



NAVY DEPARTMENT

BUMED NEWS LETTER

a digest of timely information

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Shorter Period of Rest in Bed for Patients with Head Injuries: Of special interest have been the innovations in therapy which have resulted from large-scale intensive studies in the Head Injury Centers in Great Britain. All patients with head injuries are sent promptly to these centers. Cairns found that patients with head injuries recovered and returned to duty much more quickly if they were allowed to be up and about as soon as they recovered consciousness or felt able. This is in contrast to the previously-held opinion that such patients should be kept in bed for a minimum of two to three weeks. Shearburn and Mulford in a paper in the Bulletin of the Army Medical Department, October 1943, also emphasize the value of early mobilization of patients with head injury.

The neurological service at Bethesda has been following this plan. There seems to be no doubt that it is physiologically sound and that the practical application is followed by encouraging results. The post-traumatic syndrome is far less frequent in its occurrence. The psychic effect is advantageous and the entire program of rehabilitation of these cases has had a tendency to minimize the popular impression of the seriousness of head injuries. Under this program the patients are allowed out of bed early, assigned light work around the wards and gradually increase their activities. Home leaves are not allowed, as sympathetic members of the family and friends often increase the subjective symptoms by inferring that head injuries are so serious.

The results of this program have definitely established a new concept of the treatment of head injuries and the surprising number of patients returning to full duty substantiates the logic involved. (W.M.C.)

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Traumatic Cerebral Fungus: O'Connell defines a cerebral fungus as a protrusion of brain tissue through a defect in all its coverings—the meninges, skull and scalp. Of a series of 38 patients with penetrating wounds of the head, 11 at some time before or after their admission to the hospital developed this complication. The larger the surface extent of the wound, the greater are

the chances that a fungus will develop, but, as the author points out, probably the most important factor in its production is delay in adequate treatment. In none of his 11 cases did he find a severe or persistent rise in intracranial tension, as measured by lumbar manometry, although a fluctuation above normal limits was often noted. Moreover, he found that as the fungus increased in size, more fluid had to be removed to lower the cerebrospinal fluid pressure--which suggests that the hernial enlargement was accompanied by ventricular dilatation. In this series, the protein and cell content of the cerebrospinal fluid varied considerably.

Regarding the etiology of cerebral fungus, the following are the accepted theories:

1. Infective: encephalitis, abscess, foreign body (all, it is presumed, associated with cerebral edema).

2. Mechanical: expansion of cerebrum due to pulsation of arteries:
(a) hydrocephalus due to obstruction of flow of cerebrospinal fluid by basal adhesions; (b) strangulation of cerebral veins at the periphery of the fungus by the dural or bony edge.

O'Connell criticizes these theories and offers an alternative of his own. First, he points out that the ventricle on the affected side dilates, as a result, presumably, of tissue atrophy consequent on the trauma. Then, with the rhythmic rise in the intra-ventricular tension, as a result of arterial pulsation and respiration, the ventricle dilates progressively and bulges into the hernia, causing its increase in size.

Treatment: O'Connell believes that most cases of cerebral fungus could be avoided by early and adequate treatment. Infection must be prevented, and the scalp wound repaired firmly wherever possible. When a fungus has developed, he advocates persistent lowering of the ventricular pressure. This is obtained by upright posture, restriction of fluid intake and regular spinal drainage by lumbar puncture. (Brit. J. Surg., Jan. '43.)

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Tropical Ulcers and Desert Sores: All observers in tropical and desert regions have been impressed with the unusual frequency of ulcerous lesions which are referred to as "tropical ulcers" or "desert sores." Arising most commonly from insect bites and abrasions, they readily become secondarily infected and, despite usual therapeutic measures, may progress to deep sloughing ulcers with rolled borders, exuberant granulating base, and a thin purulent discharge. Whereas many kinds of bacteria are found, the pyogenic cocci are the most common. Inadequate washing facilities and fly control are significant factors, and there seems to be some seasonal influence with a higher incidence during the hotter months. Vitamin and diet deficiencies are not considered important causative agents. The lesions have been found particularly troublesome, and healing is often much delayed in spite of various intensive therapeutic measures. For this reason, a method of treatment recently developed in a tropical region and followed by noteworthy success is considered of interest. Because it was thought that climatic conditions influenced the healing of these lesions, a form of ice

therapy was devised. It consisted essentially in cleansing the lesion with normal saline solution and covering with a sterile dressing, over which was applied a sterile jacket containing ice cubes. The ice was constantly replaced and its application continued for a period of four to six days. Following this form of treatment, it was observed that the granulations diminished, complete healing ensued within ten days to two weeks, and there were no recurrences. Contrasting results were obtained in the controls treated with the various sulfonamides, azochloramide, zinc peroxide, and zinc oxide ointment. (Bull. U.S. Army M. Dept., Oct. '43.)

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Filariasis in the Samoan Area: A study made recently in the Samoan area by naval personnel came to the conclusion "that Aedes scutellaris var. pseudo-scutellaris is the only species (of mosquito) in the area which is common enough to serve there as the principal transmitter of filariasis." This species appears to breed principally in coconut shells and tin cans and to live in the shelter of the dense grass, bushes and vines which may overlie these breeding places. The mosquitoes tend to rest close to the ground and have a very short flight range. They are day feeders and bite particularly actively early in the morning and late in the afternoon.

Another species of mosquito recently found to be naturally infected with the larvae of Wuchereria bancrofti is the Culex quinquefasciatus (- fatigans). This species breeds in any form of stagnant water, even brackish water. It rests in houses, under houses, or in other protected places close to human habitation. It has a short flight range and feeds entirely during the night.

The causative agent of the Samoan filariasis is apparently the threadworm, Wuchereria bancrofti. No authenticated cases of infection with Wuchereria malayi have been reported east of New Guinea.

In the recent cases, the common symptoms in order of frequency of occurrence were as follows: swelling, tenderness, fatigue, headache, drowsiness, blurring of vision, chills, fever, burning urination. Spermatic cords were involved in approximately 97 per cent of these cases, arms in 49 per cent and legs in 13 per cent.

A Filarial Board composed of naval medical officers in a report dated July 1, 1943, made the following recommendations for the reduction of the transmission of filariasis in the Samoan area:

1. All native villages should be cleared of underbrush and the grass kept closely cropped. Such an area as would include a space at least twenty-five yards beyond the most outlying hut should be so treated and completely freed of all breeding places of mosquitoes. The natives, themselves, should be instructed in the art of detecting breeding places such as rot holes, tin cans and coconut shells. All such containers should be properly disposed of and the rot holes in trees plugged up. All rain barrels should be kept covered.

2. Natives should be encouraged to sleep only when protected by mosquito netting whether during the day or night.

3. All personnel should be quartered at least five hundred yards from the nearest native habitation, and a strict cleanup campaign should be enforced. All places of amusement such as movies, etc., should be moved as far away from native habitation as possible, and screened. Certainly all quarters, eating places, etc., should be screened and should be sprayed at least once daily.

4. All areas where personnel are stationed should be thoroughly cleared of underbrush, the breeding places of mosquitoes sought out and destroyed and the grass kept closely cropped.

5. Where practical, all personnel should be required to abstain from visiting native huts or loitering in the vicinity at any time between the hours of 0500 and 2000. No personnel should be allowed within native villages unless they are fully dressed and protect themselves with repellents or other equally effective agents. To rest improperly dressed in unprotected quarters, areas or native villages should be strictly prohibited between the hours indicated above. These precautions should be put into effect immediately and should be maintained even after suggestions 1 and 3 are effected.

