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The Surgical Treatment of Recurrent and Chronic Spontaneous Pneumothorax of Nontuberculous Origin: Spontaneous pneumothorax of nontuberculous origin may be grouped into 3 simple classes. In the first are those cases in which there is a single attack from which the patient recovers without incident or sequellae. In the second are those in which there are recurring attacks. These may be of short duration, interfere little with the patient's activities, and in which little treatment or aspiration of the air may be required. In some cases, however, the pneumothorax persists for weeks or months and makes the patient an invalid. These patients require some form of treatment that will prevent the recurrence of the pneumothorax after re-expansion has been obtained. In the final group are cases in which a pneumothorax develops, and the lung fails to re-expand spontaneously or after repeated aspirations of air. In these, the writers believe open operation should be used although many cases have been reported in which re-expansion has followed the induction of a chemical pleuritis.

Since Spengler in 1906 suggested the use of silver nitrate injections to induce a chemical pleuritis to prevent the recurrence of pneumothorax of nontuberculous origin, this and various other agents have been used with considerable success. The underlying pathology in such cases has usually been a localized area of emphysema or scattered emphysematous blebs on the surface of the lung. In 1939, Hennell and Steinberg reported the successful treatment in 5 cases of recurrent and chronic, tense pneumothorax by means of injections of glucose, iodized oil, or one followed by the other. Brock in 1948 reviewed the subject of the treatment in these forms of pneumothorax and reported the largest series of cases in the literature. Among 71 cases of spontaneous pneumothorax of nontuberculous origin, he presented 25 recurrent cases and 46 chronic ones. In 8 of the chronic cases there were large cysts which required excision, or lobectomy. In all of the others, treatment was by the induction of a pleuritis with silver nitrate. The treatment proved successful in all cases.

The origin of the usual case of spontaneous pneumothorax not resulting from tuberculosis is the rupture of a peripheral air sac in the presence of a free pleural space. Such dilated alveoli are known to occur frequently in normal lungs. Their rupture as the result of a sudden increase in intra-alveolar pressure is not remarkable. When this event is not associated with the presence of some inflammatory process in the underlying lung or pleura, there is collapse of the lung and the leak becomes sealed. The ruptured area heals and the lung re-expands. When there is underlying emphysema, or some chronic inflammatory process the decrease in vital capacity may be severe. However, unless the air is leaking from an involved area, it tends to stop quickly and the lung re-expands. Ruptures of areas in parts of the lung affected by active inflammatory processes will usually result in a pyopneumothorax, or hemopneumothorax, which will not be considered in this presentation.

The management in cases of recurrent pneumothorax of short duration usually does not involve surgical procedures. Conservative measures usually suffice. These include the injection of various irritating substances, such as silver nitrate, glucose, and iodized oil, after it has been demonstrated that the lung can re-expand.

Patients with recurrent pneumothorax of longer duration can be more certainly cured by open operation because the underlying cause of the leak can be corrected and provisions made for maintaining the expansion of the lung. Eight of the patients in this series had this type of recurring pneumothorax, and all were subjected to operation. They had pleural poudrage with talc and sulfanilamide in combination with resection of the leaking emphysematous blebs or simple excision of the blebs.

Chronic pneumothorax means that the lung remains collapsed and shows no tendency to re-expand. There were 11 patients in this group. Although tuberculosis was suspected and searched for in each case, it was not found. In general, the 2 main causes of the pneumothorax were the persistence of a broncho-pleural leak, and/or the encasement of the collapsed lung in adhesions, or an inelastic membrane which prevented its re-expansion.

In the 8 cases of recurrent pneumothorax in this series, it appeared that the etiological factor was the rupture of a peripheral bleb. Following this rupture and the establishment of a pneumothorax, the lung collapsed and the site of air leakage became sealed. Re-expansion then occurred. The ensuing pleural reaction was not sufficiently great to prevent rupture of other blebs, however, or to produce symphysis of the pleural leaves and, when the intra-alveolar pressure again became suddenly increased, the same bleb or another one ruptured and pneumothorax again appeared. The problem of the management in these cases was that of preventing further leaks from the lung and maintenance of the lung in its fully expanded state. It cannot be denied that good results in certain cases have been achieved by the induction of a chemical pleuritis with silver nitrate, iodized oil, concentrated glucose solution, and by closed pleural poudrage with talc. Nevertheless, it has been the belief of the authors that in cases of recurring pneumothorax of long standing, the open operative approach offers more certain success. Such an approach allows for the direct study of the involved lung and definitive management of the presenting lesion. Although a wide range of vision may be afforded through the use of the thoracoscope, the exploration can never be as complete as when the chest is widely opened.

Among the 11 cases of chronic pneumothorax, the site of leakage of air was apparent in 9 of them. The rupture of large bronchiogenic or emphysematous cysts occurring in 4 of the 9 cases was an obvious cause for the pneumothorax, and the size of the bronchial communication easily accounted for the

chronicity. At the same time, however, the size of the fistula should have allowed for infection of the pleural space of sufficient degree to produce an effusion. In none of the 3 cases with bronchiogenic cysts was this true. In the case with emphysematous cysts there had been a pleural reaction of sufficient degree to produce binding adhesions, although at no time was there evidence of an effusion. These adhesions would have been sufficient in themselves to prevent the lung from re-expanding even had the leakage of air stopped. In 4 other patients air could be seen to escape from the lung surface, either from an emphysematous bleb or from an area of localized induration in the lung. In the patient who had had a band adhesion divided by the closed method, no definite fistula was demonstrated, but the progress in the case and its similarity to certain cases of tension pneumothorax occurring in patients with tuberculosis make it seem most likely that a fistula had been held open by the adhesion. Healing of the fistula occurred after the lung had been allowed to relax completely, and the pleural reaction produced by the operative procedure caused the lung to adhere to the parietal pleura and should ensure against a recurrence of the pneumothorax.

In the cases of chronic pneumothorax in which no definite site of leakage could be found, it must be assumed that during the time when the air was leaking from the lung an inflammatory process was in progress which caused the formation of adhesions which later prevented the lung from re-expanding. The first of these patients had a definite pleural effusion before there was evidence of his pneumothorax. He was treated with sulfonamides during this time and they undoubtedly played an important role in sterilizing the pleural cavity. The other patient had had no evidence of pleural infection at any time and had received no sulfonamides or penicillin.

Aside from the persistence of a bronchopleural fistula, the other important factor in the pathogenesis of these cases of chronic pneumothorax was the trapping of the collapsed lung by adhesions or its encasement in an inelastic membrane. In 6 of the 11 cases it was considered necessary to do a decortication before the lung could be made to expand, even when the intrabronchial pressure was raised to a high level. This experience is apparently unique if one is to judge from the literature. Except for Brewer, Dolley, and Evans, who reported their experience with 15 cases of chronic, spontaneous pneumothorax at the meeting of the American Association for Thoracic Surgery in March 1949, no other authors have noted the importance of decortication in the treatment of patients with chronic pneumothorax. Brock, in his recent article, was able to obtain re-expansion of the lung in each of his 46 cases without the use of decortication. Furthermore, except in 8 cases associated with pulmonary cysts which required excision of the cyst or lobectomy, he simply induced a pleuritis by means of the injection of silver nitrate. Also, Alexander and Haight, in the paper they presented before the American Trudeau Society in 1947, cited no case in which it was necessary to do a decortication,

although open thoracotomy was done in all of their cases. Why the present writers found 6 patients in 11 who needed decortication to allow for re-expansion of the lungs and Brock found none in a much larger series is hard to understand. Perhaps as the authors' series grows in size, the incidence rate of incapacitating adhesions will decrease. Certainly the recognition of this condition cannot be certain without open thoracotomy and hence this approach is regarded as preferable.

The object of all therapy is to return the patient to a state of health as safely and as quickly as possible. Conditions in individual cases must always determine the line of treatment. It is also important to realize that radical surgery may at times be more conservative treatment than nonoperative management. In the series of cases of chronic pneumothorax reported by Hennell and Steinberg, in which intrapleural injections of glucose or of iodized oil, or of one followed by the other, were employed, the convalescence required from one to 6 months. In the larger series reported by Brock the duration of convalescence was shorter but the patients had to have repeated chest aspirations, and at times the chemical pleuritis had to be reinduced by further injection of silver nitrate.

