

Chapter 9

U.S. NAVAL COMBAT PSYCHIATRY

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Paul Sample

Crew's Quarters Aboard U.S. Submarine, Pacific

1943

Paul Sample was a war correspondent and artist for Life Magazine during World War II and spent time with a submarine crew on routine patrol in the Pacific. His painting depicts leisure time activity in the very cramped quarters of a submarine. Naval combat is extremely diversified due to the varying fighting components and missions of the U.S. Navy, however, all naval combat is similar in that most of it is characterized by periods of intense activity, followed by lulls, such as shown in this painting.

Art: Courtesy of US Center of Military History, Washington, DC.

INTRODUCTION

Naval Mission

Since its inception, the United States has been a typical maritime power looking to the oceans for trade, ideas, and culture; colonized from overseas; and threatened only by potential adversaries across the seas.

The United States reached the zenith of maritime power in the period immediately following World War II at which time it had the strongest armada of naval and merchant vessels ever assembled by any one nation. At that time, the U.S. Navy had complete superiority at sea with no opponent left capable of contesting use of the seas. Such sea control (the capability to assert one's own use of the seas and to deny that use to others) has been the fundamental role of the U.S. Navy.

During the period of the Cold War, the U.S. Navy's force structure and capabilities were oriented towards sea control and three other missions: (1) strategic deterrence, (2) naval presence, and (3) projection of power ashore. Deterrence was carried out by ballistic-missile submarines, a crucial part of the deterrent "triad" (Strategic Air Command [SAC] bombers and intercontinental ballistic missiles [ICBMs] were the other two). Presence was carried out by the use of naval forces below the level of hostility and ranged from informal ship visits to patrols just outside a nation's waters. The method for projecting power ashore was an outgrowth of U.S. expertise developed in the amphibious assaults of the island campaign in the Pacific during World War II and consisted of operations putting U.S. Marines on a beach or the use of naval air or surface forces to destroy targets ashore.

In September 1992 a new direction for U.S. Naval forces, called "... From the Sea," emerged. The national security strategy shifted from a focus on global threat to a focus on "regional" challenges. There was a concurrent emphasis on joint and combined operations. This resulted in a fundamental shift away from open-ocean war fighting *on* the sea towards joint operations conducted *from* the sea. The mission of the U.S. Navy during a regional conflict became controlling the ocean adjacent to the littoral battlefield, the ground from the shore to objectives, and the skies above both.

Naval Organization

Even before the United States had a Constitution, it had an organized navy. In 1775, the Continental Congress created a congressional oversight com-

mittee for the Continental Navy. On 10 November 1775, the Continental Marines were established. They celebrate their birthday annually on 10 November even though the present U.S. Marine Corps was established by an Act of Congress on 11 July 1798.

The Department of the Navy (DON) was formalized in 1798 and has been in evolution since that time. The Secretary of the Navy (SECNAV), a civilian, is in charge of DON. The Chief of Naval Operations (CNO) is the senior military officer of DON and commands the operating forces and shore establishments of the U.S. Navy. The Commandant of the Marine Corps (CMC) is responsible to SECNAV for Marine Corps matters. Both the CNO and the CMC are members of the Joint Chiefs of Staff. CMC is not part of the command structure of the CNO; there is, however, close cooperation between the two military heads who report to SECNAV. Both U.S. Navy officers and U.S. Marine Corps officers are considered U.S. *Naval* officers, although the two services have unique cultures and traditions.

The operating forces of the U.S. Navy are included in the fleets; Pacific Fleet includes the Third and Seventh Fleets, Atlantic Fleet the Second Fleet, and U.S. Naval Forces, Europe, the Sixth Fleet. The operating forces of the U.S. Marine Corps include the U.S. Marine Corps Forces Pacific which includes the I Marine Expeditionary Force (I MEF), and the III Marine Expeditionary Force (III MEF), and the U.S. Marine Corps Forces Atlantic, which includes the II Marine Expeditionary Force (II MEF).

There is a dual chain of command to the operating forces. There is an operational chain from the President through the Secretary of Defense to a Commander of a unified or specified command. In this chain of command the unified commanders pass orders to naval service component commanders such as the Commander in Chief, U.S. Pacific Fleet (CINCPACFLT) or the Commander in Chief, U.S. Atlantic Fleet (CINCLANTFLT). In August of 1992 Marine Corps service component commands were established and U.S. Marine Corps Forces Pacific (MARFORPAC) and U.S. Marine Corps Forces Atlantic (MARFORLANT) became Echelon II commands within their unified commands.

There is also an administrative chain of command through SECNAV and CNO or CMC to the operating forces. Within this dual chain the administrative chain of command is permanent while the operational chain of command is task oriented and can be restructured as necessary.

The U.S. Navy and U.S. Marine Corps together are responsible for developing and maintaining an effective amphibious warfare capability. This team is unique with mobility and versatility enabling it to fight multidimensionally on land and at sea as well as under the sea and in the air.

The naval environment is unique as well. Because of the historical isolation during long, harsh sea voyages command at sea has been filled with great responsibility. Perhaps in no other military organization is the effect of a commanding officer on morale so keenly felt.

Naval medical officers noted variations in the incidence of neurosis in different ships in which they served. There was a great depth of meaning in the old naval term 'a happy ship,' implying a unit in which there was mutual trust and respect between officers and men, and dependent to a great extent on officers and senior raters who not only knew their jobs but who also had a sympathetic understanding of the men under them and could get the best out of them.^{1(p647)}

Ships themselves are known to take on a personality and a life of their own to the crew.

She was to become the ruler of my life, and the most beautiful and responsive creature I had ever known; a hard, exacting mistress, but loyal, generous, and courageous. All ships have souls, and all sailors know it, but it takes a while to learn to commune with one. It took me a long time for *Trigger* had to find her own soul too.^{2(p11)}

Naval Medicine

Physician services for the Continental Navy were often contracted for by the ship's master and attached to the ship for a specific cruise. Most were surgeon's mates who had some medical training but who were relatively inexperienced. Some held medical degrees. In 1811 Congress established U.S. Navy hospitals and a U.S. Navy hospital fund. The fund was to be collected from U.S. Naval personnel, a small portion of whose pay would provide for the service. The first U.S. Naval hospital was built in Washington, D.C., about 1821. The oldest hospital

building in service in the U.S. Navy is Building One at the Naval Hospital in Portsmouth, Virginia, which still houses the inpatient psychiatry services.

The Bureau of Medicine and Surgery (BUMED) was established in 1842. Dr. William P. Barton became the first Chief of the Bureau of Medicine and Surgery with a staff of four. In 1871 the Medical Corps was first mentioned in an Act of Congress which established it as a separate entity and as a staff corps of the U.S. Navy. U.S. Navy medical department personnel provide services to both the U.S. Navy and U.S. Marine Corps. The U.S. Marine Corps has no medical branch but does have U.S. Navy medical personnel assigned to U.S. Marine Corps units and under U.S. Marine Corps operational command.

Naval Psychiatry

There were few psychiatrists in the U.S. Navy, or for that matter in the country, until World War II. In 1940, the U.S. Navy had 10 Regular Navy psychiatrists doing clinical work and 7 in training; a total of about 25 medical officers performed neurology and psychiatry duties.

The neuropsychiatric branch at BUMED was established in 1942. Dr. Francis Braceland took charge of U.S. Navy Psychiatry in World War II, initially as a special assistant to the Surgeon General, and subsequently as the Head of the Neuropsychiatric Branch. The number of psychiatrists reached a maximum of 693 at the end of World War II. Out of the wartime training programs grew the current U.S. Navy psychiatry residency programs. By 1948 the number of psychiatrists on active duty had declined to 74 with 32 in training. That year the Surgeon General reported "personnel needs in Psychiatry are still critical and an active procurement program has been initiated."^{3(p412)} ("*Ce plus le change....*")

The Neuropsychiatry Branch at BUMED lasted some 35 years through several name and mission changes until 1977. A few years later a system of specialty advisors to the Surgeon General was put in place and the Specialty Advisor for Psychiatry (SAP) has been a focal point for U.S. Navy psychiatry since that time.

HISTORY OF MARITIME PSYCHIATRY

Ship differs from shore and the challenges of shipboard life make life different for sailors. Much

of the following was adapted from the excellent review by Captain Rolf Steyn.³

The Vikings of the early middle ages were sea warriors who bequeathed the term 'berserk' for a peculiar battle frenzy by which they were seized (probably enhanced by mead—beer fermented from honey). In the early Renaissance, communities loaded their maladaptors, for a fee, on ships (the ship of fools) for transport to unknown destinations. Some modern parallels are occasionally carried out by judges who encourage maladaptors to go to sea instead of jail. "It is a popular delusion that the ne'er-do-well, the black sheep of the family, will be picked up and made a man of by the discipline of the military life."^{4(p408)}

Sailors in the 16th through 19th centuries manned great fleets which conquered the world. Their crews are suspected of spreading syphilis that was a major cause of mental illness and other diseases which proved devastating to previously unexposed populations. Many showed the weakness, irritability, and depression associated with scurvy. Crews had general ill health so mental troubles alone did not stand out. The annual death rate in the British Navy was 1 in 8 in 1779.³

Sailors were known to consume large amounts of alcohol. Admiral Edward Vernon, known in the English fleet as "old grog" directed in 1770 the issue of a daily half-pint of rum mixed with a quart of water to sailors of the West Indies fleet. This was designed as a temperance measure to remedy abuses stemming from straight rum drinking. The mixture, which was also called "grog," won general acceptance in the British Navy as well as the American Navy which was patterned after it. Congress incorporated the rum ration in legislation in March of 1794. In 1806 whiskey was substituted as cheaper and more wholesome.³

In the 19th century about 80% of floggings in the U.S. Navy were administered for drunkenness and alcohol-related offenses. Flogging was abolished in 1850, possibly related to Dana's publication of *Two Years Before the Mast*. President Lincoln abolished the grog ration on 1 September 1862. In the 20th Century improvements in nutritional knowledge and food handling greatly improved the physical health of naval forces with concomitant mental health improvement.

During World War II psychiatric diagnoses in the U.S. Navy and U.S. Marine Corps were common with some 150,000 patients being admitted for psychiatric illness. Over 100,000 sailors and marines were separated for psychiatric disorders, constituting 34% of total medical separations. Not included

in these numbers are 90,000 recruits who were discharged for mental reasons.³

Group therapy first became an accepted treatment modality during World War II, largely because of the large numbers of patients and paucity of therapists.