6. All community gatherings such as movies, dances, etc., involving native and armed personnel should be held preferably within screened buildings which have been thoroughly sprayed prior to and following the gathering. In cases where screened buildings are not available all such gatherings should be held as far away from native habitation as possible and the gathering should not be permitted until well after total darkness has set in.

7. Where feasible, all troop movements should be planned so as to prevent the troops from remaining in contact with native village sites for any length of time during the day or night.

8. All personnel should be provided adequately with sprays and repellents at all times.

9. A mosquito control campaign should be instigated immediately within the Samoan Defense Area. (D.F.S.)

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Schistosome Dermatitis: The *Schistosomum japonicum*, *S. mansoni*, and *S. hematobium* are pathogenic for man and cause respectively the hepatic, rectal, and vesicle forms of schistosomiasis. However, all schistosome cercariae invade the skin of warm-blooded animals. Therefore, the larvae of those other schistosomes whose normal definitive hosts are birds and other mammals may penetrate the human skin. Penetration of the skin by Schistosome cercariae of any species may cause little reaction or may produce varying degrees of a dermatitis such as the "swimmers' itch" of Michigan, Wisconsin, and Southern Canada. Schistosome dermatitis has been reported also in Japan, Malaya, Germany, France, and Wales.

In areas in which these parasites are known to exist, schistosome dermatitis should be considered as a possibility when a group of individuals, who have used the same fresh water for swimming or wading, develop dermatitis.

If the dermatitis is encountered within the geographic range of the three human schistosomes, it may be caused by their cercariae, and the subsequent clinical manifestations of human schistosomiasis may develop. Frequently, however, the penetration of human schistosome cercariae produces no visible reaction whatsoever in the skin. In considering a diagnosis of schistosome dermatitis, it is well to bear in mind that only those parts exposed to water will be affected. Also it can be stated with certainty that schistosome cercariae occur only in fresh water, although it is possible that a certain degree of salinity can be tolerated by some species. If schistosome dermatitis is suspected, confirmatory evidence may be obtained by collecting snails from the bodies of water or swamps where the infection was thought to occur. Care should be exercised not to overlook the minute mud-dwelling forms. These snails should be placed in containers with filtered natural water. Samples of the water should be examined periodically for the typical fork-tailed schistosome cercariae. Positive confirmation can be obtained by experimental exposure of an area of skin to the water containing the suspected cercariae. This, however, should not be done in regions within the geographic range of the human blood flukes.

Because of the wide distribution of the many species of non-human schistosomes, it is logical to expect to encounter schistosome dermatitis in many parts of the world. Because of the complexity of the schistosome life cycles and because of the large numbers of species which are potential definitive hosts, the identity of the species involved in schistosome dermatitis is usually not known.

In Wisconsin and Michigan, it has been found possible to prevent schistosome dermatitis by destroying the snails with copper sulphate or copper carbonate (two parts per million). Sometimes several treatments at intervals are required. Chlorination is effective against the cercariae, but is impractical in controlling snails. (D.S.F.)

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"Trematode Diseases and Their Molluscan Intermediate Hosts in the Islands of the Southwest Pacific": A monograph of this title has recently been printed and comprises a report of a Committee of the Division of Biology and Agriculture of the National Research Council. The report was prepared for the Ethnogeographic Board at the request of the Surgeon General of the Army. A limited number of copies are available, and individual copies may be obtained by medical officers who request them from the Bureau of Medicine and Surgery.

The conclusions of the Committee may be summarized as follows:

Extensive search of the literature on the part of the Committee has failed to disclose any record of cases of schistosomiasis (*Schistosomum japonicum*) arising locally in Oceania south and east of the Celebes. There is no evidence at present that the known intermediate hosts occur in any of the islands of Oceania.

If not already introduced, there is a possibility of the introduction of *S. japonicum* into the South Pacific area by Japanese troops, particularly those who have served in areas of high endemicity.

Information regarding the snail fauna in the islands is exceedingly meager. There is a possibility that known intermediate hosts of *S. japonicum* and other trematode parasites already exist or that local species may serve as suitable intermediate hosts.

It is the consensus of the Committee that trematode diseases are at the present time of little importance from a medical standpoint in the islands of Oceania south and east of the Celebes but that prolonged military operations by Japanese troops offer distinct possibilities for the introduction of such diseases into areas in which they are not known at present. Consequently, it is believed that cognizance should be taken of such possibilities and effort be made to evaluate them and to guard against the acquisition of such diseases by troops going into enemy occupied localities.

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Fungus Infections of the Feet and Groin; Are They Communicable Diseases?
Sulzberger, Baer and Hecht express the conviction that in their patients familial and conjugal exposures played no role in eliciting attacks of ringworm of the feet and groin.

Added significance is attached to the problem of fungus infections of the feet at present because of the extremely high morbidity caused by these diseases in military personnel. A questionnaire was prepared and circulated with the object of discovering whether the observations and opinions of the authors were sustained or contradicted by the observations and opinions of the majority of outstanding dermatologists. Eighty-eight replies were received and were analyzed. The answers confirm the authors' original opinion that conjugal and familial transmission of ordinary fungus infections of the feet and groin is either non-existent or a great rarity. This observation leads to the conclusion that many of the most widely used present measures of prophylaxis are illogical, probably serve no useful purpose and are potentially harmful. A re-orientation of opinion in regard to the causation of attacks by common ringworm is required. The results of our investigations support the concept that alterations in host susceptibility and loss of local immunity are more to blame than new exposure to exogenous micro-organisms. It is logical to assume that those prophylactic measures which stress personal and individual care and hygiene of the feet and groin will be more likely to succeed in preventing attacks of the common superficial fungus infections. (Arch. Dermat. & Syph., April '42.)

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March Fracture: March fracture of the foot, first described in 1855, is the most common of all march, fatigue, incomplete, pseudo- or soldier's fractures. The lesion is due to physiologic overloading of a bone, unaccustomed to, and incapable of, bearing up under such stress.

Hundreds of cases of march fracture of the foot have been reported, and in practically all of them one or more of the three middle metatarsal bones have been involved.

Various explanations of the mechanism of march fracture have been suggested.

Pauzat in 1887 suggested that march fractures of the foot were caused by constant bruising of the feet by the dorsal folds of boots, resulting in a periosteal proliferation around the metatarsal shafts. McMurray (1937) favored a preliminary disorder of the foot, such as a flattened short tarsal arch, and remarked that aching commonly preceded the fracture by a considerable period and was not often made appreciably worse by it. Brandt believed that these fractures were the result of rhythmically repeated, sub-threshold mechanical insults, acting by summation to a point beyond the capacity of the bone to bear stress. Bruce (1937) and recently Flavell have emphasized the frequency with which march fracture occurs in people with short first metatarsal bones - those in whom a line drawn through the other four metatarsophalangeal joints would pass distal to the first metatarsophalangeal joint. Childress believes that march fractures most often occur in persons who are suddenly thrust, without previous preliminary building-up, into intense physical activities, as are newly recruited soldiers.

In a series of 15 cases recently reported in Lancet (July 17, '43.), Flavell found that in no case was there the slightest suggestion of metatarsalgia before the fracture, that in no case did pain persist after the healing of the fracture, that in every case pain was strictly localized to the dorsum over the affected metatarsal, and that in almost every instance the individual suffering the fracture had a short first metatarsal.

It is Flavell's opinion that a "walking plaster" is not necessary in treatment, and that a short period of rest in bed followed by graduated exercise for the feet and legs will suffice.

Many of these fractures are unquestionably missed and diagnosed as foot strain. The fact that it is often easy to overlook the fracture line in an X-ray taken immediately after the injury is another point resulting in failure to make a correct diagnosis. Subsequent X-rays will show callus formation.