The longest period of convalescence in any of the cases in this series was 2 months, and most of the patients were well within 2 weeks. There has been no recurrence reported in any of these cases, and no serious complications. The authors believe that open thoracotomy should be done on all patients with recurrent spontaneous pneumothorax of nontuberculous origin if there is not prompt response to simple aspiration of the air or to the induction of a chemical pleuritis. (Am. Rev. Tuberc., Dec. '49, R. H. Meade, Jr. and B. B. Blades)

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Use of the Rice Diet in the Management of Hypertensive Cardiovascular Disease: J. A. Evans and A. W. Perry of the Lahey Clinic report their experience in dealing with a group of 33 hypertensive patients using the rice diet. (Also see Kempner's article in the 13 Jan. '50 News Letter - Ed.) This rice diet consists of rice, fruit, fruit juices, and sugar. It contains about 2200 calories, 22 Gm. of protein, and practically no fat. It may be made more palatable by preparing the rice in various forms, such as rice puddings, rice fruit cake, rice crackers, and so forth. To have its effect, the diet must be adhered to strictly. If the patient's condition permits, and provided no deleterious effects are noted, the diet is usually modified after a time by the addition of nonleguminous vegetables and lean meat. This custom, however, introduces other types of amino acids which may defeat the efficacy of the diet. A daily supplement of iron and a polyvitamin preparation should be given.

The greatest risk in the use of the rice diet is the danger of salt deprivation in hot weather and of sodium deprivation (the diet contains only about 150 mg.) if poor kidney function is present. In the latter case there is danger of inducing azotemia.

The practical disadvantage of the rice diet is its monotony and the inability of most patients to follow it for a long time. Encouragement and instruction by a dietitian and social worker, as advocated by Contratto and Rogers, are almost a necessity in treating a large group of patients successfully. Control 24-hour determinations of urinary chloride excretion before and during treatment to prove that the patient is faithful to his diet should be made.

Kempner has shown that a decrease in plasma protein or hemoglobin does not follow use of the rice diet and that a positive nitrogen balance is maintained. The diet is low in sodium and in animal protein. The low sodium content is of benefit in the elimination of edema fluid. That it is also responsible for any decrease in blood pressure resulting from the diet has been suggested in studies by Grollman and Harrison on rats with experimentally induced hypertension. Dock maintained that sodium deprivation is the mechanism by which the blood pressure is reduced in man. Kempner, however, believes that the reduction in amino acids is responsible. The authors of this report are inclined to believe that amino acid deprivation is the most important factor because some of their patients showed a rise in blood pressure when switched to a different type of diet containing only 200 mg. of sodium. Another of their patients on a rice diet showed a fall in blood pressure only when salt was added which became mandatory because this patient developed azotemia on salt deprivation.

The low animal protein content of the diet results in a decrease in the amount and variety of amino acids presented to the kidney for metabolism. Urea excretion is decreased proportionately and, as Borsook and Winegarden have shown that urea anabolism and excretion constitute the major amount of work done by the kidney, the diet lessens the greatest burden which this organ has to bear.

The average duration on the diet for these 33 patients was 38.3 days, the range being from 12 to 89 days. A fall of at least 20 mm. of mercury systolic and 15 mm. diastolic was arbitrarily chosen as being the decrease ascribed to the effect of the diet. Sixteen, or approximately half of the patients, showed improvement in blood pressure. The average decrease was 36 mm. systolic and 24 mm. diastolic after an average of 37.5 days on the rice diet. In the 17 patients (51.5 percent) showing no significant lowering of blood pressure, the average change was an increase of 4 mm. systolic and 7 mm. diastolic after an average of 41 days on the diet. Improvement in hemorrhagic or exudative

retinopathy was noted in 17 (56.6 percent) of 30 patients; there was no change in 10 (33.4 percent); there was a progression of fundal changes in 3 (10 percent). As most of the patients in this series were not in a stage of advanced renal decompensation, nonprotein nitrogen studies were not done on all patients, and in the majority of those on whom nonprotein nitrogen estimations were carried out, initial levels were within normal limits. This may explain the slight degree of the drop in nonprotein nitrogen which was seen in the majority of patients. The average change in weight of 32 patients in whom follow-up was possible was a decrease of 8.5 pounds in an average of 36.9 days. This weight loss probably resulted, in part, from the reduction in caloric intake during the initial stage of adjustment to the diet, and, in part, to the loss of edema fluid. The majority (83.9 percent) of the patients stated that they felt better while on the rice diet; the remainder (16.1 percent) found no change subjectively; and no patients felt worse.

The history in one case demonstrates the danger of sodium deprivation by the rice diet. A 47-year-old man known to have had hypertension for 4 years was hospitalized with grossly bloody urine, but no casts, and a nonprotein nitrogen of 145 mg. per 100 cc. A rash soon developed and a diagnosis was considered of acute nephritis from some toxic agent because of his occupation as a painter or possibly some unrecognized acute infection. His blood pressure on admission was 240 mm. systolic and 110 mm. diastolic. The fundi showed grade II sclerotic changes. He was given a strict rice diet for the first 6 days during which he rapidly became confused and ran a low-grade fever. The nonprotein nitrogen on the sixth day was 150 mg. per 100 cc., the blood chlorides were found to be 25 mEq. and carbon dioxide 20 mEq. On the tenth hospital day his blood calcium was found to be only 6.3 mg. per 100 cc. Salt was added to the rice diet, and molar lactate, containing sodium chloride, was given intravenously and salt tablets by mouth. Ten days later the nonprotein nitrogen was 35 mg. per 100 cc.; 12 days after sodium was started the calcium had risen slightly, to 7.1 mg. per 100 cc., and carbon dioxide was 37 mEq. Subjectively, he was greatly improved although when discharged after 19 days in the hospital he still had hematuria and a blood pressure of 170 mm. systolic and 80 mm. diastolic. One month after discharge and 47 days on the rice diet and 41 days with added salt, the blood pressure was 168 mm. systolic and 110 mm. diastolic. The nonprotein nitrogen was 31 mg. per 100 cc. and serum calcium 9.5 mg. per 100 cc. The urinary sediment was normal. This patient, after 6 days of sodium depletion, not only developed uremia but also used so much base to excrete accumulated acid that the calcium base was drawn upon. Although clinical evidence of tetany did not develop, the authors have seen a similar patient whose tetanic symptoms led them to suspect a similar chain of events which was proved and corrected after electrolytic study.

The authors conclude that the rice diet is useful in essential hypertension and that sodium depletion is not the only factor in reducing the blood pressure.

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Desoxycorticosterone Acetate and Ascorbic Acid in Rheumatoid Arthritis:

Following the preliminary report of Lewin and Wassén on the use of desoxycorticosterone acetate (DCA) and ascorbic acid in rheumatoid arthritis (see 13 Jan. '50 News Letter), the authors have investigated the effect of this therapy on 17 patients with rheumatoid arthritis. The results have been disappointing.

Seven hospitalized patients received combined DCA and ascorbic acid therapy, in the dosage suggested by Lewin and Wassén, daily for 11 days. They also had basic minimal physical treatment. Of these patients, none have shown improvement greater than expected from the simple physical treatment they have received; one is worse. Several showed variations in stiffness during the day, but with no relation to the time of the injection. There were no visible articular region changes.

Eight hospitalized patients received 5 mg. of DCA intramuscularly and one Gm. of ascorbic acid intravenously daily, for periods varying from 4 to 14 days. Of these patients, 3 became definitely worse and their injections were stopped; 3 improved; and 2 have remained unchanged. Of the improved patients, 2 walk more easily, and the third has increased strength in a previously badly affected wrist. Only one of these patients has shown improvement greater than expected from simple physical treatment.

Two outpatients, one, aged 22, with early rheumatoid arthritis (joint-pain, no swelling or deformities) of moderate severity has had 3 combined injections. His pains disappeared one hour after the first injection and he remained pain-free for 24 hours. He received 3 combined injections in one week and then stated that his pains had completely disappeared. Unfortunately in this case no objective measurements were possible. The other outpatient after 2 injections has shown slight improvement.

