newspapers carry excellent human-interest stories concerning personnel of the command, such as: heroic and outstanding deeds; emergency assistance to civilians; athletic accomplishments; and awarding of decorations and medals. Stories of this nature, accompanied by suitable action photographs, make good copy for hometown newspapers as well as the local media. Hometown news stories constitute one of the greatest morale boosters available to the Navy. The Fleet Hometown News Center is the Navy's processing and distributing agency for hometown stories and should be utilized to the fullest extent.
5. The provisions of reference (c) amplified by reference (d) apply to all service and civilian personnel of the Navy Medical Department and should be brought to the attention of individuals writing articles for publication, or public speaking, on professional, political, or international subjects.
6. The Chief of Information, Department of the Navy, has requested that all births in naval hospitals and medical activities be reported in the form of a short story to Fleet Hometown News Center, USNTC, Great Lakes. Enclosure (1) has been adopted by Fleet Hometown News Center as a form letter which meets their requirements and shall be used by all medical department activities concerned in reporting births to the Fleet Hometown News Center. Because birth announcements decrease in news value with the passage of time, this type of story is treated with special haste at FHTNC. It is suggested that Medical Department activities consider the importance of the time element when sending in baby birth forms. On-hand stock of forms or form letters now being used for this purpose may be used until depleted. Enclosure (1) may be reproduced locally.
7. Copies of these story-reports of births to the Fleet Hometown News Center are no longer required nor desired by the Bureau.
8. Should either parent object to supplying the necessary information required to complete enclosure (1), the form shall be withdrawn and no further action taken.

Lamont Pugh

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Circular Letter 52-36 will not be printed in the Navy Department Bulletin.

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Officers' Basic Course in Naval Medicine

The Bureau of Medicine and Surgery is now accepting applications from medical officers on active duty in the Navy or Naval Reserve for a 9 months Basic Course in Naval Medicine to be given at the U. S. Naval Medical School, NNMC, Bethesda, Md; beginning in September 1952. This course has been designed to provide the young medical officer with a broad background in those phases of naval medicine that are so essential to a successful career in the Navy.

The course will include instruction in Medical Department organization and duties, customs, ethics, preventive and industrial medicine; amphibious, aviation, submarine, field and shipboard medicine; physical and rehabilitative medicine; emergency care of casualties and their transportation; general medical and surgical subjects; clinical and pathological conferences and library periods.

Requests for assignment to the course should be submitted to the Chief of the Bureau of Medicine and Surgery. Since the course is basic to a career in naval medicine, applications by regular Navy medical officers will take priority over those of reserve officers in filling the class quota. Assignment to the course represents permanent change of duty orders. (Professional Div., BuMed)

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Permit No. 1048  
NavyMed-369 - 4/52

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