Next in frequency to march fracture of the foot are march fractures of the tibia - recently discussed by J. B. Hartley, (Brit. J. Surg., July '42) as "Fatigue Fracture of the Tibia."

Since 1931, Hartley has encountered 14 patients complaining of pain in the calf, or near the upper end of one tibia, and generally to the inner side. There is little to find on inspection and palpation, and roentgen study will reveal changes which suggest that there may have been an incomplete fracture about $2\frac{1}{2}$ to 3 inches (6 to 8 cm.) below the knee joint, involving the tibia alone. A small knuckle of callus will usually be visible at this level, on either side, on the inner or the posterior aspect. In 3 of the 14 patients the condition was bilateral, which observation can lead only to the diagnosis of fatigue fracture in a person between 7 and 20 years of age.

Now that adolescent groups are liable for war service, the incidence is likely to be greater, since fatigue fracture is more common in adolescence. One of the most recent cases demonstrated the need for widespread recognition of this condition during war, for lack of the correct diagnosis led to severe fracture of the tibia and fibula in an active recruit and consequently to prolonged and unnecessary immobilization.

Generally there is no history of injury and certainly none of violence. Of the author's 14 patients, 9 had no history of injury; 4 had a history of a fall or blow within the previous week or two, and 1 thought he had fallen. The only constant symptom is pain on standing, during walking or after walking. This may be behind the knee, in the calf or over the inner aspect of the upper third of the tibia. There is no pain when the leg is at rest. So far no patient with bilateral involvement has complained of pain in the two legs simultaneously. In 5 patients there was slight swelling on the inner aspect of the upper end of the shaft of the tibia. Tenderness was present in only 3. Rest from weight-bearing for several weeks results in spontaneous cure.

The author suggests that the condition may be due to faulty structure of the bone at this area of maximum strain and/or to abnormal strain at a site already subject to considerable stress. It is essentially a fatigue dystrophy. Its similarity in roentgen appearance and in healing to march fracture of the metatarsal bones is striking. It is definitely not due to infection, bone tumor, Looser's Umbauzonnen, syphilis or tuberculosis.

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The absence of a history of direct trauma, the roentgen appearance and the rapid recovery are characteristic of march fracture of the foot.

March fractures of the fibula and femur have been reported and occasionally the pelvic bones have been involved.

March Fractures in General:

Etiology: When the muscles become fatigued they no longer serve as shock absorbers for the bones and joints of the lower extremities; the muscles stretch and thus allow the ordinary trauma incident to weight bearing to affect the bone directly.

Clinical Signs: Dull pain initiated by long periods of weight bearing. Rest gives complete relief. Local swelling, heat, redness and tenderness may occur. Ten days later a hard mass appears. This mass regresses with rest.

Roentgen Data: (1) Incomplete fracture line may be demonstrated first ten days. (2) After three weeks callus is noted.

Pathology: Biopsy specimens of march or pseudofractures show fibrosis and cellular infiltration with typical regeneration and repair of bone.

Treatment: (1) Complete rest and protected weight bearing. (2) Callus will diminish under rest. (3) March fractures may resemble osteogenic sarcoma, Ewing's tumor, non-suppurative osteomyelitis and syphilitic periostitis. Observation clinically and roentgenically, during and after a few weeks of complete rest is recommended before a biopsy is done.

Terminology: March fracture is a practical diagnostic term now well established and its general use would help eliminate confusion.

Medical officers should be march-fracture conscious, because the incidence of this form of injury has greatly increased since the war. A gradual physical building-up of military recruits should lower the incidence of this fracture. (J.S.B.)

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Care of the Hand: Injuries of the hand occupy a prominent place in military medicine. The fact that surgery of the hand may require an approach differing from that applicable to other surgery is emphasized in a recent paper by Requarth.

The author stresses the importance of a thorough knowledge of the anatomy of the hand. He advises the use of a tourniquet to secure a bloodless operative field. He states that a blood pressure cuff inflated to a pressure of 250 mm. of mercury may be kept on the arm with safety for as long as 2½ to 3 hours. He emphasizes the importance of absolutely sterile surgical technic.

"Silk should be used entirely throughout the operation. For ligatures the finest grade-A corticelli white silk can be used. For skin approximations medium horsehair is best.

"Catgut should not be used in the hand at any time," as the reaction produced is not desirable in an area with so little subcutaneous tissue.

"Midline incisions over the palmar surface of the fingers invariably result in scar contractures;" the incision should be parallel to the flexor creases or directly over them.

Requarth discusses the importance of fluffed gauze pressure dressings and splinting.

Complete immobilization for two weeks is recommended following tendon repair and the wearing of the splint until the sixth post-operative week. Too early motion after repair results in marked reaction and many adhesions. Following repair of nerves, "the splint must be worn until nerve regeneration has occurred, a period varying from 9 to 12 months." (Nav. M. Bull., Sept. '43.)

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In summary, the "get in and get out" technic has no place in the surgery of the hand, and large knots and "whiskered ties" cannot be left in the wound. Meticulous attention to the anatomy is essential and sometimes it is worthwhile to bring an anatomical chart or dissector into the operating room for consultation. The use of small mosquito hemostats, small delicate tissue forceps and fine needles and small needle holders are essential for the best results. (J.S.B.)

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Blast Injuries of the Ears: A recent report of a conference on ear injuries due to blast, held in one of the war theaters, emphasizes certain significant considerations in their management. It was observed that an explosion close to the ears may result in injury to the drum. The perforations are bilateral in

from one-third to one-half of the cases. The symptoms are variable but usually mild. The patient generally complains of a feeling of fulness and "something in" the ear; pain is occasionally present, but hemorrhage is relatively infrequent, occurring in only 2 per cent of the cases. The principal danger is secondary infection with consequent mastoiditis. The incidence of this complication varies and depends in great measure upon the early management. Infection developed in 38 per cent of one group of cases and 81 per cent of another. Subsequent mastoiditis developed in four cases of these series, two of which required operation. In still another group it was estimated that only about 10 per cent or less developed secondary infection. It would appear that the most significant factor influencing the occurrence of infection in these patients is the syringing of the ears in the attempt to remove wax, usually impacted against the drum, and instillation of liquid medicaments.

On the basis of this experience the members of the conference reached the following conclusions on the management of this condition: All cases with demonstrable traumatic rupture of the drum should be sent back from the forward area, whether infection is present or absent. Cases with a firm blood clot covering the perforation may be allowed to remain at duty. No type of local medication should be applied to the ear in the absence of infection. Wax should not be syringed out of an ear in patients complaining of deafness following recent exposure to blast. All cases of ruptured drum, even if noninfected, should be given an immediate prophylactic course of sulfonamide. Once infection develops a full therapeutic course of sulfonamide should be administered. (Bull. U.S. Army M. Dept., Oct. '43.)

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Lyster Bag: "For the treatment of small amounts of water, there has been no better device perfected than the Lyster Bag, known to all who have been American soldiers in the present century. This device was developed by Major William John L. Lyster, now Colonel, U.S. Army, retired." (Hume, Victories of Army Medicine, p. 158.)

The name "Lyster" is frequently misspelled "Lister", a perhaps understandable confusion with the great English surgeon. To do so, however, is to deprive an innovator of his only reward.

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Sulfonamide Powder No Longer in Army First-Aid Packages: For the information of those serving with Army units, or in receipt of supplies from Army sources, it may be noted that the Army is not now including in its first-aid packets sulfonamide powder originally intended for local use.

Although the value of local implantation of sulfonamides in wounds has not been demonstrated, the BuM&S will for the present continue to include a powdered preparation in first-aid kits.

