

HISTORY OF THE MEDICAL SERVICE

1. Preactivation set-up and training as it pertained to the Medical Service was conducted as a part of the training of the whole unit.

Lieutenant Colonel ^{small letters} FRANK R. MOUNT, as Chief of Medical Service organized and directed the department. One Member of the Medical Service, E. ^{Murray Burns} ~~MURRAY BURNS~~, was ordered to active duty at Fort Lewis Station Hospital on 15 January 1941, and accumulated records and ward experience which were relayed back to the unit in Portland, Oregon. The unit as a whole held meetings every ~~Monday~~ ^{and} evening at the Medical School, ~~but~~ the training of the Medical Service per se was not carried on separately.

2. At Fort Riley, Kansas, where the unit arrived 18 July 1942 the Medical Service took part in the training of the whole unit in basic field training and hospital administration. However, in addition it carried on its own separate program. Special attention was given to ward management, medical discharge of patients, organization, board proceedings, army medical records, and special medical diseases of a military nature. After three or four months of basic training the officers and medical technicians were assigned to the Station Hospital at Fort Riley, Kansas, and Frank R. Mount, Chief of Medical Service of the 46th General Hospital, was named as Acting Chief of the Medical Service of the Station Hospital. Samuel L. Diack directed the training program for the Officers and Leon F. Ray for the Medical Technicians. Considerable experience in ward work, contagion, and respiratory diseases, and the boarding of patients was obtained by all members of the Medical Service. One of the members of the group, E. Murray Burns, was assigned to the School of Tropical Medicine in Washington, D.C. for two months in the Fall of 1942. In addition, another officer, Thomas J. Mathews, spent six weeks at the Army Roentgenology School in Nashville, Tennessee, and Earl D. Dubois started the Tropical Medicine course but this was terminated at the end of two weeks when the unit was alerted for overseas duty. At ^{about} the same time DuBois left the Medical Service to become Executive Officer of the unit, and Don Forster was transferred out of the institution.

3. On arriving at the staging area in North Africa and following the

x Dr. Ray deserves special consideration for the skill, energy and persistence he put into organizing the enlisted personnel of the Medical Service.

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preliminary orientation, the Medical Service again partook in the review of basic training for the whole unit. After a few days a group of officers, nurses, and enlisted men were placed on detached service with the 32nd Station Hospital in Tlecmen for a period of six weeks. The Medical Officers who went on this detached service were E. Murray Burns, John W. Evans, Thomas J. Mathews, Joseph L. Miller, Jr., and Richardson E. Clark. In the 32nd Station Hospital the Officers, Nurses, and Enlisted Men were assigned to the type of ward or administrative positions which they would hold in their own unit. During this time considerable practical experience was gained by all the members in overseas hospital procedure. Special attention was paid by all members to the convoy method of admitting and discharging of troops which ^{at that time} was a new experience to this command.

On setting-up in the Hospital Center near Oran, conditions were in a state of flux. Wards were setup in ward tents in rows of three. The Medical Service identified its wards by even numbers and lettered individual tents A, B, and C, as they extended back from Riley Avenue. The ward offices were setup in the center tents, namely the B tent of each ward, and the sicker patients were kept in these tents, and the ambulatory patients in A and C tents. At first, the ward rows were set several feet apart, but after the accumulation of patients extra rows of tents were setup in between. Then began rearrangement of ward numbers and shift of patients and personnel so that officers who had two wards would have them in proximity. A locked and closed Psychiatric Section consisting of one stone building and two Nisson huts was set up away from the rest of the patients. A stone building in the shape of an H and one story high was built and located at the head of the section set aside for Medical Service and gear Headquarters.

This hospital was designated as a center for several specialities.

As they pertained to medicine these included dermatology and tuberculosis.

Shortly after the hospital began to function, Colonel Mount was named Acting Commanding Officer in lieu of Colonel Strohm who was moved to MBS Surgeon's Office and E. Murray Burns named Acting Chief of Medical Service. Unfortunately, shortly after taking over his new duties Colonel Mount developed coronary occlusion and after several weeks of hospitalization was returned to the zone of interior. Colonel Strohm returned as Commanding Officer, and E. Murray Burns continued as Chief of Medical Service. After the initial state of flux had subsided the service was organized in the following manner: Burns - Chief of Service, Ray - Assistant Chief of Service with the medical office located in the H building. The two wings of the H building were made separate wards: Officers Ward under Underwood, and Tuberculosis and Chest Ward under Diack. Two Nissen huts came next in line and in these the Nurses Ward was set up under Lloyd Smith, and the rest of the huts housed the Dermatological Section under Illge and Ray. Between these two huts there was a hydrotherapy unit. Next in line was a large Nissen hut in proximity to the special diet kitchen and this was given over to the Gastro-Enterology Section under Mathews. The rest of the service was in tents as follows: General medicine - Joseph Miller, Malaria - Rogers, Cardiology - Robert Miller, Psychiatry - Evans and Clark, Neurology - Carter, and later after the transfer of the Venereal Disease Section to the Medical Service this Section was given to Zucker and combined with isolation. ^{Inadole who was transferred from another general hospital}

