ten to fourteen days, in which case the dose should be reduced to 0.5 grams four times a day.

2. Sulfanilamide, if used, should be administered in doses of 1 gram (15 grains) three times a day for five days, followed by a reduction to 0.5-0.75 grams three times daily for an additional five to seven days.

(b) The acute anorectal syndrome should be treated in the same manner as the inguinal manifestations. Stricture or other late complications should receive special consideration.

8. GRANULOMA INGUINALE.

a. *Definition.* Granuloma inguinale is a chronic disease due to infection with a leishmania-like organism. It involves primarily skin and mucous membranes, rarely with coincident adenopathy; it is characterized by vivid-hued, shining verrucous, vegetating nodules of granulating tissue with a hemorrhagic surface surrounded by a thin, easily exoriated epidermis. The condition spreads by peripheral extension and autoinfection, often involving the entire genital area. It may involve large adjacent areas of the lower abdomen and thighs. The lesions show little or no tendency to spontaneous healing and may persist for months or years.

XI. NEUROPSYCHIATRIC DISABILITIES

a. *General.*

(1) Neuropsychiatric disabilities are vital medico-military problems because of their incidence and because their presence endangers the morale and discipline of troops.

(2) The treatment objective is twofold: to return to duty as many men as possible, and to minimize the consequence of disability.

b. *Diagnosis.*

(1) The diagnosis of the underlying condition is rarely obvious. The widest variety of symptoms and signs occurs, but allowing for many combinations, the outstanding symptomatic segments are—

(a) Physical reactions ranging from convulsions, paralyses, deafness, blindness, aphonia, or stammering and severe headaches, to tremors, tics, areas of anesthesia, cardiac and gastrointestinal functional disturbances, shortness of breath, encuresis and vaso-motor symptoms. Organic neurological signs may be present.

(b) Mental symptoms such as coma, confusion, disorientation, amnesia or other memory impairment may predominate. There may be hallucinations and delusions, or obsessive thoughts and compulsive acts. Mental retardation may be apparent.

(c) Emotional reactions, including depression with desire to commit suicide, apathy or loss of interest, elation and excitement, resentment, suspicion, irritability, fear, panic, battle dreams, feelings of unreality, anger, rage, and homicidal tendencies, with various admixtures.

(d) Military misbehaviour, embracing suspected fifth-column activities, or spying, arousing and spreading discontent, inciting insubordination, striking an officer, drunkenness, neglect of duty, cowardice, self infliction of wounds, sulkiness, quarrelsomeness and petty stealing.

(2) Examination should be extensive enough to answer the following questions:

(a) Is there definite evidence of underlying structural lesion or disease?

(b) If so, is it due to disease or injury within the nervous system, or due to more general causes (uremic convulsions, sinus headache or organic disturbance in other organs)?

(c) Is it psychogenic in origin?

(d) If psychogenic, is it psychosis or psychoneurosis?

(e) If psychoneurosis, is it one of the usual types of war neuroses (anxiety neurosis or conversion hysteria) or a less frequent neurosis (neurasthenia or psychiasthenia)?

(f) Can the disabling symptoms be speedily removed?

(g) Is it malingering?

(3) Elaborate histories cannot be expected, but reliable sources of information are the sick soldier's officers, his non-commissioned officers, and other soldiers who are his intimates. As much information as possible concerning the previous personality traits should be gathered. Prognosis depends in large part on the existence or absence of constitutional psychopathic tendencies or behavior, especially in early life. Details of injuries, particularly head trauma, and unusual illnesses, are important.

(4) A brief neurological examination, including pupillary responses, eye movements, tendon reflexes, abdominal and plantar reflexes, motor and sensory responses, Romberg test, posture and gait, often furnishes valuable diagnostic leads. When possible, laboratory studies should be used as indicated. The general physical condition should be checked in order to rule out causal or contributing factors outside the nervous system.

(5) The mental examination is largely dependent on careful observation—general appearance, state of body, clothing, facial expression, attitudes, motor activity (increased or decreased, purposeful or aimless, related or unrelated to environment), mannerisms, catalepsy, stupor, negativism, suggestibility, and other manifestations.