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Public Health Foreign Reports:

<u>Disease</u>	<u>Place</u>	<u>Date</u>	<u>Number of Cases</u>
Plague	Egypt, Port Said	July 17-24, '43	2
		July 24-31, '43	1 (fatal)
		Aug. 1-7, '43	1
		Aug. 14-21, '43	2 (1 fatal)
	Fr. West Africa Dakar	Aug. 1-10, '43	5 (2 fatal)
Yellow Fever	Belgian Congo Kinzao	July 26, '43	1 (fatal)

(Pub. Health Rep., Sept. 17, '43.)

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Pneumonia: In a statistical study of a large group of individuals insured with the Equitable Life Assurance Society, Underleider et al found that since the advent of sulfonamide therapy the case fatality rate had fallen from 20.8 per cent to 3.9 per cent and that the average total duration of illness had decreased from 38 days in 1935 to 27 days in 1941. The authors estimate that 25,000 lives of industrial workers and 1,000,000 working days have been saved annually. (Am. J. Pub. Health, Sept. '43.)

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Large scale surveys of pneumonia mortality rates often do not give a true picture, and the conclusions reached by one group of workers frequently are at variance with those of other investigators.

There may be variation from year to year in the virulence of the different causative agents. Some factor was, for example, operative in the pandemic influenza in the last war - possibly increase in virulence of the organism, possibly increase in susceptibility of the host, or possibly a combination of the two factors - with the result that pneumonia, whether pneumococcic, streptococcic, or caused by the Pfeiffer bacillus, attained a mortality rate perhaps not equaled at any other time. The seriousness of pneumococcic pneumonia varies in the different age groups and is influenced by the presence of complicating diseases. In some years different pneumococcus types predominate and the virulence of the various types is not always equal. The increasing recognition of primary atypical pneumonia has resulted in the separation from other forms of a group of patients who have an almost uniformly good prognosis. Finally, the occurrence of pneumonia as a terminal complication in patients dying of chronic disease causes many reported deaths to be attributed unjustly to pneumonia.

If one reviews the statistics on pneumococcus lobar pneumonia alone - especially such statistics as have emanated from large civilian hospitals - one has the general impression that lobar pneumonia has a mortality untreated of

from 35 to 45 per cent, treated with serum, of from 12 to 25 per cent, and treated with sulfonamides, of from 5 to 10 per cent. Such series include patients of all ages. However, in the sulfonamide-treated cases the man of military age belongs to an especially favorable group. Fetter reported (Nav. M. Bull., May '43.) a series of 388 cases from the Philadelphia Naval Hospital. While the general mortality rate for the series was 9 per cent, no patient under the age of 43 died, and 19 of the 35 deaths occurred in patients over 50 years of age. Other series have shown the same remarkable reduction in pneumonia mortality in patients over one year of age and under forty. Therefore, in the present war we may expect to have a negligible mortality from pneumococcus lobar pneumonia in the armed forces.

There are a number of aspects of the pneumonia problem that may deserve some emphasis. The duration of the febrile phase of the disease is now so short and the change under sulfonamide therapy from an acutely ill patient to a comparatively well one is so dramatic, that it is difficult for us to avoid a tendency to shorten the convalescent period beyond the point of safety. Resolution of the exudate in the lung and of the inflammatory reaction of the pleura, if carefully followed by serial X-rays, will often be found to proceed slowly even in a patient who in bed seems to be clinically quite well. Primary atypical pneumonia is often characterized not only by slow resolution but also by relapses after fairly long afebrile periods with involvement of additional areas of the lungs. Careful clinical observation of patients who have had pneumonia leads one to the conclusion that bed rest is important for many days after the temperature has become normal and that rarely is a man fit to resume full duty after an episode of lobar pneumonia before at least a month has elapsed. It is fair to say that the striking reduction in mortality has not been paralleled by a proportionate decrease in days lost to illness by patients who contract the disease.

There is a growing tendency to treat every patient who has pneumonia with sulfonamides and to call those who do not respond primary atypical pneumonia, etiology unknown. The patient may be admitted at night - the O.O.D. who sees him makes the decision only that the patient has pneumonia. He orders the magic drug and sleeps more peacefully feeling that if it is the right kind of pneumonia, the drug will help him; if it is another kind, it will do no harm. This type of medicine involves a careless and unnecessarily wide-spread use of a group of drugs that are not devoid of toxic properties.

It is possible - on admission - especially out of the respiratory season - to make a fairly satisfactory clinical differentiation of primary atypical pneumonia. Not every case will have points indicating primary atypical pneumonia, such as a gradual onset with more upper respiratory than lower respiratory symptoms, relative bradycardia, absence of rusty sputum, a normal or low white count, and X-ray findings of consolidation out of proportion to the physical signs. But when the greater number of these findings are coupled with an absence of pathogenic organisms in significant numbers from the sputum, a clinical picture of a type of pneumonia is present in which sulfonamides not only need not but should not be used.

Conditions in training stations are conducive to the development of epidemic hemolytic streptococcus infections. While under ordinary circumstances, hemolytic streptococcus pneumonia is rare, it does occur. It is well known that

this type of pneumonia is characterized in many instances by the early development of empyema. Studies made in the last war when this condition was very prevalent demonstrated the importance of early and if necessary repeated thoracentesis and a very conservative attitude toward thoracotomy. While streptococcus pneumonia responds to sulfonamide therapy, the pleural fluid may accumulate to the point of respiratory embarrassment before the infection is controlled by chemotherapy, and faith in the drug should not lead one to neglect well-established surgical principles in therapy.

Pneumonia caused by the staphylococcus and by the Friedlander bacillus, while perhaps somewhat helped by sulfonamide treatment, still has a high mortality. It is possible that penicillin may prove to be a more valuable drug.

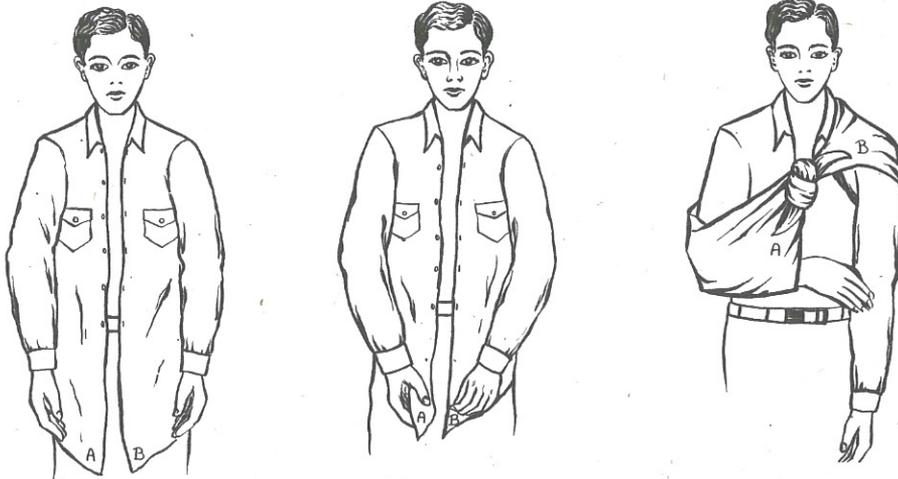
Finally there is the problem of sulfonamide-resistant strains of pneumococci. It is essential that, wherever possible, sputum for laboratory study be obtained before sulfonamides are administered. Pneumococcus serum is type specific, and is an effective therapeutic weapon in those cases of pneumonia which are caused by a pneumococcus, the type of which is known.