The main professional work was rear echelon type and disposition type of cases. During this time that the Service functioned in North Africa between 5 November 1943 to 12 August 1944 there were admitted to the Medical Service a total of 7 ^{patients;} broken down by months these admissions included:

November	1943		May	1944	382
December	1943		June	1944	1062
January	1944	573	July	1944	899
February	1944	414	August	1944	191
March	1944	412			
April	1944	296			

Training was given to two groups of French Medical Officers for periods of three and two weeks respectively. They attended ward rounds and were given special lectures on recent advances in military medicine with particular reference to new drugs such as penicillin. Between the period of 1 May 1944 and 18 June 1944 there was given a six weeks technical training course for enlisted men from other medical units. This was run in conjunction with surgical training.

On 12 August 1944 the service was closed and all patients ~~was~~^{were} transferred to the 70th General Hospital.

4. After staging in North Africa and crossing the Mediterranean and again staging in Southern France the unit was directed to send an advance detail to ^{the} Casserne Vauban in Besancon. The advance detail included the following Officers: Burns, Diack, Underwood, Zucker, Rogers, and Mathews. The first few days at the new installation were spent mainly in cleaning ~~up~~ and arranging the physical set-up. This required considerable shifting due to the uncertainty of the number of admissions. This was conducted in a race against time with convoys going back and forth with materiel and personnel. Even beds left over by the French and Germans were used and most of the medicines used were taken from the dispensary stock. Patients began to be admitted on the third day after arrival in Besancon. Except for the fact that the ^{Service} Section was housed in buildings with rooms that contained four to twelve patients, the organization was the same as in Africa. During this time there were admitted a large number of French and French Colonial Troops, and in March 1945 many Russian and other RAMP groups (these will be discussed in detail below). The number of admissions in France were broken down by months these were:

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September	1944	331	March	1945	977
October	1944	1591	April	1945	1512
November	1944	1372	May	1945	111
December 1	1944	924	June	1945	254
January	1945	1016	July	1945	595
February	1945	1271	August	1945	7

During our stay in France considerable changes in Officer Personnel were made - Zucker was sent back to the States in October 1944; Mathews was transferred to the X-ray Department following the loss of Haworth, and Littlehales, who had been released from the Receiving Office, was made Chief of Gastro-Enterology Section. McCarthy, Karras, and Larsell were transferred into the unit and assigned to the Medical Service. Diack was transferred out of the organization in April 1945, Illge was sent back to the States on the Green Project in June 1945, and as a result of the Redeployment System the Service lost Rogers, Clark, Carter, and McCarthy. Robert Miller was sent to the zone of interior. Ray took over the duties of Executive Officer in June 1945 when DuBois left the unit, and at that time Underwood was made Assistant Chief of Service. In August the Officers of the Medical Service were as follows: Burns - Chief of Service, Underwood - Assistant Chief of Service, Evans - Psychiatry and Neurology, Littlehales - Gastro-Enterology, Joseph Miller - General Medicine, Karras - Tuberculosis and Isolation, Larsell - Dermatology and Venereal Disease. Between May and August 1945, Major George Leslie, Consulting Phthisiologist, was attached to this Service. Between 25 June 1945 and 18 July 1945 there was given a Basic Refresher Course to fifteen Medical Officers who had been working in field units. In the course the subjects reviewed included: tuberculosis, malnutrition, typhoid, typhus, diphtheria, and ^{electrocardiography} ~~electrocardiology~~. A second course for an advanced group was started on 30 July; this was terminated at the end of three weeks because of the end of hostilities and the desire of the students to return to their own units and to orient themselves with their own

~~Units and to orient themselves with their own~~ military problems. The

subjects included tuberculosis and psychosomatic disorders.

Professional Experiences:

The outstanding problems seen on the Medical Service included:

Psychoneurosis
Malaria
Trench Foot

Dementia Praecox
Tuberculosis
Gonorrhoea

Duodenal Ulcer
Dermatitis
Arthritis

The mental diseases will be discussed under one heading and the above problems will be correlated with the various Sections of the Medical Service as the discussion proceeds.