These workers plan to continue study of this therapy. (Lancet, 24 Dec. '49, Letter to Editor, S. J. Hartfall and R. Harris)

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Desoxycorticosterone Acetate and Ascorbic Acid in Rheumatoid Arthritis:

When the preliminary communication by the Swedish workers Lewin and Wassén was published, it was decided to use this therapy in 5 patients with rheumatoid arthritis who were then in the Tindal General Hospital. To obtain an unbiased opinion, a surgeon saw each patient before the treatment was begun, and again at the end. His findings are based on the amount of pain and swelling in the worst joints, the degree of movement present, etc. All other treatment was stopped during the trial period, and the dosage and duration of treatment were the same for each patient, although patients 1 and 4 had, in addition to the full course, a single preliminary injection of desoxycorticosterone acetate (DCA) and ascorbic

acid before the trial was begun; but patient 4 was so obese that all the injections were given intramuscularly and it was impossible to complete all her investigations. Lewin and Wassen reported that equally good results were obtained if all injections were given intramuscularly.

The course of treatment consisted of 3 injections daily for the first 2 days; 2 injections daily for another 2 days; and then one injection a day for a further 3 days, between 1 and 7 December, inclusive. The dose at each injection was 5 mg. of DCA in oil intramuscularly, followed within a few minutes by 1000 mg. of ascorbic acid (10 percent solution) intravenously (the night doses on the first 2 nights being given wholly intramuscularly).

Case 1 was that of a man, aged 27, with 4 years' history of pain and stiffness in shoulders, wrists, knees, ankles, and temporomandibular joints. There was wasting of the intrinsic muscles of the hand, and a poor general condition. His shoulders, elbows, knees, and wrists were involved, with increasing deformity of hands. X-ray films of hands were suggestive of rheumatoid arthritis. After the trial therapy there was less tenderness in all joints, especially the wrists, but no increase in range of movement. The patient's impression was that the injections make her feel happy and that she feels a little better. The surgeon's impression was that there was little subjective or objective improvement. Case 2 was that of a woman, aged 60, with 4 years' history of pain, tenderness, and swelling in the left shoulder and both feet, in whom after the therapy there was no change. The patient's impression was that it made her feel cheerful; otherwise, there was no effect. Case 3 was that of a woman, aged 67, with 2 years' history of pain and stiffness in her knees, with later her shoulders and hands involved. The patient's impression was that the injections made her feel happy but that otherwise she noticed no change. The surgeon's impression was that there was no improvement. Case 4 was that of a woman, aged 45, with 15 years' history of pain in her shoulders, arms, and ankles, with marked limitation of movements and ulnar deviation of metacarpals. There had been increasing obesity since 1940. After the therapy there was very little pain in joints with slightly increased movements of elbows, thumbs, and ankles. The patient was very much pleased. The injections made her cheerful. The surgeon's impression was that there was not very much real change. Case 5 was that of a woman, aged 60, with 3 years' history of pain and stiffness in her hands and knees. She had felt poorly, and she had spent most of the time in bed since April 1949. X-ray films of wrists show fairly advanced rheumatoid arthritic changes in carpus. After therapy there was less pain and no tenderness in shoulders, wrists, or knees, with increased range of movement in left knee. The patient's impression was that she was greatly relieved, that life was worth living once more, that treatment made her cheerful, and that she has been sleeping and feeling better. The surgeon's impression was that there was marked subjective and some objective improvement.

The authors state that their own and ward sisters' impression of the results broadly correspond with the surgeon's and the patients' and have proved disappointing. They are fairly confident that the injections produced a temporary euphoria, which was even remarked on by other patients, and it is possible that this euphoria played a large part in the improvement noted in cases 4 and 5. In no case could the claims of great benefit put forward by Lewin and Wassen be confirmed. (Lancet, 24 Dec. '49, Letter to Editor, V. L. Hart and F. Starer)

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Desoxycorticosterone Acetate and Ascorbic Acid in Rheumatoid Arthritis:

The authors, who in treating 23 patients with rheumatoid arthritis reported (see News Letter of 13 Jan. '50) that they had confirmed the report of Lewin and Wassén, state that they have learned that some workers are having failures and others are having successes. For this incongruity the following explanations are possible:

1. Differing selection of cases. This appears improbable, for one worker has been heard of who has had 11 failures in 11 cases of polyarthritis, whereas the authors have only had 2 failures in 23 cases as the patients became available at the rheumatism clinics and hospitals they attend.
2. Unconscious psychotherapeutic suggestion. The authors believe that they have now made enough controlled observations to exclude this possibility.
3. Differences in technic. In a treatment which depends on the interaction of 2 drugs, technic is clearly of importance. It seems that the desoxycorticosterone acetate (DCA) must be available in muscle at the time the wave of intravenous ascorbic acid occurs. The work so far done suggests that the blood level of ascorbic acid must be raised to between 5 and 10 mg. per 100 ml. Such a level is obtained by an intravenous injection of one Gm. but begins to fall off at once. So if the DCA is not available, no result need be expected.

Two patients with rheumatoid arthritis in the hospital under the care of one of the authors were treated on the same occasion, the intramuscular injections being given by a nurse. (Until then the authors had been in the habit of giving their own injections.) In the first of these 2 patients it was noticed that the injection was given into the outer, upper third of the buttock by a vertical stab. In this case there was a good response with loss of pain and with full extension of a knee which had had a small flexion deformity for 2 years. In the second of these 2 cases it was noticed that the DCA injection was given diagonally into bunched-up flesh. There was no response whatever. Three days later this second patient was treated again, care being taken that the DCA was given intramuscularly. On this occasion there was some response - pain was partly relieved, and walking was somewhat easier. The result was not convincing but suggestive. Since then one patient who had previously responded very well was given the DCA subcutaneously, and no response followed.

The authors state that it is not proven that the DCA must be given into muscle and not fat, but it seems probable that the action is altered by the site of the injection. It is hoped soon to have evidence which will decide this point.

Meanwhile, it does seem important that observers should take particular care concerning the intramuscular injection. It should, of course, always be given into the lateral aspect of the thigh, for, as is well known, many injections in the buttock go into fatty tissues. It is felt that failure to pay strict attention to this detail may be the cause of some of the incongruities which are arising. (Lancet, 24 Dec. '49, Letter to Editor, G. E. Loxton and D. LeVay)

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Desoxycorticosterone Acetate with Ascorbic Acid in Rheumatoid Arthritis:

In special nutritional studies being carried out by Spies *et al.* at the time of Lewin and Wassén's report on the use of injections of desoxycorticosterone acetate (DCA) and ascorbic acid in the treatment of patients with rheumatoid arthritis (News Letter of 13 Jan. '50), 6 patients with moderately severe rheumatoid arthritis were being restricted to a low sodium diet and being given 10 mg. of DCA intramuscularly and one Gm. of ascorbic acid intravenously each day without any relief of symptoms. The ascorbic acid injections were then discontinued, but the injections of DCA and the diet remained constant.

Five days later, 3 of the patients were given adrenocorticotrophic hormone (ACTH) in divided doses without their knowledge. The other 3 were given distilled water at the same intervals and under the same circumstances. The 3 receiving the ACTH had prompt relief. Within 8 hours they were improved, and this improvement continued steadily during the 3 days in which the injections were continued. The ACTH was then discontinued and these patients promptly relapsed. (Lancet, 31 Dec. '49)

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Desoxycorticosterone Acetate and Ascorbic Acid in Rheumatoid Arthritis:

The lively correspondence arising from Lewin and Wassén's preliminary communication of 26 November prompted the author to record his experiences with the use of injections of desoxycorticosterone acetate (DCA) and ascorbic acid in 5 patients with rheumatoid arthritis. The recommended dosage of 5 mg. of DCA intramuscularly followed by one Gm. of ascorbic acid intravenously was used. A favorable response in 3 of the female and the one male was striking and immediate. Not only was pain relieved, but a certain sense of exhilaration was noticed also. The effect passed off in 2 hours on the first day. Treatment given daily resulted in a longer action (up to 7 hours) by the end of a week. The most striking objective evidence of benefit was seen in the return of ability to flex the fingers and form a fist. Such a degree of flexion had previously been impossible over periods of from 6 months to 3 years.