In spite of the remarkable achievement of the sulfonamides in the reduction of mortality in pneumonia, a handful of pills does not answer all of the problems of management of the disease.

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Arm Sling Improvised from Ordinary Shirt: A simple method of improvising an arm sling from an ordinary shirt has been submitted by CPhM. McMorris Warren, USN. As most Naval personnel are now wearing dungarees, it is considered that it might be of interest to those called upon to administer first aid. To place the right arm in a sling the following procedure is carried out:

1. Pull shirt from inside trousers and unbutton it.
2. Bring lower right anterior end of shirt tail (marked "A") diagonally up over the right arm to the left shoulder; bring lower left anterior end of shirt tail (marked "B") posteriorly over the left shoulder. After adjustments are made, tie the two ends with a square knot.
3. Do not remove either arm from shirt sleeve.



Treatment of Poliomyelitis: In compliance with a request from the Surgeon General of the Army, a Conference on Poliomyelitis was held at the National Research Council on 7 September 1943.

The conclusions reached by the members of the Conference are as follows:

This Conference recommends that in the armed forces patients with poliomyelitis should be treated at the nearest available hospital during the acute stage of the disease. It is felt that transportation of the patient in this phase of his illness is hazardous. If special equipment such as a respirator is needed, the equipment should be carried to the patient, rather than moving the patient to the equipment.

Despite lack of knowledge as to the actual mode of dissemination of poliomyelitis, it seems advisable when practicable to handle the patients with medical aseptic technic.

Medical aseptic technic should be carried out for a minimum of three weeks from the onset of the febrile stage of the disease.

During the acute stage, poliomyelitis is a medical problem and treatment should be symptomatic. Rest is most important, and heat (preferably hot packs) and sedation may be used, at the discretion of the individual medical officer, for relief of pain and tenderness.

The preponderance of available evidence does not indicate that the use of convalescent serum in treatment of poliomyelitis is efficacious.

The use of prostigmine in treatment is in an early experimental stage, and its use is not recommended.

"It needs to be re-emphasized that the respirator will consistently aid only when there is paralysis of the intercostal muscles or diaphragm, or in rare instances where there is a hypofunction, not a dysfunction, of the respiratory centers. It will not help when pharyngeal paralysis obstructs respiration, when the respiratory centers are irregularly active and produce something like an 'auricular fibrillation' of respiration, or when respiratory failure is secondary to circulatory collapse with tachycardia, as is so frequently the case in this disease. It will not help, therefore, in most cases of 'bulbar' poliomyelitis, except where the paralysis of muscles innervated from the medulla is complicated by intercostal or diaphragmatic paralysis. Since 'bulbar' cases outnumber the cases of severe peripheral respiratory muscle paralysis in most epidemics, it is not surprising that physicians who place in a respirator every patient with respiratory symptoms, regardless of their nature, have only an unhappy experience with a series of patients with 'bulbar' poliomyelitis futilely treated. The respirator is a device for providing physiologic rest for the muscles of respiration."

In the opinion of the Conference there is no well-established evidence that any special form of local treatment is specifically curative or affects the ultimate outcome or extent of the paralysis.

"Therapy in patients with bulbar involvement should be directed primarily toward keeping the pharynx free from food, vomitus and secretions. Although a patient cannot swallow, it may be easy to feed him by gavage; but these patients have such a tendency to vomit that this method of feeding is dangerous. It is wisest to give neither food nor fluids to patients with any evidence of pharyngeal paralysis until the temperature is normal and the patient is hungry.

Vomiting can best be prevented by keeping the stomach empty. An attack of vomiting is associated with nausea, and nausea brings about greatly increased pharyngeal secretions which in themselves may produce as much distress or danger as vomiting itself.

Salts, water and carbohydrate in adequate amounts can be administered parenterally and by rectum. The pharynx should be kept drained as far as possible by postural drainage carried out to an extreme degree. The patient should be tilted to an angle of 30 or 40 degrees; he is frequently aided by being kept on his face. In attacks of choking, the head may be put even lower. Postural drainage frequently results in a surprising amount of mucus and saliva flowing from the mouth.

Aspiration of the secretions from the throat is often of life-saving value. In treating any patient with pharyngeal paralysis, apparatus for aspiration of the throat should be at hand. Aspiration should be carried out as infrequently as possible, for in certain excitable patients it in itself may irritate the pharynx and increase the production of mucus. In more phlegmatic patients such great relief by aspiration is obtained that they request it and sometimes can carry out the procedure themselves."

It is characteristic of the sub-acute stage of the paralytic form of the disease that some muscles are tender and painful and tend to contract and cause deformities. These deformities can be prevented by the application of appropriate orthopedic and/or physiotherapeutic procedures. During the period of pain and tenderness, passive motion, within the limits of tolerance as manifested by increased pain, should be instituted. Active motion, when found to cause increased pain and tenderness, should be discouraged. Local treatment should be limited to the involved areas, as manifested by paralysis, pain, tenderness, hypertonicity or contraction.

For treatment of the convalescent stage (at the end of approximately eight weeks from the onset of his illness), each patient with persistent disability should be transferred to some center where special facilities for rehabilitation are available.

In view of the fact that virus infection is disseminated widely and in proportion to the number of cases, reservations should be made as to the advisability of moving large bodies of troops into or out of an area whenever the incidence of poliomyelitis in that area is higher than usual.

Tonsillectomies should not be performed during a period of increased prevalence of poliomyelitis.

Increased attention should be given to the measures prescribed in A.R. 40-210 concerning procedures to be followed in epidemics of gastro-intestinal or

respiratory disease including reduction of contact between individuals, hospitalization of suspects and patients and the application of rigid "typhoid precautions" to all hospitalized personnel.

Swimming in water which may be polluted by respiratory or intestinal discharges should be sharply limited when poliomyelitis is prevalent in the area.

This Conference recommends that, in a period of unusual prevalence of epidemic diseases, the Army and Navy release information about the incidence of these diseases and the measures being taken for their treatment and control.

* * * * *

"Industrial" vs. "Medical" Oxygen for Therapeutic Purposes: Any oxygen of U.S.P. purity (99%) is suitable for therapeutic use. The companies producing oxygen for commercial purposes have agreed upon a standard of purity slightly higher than that required by the U.S.P. This high standard is required because very small amounts of impurities appreciably lower the temperature of the oxygen-acetylene flame and adversely affect its use in cutting metals.

The industrial cylinders are usually designated by the letters H or K and contain 6,900 liters at 2,200 pounds per square inch. Medical cylinders may differ in size, type of valve, outlet nipple and color. Regulators with inlets designed for the medical cylinders and fiber washers may be attached to the industrial cylinders by means of adapters.

The wider use of industrial oxygen will result in lowering the cost of oxygen therapy.

Industrial oxygen is not suitable for aviation use, as aviation oxygen must meet special specifications regarding dryness and the testing of all samples. The high cost incident to meeting these special requirements makes aviation oxygen uneconomical for therapeutic use. (A.H.A., Jr.)

* * * * *

Coccidioidomycosis is, as the name indicates, a mycosis or fungus infection. It occurs in two forms: (1) primary coccidioidomycosis, an acute, benign, self-limited respiratory infection; and (2) progressive coccidioidomycosis (coccidioid granuloma), a chronic disseminated, usually fatal disease, which is manifested by pulmonary, cutaneous, subcutaneous, visceral and osseous lesions.

The coccidioides immitis received its name because of the resemblance of its sporulating form to the coccidia (protozoa). Coccidia are a form of sporozoa which in man may invade the epithelial cells of the intestinal tract and which in rabbits may invade the epithelial cells of the bile passages and produce nodules in the liver. The resemblance between the fungus and these protozoa is only morphological.