Our experience with malaria can be grouped into three periods. The first included American soldiers seen as general hospital cases while in North Africa of whom there were 163. Of these 128 had plasmodium vivax, twenty-one plasmodium falciparum, and ten were mixed; four were considered to be clinical malaria. Nine of these patients had only one attack and the rest had from two to fifteen attacks. Twenty-four were boarded for zone of interior disposition and twenty-seven were sent to limited service, while the rest were sent to full duty. The presence of complications such as cachexia, malnutrition, anemia, and persistent splenomegaly were used as guides for disposition rather than the number of recurrences. The second period included the experiences of June to August 1944 when this hospital cared for Italian prisoners of war who were ill with this disease. There were 1155 patients in this group of whom 1078 had plasmodium vivax, seven falciparum, three mixed, one quartan, thirty-two unclassified, and thirty-four considered clinical. Of this group about twenty-five percent were seen in the first attack, another twenty-five percent in the second attack, and fifty percent had had at least three attacks. The third period was following September in France and included American soldiers who developed malaria as a result of either having had malaria before or having been in a malaria zone on suppressive atabrine therapy, but on coming to France either began taking atabrine irregularly or not at all and developed clinical malaria as a result of poor suppressive treat-

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ment in addition to exposure and increased stress and strain. Three hundred fifty such patients were seen of which two hundred ninety-nine were due to plasmodium vivax.

For the great bulk of cases atabrine was the drug used, the dosage being 0.2 grams every six hours for five doses followed by 0.1 grams three times a day for a week, then if the individual was returning to combat or had a recurrent case or was returning to a malarial zone, he was given 0.1 gram daily thereafter. In certain instances the treatment was prolonged beyond one week where the picture did not respond satisfactorily within that time. No serious reaction to atabrine was seen. Varying degrees of pigmentation and mild gastrointestinal disturbances were witnessed, but in no instance was it considered necessary to discontinue atabrine. Quinine was used in a few cases where the individual had already been on this drug before admission or who had given past history of intolerance to atabrine. Where warranted, supportive treatment with high calorie and high vitamin diet and iron medication was also given. Of interest, it was observed that those who developed a hyperpyrexial picture with delirium at the height of the chill gave a history of nausea and vomiting earlier in the chill. As a result of this observation, thereafter atabrine was given intramuscularly in a dose of 0.4 grams in 6cc of water immediately to the patient who vomited or had nausea. From that time on no further hyperpyrexial cases were seen. There were no cases of cerebral malarial or algid malaria. On the whole, it is estimated that malaria was suspected clinically and confirmed by diagnostic smear in about ninety percent of the cases. In about seven percent of the cases, malaria was considered in the differential diagnosis of the case and was found after repeated malarial smears. The remainder of the cases were considered clinical malaria without positive smear confirmation; these cases usually gave history of paroxysm, showed a reticulocytosis, and responded to

therapeutic tests. On a few occasions malaria was picked up accidentally by the observation of plasmodia in blood smears while doing differential counts in the laboratory. As an example, one individual with proved undulant fever by blood culture and agglutination tests was found to have malaria on routine blood count. Another individual with hyperchromic anemia in whom pernicious anemia was the first consideration was demonstrated to have malaria on the routine blood study, and an individual with proven leishmaniasis was found to have vivax schizonts in the sternal marrow; this is the only instance where malarial parasites were found in the marrow. In our experience, on no occasion was the administration of adrenalin followed by blood studies of value in attempting to dislodge plasmodia from non-splenic reservoirs in uninfected areas.

Approximately 1310 cases of trench foot were seen, 1100 of these being seen in France. The great bulk of these cases were mild to moderate in severity and required only bed rest, foot hygiene, and a varying degree of convalescence before their return to duty. The big problem in these cases was to prevent neurotic fixation upon the feet and in this regard we felt it best to maintain an optimistic and disciplinary attitude toward the case in question. The institution of a training program with graded exercises was extremely helpful in determining whether or not a convalescent patient was ready to return to duty. The more severe cases were given further treatment, including sulfa therapy locally and/or internally where combined with severe secondary infection, cold packs in the painful "hot foot" stage, ^{and} supportive vitamin therapy where predisposing deficiency state was suspected. Booster doses of tetanus toxoid were given where the skin was macerated and infected, and in a few cases administration of gas gangrene antitoxin was added. In no case was it deemed advisable or necessary to do the vertebral block, spinal anaesthesia, or sympathectomy. Bullae on the whole were left intact. A few cases were

of such severity as to require partial amputation, but it was quickly observed that prolonged rest and observation made for self-amputation and thereby the conservation of more tissue. Many cases were complicated by trichophytosis, and in such instance because of the thermal factors in the case, body temperature permanganate soaks of less than usual strength were applied.