Whether or not this new line of approach will give rise to permanent gain has yet to be determined, but it is clear that the combination of drugs is by no means inert. Lewin and Wassén made no extravagant claims, but merely brought to notice a therapeutic procedure. (Lancet, 31 Dec. '49, Letter to Editor, A. H. Douthwaite)

Infectious Hepatitis Incidence in USN: Immediately following the war years there was a noticeable rise in the incidence of infectious hepatitis, going from 1.7 per 1,000 strength in 1945 to 2.1 in 1946. This was influenced to some degree by the number of cases revealed through physical examinations made on separation from the Service during 1946. The incidence receded to 1.8 per 1,000 in 1947 and to 1.6 in 1948, with moderate sporadic peaks reported from scattered areas, usually in the late fall and winter.

Data on the current incidence of infectious hepatitis have been compiled from the Monthly Morbidity Report (NAVMED 582) covering the first 10 months of 1949. This condition accounted for less than 60 new cases per month during the first 5 months of this year, representing an annual incidence rate of slightly over one per 1,000. There was a rather sharp upswing to over 100 cases per month beginning with June 1949, reaching a peak of 133 cases in August, equal to a rate of 3 per 1,000 strength annually. This rise started 4 months earlier than the previous year and has been sustained over the past 5 months. In 1948 the peak month was recorded in October, when 123 cases were reported. The highest rates are reported from ships of the Atlantic fleet, with aircraft carriers and battleships and cruisers contributing the largest proportion of the increase. (Statistics of Navy Medicine, Jan. '50)

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Varicose Veins in USN Personnel: Varicose veins, although not one of the major causes of noneffectiveness among naval personnel, is still of enough importance to warrant special consideration. The information, contained herein, for the first 3 postwar years, 1946, 1947, and 1948, has been compiled from the Fa card (Individual Statistical Report of Patient).

As appears in the table, both the incidence and the incidence rate decreased during the 3-year period. Of the 2,961 total cases reported among personnel of the Navy and Marine Corps, 1,777 (60 percent) were reported in 1946; the incidence rate per 100,000 average strength in 1946 was 134.1; it was 107.1 in 1948.

	<u>Incidence</u>		<u>Sick Days</u>			<u>Noneffective Rate</u>
	<u>Number of Cases</u>	<u>Rate per 100,000</u>	<u>Number</u>	<u>Average per New Cases</u>	<u>Percent of Total</u>	<u>per 100,000</u>
1946	1777	134.1	54,344	30.8	0.4	11.2
1947	640	109.0	18,602	29.8	0.3	8.7
1948	544	107.1	16,177	31.2	0.4	8.7

The approximately 90,000 sick days amassed by patients on the sick list with varicose veins during the 3 years is the equivalent of an average of 81

persons on the sick list with varicose veins for the 3 years. The noneffective rate, another way of expressing manpower losses, for the period was 10.1 per 100,000 which means that on the average, out of every 100,000 potentially effective personnel during the 3-year period, 10 were lost because of varicose veins. The noneffective rate decreased from 11.2 per 100,000 in 1946 to 8.7 in 1947 and in 1948. This decrease resulted almost entirely from the decrease in incidence rate, for, the average length of stay remained practically constant during this time.

Although the average stay for patients taken up with varicose veins was approximately 30 days, the detailed interest is in the ratio of hospital to non-hospital days and the distribution of cases by length of stay. Varicose veins is a diagnosis with which there is associated a wide range in severity and methods of treatment. It is possible to treat many patients by injections and/or minor ligations with the result that the convalescing period is of very short duration. On the other hand some patients require more extensive treatment and therefore may necessitate a much longer period of hospitalization. Of the cases being considered in this study approximately 20 percent were nonhospital ones; these accounted for only about 5 percent of the total sick days attributed to varicose veins during the 3 years.

The data indicate that the highest average stay on the sick list, 36.4 days, was for patients who were transferred to a hospital after first receiving treatment for a period of time in some other activity. An average stay of 26.0 days on the sick list was for patients who were transferred to the hospital before treatment. For patients treated in ships or dispensaries the average sick days per case was 9.7.

Of the patients sent to the hospital before receiving treatment, only 9.6 percent were discharged with 8 or less sick days as contrasted to 56.2 percent of the nonhospitalized group. However, of those spending part time in non-hospital activities and subsequently transferred to hospitals less than 4 percent were discharged with only 8 sick days, and only 28 percent were disposed of in 20 days. About 50 percent of the patients who were hospitalized before receiving treatment were discharged in 20 days; for the nonhospitalized individuals, it was over 90 percent. No patients in the group who did not receive hospital care were kept on the sick list longer than 60 days; 6.5 percent of the group sent to the hospital before treatment and 14.9 percent of the group who received treatment before transfer to a hospital were still in the hospital at the end of 60 days. (Statistics of Navy Medicine, Jan. '50)

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Phlebitis in the Navy, 1946-1948: Phlebitis, although not a major cause of man-power loss in the Navy and Marine Corps, is one of the commonly occurring diseases of the circulatory system. For the past few years it has ranked among the first 4 diseases of that system both in incidence and in sick days, the other 3 conditions being arterial hypertension, valvular heart disease,

and varicose veins. The data on phlebitis have been taken from the Individual Statistical Report of Patient (NAVMED-Fa) for the years 1946 through 1948.

There has been little significant change in the incidence rate during these first 3 postwar years, the rate remaining at slightly more than 50 per 100,000 average strength. This is, however, somewhat lower than the peak of approximately 63 per 100,000 which was reached in 1945. The noneffective rate, which indicates the number of man-days lost from duty per 100,000 man-days, does, however, show a significant change. The rate of 3.82 in 1948 is about 38 percent lower than that of 6.17 recorded in 1946. This lower noneffective rate results from a reduction in the average number of sick days per case. The average stay was 43 days in 1946, 29 days in 1947, and 28 days in 1948. This is a reduction of 35 percent which is almost identical to the percentage of reduction in the noneffective rate. One possible explanation for the reduced length of stay may be in the increasing availability and use of antibiotics during this period.

Phlebitis is one of the conditions which commonly occur as a complication, secondary to some other diagnosis. In order to see what conditions may lead to the development of phlebitis, a sample of cases taken up as ACD (Admitted Contributory Disability) and AD (Additional Diagnosis) were examined to determine what the previous diagnoses were. Because the number of cases available was small, the individual underlying diagnostic titles were somewhat scattered but fell naturally into the groups shown in the table below. The first group, which comprises one quarter of the total, includes conditions such as acute appendicitis, inguinal hernia, and redundant prepuce. Injuries, the second largest group comprised something more than a sixth of the total. Considering these cases as involving accidental trauma and the first group as involving surgical trauma, some 42 percent of this sample of secondary cases of phlebitis followed some type of trauma.

PRIMARY CONDITIONS	NUMBER	PERCENT
Total	158	100.0
Surgical conditions (except injuries)	40	25.3
Injuries	27	17.1
Infections of the skin and cellular tissue	26	16.5
Acute Respiratory Infections	25	15.8
Varicose veins	18	11.4
Other infectious diseases	6	3.8
Other conditions	16	10.1

The third group, including about one sixth of the cases, consisted of cellulitis, furuncle, fungus infections of the skin, and related conditions. The fourth group, acute respiratory infections, ranging in severity from catarrhal fever to the several varieties of pneumonia, accounted for almost 16 percent of the cases in the sample. (Statistics of Navy Medicine, Jan. '50)

* * * * *

Mental Diseases in USN During the Postwar Years; During the rapid mobilization of personnel to meet the war emergency, it was not possible to screen out persons likely to be adversely affected mentally by the rigorous conditions to which Service personnel are often subjected in time of war. As a result the incidence rates for diseases of the mind during the war years were high. Since the cessation of hostilities, because of their large number, the importance of these mental ills to the Navy and to individuals and organizations planning care for those invalided from the Service has been emphasized. Detailed data have been compiled for the postwar years on the incidence of diseases of the mind among the various racial groups in the Navy based upon tabulations of the NAVMED-Fa card (Individual Statistical Report of Patient).