Group therapy, born of necessity, was soon found to have other things to commend it. The individual undergoing treatment lost the feeling of uniqueness and of shame when he saw that other persons were suffering the same emotional distress as he himself was undergoing. There is no reason to believe that this type of therapy cannot be carried on in civilian life.⁵

Variability in diagnosis during World War II led to work towards a definite nosology with Captain George Raines contributing with Brigadier General William Menninger to a joint Armed Forces nomenclature and method of recording psychiatric conditions in 1949 which later led to the first American Psychiatric Association nomenclature, the Diagnostic and Statistical Manual (DSM).⁶

Literature on the subject of psychiatric casualties at sea is almost completely nonexistent. This is in part a problem with the collection of medical statistics in an environment where there may be few medical personnel, such as on a small ship. The loss of a ship may mean the loss of an entire crew so combat stress casualties cannot be ascertained. As a ship continues to function after a battle, it may be that many sailors who would otherwise have been identified as casualties are able to stay with their division until acute reactions have subsided. This may be particularly true if they were in close contact with shipmates and working within their division in which case only the most dysfunctional casualties would ever have been evacuated.

Ursano and Holloway⁷ note that psychiatric combat casualties are a unique class of conditions defined by etiology (eg, combat), rather than by symptomatology and that the behavior and psychophysiological manifestations of the combat casualty are protean.

This author would argue that there is a "plasticity" in the presentation of psychiatric symptoms related to cultural or subcultural environments that exist in the military and the expectations that such cultures engender which determines a large part of the protean nature of such casualties. In the following sections some of the subcultures which make up the U.S. Naval culture will be explored.

NAVAL COMBAT ENVIRONMENTS

Submarine Warriors

History of Submariners

Submarines were born in 1620 when Cornelius van Drebbel, a Dutch physician, launched a wood vessel covered with greased leather in the River Thames. This ship was really little more than an oar-driven diving bell which was not capable of submersion and probably ran awash during its trip.

Although a submarine first saw action during the U.S. Civil War, submarine warfare came of age in World War I. The U-boat arm of the German Navy demonstrated what could be achieved in the interdiction of trade routes. They sank almost 6,000 ships, mostly defenseless, merchant vessels grossing a little over 11,000,000 tons and in so doing rendered it almost impossible for the Allies to continue the war. There were 13,333 noncombatant merchant seamen and passengers who died during these attacks.^{8(p7)} U-boats also sank nine British and French battleships and 14 cruisers. A single German submarine U-9, in a brief engagement, destroyed three British cruisers, an event which had a profound effect on maritime strategy during the war.^{8(p7)}

World War II saw submarine warfare continue in the same strategic role that had begun in the previous war. The tactical introduction of the wolf pack and the night surface attack decimated Allied convoys attempting to cross the North Atlantic. The Axis Powers sank almost 3,000 merchant ships with a tonnage approaching 15,000,000. German U-boats also sank two battleships, eight aircraft carriers and some 50 destroyers.^{8(p228)} Only the development of the convoy system and depth charges allowed the United States to continue supporting the allies.

The Submarine Service of the U.S. Navy adopted U-boat tactics to the Pacific and sank more enemy warships than had the U-boats. They were also able to sink more than 1,100 Japanese merchant ships with a tonnage of almost 5,000,000.^{8(p228)} The size of the Submarine Service was only 1.6% of the U.S. Navy's total strength yet they suffered a heavier proportion of casualties than any other branch of the U.S. Navy. In the Pacific theater, more than 3,500 submariners were killed^{8(p154)} and there were many examples of extraordinary heroism. The trials of the submariner have been brought to popular attention through novelizations and motion pictures such as *Run Silent, Run Deep*⁹ and *Das Boot*.¹⁰

Psychiatric Casualties

The hazards encountered by submariners can be seen as unique and extremely stressful.¹¹ During patrol allied submarines were "lone wolves" and subject to intense attack when sighted by enemy air and surface antisubmarine units. The depth charge was the primary antisubmarine weapon and the men could not help but wonder when the next bomb or depth charge would make a direct hit. All knew that submarines were being lost to enemy counterattacks.

While being hunted, they were unable to fight back and "ran silent" with all, except those necessary to control the ship, in their bunks. Those who were up and about removed their shoes. Talking and unnecessary noise was kept at a minimum for everyone. The interior became excessively hot and humid because of secured ventilation, air conditioning and refrigeration units. All of this resulted in enforced inactivity and helplessness during the trauma of exploding depth charges. Even when not being attacked there were the stressors of mines, shallow water operations, air-sea rescue operations, reconnaissance operations, and days of patrolling without enemy contacts.

During World War II there were no studies of U.S. psychiatric casualties occurring aboard submarines while on war patrols. A review after the war¹¹ noted that there were approximately 1,520 war patrols completed by U.S. submarines, of which 1,489 patrol reports were available for study. An attempt was made to extract from those reports instances of "psychiatric casualties." These were essentially those men who were unable to continue with their duties secondary to what was thought to be some psychiatric-related problem. The total number of cases so identified by the authors was 56. This would have been a rate of .00044 casualties per man-patrol. Estimating another way this would have equalled an "admission rate" of 2.2 per thousand men in the Submarine Service. These figures also suggest that the role of an evacuation syndrome was essentially unavailable in the submarine setting.

Case Study 1: Depth Psychiatry

That there were frequent stress reactions short of "breakdown" is illustrated in extracts from the reports. General manifestations of responses to the conditions were described as "excessive physical weariness with

headaches, lethargy and sometimes heat exhaustion." Also noted were frequent somatic symptoms.^{11(p608)}

For the first two hours we were in a mighty tough spot....The predicament of the ship was a fact fully recognized by the older and more experienced men. As the youngsters folded up, the others took over....The most startling effect was the apathy engendered by the combination of heat, pressure, physical effort and mental stress....

[W]ithin a period of 24 hours following the depth charge attack, several cases of mild gastric disturbance consisting of light nausea and cramp-like feeling developed; rapid recovery without treatment followed...[A]pproximately one-half the crew complained of headaches, slight diarrhea and acidosis for three or four days following the depth charge attack.^{11(p608)}

Comment: The World War II casualty figures may be incomplete and underestimated but still present an enviable record. The authors believed the low casualty rate could be ascribed to factors of selection (every man was a volunteer), training, morale, pre- and post-patrol physical examinations to detect men in need of rest and rehabilitation, rest camps and rotation (after two consecutive patrols), and confidence in submarines, officers, and shipmates.

Behnke¹² relates the comments of a former sub commander on this unique environment:

To operate a complicated mechanism like a submarine, each individual must be free to volunteer information, to discuss when discussion is profitable, to exercise initiative and discretion in carrying out his duties; yet in other situations he must obey instantly, without question and without thought as to his safety. The recognition of the subtle changes in a situation that determine where and when and in what circumstances these two widely different attitudes are demanded is what makes a good submarine man.^{12(p724)}

The British Submarine Service during the war reported a 40/1,000/y rate of psychiatric casualties.^{13(p343)} Disparities between countries in reported rates have been hypothesized to be a tendency of commanding officers of U.S. submarines to transfer or separate a crewman for other than psychiatric reasons.¹⁴ Other labels such as chronic maladjuster, upper respiratory disease, or environmentally unadaptable may have diluted U.S. psychiatric attrition statistics. This same author relates a "resistance to psychiatry in the submarine service" and exemplifies the resistance with a quotation from Admiral Rickover in speaking before a Subcommittee of the Committee on Appropriations:

I view with horror the day the Navy is induced to place psychiatrists on board our nuclear subma-

rines. We are doing very well without them because the men don't know they have problems. But once a psychiatrist is assigned, they will learn that they have lots of problems.^{14(p583)}

The advent of the nuclear submarine ushered in a new gamut of missions and stressors for submariners. Submerged missions increased dramatically in length from 3 days during World War II to 60 to 90 days.

There have been few published reports of the incidence of psychiatric attrition during submerged missions. During 360 Fleet Ballistic Missile Submarine missions in the period from 1963 to 1967 there were some 192 psychiatric cases. This would be an incidence of about 4/1,000/y.^{15(p1)} The proportion of crew members referred for psychiatric evaluation has been reported variously as 20/1,000/y in 1963,^{14(p579)} 42/1,000/y in 1967,^{16(p548)} and 50/1,000/y in 1968.^{17(p26)}

One important problem is how many psychiatric cases require a medical evacuation at sea. Such evacuation may cause an entire mission to abort at relatively high strategic or tactical cost. Biersner¹⁸ reported that from 1963 to 1967 there were no cases of mental disorders severe enough among submariners to require a medical evacuation at sea. From 1968 to 1973 there were only three cases severe enough to require evacuation at sea.¹⁸

U.S. submarine psychiatry began late in World War II with the assignment of a psychiatrist to the Submarine Base, New London, Connecticut. The psychiatrist was called upon to (a) decide whether volunteers with marginal aptitude test scores possessed compensatory traits predictive of later success and (b) apply therapeutic techniques to the few submariners who had met aptitudinal requirements but showed acutely maladjustive behavior during protracted war patrols.¹⁴

The Bureau of Medicine and Surgery made a decision shortly after the war to focus upon the selection of men with maximum adjustment potential rather than "salvaging" maladjustive crew members.¹⁴ The use of empirically validated aptitude measures coupled with personality tests came into use. Those whose tests showed marginal aptitude or personality patterns were interviewed by the psychiatrist.

Insights gained from this process as to the dynamics underlying the decision to volunteer for the submarine service have shown that apart from increased pay for hazardous duty the most important motives are social in nature, that is, a person values highly the status coincident with the acquisition of

the “dolphin” showing submarine qualification and acceptance in the “submariner culture.” Also strong affiliative motives to establish highly affective-toned friendship relationships within the submarine crews are important aspects of the motivation.

Pathological motives such as counterphobic behavior demonstrated by volunteering in reaction to claustrophobic or other phobic impulses were postulated to be operating in some volunteers. Phobics who were not screened out initially were presumably eliminated during the training by failure to withstand 50 pounds per square inch pressure while in a recompression chamber and by failure to make an unassisted buoyant ascent to the surface of the training tank from an escape hatch in 50 feet of water.

Some volunteers appeared primarily interested in the possibility of fleeing domestic responsibilities. Obviously eliminated were those with “incipient psychotic trends.” A “fair number” of antisocial characters were noted to slip through the intake “selection sieve” and later turn up as disciplinary problems usually resulting in elimination early in their submariner careers.

Medical Support for Submariners

Navy medical officers who volunteer are usually trained in undersea/diving medicine at the Naval Undersea Medical Institute (NUMI). The curriculum there contains a psychiatric syllabus. They are often assigned to a submarine squadron after training. The medical department aboard an individual ship is usually staffed by an independent duty corpsman.

Chapter 15 of the U.S. Navy *Manual of the Medical Department*¹⁹ lists physical standards for selection for various duties. There is a specific section on screening volunteers for submarine service.