One hundred fifty eight cases of tuberculosis were seen during the year 1944. Many cases of tuberculosis were seen in 1945 (to be discussed below). Until August 1944 this institution was designated as a tuberculosis center, and until that time, because of good evacuation facilities, pneumothorax therapy was given in chosen cases. However after that date and after being in France, because of the existing evacuation system, pneumothorax was not used. Prior to August 1944 the indications for collapse therapy were mainly those patients with unilateral cavitation with positive sputum or in bilateral cases where the lesion on one side was considered to be an early bronchogenic spread from the opposite side. In such instance, collapse therapy was induced on the side of the original lesion. In two cases pneumothorax was used as an emergency measure to control massive and persistent hemoptysis where the cavity ^{was} considered to be the source of the hemorrhage was central in the lung parenchyma. Results were satisfactory in both cases. Eighteen patients were given pneumothorax treatment and in fourteen of these satisfactory collapse was obtained and of these twelve improved quite satisfactorily. Of the total cases seen about fifteen percent had healed lesions and were placed on limited service for a period of two months and rechecked at the end of that time. Of the remainder, thirty percent were early minimal cases, twenty percent moderately advanced and twenty-five percent far advanced. Pleurisy with effusion without demonstrable cause made up the rest of the cases. In a few instances atypical pneumonia offered

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offered some difficulty in diagnosis, but serial films, sputa studies, and observation clarified the issue. The main symptoms encountered in taking histories from these patients included cough, fatigue, weight loss, chest pain, night sweats, hemoptysis, and dyspnea. Fifty-three percent of the cases were found to be unilateral and forty-seven percent bilateral; twenty percent showed cavitation. Two deaths were encountered from tuberculosis during the whole year, one from miliary infection in an American soldier, and one far advanced bilateral case with cavitation, asthma, and malaria in an Italian prisoner of war. Ninety percent of the patients were sent to zone of interior. Outside of pneumothorax as discussed above, treatment consisted of the usual supportive measures; bed rest was enforced rigidly, and when the weather permitted, patients were taken out-of-doors on litters or wheel chairs as much as possible. In so far as possible special foods were procured for these patients.

An extensive experience with gonorrhoea was obtained in February and March of 1944 when this hospital was designated as a venereal disease center and at a time when the treatment of this disease was transferred from the Surgical to the Medical Department. Three hundred sixty seven sulfa resistant cases were treated with penicillin. At that time penicillin was given intramuscularly 10,000 units every two hours until 60,000 to 100,000 units had been given. Most cases responded to the first course of treatment; fifty-five required two courses; thirteen required three courses, and eight required four courses of penicillin. Criterion for cure was determined by negative urethral smears and negative prostatic fluid cultures four or five days after completion of treatment. Later the treatment was modified to 25,000 units intramuscularly every three hours until 100,000 units has been given and after June 1945 - 50,000 units every two hours for four doses, and if still positive an additional 500,000 units. On the whole our experience with penicillin in cases of

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gonorrhoeal arthritis was disappointing. These patients failed to respond to penicillin treatment, except by clearing of the local genitourinary lesion but responded systemically to sulfadiazine treatment. No severe reactions were observed to penicillin except for one individual who developed a rash and asthma which responded readily to adrenalin.

In June 1944 we began treating primary and secondary syphilis with penicillin; all told approximately ninety cases were treated. In general it can be said all of the primary lesions whether sero-negative or sero-positive responded satisfactorily with the lesion healing in about one-third of the time than with ordinary treatment; of the secondary lesions approximately two-thirds responded satisfactorily. In about seventy-five percent of the cases there were seen febrile reactions accompanying the use of penicillin and in a few instances temporary exacerbation of the lesions with typical Herxheimer reaction. The schedule of treatment was as follows: 40,000 units of penicillin intramuscularly until 2,400,000 units had been given, and later we employed 4,000,000 units plus 480 milligrams of mapharsen in neurosyphilis and proven serological relapses; however our experience on this latter score was insufficient to warrant comment.

Because of the fact that this institution was designated as a dermatological center many different types of skin cases were seen. Outstanding among these were infectious eczematoid dermatitis, contact dermatitis, trichophytosis, and pyodermas. The cases seen were those which had been resistant to treatment in other localities. On the whole, it can be stated that the types of skin lesions observed in North Africa were not dissimilar from those observed in the United States (despite the fact that until August this institution was in a sub-tropical environment) except that the cases were of greater severity as a consequence of environmental conditions such as lack of bathing facilities, irritation, chafing from field conditions, and increase of psychogenic factors. One.....

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special type of eczematoid disorder was noticed in twenty-six instances to involve the lower portion of the legs. In such cases healing was very slow and response to treatment ^{often} ~~was often~~ disappointing. In these cases the skin was noted to be thin, shiny, and pigmented. All these cases were observed in Africa, none in France thus suggesting a climatic or geographical factor in the etiology.