(6) The soldier should be discriminatingly questioned in order to confirm impressions of observational data and to determine the presence of decided mood alterations, overactivity or underactivity of thought and speech, obsessive thoughts, compulsive acts, ideas of reference, delusions, hallucinations, lack of orientation, and disturbances of memory.

(7) An estimate of the emotional state and of consciousness is a necessary condition of diagnosis and treatment. In manic depressive states the emotional display is likely to be fairly clear-cut, depressed, often with self blame and suicidal trends, or exhilarated with quick shifts to other emotional reactions, including rage leading to dangerous violence; in schizophrenia, the surface emotional expressions tend to be inadequate to the verbally expressed thinking or even at odds with it. In anxiety conditions many of the usual physiological accompaniments may be present.

(8) In the recoverable war neuroses, particularly those occurring in combat, there is often an initial befogged state, perhaps actively precipitated by concussion, fatigue or food deprivation, or there may be an acute panic reaction. Even more favorable are acute psychoses with delirium dependent upon physical exhaustion. Hysterical symptoms coming on acutely during combat may respond to strong suggestive therapy if treated early.

(9) Malingering is a deliberately planned attempt to evade military duty to secure a discharge by feigning illness; while not easy to detect yet usually the simulation is overdone or incomplete with the absence of fundamental signs and symptoms. Practically all malingerers show other evidence of psychopathic instability.

(10) Military misbehavior is frequently incipient evidence of psychosis, psychoneurosis, mental defect, or even organic neurologic diseases; if it has a psychogenic basis, successful treatment depends on uncovering the underlying condition dealing with it.

(11) The common war neuroses are anxiety neurosis and conversion hysteria—the former being much more frequent. Anxiety arising from insecurity (or even threat to life) is a factor common to all neuroses. In anxiety neurosis the recognition of the true cause of the anxiety is repressed while the psychological and physiological accompaniments of a state of anxiety predominate in the symptomatology. Among the symptoms are headache, dizziness, dryness of mouth and throat, shortness of breath, palpitation and irregularity of the heart, gastro-intestinal disturbances and vasomotor instability. The feeling of anxiety becomes attached to certain symptoms that can in any way justify such an emotion. Fear of heart disease or of peptic ulcer are common focuses. Fear of

insanity or of losing control or of showing anxiety in some way may characterize the mental state. Not all symptoms may be present, but the most common ones are those arising from the gastro-intestinal and cardio-vascular systems. An anxiety neurosis may develop gradually under prolonged stress or there may be a sudden acute panic reaction, especially under combat conditions. In the latter a striking feature is the over-action to any sound, sudden movement, or the sound of motors. In combat these men may leave safe cover and run blindly into danger. There is a variable degree of mental confusion. tachycardia, and tremor. In addition they have night terrors, insomnia irritability and an inability to concentrate.

(12) Among the more common conversion hysteria symptoms are amnesia, blindness, deafness, aphonia, paralyses, areas of anesthesia (glove or stocking type) and convulsions. Generally only one symptom predominates and that symptom serves the purpose of solving a conflict, through the mental mechanism of conversion. For example, the soldier who cannot bring himself to continue shooting men may develop (unconsciously) a paralysis of the right arm, or the soldier who cannot bear the sight of maiming may resolve (unconsciously) his conflict by blindness. Under combat conditions rhythmical reflex tremors, repetitive dodging and avoiding movements, amnesias and stupor reactions are the most common symptoms.

(13) A third type of war neurosis is the reactive depression. It is characterized by a depressed mood, loss of interest, apathy, diminished strength, insomnia, and loss of appetite. The onset is gradual and comes after prolonged periods of stress.

(14) In all war neuroses there is an underlying unconscious conflict—the demands of the instinct of self-preservation, strongly activated by moving emotions, fear, horror and revulsions versus the ideals of soldierly duty, patriotism, honor, tradition, training, discipline, and the "fear of being afraid." Under the added burdens of conscious worry, stress, loneliness, boredom, home troubles, deprivation, fatigue, or physical concussion, the conflict may be converted into protective symptoms (conversion hysteria); the emotional state may predominate (anxiety neurosis); or there may be a general withdrawal (reactive depression). The development of a neurosis, as well as the type of neurosis manifested, depends on the fundamental personality characteristics.