One current initiative in aiding the medical department aboard the submarine is a computerbased patient management system for isolated environments, called MEDIC. Four diagnostic modules are under development including abdominal pain, chest pain, psychiatric disorders, and dental problems.²⁰ The psychiatric module consists of a brief structured interview, with verbatim questions developed for use by medical corpsmen. Specific diagnosis and treatment suggestions were developed for each interview profile which make suggestions that are within the corpsman’s trained skill levels. A computer-aided instruction component was also developed to provide the corpsman with initial training in some general emergency treatment principles.²¹

There is currently no psychiatrist assigned to the operational assets of the submarine service nor are there any assigned to the Naval Undersea Medical Research Laboratory. Psychiatric support to the operational forces is most often obtained through the psychiatrist assigned to the Naval Hospital near the home port. This contact is usually initiated by the independent duty corpsman or squadron doctor.

Merchant Mariners

Mission and Stressors

Although the Merchant Marine is not one of the uniformed services, it has great importance to any war effort. As any medical planner knows, “lift” is crucial to success and there is never enough “lift.” Merchant ships have been called upon to deliver goods to invasion harbors and beachheads in the past and will be in the future.

The stressors imposed on crews of these shipping vessels during World War II by submarine warfare and bombing attacks were extreme. Sailors of the Merchant Marine were subjected to torpedo attack, bombs, mines, machine gun and shell fire, severe body wounds, long blacked-out voyages through submarine infested waters, and occasionally being cast adrift as a survivor of a ship sinking on the open sea with resultant exposure to cold, hunger, thirst, and exhaustion.²²

Psychiatric Casualties

During the first year of American participation in World War II, more fatal casualties were recorded among American merchant seamen than among men in the combined armed services. The incidence of combat or “convoy” fatigue among survivors of torpedoed and bombed merchant ships was not clearly studied, for several reasons including seamen’s unions, but it created such a serious drain on marine manpower that in January, 1943, the Surgeon General of the U.S. Public Health Service called a conference of leading military and civilian psychiatrists to discuss ways and means of preventing and treating this condition among merchant mariners.²³

A program was formulated to be operated jointly by the U.S. Public Health Service, the War Shipping Administration, and the United Seamen’s Service. The program centered on the need for convalescent homes set up at or near convenient ports of call along the Atlantic, Pacific, and Gulf coasts.

In attempting to evaluate statistics regarding Merchant Marine psychiatric casualties, as in attempting to evaluate all maritime psychiatric casualty statistics, there is one group of seamen with psychiatric disturbances who can never be studied or effectively counted—those whose acute reactions were so incapacitating as to prevent their making any effective effort to escape catastrophe. Many of these men were surely acute psychiatric casualties and just as surely buried at sea with their ships.

[M]en showed blind confusion and panic, childlike states of terror, self dramatization, rage or stupor-like trance states. Some men clung to a red hot rail or buried their heads between their arms. Some leaped blindly into a blazing sea when there was no burning oil in some other direction or ran about with dangerous implements in their hands, striking blindly.^{22(p401)}

The personality characteristics of Merchant Mariners have not been studied in any systematic way. Some impressions of the personalities of the survivors of torpedoing were that a majority had gone to sea early in life before age 18, and many of these had run away from home or gone in spite of parental objections. The sea as a vocation had only rarely been a tradition in the family.

Motivation for becoming Merchant Mariners seemed to derive from a strong, inarticulate need to get away from home and to get away from the disciplined social authority and regimentation of life on land. Several such sailors contrasted the regimentation and discipline of previous U.S. Army or U.S. Navy service with the freedom and informality of their life in the Merchant Marines. A large percentage had severed all contact with members of their families. Few were married.²² Typical of the ships was the *Troubador*, a 5,808-ton tramp,

a rusting steamer that had been scuttled by her truculent crew at Jacksonville when America entered the war, and now boasted a seventeen-nation crew of ex-convicts and the rakings of the U.S. deportation camps. While at anchor in New York harbour...the ship's ammunition magazine had been deliberately flooded 'by a person or persons unknown'. Eight Colt automatic pistols had been issued to the naval Armed Guard officers shortly before sailing: 'This was considered necessary in view of the conduct of the ship's crew.'...[I]n Iceland on 20 June, twenty members of *Troubador's* crew mutinied, having been told their ship was now bound for Russia. They sent a deputation up to their Master, the Norwegian Captain George

Salvesen, and told him they refused to take the ship any farther. The Reykjavik port director ordered Salvesen to use his ship's Armed Guard to quell the mutiny. The American naval gunners rounded up the seamen and barred a dozen of them into a stinking hold in the forepeak area, in 'very crowded, foul conditions.' The seamen held out in there under armed guard for fifty hours and then surrendered. 'We didn't have any more appreciable trouble until the convoy reached Russia,' reported the Armed Guard officer, Ensign Howard E. Carraway, to his superiors.^{24(p100)}

These sailors had an extraordinarily large pay, (\$500 per month plus danger money) in defense of which it was pointed out that they were not maintained by a shipping company while on shore, did not receive a pension and had a high rate of casualties.²²

Psychiatric casualties were not limited to unlicensed seamen. An increasing number of skippers, mates, and chief and assistant engineers were noted to be worn out nervously and physically as the war went on.

Chronic Sequelae

Margolin et al²² studied 40 survivors of torpedoing who were continuing at sea. They found that 75% had persisting emotional reactions with 25% being categorized as severe or sufficient to make it impossible or inadvisable for the seaman to return to sea. Alcoholism or previous psychiatric history predisposed to severe and incapacitating reactions, both during and after any emergency. There was a suggestion that persons aged between 45 and 60 were especially susceptible to severe reactions. The incidence of severe reactions was particularly high among seamen from tankers; and there appeared to be little correlation between where a seaman was at the moment of attack and severity of the after effects.

Margolin et al noted that among seamen who were ambulatory and returning to sea there were surprisingly few psychosomatic disturbances. This was in sharp contrast to what had been reported among seamen who had been hospitalized. It was the authors' impression that the seaman in whom a severe psychosomatic disturbance developed had few qualms about "giving in" to the illness and accepting hospital care and to some extent felt that it was a legitimate reason for not going back to sea.

Askevold²⁵ studied Norwegians who had been sailors in the Merchant Navy during World War II. Of 35,000 who had sailed for the allied forces, 6,000 were killed by bombs or torpedoes. Most survivors

had lived years during the war with a real fear of death. In examining a sample of these sailors some 30 years later, he found striking similarities between those with concentration camp syndrome (known as the "KZ" syndrome) and ex-war sailors.

He compared a matched group who were not war sailors for four symptom groupings: (1) asthenic symptoms (fatigue, irritability, lack of initiative, and emotional incontinence); (2) autonomic and somatic symptoms (dizziness, sweating attacks, dyspepsia, impotence, and somatic pain); (3) anxiety symptoms (nightmares, restlessness, disturbed sleep, and isolation); and (4) organic brain symptoms (impaired memory and concentration difficulties). The mean symptom load for ex-war sailors was 13.6 as opposed to 3.5 for the comparison group. There was also a higher relative frequency for each of the single symptoms in the war sailor group and a very similar relative frequency within each symptom group for both war sailors and concentration camp survivors.

It was evident to Askevold that of those still at work, the symptom load was high enough to warrant war pensions and their work capacity was marginal. He coined the term "War Sailor Syndrome" to describe the chronic effect on these sailors.

Treatment

Psychiatric treatment for American Merchant Marines during World War II was at rest centers established by the War Shipping Administration and the United Seamen's Service. A major part of the treatment at rest centers was conducted in groups. For the Merchant Marine at sea there were not only no psychiatrists, but no doctors at all. Treatment of the individual casualty as conducted at the rest centers was noted to be a "thin battle line tactic" given the resources available; "defense in depth" through the addition of preventive measures was recommended.²⁶ The preventive measures were to be through change of those factors external to the seaman and also by group education and treatment.

It was soon evident that many factors influenced the condition apart from actual battle experience. Factors external to the sailor himself included the presence or absence of adequate medical equipment, safety devices, food, convoy protection, sanitation, hours of work, and factors influencing morale including relations between officers and men and worries about personal affairs. Encouragement was given to captains to not fill a sick bay with paint and rope so that sailors might take a new interest in

health because they had a clean sick bay used as a headquarters for sick call; for appetizing preparation of food and getting men to eat a balanced diet; for ensuring that the medicine chest contained supplies necessary to meet shipboard emergencies; and for adding pharmacists' mates (the World War II U.S. Navy rating equivalent to today's U.S. Navy corpsman) to the crews of merchant ships.

A second category of preventive focus was a recommendation to prepare sailors so that men would not be overwhelmed by fear. The idea was that when a man is taught to anticipate danger and to understand his reactions and how to deal with them, he is better prepared to cope with the danger and to meet the next experience. Seamen could be helped to understand ways of preventing and relieving their own nervous tension; commanders could be given training in the appreciation of the elements in a satisfactory psychological state and the methods by which it could be attained. Preconditioning by simulation was also considered.²⁶

One preventive measure not discussed in relation to the Merchant Marine was screening, presumably because of the necessity of having crews to man ships and possibly because of the difficulties in instituting such a process for personnel who were not members of the armed forces. There is little to indicate that any preventive measures were instituted prior to the end of the war.

It is instructive to contrast these Merchant Marine casualties with those of the submarine service. They obviously differ as to the rates of casualties, and possibly to the chronicity of sequelae after wartime. Screening, personality type, motivation, and stressors appear to have been different.

It is possible to project that for merchant vessels subject to sinking in the future, there will be near universal acute symptomatology among the crew with some 25% developing symptomatology that will preclude going to sea under similar circumstances. With increasing exposure to possible death even higher numbers of incapacitated could be expected.