Copious wet packs with such solutions as potassium permanganate, Burrow's and D'Alibour's solutions were used. Slow-healing lesions that required skin stimulation which were over the acute phase, were given various types of tar ointment. We were fortunate in having hydrotherapy facilities and various types of baths could be used with permanganate and starch solutions being the main ones employed. It was felt that the training program for patients was an excellent means of determining the skin tolerance before determining the patient's disposition.

It is worth observing that despite the fact that the cases referred to the Dermatological Section were treatment-resistant cases of long standing, seventy percent of these were returned to full duty, and another ten percent to limited service.

Penicillin in 25,000 unit doses every three hours to a total dosage of 2,000,000 units was found effective in sixty percent of the pyodermas resistant to usual therapy including sulfonamides; the other forty percent improved but relapsed as soon as the penicillin was discontinued.

Two other observations of interest were made on the Dermatological Section. Impetigo in ~~the~~ Africa responded poorly to sulfa therapy but responded well to ammoniated mercury ointment, and benzyl benzoate as a means of controlling scabies was not as satisfactory as sulphur.

Three hundred cases of arthritis were seen. Approximately two hundred of these cases were of unclassified type but bordered on the rheumatoid picture. A good share of these cases could be classified as

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arthralgia and included individuals of poor adaptability (constitutional or psychic) who complained of varying degrees of joint distress but revealed only mild clinical and laboratory evidence of arthritis per se. Also, there were seen several cases of arthritis with symptoms and signs directed mainly to the lower spine in which the individuals were relatively asymptomatic while at rest, but who developed discomfort under the stress and strain of field conditions. Approximately two-thirds of the patients with arthritic pictures were placed on limited service.

As a corollary to the arthritic problem and since arthritis was combined with the Cardiovascular Section a few words on this subject are in order at this point. There were seen ninety patients with rheumatic heart disease and/or rheumatic fever, of which forty showed an old inactive valvulitis. The majority of this latter group showed little evidence of acute rheumatic episodes while in the army, and were discovered either by routine examination or because of effort syndrome. Cardiovascular disease in general was numerically a relatively minor cause of admission, comprising only three percent of admissions to the Medical Service. This low figure may have been partly due to the fact that this hospital was designated a center for other specialties. Rheumatic heart disease was the most common form of heart disease observed, and almost all of these patients were returned to the zone of interior. Arterial hypertension, neurocirculatory asthenia, coronary thrombosis and arteriosclerosis were the diagnoses making up the bulk of the remaining cardiovascular diagnoses.

~~There were two myocardial deaths.~~

There were 2725 admissions to the Neuropsychiatric Section. Of these 1276 were seen in Africa until August 1944, because of our rear echelon position while in Africa only about twenty percent of the cases were found to be combat induced, whereas in France, because of our close proximity to the front in the Fall, about fifty-five percent of the cases

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were determined to be of combat origin. The outstanding causes for psychiatric admissions included anxiety neurosis twenty-one percent, schizophrenia nineteen percent, organic mental reactions sixteen percent, and anxiety-hysteria twelve percent. The greater percentage of the anxiety states gave a history of previous disorder before coming in the Army. However, much to our surprise we learned that individuals with the usually accepted criteria for psychic inadequacy such as nail-biting, temper tantrums, and prolonged emuresis in childhood held up under combat conditions much longer than anticipated before requiring hospitalization and disposition. There was a great tendency for the anxiety patients to retain their symptoms even after their initial acute phase had passed. The longer the patients remained in the hospital the more the anxiety symptoms lessened, but in their place tension states developed with rationalization by the patients of their symptoms on a physical basis. None of the hysteria patients lost their symptoms quickly or dramatically even after attempts at strong suggestion hypnosis and suggestion under narcosis. There appeared to be a strong need on the part of the patients to retain their symptoms which seemed to be due to the close group situation in which the patients lived, where it was impossible for them to suddenly lose their symptoms and "keep face". The fixation of symptoms and rationalization on a physical basis as the patients moved further to the rear was well demonstrated by our contrasting experiences in African and France. Patients in Africa with few exceptions were found to be fixed, free from guilt reaction, ^{whereas} and on first setting up in France, the great majority of the patients admitted were recently combat induced, showed moderately severe anxiety-hysteria symptoms with good insight, and considerable guilt reaction. While it was obvious that at least for the time being, they would be unable to do further combat duty, their insight and guilt reaction made them good limited service material to lend close

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support to combat troops. As the end of the year approached and the front moved forward, the types of patients noticeably shifted back to the same type that we formerly had seen in Africa. This lent good support to the contention that psychiatric patients should be screened and disposed of early.