Consideration should be given to certain changes in the inclusions for diseases of the mind in the data for 1946, 1947, and 1948, as compared to the period 1942-45. The conditions diagnosed as fatigue, combat and fatigue, operational have been included in the incidence of "other" diseases of the mind for the postwar years. There appear only 47 cases of combat fatigue, all of which were confined to 1946; operational fatigue was reported in 766 cases during 1946, with 89 cases in 1947, and 37 cases recorded in 1948. The records show that during the war years the incidence of fatigue cases was equivalent to approximately 20 percent of diseases of the mind, and were about equally divided between combat fatigue and operational fatigue.

Compared with the average rate of 14.2 per 1,000 strength during the war years 1942-45, the incidence rate for the entire class of diseases of the mind dropped sharply to 8.6 per 1,000 in 1946 and has remained at approximately that level during 1947 and 1948. However, the incidence rate of 7.7 per 1,000 strength in 1948 is still over 2 times as high as it was 10 years ago (3.7 in 1939) and is about equal to half the average rate for the war period.

A distribution of mental diseases for the years 1946 through 1948 combined, showing the incidence and rates per 1,000 average strength annually by race and age group appears in the table on the following page. It may be observed that generally speaking the highest rates are found among the younger age groups, with the rates diminishing as the age increases. Races other than Negro have been included in the white totals because their numbers were small enough to cause little if any bias in the rates. Of the 20,044 cases of mental diseases among personnel of the Navy and Marine Corps during this period, 40.3 percent were personality disorders, 16.8 percent psychoses, and 27.5 percent psychoneurotic conditions.

In comparing the rates by race, the total incidence rate for the entire class of diseases of the mind was higher among Negro personnel in the Navy and Marine Corps. However, there were no cases among Negroes over the age of 39 during this period. This may be accounted for by the small numbers

INCIDENCE AND RATES FOR VARIOUS MENTAL DISEASES BY RACE AND AGE GROUPS
NAVY AND MARINE CORPS - 1946-48 COMBINED

RACE AND AGE GROUP	PERSONALITY DISORDERS		PSYCHOSES		PSYCHONEUROSES		OTHER MENTAL CONDITIONS	
	Incidence	Rate per 1,000	Incidence	Rate per 1,000	Incidence	Rate per 1,000	Incidence	Rate per 1,000
Total	8,087	3.3	3,364	1.4	5,508	2.3	3,088	1.3
White*								
All ages	7,689	3.3	3,081	1.3	5,343	2.3	2,791	1.2
Under 20	3,893	5.3	783	1.1	1,218	1.7	1,012	1.4
20 - 24	2,950	3.1	1,311	1.4	2,383	2.5	959	1.0
25 - 29	568	1.7	470	1.4	984	2.9	329	1.0
30 - 34	198	1.3	241	1.6	364	2.4	210	1.4
35 - 39	61	0.8	144	1.8	207	2.6	146	1.8
40 - 44	11	0.3	75	2.0	100	2.7	71	1.9
45 - 49	7	0.4	33	1.7	51	2.6	45	2.2
50 - 54	1	0.1	15	1.8	27	3.3	16	2.0
55 - 59	-	0	8	2.6	7	2.3	3	1.0
60 and over	-	0	1	0.8	2	1.6	-	0
Negro								
All ages	398	3.7	283	2.7	165	1.6	297	2.8
Under 20	137	4.4	68	2.2	39	1.3	98	3.1
20 - 24	209	4.2	141	2.9	82	1.7	161	3.3
25 - 29	40	2.7	54	3.7	30	2.0	23	1.6
30 - 34	11	1.8	15	2.4	14	2.3	11	1.8
35 - 39	1	0.4	5	1.8	-	0	4	1.4
40 - 44	-	0	-	0	-	0	-	0
45 - 49	-	0	-	0	-	0	-	0
50 - 54	-	0	-	0	-	0	-	0
55 - 59	-	0	-	0	-	0	-	0
60 and over	-	0	-	0	-	0	-	0

*White includes all other races except Negro.

of Negro personnel in the Service who were 40 years old or over. The distribution of the age specific rates indicates that generally higher rates for most age groups are found among Negroes.

Data on the incidence of personality disorders, psychoses, psychoneuroses, and for "all other" mental diseases, distributed by race and age group are also shown in the table. Included in the "all other" group are speech disorders, chronic alcoholism, enuresis, mental deficiency, somnambulism, and fatigues.

The incidence rate for psychoneuroses, 2.3 per 1,000, is approximately 70 percent lower than the average rate of 7.2 per 1,000 for the war years, 1942-45. The rate per 1,000 for white personnel was 2.3; it was 1.6 for Negroes. This relationship was reflected in the rates for age groups as well.

For psychoses, the incidence rate of 1.4 per 1,000 during the period 1946-48 was slightly below the average rate for these conditions during the war years, 1942-45. In the distribution by age groups, the rates for Negro personnel were consistently higher than for white personnel.

During the period 1946-48, the over-all incidence rate for personality disorders dropped to 3.3 which was about one third lower than the average rate of 4.7 per 1,000 during 1942-45. The same general trend was evidenced for white personnel and for Negro personnel. The rate for Negroes was higher than for white personnel in both 1946 and 1947, but reversed itself in 1948 when the rate for white personnel was 3.1 per 1,000 as compared to 2.7 per 1,000 for Negro. From the age distribution it may be seen that among the youngest age group (under 20) the rates for white personnel were higher than for Negro, while in the older ages the reverse is true.

The incidence rates for "all other" mental conditions both during the war and the postwar period were considerably higher than for white personnel. When distributed by age group it is also found that during the period under discussion the rates for "all other" mental conditions are higher for Negro than for white personnel. (Statistics of Navy Medicine, Jan. '50)

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Radiological Aspect of Disaster Control Planning: CNO Restricted letter, serial 186P34 of 26 March 1948, directed addressees to initiate and maintain a radiological safety readiness and training program in shore activities under their military commands and/or coordinating control, to formulate a plan for control of damage from atomic attack, and to incorporate the radiological safety organization as a part of the existing Disaster Control Organization. A survey of a number of the disaster bills formulated in accordance with

this directive indicates that, in general, serious thought and much effort have been given to this matter at naval activities.

Operational plans to cope with disaster incident to atomic explosions must provide for extreme magnitudes of damage to personnel and materiel which are to be expected from the disruptive blast forces, the high temperature flash, the ionizing radiations released at the time of explosion, and possibly the contamination of the environment with radioactive material.

Concerning injuries from ionizing radiations, the damaging effects may be caused by (1) sources external to the body, or (2) by sources within the body in the form of radioactive material absorbed through the skin, ingested, or inhaled. It is believed that injuries from the effects of external ionizing radiations will be the ones most commonly encountered because there are relatively few locations in which it would be of significant military profit for underwater or ground level bursts to be used.

Underwater or ground level blasts could be expected to cause widespread contamination of the environment through the scattering of radioactive material which may (1), of great importance, more or less easily gain entrance into the body; and (2), of relatively minor importance, be a source of external ionizing radiations. In the case of high level bursts, local contamination with radioactive material is minimal, with the important ionizing radiations hazard being of external source, the ionizing radiations emanating as an intense wave simultaneously with the explosion.

Inasmuch as ionizing radiations are likely to account for from 15 to 20 percent of deaths and seriously to complicate the handling of casualties caused by other effects of the explosion, the plan must make special provision for this factor. However, such special provisions for AW must be made a part of general plans for all types of disaster. In this connection it is to be remembered that an AW attack might well be combined with BW and CW.

Incident to an atomic bomb air burst, personnel damage would be characterized by maximum blast, intense thermal, and immediate radiation effects. Radiations of induced type and/or from "fall out" will ordinarily be negligible in the production of casualties.

In the event of a surface or underwater burst there will be marked decrease in the number of casualties from blast, heat, and instantaneous radiation but a marked increase in contamination and consequent internal radiation hazards. All personnel should be indoctrinated with the fact that in the event of an underwater or ground burst, individuals protected from the radioactive mist or dust should stay under cover for a few hours. By such action they may well avoid lethal exposure.