(15) "Blast Syndrome" should be clearly differentiated from neurosis by a history of definite loss of consciousness, having the breath knocked out, coughing up bloody sputum, or bleeding from ears or nose, and finding fissuring of the

skin, flash burn, perforated or hemorrhagic ear drums, conjunctival hemorrhage, signs of intrathoracic or intraabdominal injury, focal or general signs of organic damage to the central nervous system. Without at least one of these points being present the possibility of organic blast injury is remote. This must be kept clearly in mind because many psychiatric patients date the onset of symptoms to a time when they were in close proximity to explosive bursts.

c. *Treatment.*

(1) At the front during combat the medical officer should differentiate the neuropsychiatric patients from the other casualties as quickly as possible. All neuropsychiatric casualties should be diagnosed "Exhaustion" on the Emergency Medical Tag.

(a) Heavy sedation should be started by the first medical officer who examines the patient. Sodium amytal, 6 or even 9 grains by the mouth, can be given with safety and without converting the patient into one requiring a litter for transport. Phenobarbital, 4½ grains, is the drug of second choice. Morphine should not be used.

(b) Give each patient a sweet drink, hot or cold, depending on the season, and some food. Each patient should have three full meals a day, unless otherwise ordered.

(c) In many instances this sedation with 18 to 24 hours of of rest, good nourishment, reassurance and suggestion may be all that is required before the soldier is able to return to duty. Under some circumstances this can be accomplished at aid or clearing stations. The majority, however, will have to be sent to the evacuation hospital where treatment for 3 to 5 days can be carried out. This evacuation to the hospital should be accomplished as rapidly as possible. In the process the patient should be kept in a drowsy state by additional sedation if necessary.

(d) In the evacuation hospital further psychiatric treatment, which need not be detailed here, should result in the return of many soldiers to front line duty within a few days. This is dependent on the early recognition and treatment forward of the evacuation hospital.

(2) A few general rules applicable at all times include the following:

(a) Establishment of rapport.

(b) Speak of a neurosis when necessary to use a term.

(c) Be firm and optimistic in all dealings with the patient. Do not use painful stimulation or surgical procedure for suggestive therapy.

(d) Do not tell the patient that it is "all in his mind," "stop imagining things," or "forget it." The physiological

manifestations of emotions are not imaginary and there is no conscious control over conversion hysteria symptoms.

(e) No one should be permitted to see the patient unless assigned for duty.

(3) In milder states of excitement 0.2 to 0.5 gram (3 to 7½ grains) sodium amytal may be given by mouth. In fixed hospitals where paraldehyde may be available, 2 to 8 cc. (½ to 2 drams) may be given by mouth.

(4) In more active excited states and in acute panic reaction 0.3 to 0.6 gram (5 to 10 grains) sodium amytal diluted with distilled water, a 10% solution, may be given slowly intravenously. For acute panic reactions further sedation with sodium amytal by mouth to give sound sleep should be continued for about 20 hours, interrupted only to afford plenty of food and fluids. In fixed hospitals paraldehyde 2 to 4 drams by mouth may be used. The use of these procedures depends on the evacuation situation.

(5) For insomnia, 0.2 to 0.4 gram (3 to 6 grains) sodium amytal may be given by mouth.

(6) For tension and restlessness, 0.030 to 0.060 grams (½ to 1 grain) phenobarbital may be given by mouth before each meal.

(7) For status epilepticus use intravenous sodium amytal, 10% solution given at the rate of 1 grain per minute until convulsions are controlled. Two grains sodium phenobarbital given intravenously and repeated if necessary may be used. For grand mal attacks of epilepsy give 1½ grains phenobarbital by mouth three to four times a day. All epileptics should be hospitalized as soon as possible and there dilantin may be the drug of choice.

(8) Violence, particularly suicidal or homicidal tendencies, must be immediately controlled, by mechanical restraint if necessary, until the patient can be properly hospitalized.

(10) It should always be borne in mind that, in the majority of cases, early treatment increases the prospect of cure.

d. *Prevention.*

(1) The unit medical officer is in a strategic position to do much towards the prevention of neurotic conditions, and even other neuropsychiatric disabilities. While fitting the soldiers into their proper niches so the job is neither too big nor too little for their abilities, experiences and interests, should have been accomplished in earlier selection, classification and assignment, much may remain to be done within the unit before combat. The medical officer should be aware of the need for such procedures and contribute his share in the process.