In the treatment of the more severe neurotic and psychotic patients, both insulin and electric shock therapy were used. Insulin was used in small broken doses in cachectic patients and was found to be very beneficial in producing weight gain and general improvement. Sub-coma insulin therapy was used, ^{in severe cases} the doses ranging between 100 and 180 units. The average course of treatment was seventeen days. When an electric shock machine became available in Africa fifty-one patients were treated with an average of four treatments each; twenty-six patients improved but two of these later relapsed. This particular form of therapy was used only on psychotic groups. The diagnosis of schizophrenia offered some difficulty in distinguishing it from schizophrenic-like pictures seen in the severe anxiety states. One of the great problems met on the locked wards was the separating of psychopaths. Because of their persistent trouble-making and demoralizing influence on other suggestible patients they greatly increased the disciplinary problems. As a group, psychopathic patients were aggressive, hostile, criminal, and explosive, and at times produced like behavior in the other patients.

In the neurology division of the Neuropsychiatric Section some interesting observations were made. There were fifty-three cases of epilepsy of unknown etiology; all were boarded for zone of interior disposition. There were about twenty cases of central nervous system syphilis which were also boarded for zone of interior disposition. There were ninety-six cases of concussion syndrome which offered considerable difficulty in distinguishing them from anxiety-hysteria. The great bulk of these

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were boarded for limited service. The main instrument necessary to determined the degree of cerebral involvement, the electro-encephalograph, was not available. It was felt that the early use of this particular instrument in this type of case would help greatly in evaluating these cases.

Thirty-eight cases of what were presumed to be herniated intervertebral discs were seen, although facilities for final diagnosis of these cases were lacking. An elevated total protein in the spinal fluid was found to be the most practical guide for overseas condition in conjunction with the clinical picture. At first, practically all of these cases were boarded for the zone of interior disposition, but as ~~the~~^{time} ~~first~~ progressed and our experience increased, it became obvious that many of these cases could be on limited service or full duty, for the reason that many have spontaneous remissions and have long periods between attacks in which they are effectual for duty. In many instances also, ~~the~~ the degree of impairment was considered insufficient for surgical intervention and the patient could be observed on a limited service overseas status.

Nearly twenty interesting cases of a type of primary motor neuritis ~~were~~^{were} seen. These varied from bilateral palsy with loss of reflexes in the arms and legs with an elevated spinal fluid protein to cases in which there was paresis of muscles supplied by only one motor nerve. Also, there were ~~six~~^{seven} cases resembling a full picture of Guillian-Barre syndrome, ~~six~~^{six} of whom had developed their symptoms in the last week of ¹⁹⁴³ August, in Tunisia.

In the Gastrointestinal Section, the outstanding problems were peptic ulcer and hepatitis. In all there were 194 cases of peptic ulcer of which seven were gastric, one jejunal, and one both gastric and duodenal. With one exception all cases were boarded for zone of interior disposition.

~~The one case~~

The one exception was in a quiescent case in an individual in a key position. It was found that the history was not ^{too} much help in making a diagnosis on peptic ulcer in a soldier overseas. Many who had had what was considered to be a typical history were found to have no ~~history~~ evidence of a lesion and conversely many who gave atypical history were found to have an ulcer lesion on fluoroscopic examination. In cases with questionable x-ray findings the patients were given ten day trial of soft diet, amphojel, milk, sedative, and antispasmodics followed by repetition of x-ray study before arriving at a final conclusion. On the whole, it was felt that the treatment of ulcer overseas was very unsatisfactory. It was felt that the neurogenic factors in the production of ulcer was very prominent in the majority of cases. One of the greater needs observed was the necessity of having a gastroscope. It was felt that the number of hospital days in arriving at a diagnosis in cases of suspected gastric neurosis where ulcer and gastritis were considered could have been very materially shortened had this instrument been available.

Approximately three hundred seventy cases of hepatitis have been seen. Two-thirds of these were during the fall months in France; of these eighty-five percent were accompanied by jaundice and offered no difficulty in diagnosis with a few exceptions, such as in hepatitis following malaria, one or two cases of infectious mononucleosis with jaundice, and one or two instances where Weil's disease was suspected but not found. A few cases were found in association with atypical pneumonia. Considerable difficulty was met, however, in those cases of hepatitis without jaundice and there was a tendency to use this particular term to diagnose any vague, otherwise unexplained gastrointestinal disturbance. We attempted to use the cephalin flocculation test as a guide in the borderline cases, but on the whole our experience with this particular test was disappoint-

ing. It was felt that clinical judgment combined with observation of the patient, his personality type, and the usual manner of elimination of other diseases in the differential diagnosis was of much more value. In the management of hepatitis the one thing found of most value was prolonged bed rest and convalescence. High carbohydrate, high protein, and low fat diet was attempted, but considerable difficulty was met in reaching the ideal proportions of this diet and at the same time maintaining the satiety value under our operating conditions. We got the most practical results by using an ordinary soft diet from which as much greasy and fatty foods as possible was removed and supported by the addition of skimmed milk extract and hard candy and fruit juices. In determining when the patient with hepatitis was ready to return to duty we found the training program the best guide to tolerance.