Surface Warriors

History

Surface warfare takes place among those ships and missions which are conducted on the surface of the seas. This is the traditional sphere of naval warfare. Prior to World War I the ships of the line of naval battle *were* the U.S. Navy and always had been psychologically. Older officers counseled:

“Stay in the big ships”; “work your way to the top in a big ship; that’s where the real Navy is”; “don’t waste your time in little ones” ... “There always has been a mystique involving the self-contained little world of a large ship, combatting the far greater elements of wind and sky and the huge, trackless, sometimes malevolent sea. But not only did a big ship become a living, sentient being to those who served her, she was also a community of kindred souls, of men who thought alike and worshipped at the same shrine....Perfection of the ship becomes its own objective. Battle has nothing to do with it, although one always talks of battle, battle is harmful to the ship, and should be avoided if possible, though not so one can notice. To sailors of the old time, enlisted men and officers, their ship was their home and their religion.”²⁷(pp422–423)

After World War I most of the U.S. Navy’s officers and men went to sea and most of the sailors were in either the “destroyer Navy” or the “battleship Navy.” The “cult” of the battleship existed not just in the U.S. Navy but in the Royal Navy as well. Naval strategic thinking was described by Henry L. Stimson, President Taft’s Secretary of War, as “the peculiar psychology of the Navy Department, which frequently seemed to retire from the realm of logic into a dim religious world in which Neptune was ‘god,’ Mahan his prophet, and the U.S. Navy the only true church.”²⁸(p421)

Destroyer sailors were of a different breed from the rest of the U.S. Navy. Their ships were faster and rolled more than the squat battleships and cruisers. And so the men rolled too, walking with a swagger on land, boasting of storms in which destroyers keeled so far that they took sea water in their stacks. Battleship sailors looked down at the ocean; destroyer sailors said they looked at the ocean in the eye. Destroyers were tactically used like bullets. A man aboard a destroyer in battle knew that he and his ship were expendable. That kind of knowledge gave a man a certain bravado.²⁹

Psychiatric Casualties

Sailors see their ships as having a spirit and fatigue can affect not just individuals but entire crews and ships. In training prior to World War II, American crews were kept in condition watches (Condition 2 was one half of the crew in battle stations and Condition 1 was regular action stations) for days on end. Thus, they may have been up for General Quarters during morning and evening twilight and required to do ship’s maintenance during working hours so they were in general de-

prived of rest. The British Navy had derisively said of the U.S. Navy that in the event of war with the United States they would keep their fleet safely in harbor for a couple of weeks, after which America would collapse from the unremitting strain of indiscriminate and unrealistic readiness at all times.

Case Study 2: Crew Exhaustion

On the night of 8–9 August [during World War II] a combined U.S. and Australian force of five fine cruisers was caught totally by surprise in the vicinity of Savo Island, off Guadalcanal, by a superior Japanese force. All hands in the American squadron, including those on watch, were exhausted from days on end without rest. Although technically in alert status, they were so tired as to be literally asleep on their feet....More than a thousand allied sailors were killed in the five cruisers....The Commanders of the ships involved were castigated for their individual lack of alertness. Yet...the fault lay in unrealistic demands for readiness at all times, with the inevitable result that although awake and on their stations, their crews were not truly alert....Commanders in the Pacific began to think more about the human demands being made on their eagerly willing crews.²⁷(p462)

Comment: This example shows the validity of the concept of sleep and rest discipline in U.S. Navy combatants as has been shown in land troops.

Case Study 3: Stress in the Falklands

The scenario reported by the Royal Navy psychiatrist, who was with the Naval expedition during the 1982 Battle of the Falklands, can be seen as typical of U.S. Naval surface operations. As their task force approached the Falkland Sound:

“We were unsure before entry as to whether or not it had been mined. The rather ironical story is told of a frigate identified as an ‘Irish Minesweeper’ which was tasked to go in ahead of *Canberra* to determine whether or not any mines were present—apparently we would know whether or not this was the case if she blew up—fortunately she did not and we and the rest of the fleet had safe passage....All seemed calm and peaceful until about two hours after the assault began when suddenly the Argentinian aircraft appeared. From then on there was a succession of air strikes and we grew in our admiration of the skill and daring of the Argentinian pilots....We functioned as the major medical facility during the course of that day taking casualties direct from the ships which came under fire, including those that were sunk. Again, I found myself in a situation of dealing with a group of survivors from the aftersection of *Ardent* and during the course of the day, was in a position to support the nursing and medical staff who were busily engaged in their duties treating the wounded....The battle plan had to be changed rapidly when it became apparent how effective the Argentinian Air Force was. A mad scramble followed to put ashore the major medical logistics and at that stage it had

not been allowed for the task force psychiatrist to deploy ashore on such short notice. So I found myself going out to sea with our survivors and wounded and there followed an intensive period of active intervention...dealing with the bereavement associated with the wounded and the survivors of the ships....The emotional needs of survivors can be dealt with under the following headings: There was initial relief of escape almost immediately followed through by the anxiety about the threat of further attack and fear of further trauma. Mixed with this was the anger not only directed at the enemy but at the units to which they belonged and the designers of the ships were found wanting in certain areas. There was the grief at the loss of companions and of course the ever familiar guilt at survival, this especially so amongst the single men who constantly queried why it was they who had survived and their companions, married men with young families, had been killed....After the fall of Stanley...we began our triumphant journey home. The fascinating feature of this journey for me was the amount of working-through people were doing all around me. The three weeks allowed a tremendous opportunity for reliving the battle scenes, making formal contact with critical figures and providing a setting for significant emotional catharsis....I am convinced this is one of the reasons why we have seen so few psychiatric casualties from amongst the Royal Marines in association with the Falklands crisis."³⁰(pp143-145)

Comment: O'Connell³¹ estimates that among the survivors of those ships that were lost there have been some 20 to 25 psychiatric casualties who developed chronic post-traumatic stress disorder. This from a crew of 230 to 250 would be a rate of 10% which would be in accord with the experience in the U.S. Navy after such incidents as suffered by the USS *Stark*.

Medical Organization

The medical department aboard a larger ship is headed by a medical corps officer who is designated as the ship's medical officer. That officer is responsible for maintaining the health of personnel, making medical inspections, and advising the commanding officer (CO) on hygiene and sanitation conditions. When no medical officer is assigned, hospital corps (enlisted) personnel run the department, but are assigned to the Operations Department for military and administrative functions. Currently, within the surface warfare community, it would be medical department personnel that would address psychiatric needs. It is thus crucial that the medical officer be trained in the principles of combat psychiatry, particularly of the importance of the support of the crew, including the medical officer, in assisting return to duty after acute reactions. The following case, one the author had the opportunity to review for the Board for Correction of Naval Records, is illustrative.

Case Study 4: A Missed Therapeutic Opportunity

The case was of a Lieutenant Junior Grade who had been aboard a destroyer during World War II throughout the Pacific campaign. He had generally performed well. During the battle of Leyte Gulf he was involved in escorting a convoy to Mindinao. During that escort, lasting some 3 days, several ships were hit by Kamikazi pilots. As they burned, the ships "disintegrated" causing the crew to realize that they were carrying ammunition. After some 72 hours of being on General Quarters, he was on the Bridge and had given his life jacket to a seaman who had forgotten his. This was in spite of the fact that he could not swim. A Kamikazi plane came directly at the Bridge. As it hit, he "found himself" going over the side of the ship, falling about 30 to 40 ft into the water. Fortunately he was not pulled through the ship's screws. He struggled in the water; and, just as he felt that he was going to drown, he was picked up by a small U.S. Army vessel. Subsequently, he was put into an U.S. Army hospital. A few days later his ship's medical officer came to the hospital. The officer hoped that the medical officer would come to talk to him; but he saw the medical officer glance at him with a "look of disgust" on his face. After that he developed increasing symptoms of combat fatigue and was never able to be returned to duty. Had the ship's medical officer been able to speak with him, he might have been able to return to ship's crew and not have become a chronic casualty.

Comment: A ship's medical department may have the option of brief admission to the sick bay for such "fatigue" cases. The ship's medical officer, as a member of the ward room, can communicate with other division heads and their chiefs to ensure that an individual sailor knows that he is needed back in the division. The medical officer aboard ship should not forget that he has more than just military authority in the eyes of the crew. The medical officer is also seen in the professional role of healer, one who cares, and mediator.

Naval Air Warriors and Carrier Battle Groups

History

As Beach²⁷ reports, new technology changed the conditions of battle at sea prior to World War II but U.S. Naval leaders were slow to change tactics:

As the range of guns increased in battleships, spotting of the rounds became progressively more uncertain. This led to spotting by aircraft and each battleship was outfitted with small planes for that purpose. The idea of a ship devoted solely to handling wheeled aircraft on a long flat deck received little encouragement....Only aviators asked newly pertinent questions; what use was a battle line with weapons of 20 mile range if aircraft carriers could send weapons with greater accuracy 10 times as far? Or the antagonistic, ambitiously cynical one; why was a 20th century Navy still enam-

ored of the 18th century line of battle? Did the psychological appeal of a line of great grey ships with glorious heritage from the days of sail, somehow affect the strategic thinking of the Fleet Commanders of the 1930s?^{27(p446)}

During the later part of World War II battleships became relegated to a primarily shore bombardment role in support of amphibious landings. They were never in battle with similar ships, but became fleet escorts for the great number of aircraft carriers that were turned out after Pearl Harbor.

The Queen of Battles of the Pacific war, lifting the crown from the battleship (which had never worn it in combat), was the aircraft carrier. In contrast to the long peacetime gestation of the battleship, the carrier leaped almost at birth into relentless combat. For years, Naval aviators had stressed the superiority of 3-dimensional combat over 2-dimensional strategy tied to the surface of the sea. Suddenly, war at sea in three dimensions took over from war in two dimensions and sea/air power dominated Naval tactics. Surprise became the basic ingredient of Naval combat. The slow inexorable confrontation of all available forces...was no longer germane to the ability to carry out a Naval mission quickly. To strike where needed and with stunning speed was the new way of war on the sea. In this outlook, Naval aviators and submariners were joined, for both groups had shared the 3-dimensional concept from the beginning....A plane came from nowhere in only minutes, did heavy damage, and disappeared....All the old ways of bringing ships into battle were outmoded; they now fought from places of invisibility, over the horizon, widely dispersed, or submerged.^{27(p446-449)}

Psychiatric Casualties

The USS *Wasp*, an aircraft carrier, was torpedoed on the 15th of September 1943, while escorting reinforcements to Guadalcanal. The senior medical officer aboard was Commander Bart W. Hogan, a psychiatrist later to become the Surgeon General of the Navy. He surveyed survivors³² and discovered the following reactions on board after the torpedo attack: 38% felt calm; 33% felt excited, nervous, tense, or shocked; 9% were very fearful; and 20% had no report. Twelve hours after the torpedo struck, 27% felt relief and thankfulness; 25% felt concern for shipmates; 46% were fearful, apprehensive, or nervous; and 2% had no report. Three weeks later, 46% expressed themselves as being normal and regretful; 37% stated that they were nervous, apprehensive, even jumpy; 80% were unaware of any physical change; 33% stated they were

unaware of any emotional change; and 43% had a slight emotional change.³²

Hogan related that during the service of the USS *Wasp* it had brought reinforcements to Malta and was then escorting reinforcements to Guadalcanal at the time that it was sunk. In all that time, only two minor neuropsychiatric cases developed. He called for tribute to the 18-, 19- and 20-year-old men who were winning the war and remaining stable. The crew on board at that time numbered over 1,080 with approximately 180 officers.