In more detail, Medical Department plans must include the following:

- a. Provision of medical personnel, supplies, equipment, and facilities for the care of a very large number of casualties (and previously existing patients) under conditions ranging from normal effectiveness of Medical Department facilities to complete loss of such in the blast or contaminated area. This will include the organization and supply of large numbers of shock and burn teams, as burns will probably constitute 60 percent of the casualties.
- b. Provision of transportation facilities to effect possible evacuation of medical facilities and huge numbers of casualties.
- c. Consideration for provision of decontamination facilities for personnel, medical supplies and equipment as may be appropriate to prevailing circumstances.
- d. Estimation of the degree of exposure of casualties to ionizing radiation. Present types of dosimetry badges and meters are being modified and improved and information as well as equipment will be disseminated when available. However, plans also should be made for the arbitrary estimation of the degree of exposure of individuals with no casualty badge or other integrating exposure meter, based upon their location at the time of detonation in relation to the epicenter of the explosion, and the degree and type of shielding received.
- e. Provision for the segregation of contaminated casualties demanding immediate treatment prior to decontamination (not likely to be applicable except in the case of an underwater burst).
- f. Plans to effect some type of surveillance and distribution of asymptomatic but prospective radiation casualties for a period of at least 3 weeks.
- g. Provision of facilities for the care of ambulatory casualties in large numbers.
- h. Formulation of plans whereby emergency police may be provided on short notice to prevent overrunning of medical facilities by curious, panic-stricken individuals, or others whose presence at the medical facilities will result only in confusion and be an impediment to proper functioning.
- i. Exposure Data. Casualty tags, employed to whatever extent possible, should contain data bearing on the radiation exposure such as the location at time of explosion and whether or not in the open or sheltered; or subjected to contamination (underwater burst). When and if dosimetry readings are available they should be noted on tags.

j. Provision for monitoring of food, supplies, water, etc., possibly contaminated or otherwise rendered radioactive, in order to prevent harmful exposure and also to prevent unnecessary waste.

In view of the probability of the necessity for outside help in caring for casualties, mutual aid plans on an area-wide basis involving the medical facilities of other Navy, Army, Air Force, U. S. Public Health Service, and civilian activities are deemed essential.

Useful material will be found in the following bibliography:

- (a) Material distributed to district medical officers in accordance with BUMED letter BUMED 742-K-tvl over P11, Serial 5272, of 17 September 1948.
- (b) Publication entitled Civil Defense for National Security. A report to the Secretary of Defense by the Office of Civil Defense. Can be procured from the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Price, \$1.00.
- (c) Appropriate chapters of Atomic Medicine - published by Thomas Nelson and Sons, New York, N. Y.
- (d) Armed Forces Talk 276. (Armed Forces Talks distributed routinely to all Ships and Stations by BuPers.)
- (e) Atomic Bomb Explosions - Effects on an American City. By Dr. R. E. LAPP. (A limited number of copies are presently available from BuMed Code 74.) (Atomic Defense Div., BuMed)

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Psychosomatic Approach to Venereal Disease Control: Recognizing the social implications of venereal disease, many workers in the field have been interested in seeking precipitating causes in the backgrounds of the infected persons, or in finding clues which would help in making the program of prevention more effective.

Venereal disease is not exclusively a medical problem. In the treatment of patients with venereal disease, the mental attitude of the patient must be considered. In many patients, venereal infection stirs up feelings of shame and panic; all the social disapproval of the civilized environment is directed against them; and their mental attitude may include all the frustration, guilt, and confusion which reflect poorly organized ego ideals. The manner in which the patient is handled may be an important factor in his subsequent life adjustment. It may determine which alternative the patient chooses, (a) to handle his sex

life more adequately and efficiently in the future, with a corresponding rise in social responsibility, or (b) to continue to make mistakes in his social adjustment and undergo repeated infections.

In this study, the workers at the Municipal Social Hygiene Clinic of the Chicago Health Department undertook to make a psychological evaluation of patients with venereal disease. It was proposed that the first project would be the evaluation of chronic gonorrhoea repeaters, that is, those patients who had had 3 or more gonorrhoea infections within one year; these repeaters average 30 percent of all patients found in Chicago infected with gonorrhoea. It has long been noted that such patients when coming to observation appear to be of lower than average intelligence. In discussing sexual problems with the patients, it was evident that they did not have a proper appreciation of their situation. Some of these patients who had more than 3 gonorrhoea infections per year were referred for psychological interviews. It was hoped that this method would ascertain at what level of intelligence the patient was functioning and what his traits and characteristics were.

This preliminary report summarizes the first phase of this project. The results included herein have been obtained on a total of 50 male patients between the ages of 20 and 40. Of this group, 10 percent were native Chicagoans; the remaining 90 percent had been residents of Chicago for an average of about 4 and 1/2 years. A short mental examination was administered in conjunction with the Wechsler-Bellevue Intelligence Test, Form I, excluding the vocabulary test. The results have been tabulated in percentages, as it was felt that this would be the most efficient method of handling the data. Means for the age, intelligence quotients, and education have also been presented.

It was found that the average age of the gonorrhoea repeater frequenting the Municipal Social Hygiene Clinic was 24 years, that on the average such repeaters had a grammar school education or better, but that their intelligence quotient was below the established average of from 90 to 110. In 56 percent of the cases there was evidence of abnormal childhood conditions, such as death of one or both parents before the age of 15, separation or divorce of parents. It is possible that these factors may have contributed to the transitory habits of these patients, causing them to leave home early and seek the bigger cities. There was an even distribution of married and single subjects, but it is of interest that, of the married group, as high as 60 percent were separated from their wives or reported difficulties in their marital relations. Even among those patients who claimed that their marital relations were good, there was a high frequency of extramarital contacts. Such poor adjustment to married life is considered to be evidence of personality deficiencies. Sixty percent of the patients served in military units during the war. They did not seem to have benefited from the educational features which were part of the venereal disease prevention program of military life. The majority of the group, whether single or

separated from their wives, lived alone and were employed in some type of unskilled labor. Twenty-two percent had been known to the police at some time.

The Wechsler-Bellevue Intelligence Test showed 74 percent to have an intelligence quotient of less than 90, noted by Wechsler as the lower limit of the average group. The largest single group was in the defective class (32 percent), with IQ's below 68. Twenty-six percent showed intelligence of the borderline defective variety. There were 16 percent in the dull normal category (IQ's of 80-90), and but 22 percent achieved intelligence quotients in the average class. The mean for the 50 patients was 78.86 with a median of 76.50. Both these figures indicate intelligence of the borderline defective type. These results apparently are in agreement with those of other investigators.

An attempt was made to evaluate the test results on the Wechsler-Bellevue Intelligence Test according to Wechsler's clinical patterns. It was discovered that in 44 percent of the cases, the patterns of the patients' performance on test items agreed with the group described by Wechsler as Psychopathic Personality. Twenty-two percent showed a tendency to personality maladjustment.

It was considered expedient to divide the clinic patients into 3 groups:

1. Those showing no evidence of any psychopathic traits or personality maladjustments (a) without mental retardation, (b) showing some mental retardation.
2. Those showing a tendency toward personality maladjustments.
3. Those showing definite psychopathic traits.

Then further treatment could be adjusted in accordance with the category in which the patient was classified.

Because the clinical group of gonorrhoea repeater patients is below the average in intelligence, a different approach in the health education program for venereal disease prevention and control is indicated. It is questionable whether persons who are mentally retarded and who have psychopathic personalities learn by experience or are amenable to common sense advice. The aim should be to provide guidance and supervision for at least the mentally retarded, including psychotherapy, depending upon the patients' capacities. It is also important that the educational material distributed should be supervised and checked by psychiatric workers so that it will be within the intellectual level of the recipients.