The chief endemic foci of the coccidioidomycotic infections are the southern part of the central valley (San Joaquin) of California and San Benito County,

southern Arizona and western Texas. Occasional cases have been reported in Idaho, southern Utah, southern California, and New Mexico, as well as Mexico, Hawaii, Italy, Uruguay, Bolivia, Argentina, and Brazil. The disease flourishes where the climate is hot, dry and dusty. Man and animals become infected only by the inhalation of dust which contains the chlamydo-spores of *coccidioides immitis*.

Coccidioides immitis causes in the tissues a granulomatous reaction which, especially in the secondary or disseminated form, has a tendency to central caseation or suppuration. It is spherical, varying from 5 to 80 micra in diameter. As the spherule develops, the capsule thickens and becomes more refractile. The very coarsely granular protoplasm contained therein breaks up into a large number (50 to 100) of spores of irregular shape and only a few micra in diameter. With the rupture of the capsule these minute bodies are discharged into the tissue where they swell, become spherical, and grow until they reach the sporulating stage.

On solid media the fungus develops as a fluffy white mass composed of irregularly arranged branching septate filaments 2 to 8 micra in diameter. In contrast to the endosporulation seen in tissue, the organism reproduces in culture by budding and fragmentation of the mycelium. Laboratory personnel working with *coccidioides immitis* may acquire the infection by inhaling the almost imperceptible dust of the mycelia while working with cultures. Attempts to cultivate the fungus from soil have been almost futile, although isolation from the soil by animal inoculation has been more successful. Transmission from man to man has never been proved.

Primary coccidioidomycosis or valley fever develops 10 to 14 days after inhalation of the fungus-laden dust. Those with clinical manifestations usually have low grade fever (99° - 101°) with malaise. Usually there is cough which, if productive, may be associated with the raising of small amounts of sputum which is occasionally blood-streaked. Pleuritic pains are not uncommon and a transient pleural effusion may occur. This initial respiratory phase usually subsides in from 1 to 2 weeks. In 3 per cent of the cases, a second phase follows in from 3 to 21 days during which fever recurs and skin lesions appear resembling erythema nodosum or erythema multiforme. Patients with these "cutaneous allergic" manifestations are less likely to develop the progressive form of the disease. Other occasional findings are phlyctenular conjunctivitis and acute arthritis, the latter not responding to salicylates. The patients for the most part do not feel ill.

Abnormal physical findings related to the chest are usually absent or inconspicuous in the primary phase. An X-ray of the chest will, however, show one or more of the characteristic changes in at least 4 out of every 5 patients: (1) soft, fuzzy hilar thickening, (2) pneumonia-like infiltrations, (3) nodular parenchymal lesions, or (4) mediastinal hilar adenopathy. Residual primary coccidioidal cavitation is demonstrable only by X-ray.

The primary focus is apparently walled off, as in tuberculosis, and most often undergoes complete resolution. However, there may be resulting fibrosis and calcification, and in some nodular parenchymal lesions necrosis occurs with the production of small, thin-walled cavities, which characteristically have no surrounding parenchymal reaction, yet harbor the fungus. Coccidioidal cavities,

which may be a part of the primary infection, are usually "silent", for during the months that may elapse before healing takes place, although the patient's sputum may contain the fungus or blood, generally there are a normal sedimentation rate, a low titre or disappearance of the complement fixation, and absence of fever and constitutional symptoms. The initial infection probably always conveys a permanent immunity.

The occasional patient (not more than 1 in 500) who develops the disseminated form of the disease shows evidence of dissemination within a few weeks or months after acquiring the infection. His clinical picture at first is that of the primary form. Without let-up, however, the illness continues with the sedimentation rate remaining elevated, and serology revealing an increase in both precipitins and complement fixation, and X-rays revealing further extension of lung infiltration. In some instances, involvement of bones and joints, lymph nodes, and skin and even the meninges becomes apparent. The course is progressive, slow and downhill. In those patients in whom the pulmonary pathology predominates, low grade fever, cough, spherule-laden sputum, marked weakness, and loss of weight are prominent symptoms, with cyanosis and dyspnea in the terminal stages. Patients with generalized coccidioidal granuloma usually have high fever, chills, sweats, and emaciation. Subcutaneous and deep abscesses frequently appear. Polyarthrititis is common, with some destruction of the adjoining bone demonstrable by X-ray. Cyst-like areas of destruction occur, usually in the cancellous bone, with periostitis the most common lesion. The disease may assume a miliary distribution.

Those factors which allow the development of the disseminated type of the disease are unknown.

With regard to differential diagnosis, the primary form of the disease is most often mistaken for upper respiratory tract infection or pneumonia, while both forms of the disease are frequently mistaken for tuberculosis.

With regard to laboratory aids in diagnosis, the actual demonstration of the fungus gives the most conclusive proof of the presence of the disease in an active phase. It may be recovered in certain instances from the sputum, from tissue removed by biopsy, from pus obtained as a result of draining abscess cavities, from the pleural fluid and in rare instances from the spinal fluid. It grows on Sabouraud's medium.

The coccidioidin skin test is important in diagnosis. Undiluted coccidioidin remains potent for at least 3 to 4 years, while a 1:100 dilution in normal saline is satisfactory for skin testing for 1 to 2 months if kept refrigerated. The skin test is performed in the same manner as the Mantoux test for tuberculosis. One-tenth cubic centimeter of a 1:100 dilution is injected intracutaneously. The test is read in forty-eight hours. The reaction is considered positive if an area of erythema appears more than 0.5 cm. in diameter. Induration is usually present, and sometimes vesiculation. The significance of the test is comparable to that of the tuberculin test. A positive coccidioidin test indicates sensitivity to coccidioidin, due to a present or a past infection, but does not necessarily mean that an active infection exists at the time the test is performed. The majority of patients who have recovered from primary coccidioidomycosis will continue to react positively to subsequent skin tests for the rest of their lives.

The test is subject to the same limitations as the tuberculin test; for example, there is no correlation between the clinical picture and the severity (plus to 4 plus) of the reaction. The test is often markedly positive at the time of the erythema nodosum; the test may become negative (as in miliary tuberculosis) in the advanced stages of the progressive form of the disease.

The sedimentation rate is often a helpful guide in estimating the presence of activity of the disease. A return of the rate of sedimentation to normal following the primary phase is evidence against the individual's developing the progressive form of the disease.

In the primary form of the disease leukocytosis is usually present with a marked increase in the number of eosinophiles.

Using coccidioidin as antigen, the patient's serum may be tested for precipitins and complement fixations (1) in doubtful cases, (2) in patients with a protracted course and a persistently rapid sedimentation rate, and (3) in patients with a doubtful prognosis due to the possibility of dissemination. The tests usually are negative in the very mild infections. In more severe infections, however, precipitins are present in fairly high dilutions with the titre of complement fixation directly proportionate to the degree of the coccidioidal involvement. A rise in titre of complement fixation or the maintenance of a positive reaction at high levels indicates dissemination of the infection. As patients recover from primary coccidioidomycosis these tests become negative, although in some instances, in cavity cases especially, serum may fix complement in low dilutions for many months following clinical recovery. (Coccidioidomycosis Program, A.A.F.W.F.T.C.)

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Arrangements have been made through the kindness of the Surgeon General of the Army for a limited supply of coccidioidin (for intracutaneous tests) to be furnished West Coast Hospitals which may receive cases of coccidioidomycosis infected locally. Coccidioidin has been developed in the laboratory of Dr. Charles E. Smith of Stanford University Medical School. Dr. Smith is a member of the Commission on Epidemiological survey under the Army Epidemiological Board. Although an occasional case of coccidioidomycosis may develop in individuals outside of these relatively narrow geographic boundaries, it is not expected that the disease will present a major problem elsewhere.