During a combat deployment to Vietnam, 121 U.S. Navy aviators were studied aboard an aircraft carrier.³³ Their illness patterns revealed a total of 116 illnesses amongst the 121 officers with 26% of the officers developing 73% of the illnesses. Five percent were responsible for 22% of the illnesses. Out of the 116 illnesses, 8 were noted to be neuropsychiatric in origin with the bulk of those being related to insomnia and one case each of hyperventilation, dizziness, and neuritis.³³ The illness rate was comparable to the overall rates for the enlisted crews of several other ships which had been previously studied. Illness rates were elevated during the combat periods compared to the in port periods with an exception being a sudden operational shift which occurred to another country.

A modern aircraft carrier with an airwing embarked accommodates about 570 officers and 5,720 enlisted men. From her decks operate nearly 100 aircraft—fighter, attack, electronic countermeasures, electronic warfare, reconnaissance planes, and helicopters.

When a carrier battle group left port in the 1980s with an airwing, escort and support vessels with amphibious landing capability from elements of the Fleet Marine Force, as many as 20,000 men accompanied it. It was usually during the first month out that most psychiatric morbidity occurred. Routinely, some 100 cases required psychiatric evaluation during a cruise.³⁴

One psychiatrist³⁵ also designated as a U.S. Naval flight surgeon, who had been the senior medical officer aboard an aircraft carrier, contrasted two cruises that carrier made. One cruise was made to the Arabian Sea during a period in which hostilities might have started. That cruise lasted some 156 days. Prior to the cruise, in order to assist families, arrangements had been made to ensure that allotments or direct mail deposits for pay checks were taken care of because mail service could not be expected to be regular. Crews and families were informed that sailors would probably not be available for assistance and that emergency leave would

be difficult. This cruise occurred during a period that a "reason to be there" was perceived by the crew. The carrier left the line briefly and returned for another 158 days. During a total of 256 days on line, there was one psychiatric medical evacuation. This was of a person who had fraudulently enlisted and had been getting Stelazine, an antipsychotic medication, by mail from a civilian general practitioner.

This was contrasted with another cruise lasting almost 200 days when the perceived purpose of the mission was not as clear. During that cruise, crew members felt continuing responsibility for what was going on at home and were "worried" quite often during that cruise. The average number of medical evacuations was some 2 to 3 per month.³⁵

Medical Organization

The medical department aboard an aircraft carrier includes a senior medical officer who is also a U.S. Naval flight surgeon as well as additional general medical officers. There would usually be a general surgeon aboard during a cruise. An aircraft carrier has extensive sick bay capability including surgery and intensive care. When aircraft squadrons are aboard they usually bring their own flight surgeon and medical section aboard with them.

It is through the medical department that psychiatric services must generally be provided. These generally consist of those services the medical staff feels comfortable providing. Flight surgeons have an extensive psychiatric component to their training syllabus. For those diagnostic and treatment services beyond the expertise of the medical department, consultation is sought at the Naval Hospital, either in port or home port, or medical evacuation is initiated.

Marines: Amphibious Warriors

History and Doctrine

It is generally held as an axiom that the entire purpose of navies and seapower is to influence land. The most direct form of such influence is through the landing of troops. Historically, landings were rarely attempted in which troops were opposed during the landing and had to fight their way ashore.

The history of modern amphibious warfare began in Gallipoli in 1915 with disastrous results. In the United States, General John A. Lejeune was Commandant of the Marine Corps from 1920 to 1929. He was searching for a unique role for the U.S.

Marine Corps and extensively studied the landing at Gallipoli. He ignored the maxim that developed after the operation which was that the advantage in such an operation was always with the defender. It was his opinion that the operation had failed for the more mundane reason of incompetence of execution. He set upon making the amphibious assault landing a U.S. Marine Corps specialty. Subsequent history in the Pacific campaign during World War II proved his foresight.

The culture and doctrine of the U.S. Marine Corps differ in general from those of the U.S. Army. The U.S. Marines more often believe that an all-out assault at the beginning of a battle will ultimately result in success with fewer casualties than the alternative which provides for a slower assault waiting for an overwhelming force to be brought to bear.

Psychiatric Casualties

Case Studies 5 and 6 relate different aspects of U.S. Marine operations in the pivotal battle of Guadalcanal. Case Study 5, contributed by Colonel Joe Fagan, discusses factors that protected U.S. Marines from becoming incapacitated from combat stress. Case Study 6 discusses some of the severe stressors faced by U.S. Marines and their psychiatric sequelae reported in the press at that time as "Guadalcanal nerves."

Case Study 5: The Protective Effect of Unit Morale

Generally speaking, the success or failure of military operations is more dependent upon group activity than on individual effort. Esprit de corps is often considered synonymous with group morale. It is high when individuals feel that they belong to a unit, place unit interests above their own, and are willing to strive for the goals of the unit.

"Creature comforts" (such as good food and post exchange [PX] availability)³⁶ are less essential for group success than unit identification and cohesion. Because individual morale is more volatile than unit morale, the unit, by providing a stable sense of group, can dampen and compensate individual morale fluctuations over a period of time.

To illustrate this concept, the Battle of Guadalcanal is studied because the success at Guadalcanal was related to the staying power of the U.S. Marines more than anything else. This staying power is a manifestation of leadership and morale.

The Battle of Guadalcanal was pivotal. Churchill concluded that Guadalcanal was one of those battles that, won or lost, would change the entire course of events in the world. Admiral Nagano, Chief of the Japanese Naval

General Staff, and General Kawabe, Deputy Chief of the Japanese Army General Staff, reported during an interview after the war that Guadalcanal was the turning point for them in the Pacific in World War II, marking their shift from the offense to the defense.

The amphibious invasion of Guadalcanal, 7 August 1942, was, fortunately, essentially unopposed. However, from that day on life was very difficult for the U.S. Marines. When the Japanese realized what had happened, their air and naval attack on the U.S. Navy task force supporting the U.S. Marines was so intense that the naval supply ships were forced to withdraw on 9 August 1942 without unloading a substantial amount of supplies needed by the U.S. Marines. Supplies present in insufficient quantities included barbed wire, radio batteries, medical supplies, and camouflage materials.^{37,38} The Japanese air and naval forces subsequently enjoyed control of the sea and air around Guadalcanal. Consequently, the Japanese were able to land reinforcements and supplies as needed while the U.S. Marines received only a trickle of supplies and reinforcements.

A comparison of combat power of the U.S. Marines and the Japanese forces is difficult to quantify as accurate records are lacking and the situation was dynamic over time. Initially, the U.S. Marines landed 10,000 to 11,000 troops while the Japanese had a force on the island of 2,000 to 5,000 soldiers and laborers. The Japanese, upon realizing that the U.S. forces were confronting them in their drive to Australia, began to exercise their air and naval superiority to concentrate their forces to drive the U.S. Marines from the island. The Japanese were able to field a force of 26,000 to 29,000 troops which they maintained at that level despite substantial losses throughout the bulk of the campaign. The U.S. Marines gradually built up their forces so that by mid-October they had about 23,000 troops and by the time the 1st Marine Division was relieved in early December the level had reached about 45,000.³⁹

The Japanese from August through November utilized about 37,000 men and sustained losses estimated between 20,000 and 28,000 troops. The U.S. Marines, utilizing fewer troops experienced substantially fewer losses. The 1st Marine Division during the 4 months of combat sustained about 2,736 losses. For a better comparison with the Japanese figures, the U.S. forces in all sustained about 6,000 losses.^{37,39} The ratio of Japanese losses to U.S. losses is about 4 to 1. However, numerical comparisons do not tell the story of Guadalcanal.

Although the Japanese for most of the campaign enjoyed air and naval superiority in terms of combat power, the U.S. Marine pilots fought with the same will and determination as did the ground troops. Their force never exceeded 60 planes,³⁷ but their impact upon the Japanese planes and ships was substantial. The fighting on the island itself could not be described as a series of protracted small unit operations savagely fought in conjunction with a perimeter defense of Henderson Field. While each engagement was significant, a survey of the overall campaign will indicate those factors that allowed the Marines to defeat the Japanese.

Every man was critical with each unit deployed on the perimeter in an overextended front since there were no replacements or reserves. As the area of the perimeter was small, no spot could serve as a respite from the attacks, shellings, and bombings.⁴⁰ Henderson Field and the nearby hospital were constant targets and thus provided no greater safety than the front lines. When limited reinforcements did arrive on 17 September 1942, they permitted slight relief although they served to thicken the thinnest ranks and to permit the battle weary U.S. Marines to launch counterattacks as well as to maintain their perimeter defense. While the U.S. Marines were winning the battle, they were increasingly incapacitated by attrition, fatigue, and disease. The Japanese in a sense held the U.S. Marines in a constant state of siege.

Two weeks after the amphibious landing, the U.S. Marines turned back the first major Japanese offensive at the Tenura River. In mid-September, the Japanese again marshalled their forces although they were stopped at the Battle of the Ridge. A defeat for the U.S. Marines would have been devastating and was prevented by only the narrowest of margins. Near the end of October, the U.S. Marines held against the most furious of the Japanese attacks at the Matonikau River. Fighting these battles over and over sapped the strength and vitality of the men who were already suffering from malnourishment, fatigue, malaria, dysentery, and a host of other tropical maladies. However, they continued to fight and to fight well. From this point on, the tide of the battle swung toward the U.S. Marines although the actual fighting continued for some time. In lieu of tactical or logistical advantages, the U.S. Marines had utilized will, determination, and leadership.

The Guadalcanal Campaign can be examined within the framework of what many consider nine essentials for "individual" morale during combat.