Another problem of importance ^{was} ~~has been~~ dysentery about equally divided between bacillary and amoebic types. On the whole, the bacillary cases responded well to sulfa therapy; on the other hand the amoebic dysentery cases responded fairly well to concurrent emetine and carbarsone treatment but the time factor in treatment and convalescence was too long for satisfactory return to duty within a reasonable period of time. A few reactions to emetine were observed as a result of electrocardiograph study but none ^{was} ~~were~~ considered serious. Several cases of dysentery were found to have Giardia lamblia. On the whole the Giardia was considered to be a secondary invader but where no other cause could be found to explain the dysentery the patients were treated with atabrine 0.1 grams t.i.d. for five days with good results in two or three cases.

After being in France there were seen several cases of helminthic diseases, ~~observed~~. Outstanding among these were hookworm and ascariasis. Practically all the hookworm cases were found in soldiers who had spent a good share of their life in the Southern States and ~~were~~ frequently ^{were}

confused with gastric neurosis cases. Some of these cases responded with relief of symptoms following tetrachloyethylene therapy. Practically all the cases of ascariasis occurred in individuals who had been in North Africa or Italy and responded in questionable fashion to hexylresorcinol. Other helminthic diseases seen included trichuriasis, strongyloidiasis, and pinworm. Among the flukes there were seen three cases of *Schistosoma mansoni* in Puerto Rican soldiers who were given trivalent antimony therapy with at best questionable results and one case of *Clonorchis sinensis* in an individual who grew up in Southern China. One case of dwarf type worm, *Hymenolepis nana*, was seen.

Three cases of coccidioidomycosis were seen including two proven and one suspected case. In one the sputum and pus from ^a ~~the~~ gluteal abscess showed *coccidioides immitis*, and in the other case a biopsy from a granuloma on the neck showed the same organism. The first of these showed no response to 1,680,000 units of penicillin. There were three proven cases of kala-azar. ^{Three} ~~These~~ cases of granuloma inguinale were diagnosed. One of these responded dramatically to trivalent antimony therapy and the other two resolved following ~~some~~ penicillin treatment ^(in one case for concurrent syphilis). Two relapsing fever cases were admitted in the convalescent stage. One of these was in a psychotic individual.

Also there was seen one case of filariasis (*Wuchereria bancrofti*) picked up accidentally in routine blood study and one case of guinea worm (*Dracunculus medinensis*) which was admitted with a good share of the worm already wound around a stick. He developed cellulitis and abscess formation over the dorsum of the foot but responded well to incision and drainage, sulfa therapy, and hot packs. Both of the last two cases were in French Colonial troops.

Four cases of diabetes mellitus were treated with mixed insulin (ratio of one protamine to two regular) and three were controlled satis-

factorily on one injection a day; the other was not controlled and we resorted to giving protamine and regular insulin separately.

On 13 March 1945 there began a sudden influx of RAMP personnel primarily Russians. Within a period of four days 1200 of these individuals were admitted. It quickly became obvious that there were two outstanding problems: tuberculosis and malnutrition. Because of the overwhelming number admitted and because of language difficulties and mix-up of records and x-rays and the difficulties of identifying the patients (caused by the manner of spelling the individuals name phonetic ally) segregation at the time of admission was impossible. The patients were bedded, made comfortable, cleaned, and fed. As rapidly as conditions would permit, they were given medical study and each had a chest x-ray. As soon as cases of tuberculosis were discovered, they were segregated on the wards on which they already were admitted. As soon as the number of cases of tuberculosis was determined, separate tuberculosis wards were set up. There was considerable difficulty in making these individuals appreciate the seriousness of their condition and to follow simple hygienic and isolation principles. As a consequence they had to be kept under guard, and a strenuous indoctrination program in isolation and the prevention of the spread of infection was instituted. Conditions gradually improved. On each tuberculous ward clean and contaminated sections were set up; the clean areas consisted of the ward office and diet kitchen. Masks and gowns were worn by all personnel attending patients and each attendant was made to scrub before leaving his duties. A training program on tuberculosis and isolation technique was given to the hospital personnel.