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Toxicity to the Liver of Tannic Acid and Other Coagulating Agents: Experimental work on animals by a number of investigators has established the fact that tannic acid can produce necrosis of liver cells.

Large experimental burns treated locally only with petrolatum and salt solution produce engorgement of the sinusoids of the liver, especially about the central veins, followed by granular, vacuolar, and fatty degeneration of the liver cells. With longer survival - especially in the presence of infection such as pneumonia or suppuration of the burned area - actual central necrosis may occur. Thus burns of themselves produce some hepatic damage.

The use in dogs of any coagulating agent (tannic acid, ferric chloride, alum, sulphosalicylic acid, silver nitrate) as a wet dressing for a burn will intensify the hepatic damage. Three of these increase the danger of clinical jaundice and hepatic insufficiency. They are, in order of importance: tannic acid, ferric chloride, and silver nitrate. Tannic acid and ferric chloride injected subcutaneously in unburned animals produce necrosis of liver cells. Hepatic necrosis occurred after application of tannic acid to areas of denuded but unburned skin in rats. A method has been developed for making quantitative determination of tannic acid in the blood, and it is apparent that significant amounts are absorbed when it is applied to burned surfaces.

Hartman and Romence, Ann. Surg., Sept. '43
 Baker and Handler, Ann. Surg., Sept. '43
 Cameron et al, Lancet, Aug. 14, '43

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Methyl Bromide As A Fumigant for Delousing Clothing: Although extensively used for the fumigation of living plants and of various types of foodstuffs, methyl bromide has only recently been used for the delousing of clothing and bedding. The Army has used it for the destruction of bed bugs in barracks.

Methyl bromide is a colorless, odorless, volatile liquid with a boiling point of 40.1° F., and a specific gravity of 1.732. In the gaseous state it is approximately three and one-half times as heavy as air.

Methyl bromide is definitely toxic. Long-continued exposure at low concentrations induces paralysis which usually disappears if the animal is promptly removed from the presence of the gas. Long-continued exposure to stronger concentrations produces acute lung irritation which often passes into typical confluent broncho-pneumonia.

Lethal concentrations for man and other warm blooded animals are as follows:

	<u>Parts per Million</u>
Concentrations which kill most animals in a short time:	20,000-40,000
Concentrations dangerous to life in 30-60 minutes:	2,000-4,000
Maximum concentration tolerated for one hour without serious disturbance:	1,000
Maximum concentration tolerated for prolonged exposure, (eight hours):	50-170

In addition to acute toxic effects, additive effects obtain from frequent repeated exposures. In view of its toxicity, the use of methyl bromide for any purpose must be in the hands of trained personnel and under competent supervision

For the detection of methyl bromide in the atmosphere the halide leak detector lamp is used. Halides passing over red hot copper give a greenish-blue color to the otherwise colorless flame. Owing to the frequent accumulation in them of dust and lint, the sampler tubes must be cleaned before use, otherwise false test will result. The Dow Chemical Company gives the following table of the approximate methyl bromide concentrations associated with various color intensities of the flame:

<u>Parts CH₃Br</u> <u>per million</u>	<u>Pounds CH₃Br</u> <u>per 1000 cu. ft.</u>	<u>Flame Color</u>
0	0.000	Almost invisible
40	.010	Rather faint green
60	.014	Moderate green
100	.024	" "
130	.031	Strong green, slightly blue at edges
180	.043	Strong green, rather blue
240	.058	Strong blue-green
360	.086	" " "
800	.192	Strong blue

Individual bag fumigation is recommended only for emergency use when other means are not available or practical. The bag used for this purpose is a plasticized bag which will hold about 25 pounds of clothing. On the inside is a pocket for holding the ampoule of methyl bromide. One 20 c.c. ampoule of methyl bromide per single bag operation is required for this method. The clothing and blankets (leather goods included) are placed loosely in the bag; a glass ampoule of methyl bromide is placed in the inner pocket; the bag is securely closed; the ampoule broken, and the bag laid on its side for a period of 45 minutes. Then it is opened and the clothes are dumped out, shaken and left in the open for five minutes after which they can be worn again. In view of the likelihood of multiple leaks in the bags, and the large amounts of methyl bromide released when the bags are opened, fumigation by this method must always be carried out in the open.

A much more satisfactory apparatus for delousing is the methyl bromide fumigation vault, with a capacity of 325-330 cu. ft. At present a knock-down type of portable vault is available. Essentially it consists of a reasonably gas-tight chamber, rigged up with a blower and duct system to keep the heavy gas in circulation throughout the vault. There is an opening in the duct system for the discharge of the gas to the outside, and a vent in the front door for the entry of fresh air during the degassing phase. The methyl bromide is introduced from the outside by means of a patented applicator. Three one-pound tin cans are introduced in this manner for a single delousing operation at a temperature of not less than 60° F. Four pounds are required for temperatures ranging from 30 to 60° F. The clothing and blankets are put loosely into ordinary clothing bags or netting bags, and loaded into wheeled trucks, each having three shelves. Three such trucks fill one vault. A spare set of trucks comes with each cabinet, and can be loaded during the fumigation of the other truck loads. In this manner one such vault in the hands of a trained crew can take care of the clothing of about 65 men per hour. One twelve-head shower unit will care for the bathing needs of a like number of men.

The advantage of methyl bromide over heat is its application to woollens, leather and rubber goods without damage. It does kill lice and their eggs in thirty minutes in the above manner. However, it does not kill the rickettsiae; it involves the use of a toxic substance; it is not too well suited to colder climates, and is definitely dangerous when used inside buildings. (V.C.T.)

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BUREAU OF MEDICINE AND SURGERY

BUMED-C-LET
P3-2 NH(064-39)

1 Oct 1943

To: All Ships and Stations.

Subj: Out-Patient Medical Attention--Dependents.

Encl: (A) Reprint BuMed Form Letter No. P3-2 NH(082), 12 Feb. 1940 (revised).

1. Enclosure (A) is reissued for the information of the naval service.
2. In making known to the personnel the availability of this out-patient medical service for their wives, children, and other actual dependents, the point should be emphasized that this medical care may be provided only by naval medical officers at naval dispensaries, naval hospitals, or other Medical Department activities where an out-patient service for dependents has been established. The Navy Department may not authorize, pay for, or assume any responsibility in connection with medical, dental, or hospital care obtained by or for dependents from civil physicians, dentists, or other practitioners, in civil hospitals, clinics, etc., or in the hospitals or medical facilities of branches of the Government other than the Navy. The "Dependent Identification Card" is without value except when presented to a naval medical activity caring for dependents.
3. During such time as the Coast Guard may continue to operate as a part of the Navy, naval medical out-patient service is available for Coast Guard dependents in like manner as for naval dependents.

ROSS T. McINTIRE
Rear Admiral (MC), USN
Chief of Bureau

Enclosure (A)

From: The Chief of the Bureau of Medicine and Surgery.

To: All Ships and Stations.

Subj: Out-Patient Medical Attention--Dependents.

Ref: Article 1185, Navy Regulations, as amended.

Encls: (A) Form for "Verification of Dependency."
(B) Form for "Dependent Identification Card."
(C) Certificate of Dependency.

C-LET
FORM LETTER
P3-2/NH(082)
12 Feb 1940

1. Paragraph (1) of reference provides that medical officers on duty at navy yards and naval stations, in addition to their official duties, will be required to attend the families of officers and enlisted men, including those transferred

to the Fleet Reserve after 16 or 20 years of service and those on the retired list. It is also provided that the families of officers and enlisted men shall include only those relatives who are dependent upon them for support.