1. *Good food.* The U.S. Marines landed, having lost weight while on board the transport ships. After landing, and largely because of the withdrawal of their supply ships, they again had a substandard diet offered only twice a day from 12 August 1942 on. Although their diet did fluctuate considerably over the course of the campaign, typically it was cold and consisted of combinations of beans, hash, rice, spam, and so forth, both for breakfast and supper. Captured enemy food supplies were the difference between a starvation diet and one above that point during the early phases of the operation.^{38,41}
2. *Special rations and PX.* There were none.
3. *Physical comfort.* Prior to landing, the U.S. Marines had been confined in crowded troop transports for a minimum of 29 days.³⁷ Upon landing, they were met by a tropical climate with high temperatures and humidity. A shortage of water complicated their situation. Sleep and rest were effectively curtailed by Japanese float planes nicknamed "Louie the Louse" who dropped flares and "Washing Machine Charlie" who dropped impact fused bombs almost nightly. In addition, Japanese naval

forces shelled Henderson Field quite regularly. The Japanese were able to fulfill their purpose of denying the U.S. Marines any rest and to wear them down mentally and physically. Because of the nightly attacks the men generally slept in their foxholes which often had about 6 inches of water in them. Improving your foxhole was said to be the universal recreation on Guadalcanal.³⁷

4. *Good health.* Malaria, dengue fever, and numerous fungal infections were endemic in Guadalcanal. In addition, an epidemic of dysentery required about a month to control. Estimates were that at any given time 20% of the U.S. Marines were incapacitated by the dysentery. As the epidemic was brought under control, severe fungal infections, aggravated by the men being generally without proper footwear and standing in water, severely limited the mobility of the men on an ongoing basis. The main health problem, however, was malaria.³⁸ It reached epidemic proportions shortly after the acute dysentery was brought under control. During the campaign about 7,000 U.S. Marines were hospitalized with malaria. Because of the manpower shortage, the criteria for hospitalization was a fever greater than 103 degrees Fahrenheit or about 4 degrees above normal. These conditions, of course, coexisted with malnutrition, fatigue, and battle wounds.³⁷
5. *Clean and adequate clothing.* The military uniforms didn't stand up to the tropical environment and resupply was limited and sporadic. The men often fought barefoot with fatigue cutoffs. In mid-September they did receive about 20,000 pairs of boots so that the men wouldn't have to fight barefoot.³⁷ Bathing and washing facilities were quite limited.
6. *Dependable policy of rotation.* Rotation was not possible as every man was needed for the defensive positions.
7. *Combat relief.* The 1st Marine division experienced essentially constant combat from 7 August 1942 until relieved by U.S. Army forces 7 December 1942, when the worst of the battle was finished. Initially the U.S. Marines believed that they would have air and naval support and be relieved by U.S. Army troops in about 3 weeks and that they would be returning to New Zealand. When this did not occur, most despaired ever leaving Guadalcanal.
8. *Regular delivery of mail.* This certainly improved morale within the 1st Marine Division. Data are not available as to how often the mail was delivered. The first delivery of mail did occur 1 September 1942.⁴² As one officer observed, each man seemed as happy as if he'd been given \$100 at the mere thought of getting mail. Some said that mail should have priority over food.⁴² The delivery of mail seems to have been a positive factor for morale. Presumably the mail was delivered on a sporadic basis but details are not available.

9. *Information.* This may have had the greatest impact in terms of improving morale. General Vandegrift used a billboard near the center of the perimeter to display a graphic representation of the perimeter defense of Henderson Field so that each man, and each unit, could visualize their part as well as the part played by others in their mission. They also knew that if they could hold Henderson Field the pilots would be able to provide some air protection for them. Consequently, there was a lot of pride in their "air corps." On the same billboard next to the baseball scores was a running account of the number of Japanese aircraft "their" pilots had shot down. Another example of the impact of command information on the men was their reaction when notified that Admiral Halsey was assuming command of the South Pacific Naval Forces. One officer reported that, "I'll never forget it—one minute we were too limp with malaria to crawl out of our foxholes—the next minute we were running around shouting like kids" upon hearing the news.³⁷ The men believed that he would send them assistance.

This appraisal of the nine elements finds that the U.S. Marines were substantially lacking in terms of good health, physical comfort, good food, PX and special rations, clean and adequate clothing, a dependable policy of rotation, and combat relief. They did possess adequate command information and benefitted greatly from delivery of mail. However, they were lacking substantially in seven of the nine essentials and yet maintained good morale.

The morale possessed by the 1st Marine Division was not expressed by happy or contented troops with the usual attention to dress, appearance, or protocol but by grim-faced U.S. Marines doing a very difficult and dangerous job but doing it well. As General Vandegrift observed, "They look like a bunch of Gypsies, but they'll fight because they've got it in here (tapping his chest)."⁴² Possibly group morale in combat is best observed by noting how well the men carry out their mission.

Another perspective on morale in combat is gained by looking at the psychiatric casualty rate, sometimes used as a measure of morale.⁴³ A report by medical officers treating the wounded evacuated throughout the Pacific indicated that the 1st Marine Division on Guadalcanal had about the lowest rate of psychiatric casualties of any of the Pacific campaigns.⁴⁰ In general the Pacific theater had a higher ratio of psychiatric to wounded casualties than the European theater⁴³ with the exception of Guadalcanal. Perhaps more important, however, was the fact that even the nonpsychiatric casualties showed emotional reactions of a severity which would often have been considered incapacitating in other campaigns but not at Guadalcanal. Most of the men who were evacuated for psychiatric reasons had already been treated and returned to duty several times on Guadalcanal before it was necessary for them to be evacuated from the island.⁴⁰ This suggests excellent treatment of psychiatric casualties in combat, the need to conserve manpower wherever

possible, and the feeling of the men that they didn't want to leave their fellow soldiers behind. This group cohesion prompted the men to continue under conditions that at other times, other places, would have resulted in evacuation. As previously noted, group morale is considered high when individuals feel like they belong to a unit, place unit interests above their own, and are willing to strive for the goals of the unit. This was seen on Guadalcanal where group morale sustained the U.S. Marines when individual morale, often dependent on "creature comforts," was lacking. The unit was able to keep the individuals going.

General Vandegrift took some other steps which also contributed to unit morale. He set up his personal tent and command post alongside his men and by sharing their hardships and risks he obtained immunity from criticism in regard to the hardships they endured. Their frustration was displaced to the "swab jockeys" who "hauled ass" and the "dog faces" who didn't relieve them. This allowed the men to avoid losing faith in their "own" chain of command.

General Vandegrift also recognized early on that his men in response to the "siege" conditions under which they were operating were "more than ready for a fight...they were aching for one."³⁷ This was because enforced passivity in the face of an ever present threat will lead to hopelessness if not countered by measures that allow for the channeling of the frustration into action. Thus General Vandegrift decided on a series of limited attacks on the Japanese to reduce the tension and to keep the Japanese off-balance.⁴¹ The strategy worked quite well, in part because the experience of success against the Japanese helped to destroy the myth of the invincible Japanese soldier. On other occasions, General Vandegrift, in addition to genuine battlefield decorations, used mock awards ceremonies to break the misery and fear with humor using captured Japanese medals.⁴²

In addition, from General Vandegrift on down the chain of command, the officers were expected to and did lead by example when necessary. There were examples of colonels and their staffs taking the "point" on river crossings when the men seemed to be holding back—ominously eyeing the forbidding dark woods. The colonels' effort was enough to resolve the situation. They also were able to convey to the men that they [the men] were capable of carrying out their mission despite the difficulties and that the officers fully expected them to do so in the tradition of U.S. Marines. The men were able to put forth second and third efforts that were essential for their defense to hold.

Comment: This study illustrates that morale in combat does not depend upon "creature comforts" but rather upon the quality of leadership and the cohesiveness of the small unit. In essence, it is not the hardships that the men endure that destroys morale, but rather that the unit itself can help them endure.

Case Study 6: Guadalcanal Nerves

The World War II amphibious campaign in which American doctrine would be tested began on 7 August 1942

when the amphibious assault on Guadalcanal began the island-hopping strategy which would mark the campaign in the Pacific. The assault was covered extensively by the press and brought the terrible realities of such warfare home to the American public for the first time. The landing was not opposed, so was not an assault landing in the sense of a frontal assault against a determined opposition. The stressors of the campaign were, however, unique and resulted in psychiatric sequelae labeled in the press as "Guadalcanal nerves."²³

"Fear of all kinds entered the picture. Most men experienced fear as they approached the beach. Some tell you of their fear of being afraid and exhilaration as soon as they went into actual combat. But new attacks, new bomb near hits would relight fear—and all this was sure to take some toll. As the weeks passed, hope left most of these men—hope of winning the battle, hope of being aided or rescued. They were alone on the island and their expected relief did not come. They had no way of knowing why it did not arrive. Soon they were sure that none of them would get off the island—they were expendable, doomed. Soon this helpless hopelessness overwhelmed them and contributed in no small part to their final collapse."^{43(pp94–95)}

Comment: Other factors in psychiatric breakdown included gross sleep deprivation from Japanese activities at night, weight loss as high as 45 pounds, rain, heat, insects, dysentery, malaria, and an exposure lasting months. Ultimately the result of exhaustion, fear, malnutrition, and disease in this jungle combat environment took a physical and mental toll. Numbers of psychiatric casualties evacuated are not uniformly recorded. One observer noted that aboard one ship which evacuated casualties 48 of 350 total casualties were psychiatric.⁴⁴ From his experiences in treating those casualties, he concluded that "By and large men were fighting to get home" rather than for some more abstract reason; that "Every unit should have an experienced Sergeant or Lieutenant with it"; that "Men should go into battle with a unit—not alone"; and that you should "Keep the feeble-minded out of the jungle," recalling that when men with a mental age of 12 were sent into the jungle with their units they were more prone to "crack" and "then others around them would crack." This worry presages current concern about "contagion" of stress casualties in a unit.

Those psychiatric casualties evacuated to the United States from Guadalcanal seemed remarkably uniform to observers after their arrival. They suffered from

headaches, lowered thresholds to sharp noises, periods of amnesia, of panic, sensory somatic complaints, marked muscular hypertonicity, tremors generalized or limited, functional palsies....Many arrived with cotton stuffed in their ears, and on the returning transport many of them required physical restraint if there was test firing....[T]hree weeks

after combat, they had, according to their own statements, improved immensely....The fear that they would be thought 'yellow' was universal....We found one of our first duties to these newly arrived patients was to endeavor to relieve them of this thought of cowardice.^{43(p94)}

One enlisted U.S. Marine rifleman lived to reflect and has written of his experiences in the amphibious assaults on Peleliu and Okinawa.

As a Marine infantryman I was no better than average, I served through two major campaigns...I was wounded twice, cited for bravery once, and two times I was too frightened to do the job to which I was assigned...I know...that every man has his limit; but just as some men are taller and heavier, so some men can go longer and take more. Bravery is a fickle thing. It runs in some kind of cycle: it comes and it goes. One day a man is a lion in the fight: the next day a mouse...I have seen men who were brave when their feet were dry, cowards when they were wet; brave when they were warm, cowards when they were cold; brave when they were full, cowards when they were hungry; brave as long as they got their sleep, but cowards when they didn't. We often contrast bravery and cowardice. We think there is nothing between the two, but most men who know war know that there is.^{45(pix,x)}

In preparing to board an AMTRAC (amphibious transport craft) prior to his first landing he recalled that,

I caught fear from the men around me. I was deeply shamed for them and for myself. Later I got used to fear. It was like a scar or a limp that I had to learn to live with. I learned always to control what showed in my face, my hands and my voice. And I let it rage on inside. I never lost my fear, but I lost my fear of fear, because it became such a familiar thing.^{45(p4)}

In commenting on motivation and loyalties during combat he notes that,

In a war, loyalties shrink down past country and family to one or two men who will be with you. They become more important than anyone else in the world, more precious than father and mother, sister and brother, wife and girl. Only a few lonely men go through a war without buddies.^{45(p9)}

Some months later Davis was assigned with an officer with whom he had many hours to talk and discovered the healing value of such recollection and retelling.