(2) Helping others to understand the nature and meaning of fear and how to deal with it falls in the province of the

medical officer. Fear is nature's way of mobilizing the individual for an all-out emergency. Physiologically it is preparation of the body for action. The heart and lungs through increased rate of function supply more oxygen where needed. Adrenalin is poured into the blood stream and sugar is released to serve as fuel. Fear within limits increases strength and endurance. However, courage and fear are not opposites. It may be helpful to the soldier to know that courage consists of doing one's duty though one is terrified. Doing a duty without fear is not courageous or brave, just as it is not virtuous to refrain from sin which one has no desire to commit.

(3) Fear may be controlled and kept in its proper perspective by—

(a) Adequate training and discipline. Training should be sufficient to give a man confidence in his ability to handle himself as well as all necessary weapons. Discipline forms habits that make it second nature to carry out his own job as a member of the fighting team. Disciplined habits may take care of a man even when he is too frightened to think clearly.

(b) Confidence in those in command and in other members of his team.

(c) Action. Once the battle is on fear tends to subside. In moments or hours of waiting for combat, work, drill, exercise, seeing that everything is in shape, or any other type of occupation is in order.

(d) Contact with others. Although men should not be in large groups, just the presence of another man not far off minimizes fear. Roll call lets the man know that he is one of a unit and that the others are there.

(e) Knowledge of what to expect. The known is never so frightening as the unknown. Men should be informed of the dangers they may meet, of the plan of attack, and of the tactics and weapons that may be used by the enemy.

(4) These and other factors related to the emotional state of the soldier may not be the direct concern of the medical officer but he has the opportunity and the duty to contribute his part in the understanding of and the action taken in such matters. The medical officer should know his men and his fellow officers and, more important, be known by them. He should be on the lookout for the man who is getting jumpy, going off by himself, becoming sleepless, losing appetite, or showing any other symptoms of nervous strain. He should see that the men are as comfortable, as well fed, and as clean as possible under any given set of circumstances. He should have an interest in their every-day life, their sports, and their military equipment and discipline. He should share their dangers and hardships. These things will gain respect and

confidence and will lead men to the medical officer for discussion of personal problems and not just for sick call. This type of work can be carried out only by the medical officer stationed with troops and it will result in fewer neuroses being sent down the line for more specialized treatment.

XII. DISABLING SKIN DISEASES

1. DIAGNOSIS AND TREATMENT OF SCABIES

1. It is essential that medical officers should be familiar with the clinical features of scabies, so that an early diagnosis may be made, and prompt effective treatment carried out *in units*. Admission to hospital for scabies should rarely be necessary.

2. Direct contact with the skin of an infested person is the chief method of acquiring scabies. Many cases are venereal. In occasional cases the parasite may be acquired from infested clothing or bed clothing, but this is a far less important or frequent mode of infestation than direct skin-to-skin contact.

3. Knowledge of the habits and life cycle of the scabetic parasite is of value in explaining certain features of the disease in man.

a. *Period of Incubation.* The time between the acquisition of the parasite and the development of characteristic signs and symptoms is variable; the average is from two to three weeks. The incubation period is probably never less than ten days, and may sometimes be as long as six weeks.

b. The duration of the life cycle from the egg stage to the mature female acarus is from one to two weeks. It is probable that infestation occurs principally by the deposition of a mature pregnant female on the skin. Only the pregnant female produces the typical burrow of scabies, but other forms (larvae, nymphs, and adult males) produce varying types of superficial lesions, particularly about the hair follicles.

c. The female parasite is most active when the skin of the host is warm. Itching tends to increase under such conditions, and the infestation is more readily acquired while in bed.

d. Relapses in the disease after treatment are sometimes explained by the hatching of ova after the live parasites have been destroyed.

e. It is probable that the parasite of scabies does not survive temperatures above 120° F. longer than five minutes. At lower temperatures the longest period of survival in blankets or clothing is about 14 days.

4. The diagnosis of scabies is ordinarily easily made. The chief sources of difficulty are a low index of suspicion on the part of the medical officer, and the obscuring of the characteristic lesions and distribution by secondary infection, scratch