* RAMP = Repatriated Allied Military Personnel

Frank Siz ③

② At a later date two types of tuberculosis wards were set up; the active open cases who obviously had a high dosage of infectious organisms were kept in separate wards as against other wards in which active cases

of minimal or early moderately advanced type with low dosage of infectious organisms were kept. While isolation precautions were followed on the latter wards it was modified and less strenuous. A complete survey of cases was made by a consulting phthisiologist and the results of the study revealed the following number and the classification of the tuberculosis patients.

Status of Tuberculosis Cases as of 11 May 1945:

Minimal.....	276
Moderately Advanced.....	334
Far Advanced.....	249
Pleural Effusions.....	36
Extra Pulmonary Tuberculosis.....	3
Undetermined.....	75
Total.....	973

Therapy in the main was bed rest and adequate feeding. Because of the uncertainty of future disposition, surgical intervention was withheld and pneumothorax reserved for the more urgent cases who were not responding to bed rest.

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During the first week or two that the RAMP patients were in the hospital many cases of fever of unknown origin were encountered. It soon became evident that we were encountering typhus. As a consequence isolation was set up for these individuals, and they were kept on separate wards and in turn isolated in five different categories: contact cases, suspects cases, active cases, convalescent cases, and typhus and tuberculosis where both diseases coexisted in the same individuals. Isolation precautions were set up, and DDT powder dusted on pajamas and patients clothes. All the patients were shaved, and all ward personnel attending these patients were made to wear gowns and masks and to dust their own clothes twice a week with DDT powder. Because of the

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presence of typhus, a thorough investigation for lice and nits was made on all patients in the hospital and approximately thirty percent were found to be infected despite the fact that a search for lice and the application of DDT powder had been ^{done} ~~used~~ in the admitting office. All patients who were found to have lice or nits were shaved besides having DDT powder applied. All told, there were fifty-seven proven cases of this disease. Due to the fact that the epidemic was of a mild nature plus vigorous nursing care there ^{was} ~~were~~ no deaths from this disease. All personnel in the hospital were given a booster dose of typhus vaccine as a precautionary measure.

After the initial segregation of tuberculosis and typhus patients was completed and in order to circumvent such difficulties with future admissions, screening wards were set up. In general the system of admissions and screening was as follows: The patients were admitted directly from the train through the Receiving Office where their clothes were removed and each individual garment was dusted with DDT powder and put into a barracks bag which was filled with more DDT powder (later to be removed from the Receiving Office and sterilized). Pajamas previously dusted with DDT powder then were put on the patients, and they were sent to the shower room (if able to walk), and cleaned under supervision. Then the DDT treated pajamas again were put on the patients: they were sent back to the Receiving Office where an excess of DDT ³ powder was applied to the axillae and groins, and then they were sent to the screening wards. On the screening wards some element of segregation was attempted by putting the sicker patients and particularly those who were coughing in an area by themselves. Each patient was sent to the x-ray with as thorough isolation technique as conditions would permit, and as rapidly as the x-rays could be read, the patients were removed to appropriate wards with the following segregation in mind:

1. Open active tuberculosis ward
2. Mild active or suspect tuberculosis ward.
3. Medical non-tuberculosis ward.
4. Typhus ward.
5. Surgical cases with open active tuberculosis.
6. Surgical cases mild active or suspect tuberculosis.
7. Surgical non-tuberculosis ward.

After its institution, this system worked quite smoothly. All told there were admitted 2439 RAMP patients with the following sub-division.

Russians.....	2238
Jugoslavians.....	129
Polish.....	38
Italians.....	21
Belgians.....	6
Hungarians.....	3
Dutch.....	2
Swiss.....	1
Luxemburg.....	1

In June and July 1945 the Russian patients were evacuated and American soldiers again were admitted as patients. Problems seen were both Station Hospital and General Hospital type of cases and the two outstanding problems were psychoneurosis and hepatitis. In addition there were admitted sixty-two typhoid cases from a nearby German POW Camp.

In general, it can be said that everyone came through this overseas medical experience much more psychiatric or psychosomatic minded. While psychotherapy itself did not become a well developed therapeutic adjunct, however we all acquired the ability to appraise patients as total psy-

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chiatric and somatic units and developed better judgment in determining their usefulness as individuals. We became much better physicians in the care of certain tropical diseases notably malaria, helminthic disorders, and diarrheal diseases. Our extensive experience with tuberculosis made us feel much more confident in reading chest films, and typhoid and typhus taught us the finer neceties of ^{supportive} ~~specific~~ treatment. Massive isolation technique came to be taken for granted. All of us developed quicker and more accurate insight into the needs of patients and the ability to adapt ourselves to many nationalities and rapidly changing frustrating conditions.