[H]e was the one who finally cured me of my nerves. He had been in many campaigns, and he liked to tell 'sea stories.' He got me telling stories of what happened on Peleliu; and somehow, in the telling, the campaign didn't seem so bad. I began to sleep nights again.^{45(p9)}

After the battle of Leyte Gulf had been won by the U.S. in late 1944, it had likely become clear to Japan that the ultimate objective of the U.S. operations in the Pacific would be an actual invasion of mainland Japan. Iwo Jima was anticipated to be a halfway station to provide fighter escort and emergency refueling for air raids of the Japanese home islands.

One of Japan's most capable generals was put in charge of the defense of Iwo Jima. As a result, the amphibious landing was one of the most heavily contested and deadliest operations in history. Of 23,000 Japanese troops who opposed the landing all but 200 died. The 60,000 Marines suffered 5,931 dead and 17,372 wounded.³⁹

The Fifth Marine Division had a total of 2,779 killed in action. There were 1,285 wounded who needed evacuation. There were 590 hospital cases of combat fatigue, 369 of which were evacuated and 221 returned to duty. That number was closely approximated by the number of sick (nonbattle injury) of which 329 were evacuated and 252 returned to duty. Cases requiring evacuation for either combat fatigue or wounds would total 1,654 of which 22% would have been combat fatigue.³⁹

Psychiatric Casualties in Medical Personnel

One group not often thought of in planning for battle fatigue casualties is the medical personnel. On Iwo Jima, 195 corpsmen were killed and another 529 were wounded. Seven doctors were also killed and 12 wounded.⁴⁶

A battalion at that time consisted of some 900 U.S. Marines and the medical section had a battalion surgeon, an assistant battalion surgeon, a chief corpsman, 48 corpsmen and 16 assigned litter bearers. Litter bearers were thought to have the shortest life expectancy during amphibious operations as they had to stand upright to bear litters.

Case Study 7: Doctors in Distress

Dr. James Vedder was the battalion surgeon for the Third Battalion, 27th Marines with the Fifth Marine Division.⁴⁷ He described some physicians who became psychiatric casualties at Iwo Jima:

As he moved forward, he encountered another group of medics providing care and asked about one of the other doctors, who responded in a low monotone from directly behind, "Here I am Jim. I'm doing all right."...He wheeled around to face Dr. Webber, who was standing stiffly upright, his face a frozen mask and his blank stare fixed on the horizon. Dr. Vedder continues, "We moved out into the open country, and I noted that Webber had not moved or spoken. His hands were still jammed into his pockets, and his immobile face was pointed in the direction of the western horizon."

The next day, D-Day +2, litter bearers brought Dr. Webber who had been with the First Battalion, 27th Marines to Dr. Vedder's aid station. After the litter bearers had deposited his large-boned, well-muscled body, a careful survey by Vedder discovered no recognizable wounds but all his muscles were contracted and his eyes were rolled upwards so that only the white sclera were visible. It was impossible to rotate him in any direction. As he lay there, breathing deeply at a normal rate with a ruddy color of good health on both cheeks, Vedder noted that "his bladder was functioning properly" as a large area in the crotch of his pants was soaked with urine. The accompanying medic noted that there had been no injury: "He just stiffened out like a plank during the night." Vedder wondered whether Webber could be feigning these unusual symptoms in order to get evacuated. To test this possibility, he gave him a jab in the thigh with the sharp point of a mosquito forceps. Webber uttered a loud grunt, his back arched up off the litter, but soon he settled back on the litter with a sigh, groaned and his bladder contracted.

After evacuating Dr. Webber, Dr. Vedder wondered what had caused the collapse:

"Physically he was stronger than most of us. But emotionally, he was far from strong. For weeks he had been living in a state of anxiety and terror that mounted daily as we neared the shores of Iwo Jima. Perhaps he had become a casualty long before he set foot on the black sands of this bloody island, with this paralysis merely the final stage."

The next morning, the Battalion Surgeon from the Third Battalion, 26th Marines wandered into Dr. Vedder's aid station in a state of acute agitation. Vedder commented:

"Between spells of sobbing, choking, and trembling, he managed to blurt out his unbearable problems. His unit had suffered heavy casualties when they had traversed our shell torn road the afternoon before. Their present aid station was located a few hundred yards to the northwest. They were working in open country without any suggestion of concealment. His men were being picked off at all too frequent intervals. His turn was sure to come soon. He just couldn't take it any more. He had felt like running off and hiding many times in the last 72 hours, but duty had forced him to stay on with his men. Now he did not care what happened...It was obvious that he was emotionally unfit to continue to function as a doctor at least for the time being. His evacuation tag was labeled 'combat fatigue.' Without further ado, he was loaded on a passing truck with two Marines who had also 'cracked up.'

"About a half hour after that evacuation, the Assistant Battalion Surgeon of the Third Battalion, 26th Marines "drifted into our aid station with the remnants of his medical section. Until the present, he had been an eager young physician willing to cope with the vagaries of military life. Now he appeared quite discouraged and despondent. Losing nearly half his men in the past 24 hours had been a severe blow. The recent collapse of his battalion surgeon was more than he could handle. He came to us for both help and companionship....He said 'Jim, I am all alone out there. Can I tie in with you until replacements arrive?' Several hours later, they were again functioning as a medical military team."

Dr. Vedder had to balance evacuation and other requirements in the case of a corpsman who had been sent up as a replacement.

"When I finally returned to my foxhole, I found De Wolfe still huddled up on his litter nervously gnawing on a 'K' ration biscuit. He presented a sad picture of total dejection. It seemed unlikely that he would ever become an asset to our medical section. My impulse at that moment was to sign him out as a combat fatigue and send him to the rear...but second thoughts ruled out this simple solution and the morale of the whole group had to be considered. After all, De Wolfe had yet to serve any front line duty. Many of his comrades, who were just as frightened as he, were functioning well under adverse conditions. If De Wolfe were sent back now, how many others would elect to follow the same course? So De Wolfe had to go back to H Company."

While going through the cemetery, after the campaign was over, Dr. Vedder chanced upon a grave marked with the name De Wolfe. He recalled how hard he had worked to persuade De Wolfe to overlook his fears. He knew that in his last days he had been an asset to the medical section serving his fellow men and felt certain that his mother and family would have been proud of him.

"A feeling of acute depression engulfed me as I walked out of the cemetery. I wondered if the price paid was really worth it. As I slowly headed back towards my jeep, one of the frequently used war slogans came to mind. 'Our Marines were willingly laying down their lives for their country'. This statement was sheer nonsense for the overwhelming majority of the men felt that they would be spared, and that it would be the next guy that would get killed or wounded. They had no intention of laying down their lives for their country or anything else. Each man believed he would be one of the lucky ones to return home. Those that lost or never did have this feeling of invulnerability would sooner or later crack up."⁴⁷(pp198,199)

Comment: The psychological toll of combat will also be paid by medical personnel. These vignettes are particularly illustrative of that principle in the context of an amphibious assault against a motivated enemy.

During the Persian Gulf War reported psychiatric casualties were low in U.S. Marine Corps units. A classic amphibious assault did not take place although the threat of one riveted Iraqi attention.

The 2d Marine Division psychiatrist was located forward with the division headquarters and saw 25 referrals. He was able to return 22 of them to duty at the front. The 1st Marine Division Psychiatrist was able to personally educate over 7,000 personnel about combat stress and its management before the war started.⁴⁸

Once again, reason to not forget about medical department personnel in planning for casualties was seen—particularly mental health personnel. One division psychiatrist developed disabling post-traumatic stress disorder on the first anniversary of the ground war. Interestingly, half of the mental health officers assigned to U.S. Marine Corps units in the first few months of the operation were returned to the continental United States before the ground war began—including one who was deployed while on antidepressant medication.

Medical Organization and Planning

Medical assets within Marine Corps Forces include organic support for all combat and combat-support organizations of battalion/squadron size or larger. At the battalion level each Infantry Battalion has organic medical assets that consist of two medical officers and 65 hospital corpsmen during combat. The Battalion Surgeon is a special staff officer. Within the battalion, a medical team of 11 corpsmen is assigned to operate with each rifle company in combat. The division medical section consists of a division surgeon, an administrative officer, an environmental health officer, and a psychiatrist. There are at present no specifically delineated duties for the psychiatrist who acts as an advisor and assistant to the division surgeon.

The division surgeon performs general duties under the cognizance of the G-4 (Assistant Chief of Staff [Logistics]) with respect to medical matters. Responsibilities include planning and supervising treatment and evacuation. The division psychiatrist must advise the division surgeon in these matters as they relate to psychiatric casualties.

Corresponding to the division surgeon are the wing surgeon for the Marine Air Wing and the group surgeon for the Fleet Services Support Group. Within the Fleet Service Support Group there is a medical battalion designed to provide second echelon (Echelon 2) support.

A medical estimate is prepared by the landing force surgeon and his staff and is intended to be a logical comparison of the medical requirements of each course of action. Casualty estimates are the

doctrinal responsibility of the G-1 (Assistant Chief of Staff [Personnel]). Without this estimate, including numbers of psychiatric casualties, planning will be inadequate. The planner should be aware of the possibility of such casualties and outline courses of action with the division psychiatrist.

There must be close cooperation between the landing force surgeon and the amphibious task force surgeon on D-Day of an operation. Units will go ashore with their organic medical support. Handling of combat fatigue or combat stress reactions by personnel organic to the combat units going ashore would be optimal. Once ashore, evacuations rearward will usually be to a battalion aid station after triage by corpsmen working at the company level. Further to the rear, as time goes on, will be a beach evacuation station or Echelon 2 collecting and clearing company. These are points where combat fatigue or combat stress casualties can be pooled. The logistics of amphibious operations are such that it must be remembered that evacuation may bypass a lower echelon and end up at a much higher echelon—possibly at sea.

Those ships taking part in an amphibious operation have medical treatment capability as well. Amphibious assault ships include the LHA (landing ship, helicopter, assault) which resembles an aircraft carrier and is capable of transporting approximately 1,900 troops with the vehicles required to land them. They are normally designated as primary casualty receiving and treatment ships (PCRTS) in an amphibious operation. They have the largest medical capability of any ship currently in commission with medical spaces including two major and two minor operating rooms, 60 hospital beds, including an intensive care area and 225 to 230 overflow beds. It is possible for the LHA to be augmented with support personnel and the potential of receiving psychiatric casualties on these ships could be considered during the planning phase.