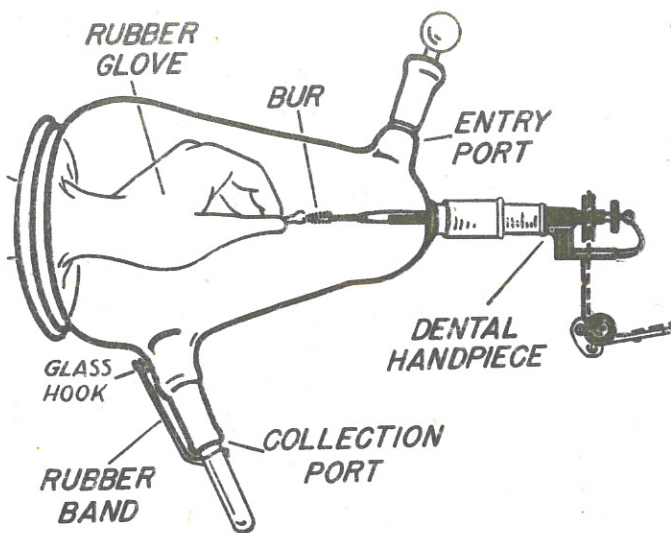
It is felt that Group 3 with the present limitations in knowledge of the treatment of psychopaths as well as the scarcity of adequately trained professional personnel would not be the group most productive of good treatment

results in large VD clinics. However, persons in Groups 1 and 2 can probably be salvaged and improved by the correct approach, thereby decreasing the reservoir of infection. If Groups 1 and 2 were further classified as to intellectual level, therapy could still further be individualized. Patients who show evidence of personality maladjustments (Group 2) and who are of average intelligence, are in need of individual psychotherapy, and can probably benefit from psychological help and guidance in their social adjustment. Patients in Group 2 who are of defective intelligence might receive more benefit from group psychotherapy in which an understanding of the venereal disease preventive measures and simple solutions to personality problems can be presented to the group. It is difficult, however, to secure qualified personnel for group psychotherapy. Likewise with Group 1, those with higher intelligence would receive individual therapy; those of lower intellectual endowment may be reached by group psychotherapy.

The assistance of psychiatrists, psychiatric case workers, and psychologists in venereal disease clinics should be encouraged, and they should generally be given a place in the treatment of venereally infected patients. It is believed that these workers are able to contribute largely to the efforts of the patients to rehabilitate themselves. Further studies have been planned to show the invaluable aid which can be given by the psychiatrist who should see almost every venereally infected person before or after he has been treated for the somatic disease. By using a psychosomatic approach to the problem, a more complete prevention program probably could be effected. (Am. J. Pub. Health, Dec. '49, H. N. Bundesen et al.)

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A Glass Sterile Workchamber: The clear-view workchamber illustrated below was designed by Cdr. E. Meyers, DC, USN, Bacteriology Department, Naval Dental School, National Naval Medical Center, Bethesda, Maryland, to permit an operator to manipulate teeth with outer surfaces rendered sterile, and grind them against a motor-driven bur or stone.



The workchamber is simple in design, and of inexpensive, readily available materials. The bottom of a two-liter Erlmeyer flask is removed and the rim flared so that a rubber glove, snapped into place, is held by its own tension. (The glove-in-chamber feature, described by other investigators, has been used

in tissue-culture work.) An entry port, with ground glass stopper, is fused to the upper surface of the chamber. A collection port, fitted with a test tube (also ground), is fused to the lower surface. A glass hook is formed at the base of the collection port for fastening a rubber band that pulls up on the test tube to keep it in place. A grinding stone, drill, or bur is held in a shaft housing which runs through a hollow, ground stopper, and is embedded in dental investment material (a special plaster). A dental engine or dental handpiece, to which the assembly can be attached, rotates the bur.

The assembly, detached from the dental engine, is autoclaved with the bur, rubber glove and other fittings in place. The assembly is made ready for use by mounting it on a stand with clamps, in a horizontal position, and connecting the dental engine. The operator's hand is inserted in the glove; the tooth to be ground is introduced through the entry port, and the grindings and specimen recovered in the collection tube.

The apparatus has been used to determine whether or not bacteria remain viable beneath restorations in teeth. Two types of teeth are being studied, (a) teeth with restorations that were placed under ordinary conditions, and (b) condemned teeth in which nonpathogenic bacteria have been seeded beneath a restoration and the teeth left in situ for varying lengths of time.

The outer surface of a freshly extracted tooth is rendered sterile; the tooth is dropped in a tube of broth as an additional check on the sterility of its outer surface; from there it is transferred directly to the sterile workchamber. (U. S. Naval Dental School, NNMC, Bethesda, Md.)

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Course in Medical Aspects of Special Weapons and Radioactive Isotopes:

The Bureau of Medicine and Surgery announces a course of instruction in the Medical Aspects of Special Weapons and Radioactive Isotopes. This course is to be conducted at the U. S. Naval Medical School, National Naval Medical Center, Bethesda, Maryland. It will commence Monday, 27 March 1950 and continue through 31 March 1950.

The purpose of one phase of this course is to present the problems likely to be confronted and technics to be employed by medical and dental officers in the field of radioactivity.

The speakers will be outstanding men in their specialties; hence an interesting and informative presentation is assured.

This course is conducted primarily for the benefit of inactive Reserve medical and dental officers; however, a limited number of medical and dental officers of the regular Navy and Reserve officers on active duty in the Washington area may attend providing arrangements can be made by the individuals with their local commanding officers and the Commanding Officer of the U. S. Naval Medical School, Bethesda, Maryland.

Inactive Reserve medical and dental officers who desire to attend this course should submit a request for training duty to the commandant of their local naval district. All requests should reach the commandant's office at the earliest practicable date. The facilities available at the Naval Medical School make it necessary to restrict attendance to 200 Reserve medical and dental officers. (Reserve Div., BuMed)

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Radiological Defense Correspondence Course Available: An excellent correspondence course in Radiological Defense is now available to all interested personnel of the Medical, Dental, Nurse, and Medical Service Corps together with warrant and chief warrant officers of the Hospital Corps, both regular and Reserve. This course covers some of the technical and physical factors in the development of fissionable materials and the production of ionizing radiations as well as their biological effects and medical uses. There are also sections on cellular changes, hematology, and treatment.

At the present time, the subject of radiological defense is an extremely important one to all personnel both military and civilian. In accordance with a directive from higher authority, all medical officers will eventually receive 2 or 3 weeks of formalized training in radiological defense either at the Damage Control School, Treasure Island, San Francisco; at the Army Chemical Center, Edgewood, Maryland; or at other sites later to be designated. It is the opinion

in BuMed that subject correspondence course is eminently suited to prepare any officer for a better understanding and satisfactory completion of the more advanced courses. This course may be obtained by addressing the Naval Reserve Training Projects Officer, Code 16, BuMed. In the case of officers of the regular Navy who satisfactorily complete this course, a record of such accomplishment will be made in their jackets in BuMed. Although BuPers has not set the number of points that will be allowed for personnel of the Naval Reserve toward promotion and retirement, it is anticipated that because of the length of the course the points will be established as 3, and 36 respectively. (Professional Div., BuMed)

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Course in Advanced Commissary Instruction Open to Navy MSC and HC Officers: Applications of Medical Service Corps officers and/or warrant and commissioned warrant officers of the Hospital Corps are now being accepted for the special course of advanced training in food preparation and service in the U. S. Army Advanced Food Service School, Camp Lee, Petersburg, Virginia, convening in September 1950.

Requests are desired from warrant and commissioned warrant officers HC and Medical Service Corps officers in any rank, but must be received in BuMed (Attn: Code 345) by 15 July 1950 to receive consideration for this class.

The scope of the course of study, which is of 6 months' duration, permits comprehensive technical training in food service, with emphasis on food preparation, nutrition, menu planning, equipment operation and maintenance, and supervision of all types of military messes. It is desired that only officers with practical experience in, or those possessing an average theoretical knowledge of and interest in commissary procedures, request this instruction.

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Modification in Medical Corps Transfer Program: See BuPers Circular Letter 49-211 on page 31.

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BUMED CIRCULAR LETTER 50-1

11 January 1950

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

Subj: Accounting Procedures for Unit Pricing of Medical Department Property

Refs: (a) BuMed Circular Letter No. 48-52 dated 7 May 1948; AS&SL Jan-Jun 1948, 48-339, p. 162.
(b) BuMed Circular Letter No. 49-140 dated 28 Oct 1949; N.D. Bul. of 31 Oct 1949, 49-769.
(c) BuMed Circular Letter No. 49-141 dated 28 Oct 1949; N.D. Bul. of 31 Oct 1949, 49-770.
(d) The Armed Services Catalog of Medical Materiel

1. Reference (a) is hereby cancelled and superseded by this letter.

2. The present procedures of accounting for medical stores within elements of the medical supply system on a unit price basis will be continued, and all issues of such stores by medical supply depots will continue to be invoiced at such prices. Standard unit prices will be based upon latest contract prices for those items which have been purchased within the past year, and upon realistic market trends for those items which have not undergone procurement during a like period.