2. With the approval of the Secretary of the Navy, the following supplemental instructions shall become effective on the receipt of this letter:

3. Hereafter out-patient medical care and dispensary treatment by the Medical Department of the Navy shall be limited to the personnel specified in article 1185(1), Navy Regulations, and to the dependents of such personnel as defined in paragraph (5) of that article, namely:

A lawful wife, unmarried dependent child (or children) under age 21, and the mother and father of the officer or enlisted man if in fact dependent; as to the Navy Nurse Corps (female), unmarried dependent child (or children) under age 21, and the mother and father of the nurse if in fact dependent. "Child (or children)" shall include a legitimate child, stepchild or adopted child. The widows of deceased naval personnel, active or retired, also shall be entitled to the medical care authorized by this article.

4. Article (7) specifies that such medical stores may be expended as may be deemed necessary by the Surgeon General in carrying out the provisions of this article. The following policy shall be observed in the expenditure of medical stores in dispensary and out-patient treatment of dependents:

(a) Only items on the Supply Catalog or Supplemental Supply Catalog of the Medical Department or carried in stock will be issued or dispensed; no purchases of other drugs, or supplies, shall be made for such issue except by authority of the Bureau.

(b) Issues shall be made only on the prescription of a naval medical officer for use or administration under his supervision.

(c) No medical stores will be issued on the prescription of civilian practitioners or for self-administration.

5. It is directed that each activity providing dispensary or out-patient medical care for dependents shall require proof or verification of dependency. The following system of verification shall be employed in cases where the dependent has not been provided with an authenticated identification card.

(a) On the application of a dependent for medical care, the form "Verification of Dependency" (enclosure (A)) shall be filled out and forwarded to the duty station of the officer, nurse, or enlisted person concerned. Treatment will be given if the dependency claim appears probable, pending return of the verification form, but shall be discontinued immediately should the returned form disclaim or fail to verify dependency. Pending return of the completed "Dependent Identification Card" the applicant shall be required to execute a "Certificate of Dependency" as shown by enclosure (C). The applicant should be given and required to read a written statement to the following effect:

(1) That the certificate executed will be retained in the files of the issuing activity.

(2) That treatment may be obtained only at naval activities maintaining an out-patient medical service.

(3) That expenses for treatment by civilian physicians or hospitals or other establishments cannot be paid or reimbursed by the Navy.

(4) That none other than those listed in paragraph 3 hereof are entitled to medical care by the Navy.

6. Each activity to whom this letter is addressed shall provide personnel applying for the same a dependent identification card which shall be prepared locally so nearly as practicable according to enclosure (B).

7. It is desired that the contents of this letter be made known to all personnel within command.

8. Nothing herein has any application to the care and treatment of civilian employees in accordance with articles 1185 (9), 1511, and 1575, Navy Regulations, and chapter 9, section II, Manual of the Medical Department, 1938.

ROSS T. McINTIRE
Rear Admiral (MC), USN
Chief of Bureau

Enclosure (A) to Letter of 12 Feb. 1940

U. S. Naval.....

From:
To: Commanding Officer, U.S.
Subject: Verification of Dependency.
Reference: M. & S. Form Letter P3-2/NH(082), February 12, 1940.
Enclosure: Form "Dependent Identification Card."

1. The person whose name is recorded on enclosure has applied to this (dispensary or hospital) for treatment as the dependent of

Name: Rank:
Rate:

2. It is requested that enclosure be completed, attested, and returned to this command. (Date to be corroborated by service record.)

3. The term "dependent" is restricted by article 1185, Navy Regulations, 1920, to a lawful wife, unmarried dependent children under age 21, and dependent mother or father of the officer, nurse, or enlisted man of the Navy or Marine Corps (active or retired), or member of the Fleet Reserve or Fleet Marine Corps Reserve transferred thereto after 16 or more years of naval service.

4. Careful completion and prompt return of enclosure to this command will expedite medical care, provide a uniform means of identification for dependents at all naval dispensaries and naval hospitals, and obviate the necessity of further correspondence on subject matter during current enlistment.

Enclosure (B) of Letter of 12 Feb. 1940

(Card form, printed on cardboard, size about 3 1/2 x 4 3/4, to fold in center.)

Obverse of card

DEPENDENT IDENTIFICATION CARD

(For use at naval dispensaries and naval hospitals only)

.....
(Ship or Station) (Date)
.....
(Name) (Rank or Rate)
.....

My actual dependents are: (See par. 2, reverse of this card)

Wife.....
(Signature of full name) (Example: Mary Jane Jones)

Name..... Relation..... Age.....
(Signature if adult)

Name..... Relation..... Age.....
(Signature if adult)

Name..... Relation..... Age.....

Name..... Relation..... Age.....

Name..... Relation..... Age.....

The above information agrees with the statements in the service record.

.....
(Signature) (Rank or Rate)

SERIAL NUMBER

ATTESTED:

.....
Enlistment expires
.....
(Executive Officer or Personnel Officer)

Reverse of card.

1. This card is of value only at naval dispensaries and naval hospitals caring for dependents.
 2. Dependents of the following only are entitled to out-patient service: Navy and Marine Corps--active-duty officers, nurses, and enlisted men; retired officers, nurses, and enlisted men; transferred members of the Fleet Reserve and Fleet Marine Corps Reserve. Dependents are limited to: Lawful wife; unmarried dependent children, under age 21; dependent mother or father of the officer, nurse, or enlisted man concerned; widows of deceased Navy or Marine Corps personnel.
 3. Dental treatment will not be given.
 4. This certificate filled out and attested by the executive or personnel officer of the command to which the officer, nurse, or enlisted man is attached will serve as necessary identification.
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5. Retired and Fleet Reserve or Fleet Marine Corps Reserve personnel shall have this certificate attested by the personnel officer of their district headquarters.
 6. Obtain a new attested certificate upon enlistment or extension of enlistment.
 7. This certificate is nontransferable.
 8. Unused spaces to be blanked out.
 9. This certificate to be presented by the dependent when applying for out-patient service.

Enclosure (C) of Letter of 12 Feb. 1940

CERTIFICATE OF DEPENDENCY

(To be attested to by medical officer giving first treatment and retained in the files of the activity. Not to be returned to the individual or forwarded to any other activity.)

I hereby certify that I am the (wife) (dependent mother) (dependent father)
of.....
Name Rank or rating

.....
Service or jacket number Place of duty

Attested:.....
Name Signature

.....
Rank Address

I hereby certify that the following are the children of:

.....
 Name Rank or rating

 Service or jacket number Place of duty

.....
 Name Age

 Signature of wife or responsible
 adult (state relationship)

.....
 Name Age
 Attested:.....
 Name Address

 Rank

I hereby certify that I am the widow of the late:

.....
 Name Rank or rating

Attested:.....
 Name Signature

 Rank Address

* * * * *

To: All Ships and Stations. BUMED-D-HGB
 P14-1/OD(101)
 Subj: Examination for Appointment in the Dental Corps, U.S. Navy 2 Oct 1943

1. The next examination for appointment in the Dental Corps of the regular Navy will be held on 24 January 1944 at the National Naval Medical Center, Bethesda, Maryland, and the Naval Training Stations, Norfolk, Virginia, Great Lakes, Illinois, and San Diego, California.
2. Officers of the U.S. Naval Reserve who wish to participate in this examination should make application to the Bureau of Medicine and Surgery via official channels.

ROSS T. McINTIRE
 Rear Admiral (MC), USN
 Chief of Bureau