3. For the purposes of (a) maintaining conformity in Plant Account records and in Property Ledgers of the Medical Department, (b) reduction in number of interim changes, and (c) maintaining activities' cost accounting procedures upon a stable measuring unit, the following revised accounting procedures shall be adopted effective with the first day of the quarter year subsequent to the receipt of this letter:

a. No changes will be required in Medical Department Land and Improvement Ledgers, Buildings and Improvement Ledgers, or Plant Account Records (Classes 1 and 2).

b. Equipment and Plant Account Records (Class 3).--The Bureau, by references (b) and (c), modified the classification of Equipment and Class 3 Property to conform to the scope of such property as outlined in Chapter 3, Volume VI, Bureau of Supplies and Accounts Manual. Activities shall continue to account for each item of equipment carried in Class 3 of the Plant Account at the invoice value at which acquired. No changes in book value shall be made during the life of the item.

c. Supplies

(1) The following procedure shall apply to receipts:

Effective with the first day of the quarter following the one in which this letter is received, all receipts shall thereafter be recorded, at the value at which invoiced without regard for prices contained in the Price Supplement to the Armed Services Catalog of Medical Materiel. This Supplement should be regarded as a general guide to the prices of items listed in the Catalog and not as a firm price list.

(2) The following procedure shall apply to issues:

All issues of supplies shall be accounted for on the average unit price basis. As material is received, the quantity and total value shall be added to the balances of quantity and value on hand and a new average unit price then calculated. Issue procedures detailed herein in no way affect the recording of receipts.

--C. A. Swanson

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BUMED CIRCULAR LETTER 50-2

12 January 1950

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

Subj: Policy Regarding Race or Nationality Entries on NAVMED or Standard Medical Forms Promulgated by the Bureau of the Budget

Ref: (a) Chairman of Personnel Policy Board memo to Secretaries of the Army, the Navy, and the Air Force, of 11 Oct 1949, establishing policy regarding race entries on enlistment contracts and shipping articles

1. Upon receipt of this letter, as directed by reference (a), all NAVMED forms or reports, or standard medical forms promulgated by the Bureau of the Budget, having an entry requiring "RACE" or "NATIONALITY," shall be completed by using only the following terms:

(1) Caucasian (2) Negroid (3) Mongolian (4) Indian (American) (5) Malayan

2. In using the terms as listed in paragraph one, the following conversion table shall be followed:

<u>Present</u>	<u>Record as</u>
(1) White	Caucasian
Puerto Rican (White)	Caucasian
(2) Negro	Negroid
Puerto Rican (Negro)	Negroid
(3) Chinese	Mongolian
Japanese	Mongolian
Korean	Mongolian
(4) American Indian	Indian (American)
(5) Filipino	Malayan
Samoan	Malayan
Chamorro	Malayan
Hawaiian	Malayan

3. It will, therefore, be necessary to change the entry of "NATIONALITY" on NAVMED-H-2 (Physical Examination Sheet) to "RACE," using the race classifications shown in paragraphs one and two above. These changes shall be made as soon as practicable by either typewriter or black or blue-black ink entries in the Health Records of all active duty personnel. Red ink entries shall not be made.

4. Physical descriptions on NAVMED-H-2 (Physical Examination Sheet), such as complexion, hair, and eyes, shall be recorded by "COLOR" and not by "RACE".

5. The 1949 edition of the Manual of the Medical Department will reflect the above changes.

--C. A. Swanson

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BUMED CIRCULAR LETTER 50-3

13 January 1950

From: Chief, Bureau of Medicine and Surgery
 To: Commanding Officers, U. S. Naval Hospitals (Continental)

Subj: Blood Bank Questionnaire of American Medical Association

Incident to the preparation of plans relative to the blood program, this letter requests that addressees furnish BuMed with (1) a copy of their recently completed Blood Bank Questionnaire from the AMA and (2) additional information relative to any program which they have in operation for training personnel in blood bank operation and technic.

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BUMED CIRCULAR LETTER 50-4

13 January 1950

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

Subj: Insecticide Aerosol for Use on Naval Aircraft

Refs: (a) BuMed CircLtr 49-87 of 13 Jul 1949; N. D. Bul. of 15 Jul 1949,
 49-494
 (b) BuMed CircLtr 49-146 of 9 Nov 1949; N. D. Bul. of 15 Nov 1949,
 49-810

1. Reference (b) canceled paragraph 4 of reference (a). The list of refilling facilities outlined in reference (b) shall be modified as follows:

Delete "USNSD, Newport, Rhode Island" and substitute therefor
 "Boston Naval Shipyard, Boston 29, Mass."

--C. A. Swanson

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BUMED CIRCULAR LETTER 50-5

13 January 1950

From: Chief, Bureau of Medicine and Surgery
 To: AlStaCon

Subj: Mobile Photofluorographic and Roentgenographic Bus Units; Policy
 Relative to

Ref: (a) BuMed Circular Letter 44-198

This letter (1) cancels reference (a), (2) states that mobile photofluorographic and roentgenographic bus units assigned within a naval district will be under the military command and coordination control of the District Commandant, and under management control and technical control of the Bureau of Medicine and Surgery, and (3) contains information and instructions concerning employment, personnel, supplies, etc.

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BUMED CIRCULAR LETTER 50-6

13 January 1950

From: Chief, Bureau of Medicine and Surgery
 To: All Hospitals and Stations having Medical Department Allotments

Subj: Allotment Reports, NAVEXOS 2675 and 2676

Refs: (a) BuMed CirLtr 47-98
(b) BuMed CirLtr 48-94
(c) Hospital Accounting Instructions, NAVMED-P-1296

1. Reference (a) requires submission of original and two copies of subject reports to reach the Bureau by the fifteenth working day after the last day of each month.

2. In the future, the second copy of subject reports shall be retained until the end of the quarter and submitted by the hospitals with the NAVMED-569 and by the stations with the NAVMED-E. These allotment reports shall include those submitted during the quarter covered by financial reports, regardless of fiscal year appropriation involved, and shall include all allotments issued to the individual activity.
--C. A. Swanson

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BUMED CIRCULAR LETTER 50-7

16 January 1950

From: Chief, Bureau of Medicine and Surgery
To: Commanding Officers, U. S. Naval Hospitals, U. S. Naval Medical Supply Depots, and Medical Centers

Subj: Fiscal Records Relating to Civilian Personnel; Transfer of

Ref: (a) Paragraph 12B11.5(c), Item 93, MMD, 1945

This letter authorizes addressees having records relating to civilian pay rolls to transfer to the Naval Records Management Center, Naval Supply Depot, Mechanicsburg, Pennsylvania, certain of such records of personnel separated prior to 1 January 1946. The purpose of the suggested transfer is to make possible the separation of the older relatively inactive records from the recent relatively active records at the Record Center.

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BUPERS CIRCULAR LETTER 49-211
N.D. Bull. 49-936 - Pers-23-jch, P14-2

27 December 1949

To: All Ships and Stations

Subj: Modification of Medical Corps Transfer Program

Ref: (a) AlNav 87-49; N. D. Bul. of 31 Aug 1949, 49-593.

1. Reference (a) is hereby amended in that that portion of the transfer program for the appointment in the regular Navy of Medical Corps Reserve officers in the rank of captain and commander will be discontinued on 1 February 1950. Application for transfer in such ranks must be submitted and in the mail prior to that date.

2. The transfer program for the Nurse Corps and for the Medical Corps in the ranks of lieutenant commander and below will remain open until further notice.

3. All commands and all Reserve activities are directed to give this modification wide publicity.
--BuPers. J. W. Roper

Approved: Francis P. Matthews, Secretary of the Navy

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BUREAU OF MEDICINE AND SURGERY
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