An LPH (landing ship, platform, helicopter) is designed to transport a battalion landing team utilizing vertical assault capability. They can carry about 900 to 1,000 troops and the medical spaces are limited to about 90 beds. They are not practical for use as primary casualty receiving treatment ships (PCRTS) although it is possible to use them in this capacity by using troop spaces as operating rooms and wards. They can be used as secondary casualty receiving treatment ships (SCRTS) and might be considered for psychiatric casualties. The medical department would require augmentation or training for such treatment.

Other ships [known as "L" class ships for their "landing ship" designator letters] have more limited medical capability such as Dock Landing Ships (LSD), Amphibious Cargo Ships (LKA), Tank Landing Ships (LST), and Amphibious Command Ships (LCC).

Currently there is no specific U.S. Navy doctrine that details the handling of combat stress reaction or psychiatric casualties. Such casualties will only be considered if included in the medical mission statement.

During the Persian Gulf War, The Medical Officer of the Marine Corps, Rear Admiral Dick Ridenour, himself a psychiatrist, requested that the author consult with the U.S. Marine Corps forces in theater on the handling of combat stress casualties as there were conflicting reports on requirements coming from different sources in theater.

There were several organizational problems encountered. One of the foremost was a senior staff surgeon who reported that he did not believe in the concept of stress casualties and did not like the fact that additional resources had been sent into theater to handle them despite his not requesting them. The second was fragmentation of command and control for medical services such that a "system" that would have to cross unit and echelon of care boundaries was next to impossible to coordinate because of a third

problem, which was lack of doctrine.

Those additional mental health assets sent into the theater through the intervention of Rear Admiral Ridenour were nevertheless in place in four combat stress centers arrayed across the front at the beginning of the ground war. The four centers were under separate commands and had markedly differing philosophies for treatment based on preferences of the senior mental health officer assigned. Each had the capacity to handle 45 patients.

There was also difficulty coordinating requirements for treatment with the U.S. Navy who controlled the echelon 3 Fleet Hospital assets. Thus, mental health officers at each unit were essentially deciding what treatment mission they would perform without coordination. Despite these problems the tremendous dedication and talent of the U.S. Naval mental health personnel assigned, and sometimes their ingenuity in working around the organizational problems, resulted in successful performance of the mission. An interesting side-light is that each psychiatrist involved in the Persian Gulf War was furnished drafts of five chapters of this volume, delineating combat psychiatry principles, by their respective surgeon general psychiatry consultants.

CARE OF CASUALTIES

History of Hospital Ship Operations

Spain appears to have been the first of modern nations to utilize the tactical advantages of hospital ships sailing with their fleet during the Armada. The British began using hospital ships sometime after an experience in 1626 when many men became sick and were distributed to the whole fleet, two to each ship, by which means, "the sickness was increased to such a degree that were scarce hands enough to carry the fleet home." The French toward the end of the 17th Century recommended that 100-bed hospital ships, devoted exclusively to the care of the sick and disabled be attached to the French Fleet in proportion of one hospital ship to every 10 ships of the line.

A real history of the modern hospital ship begins about the middle of the 19th Century when, during the Crimean War in 1854, England employed a fleet of transports to convey home the sick and wounded. In some 22 months over 100,000 patients were transferred home.

There is no record of the existence of hospital ships in the U.S. Navy prior to the outbreak of the Civil War when extensive use was made of hospital ships by the Federal forces operating on the Mississippi River. Also isolation ships made from former river barges were in use for smallpox patients.

The U.S. Navy's first hospital ship was the *Red Rover*, which was a side-wheeler that Union forces had captured from the Confederacy and converted to a hospital ship. The U.S. Navy's first volunteer nurses served aboard the *Red Rover*. Hospital ships were also used in the Spanish-American War and World War I. At the end of World War II, there were 12 hospital ships in the U.S. Navy. During the Vietnam conflict, two hospital ships, the *USS Repose* and the *USS Sanctuary*, were used offshore.

Lieutenant Commander Strange was aboard the *USS Repose* in 1966 off the coast of Vietnam.⁴⁹ The *Repose* had 500 beds, 48 of which constituted the psychiatric unit. The staff consisted of one psychiatrist, one psychiatric nurse, and nine hospital corps-

men. It was an open unlocked unit; patients were allowed freedom of movement aboard the ship commensurate with their degree of illness and responsibility. Patient census fluctuated greatly between 12 and 35. Stays ranged from overnight to 60 days or more.⁴⁹

Mean length of inpatient care was 13.5 days. During that 7 months period, the *Repose* steamed in a scheduled pattern and received patients sent from major hospitals ashore at which time it functioned as a third echelon of treatment. Frequently, however, the ship furnished direct combat support with casualties being evacuated directly from medical units in the field with no previous specialty evaluation, placing the *Repose* in the role of second-echelon treatment.⁴⁹

This fluctuation of echelons of care, depending on how a patient is evacuated, can certainly be expected in future operations. The availability of any medical support towards which helicopter or small craft evacuation is occurring can certainly bring casualties immediately to the hospital ship. During Lieutenant Commander Strange's tour, 143 psychiatric patients were seen with 54% referred to the ship by psychiatrists and 46% arriving aboard ship with no initial psychiatric contact elsewhere. Out of the patients, 67% were classified as character and behavior disorders, 20% psychoneurotic, and 13% as psychotic.^{49(p37)}

The U.S. Navy today has two hospital ships, USNS *Mercy* and USNS *Comfort*. They are designed as 1,000-bed medical treatment facilities and have a psychiatrist assigned as a member of the medical treatment facility. During the Persian Gulf War each had a psychiatric ward prepared that could have handled 50 to 100 patients.

Rear Admiral H. James T. Sears, a psychiatrist, was assigned to the USS *Repose* early in his military career. He still recalls the formative influence of that tour on his decision to stay in the U.S. Navy.⁵⁰ He remembered the psychiatrist was often used as a triage officer when necessary. He also recalled the tremendous stress experienced by the crew of the hospital ship and the necessity of remembering to "care for the caregivers."

Rear Admiral Frances T. Shea, former head of the U.S. Navy Nurse Corps, served a tour as the Operating Room supervisor aboard the *Repose*.⁵¹ She recalled that when adjusting to the initial shock of caring for casualties, people are not prepared for the catastrophic casualties that will come to the operating room. When her tour was up and she returned stateside, she felt guilty—that she didn't

do enough, didn't care enough, that she left her shipmates and patients behind. She realized after returning to hospital work that she still couldn't talk to patients, particularly if she knew that they might die. That feeling went on for years compounding her guilt.

She found that the role of the nurse as comforter, consoler, and sympathetic listener heightened the stress she had already been experiencing. For her, understanding and admitting that she had been under great stress was therapeutic. She now relates that she has no difficulty visiting patients and can talk openly about experiences that were painful.⁵¹

In planning for future hospital ship operations, the tremendous stress of caring for casualties in a 1,000-bed medical facility should be considered and staff psychiatric support should be added to the mission. Some of this same emotional toll will be borne by psychiatrists. Perhaps it would be best that no psychiatrist be assigned in echelon 3 facilities without other mental health support.

Psychiatric Care of the Combat Injured

The combat wounded have psychiatric needs that must be addressed.⁵² When someone is injured, their sense of personal invulnerability has been breached and they may become extremely reliant upon medical personnel for reassurance. Such reassurance can be of immense aid to those who have sustained minor injuries and it is essential for those who have major injuries. It is noteworthy that casualties may become anxious at each step of the evacuation chain. Many feel that the personnel where they are have kept them alive and they do not want to leave.

Traditionally, medical staff gather historical information about the injury itself but do not talk to the patients about their emotional reaction to the injury. Medical staff have their own need for denial about the carnage that they see and may rationalize not discussing injuries with patients on the basis that "They have suffered enough; they do not need to talk about it any more." At stateside medical facilities many medical staff will have their own fantasies about what the combat experience was like. Working with those staff in an educational way can be helpful.

Patients are more than willing to recount their experiences. They are primarily young and may be placed into semiprivate, if not private, rooms which can be equated with "good care." They tend to do better, however, in more open environments where

they can see and support each other. Group therapy time can be built into ward schedules if the injured are grouped together in a specific ward environment. A group “debriefing” format can be most helpful. A strong need of the patients is to find out what happened to friends. There is usually much time spent trying to reconstruct what was happening at the time that they were injured. In facilitating the grief of these patients, particularly those who may have lost shipmates, a memorial service of some sort is essential.

Hospitals may be visited by dignitaries, family members, and the press, creating many time demands upon the injured. The families of those most severely injured may feel that the patient would be “better off dead.” As time progresses, and they become used to the disability, those families often do not remember this initial reaction. Confronting that reaction is not helpful but providing education and structured experiences where they can help the patient in some meaningful way is. Some patients may consolidate their symptomatology into a classic post-traumatic stress disorder from some time about 6 weeks after injury and on.

Unusual situations can occur in the treatment of the combat injured. Care of the enemy injured and noncombatants may arouse different emotional responses in medical personnel. Injuries in combat may be self-inflicted. The psychiatric needs of those personnel may be unique. One suspected case of a self-inflicted injury, a U.S. Marine who was medically evacuated from Grenada, resulted in the patient ultimately being transferred to a psychiatric ward with what appeared to be a brief reactive psychosis. His behavior included reporting an atrocity (which he had not committed) to nursing staff, seclusion in his room, not eating, and hoarding his bandages. Interestingly, his treatment team consisted entirely of women including the mental health professional and a chaplain. Even though the other casualties suspected that he had a self-inflicted injury, this was never mentioned by the group members in therapy.

Experience shows that female therapists are accepted by male casualties and it appears they can reassure the male wounded about social acceptability better than male therapists can. One specific concern reported on clinical checklists is anxiety about sexual functioning.

There is no specific planning for the allocation of psychiatric resources to care for the needs of the combat injured. It was the author’s experience that caring for 25 such casualties from Grenada and

Beirut at the National Naval Medical Center consumed an immense amount of resources for approximately 45 days. The psychiatric consultant may be limited to liaison work with other medical staff in helping these patients.⁵²

When examining the Grenada and Beirut casualties, some parallels and differences were found.⁵³ Both groups tried to reconstruct their experiences but they used different approaches. Casualties from Grenada were able to recall incidents with each other in reconstructing their experiences; however, those from Beirut, having been injured while asleep, had no ability to reconstruct. They felt initially that they didn’t know what happened and then read about it as they would have about somebody else. They spent time talking to other casualties about where they were in the building and where they ended up: “How were you blown up?” This appeared to be a more passive reconstruction of events than that carried on by the casualties from Grenada.

There were sleep differences reported on symptom checklists. In group treatment, the Grenada patients who had problems with dreams reported nightmares about killing, thinking of dead bodies, touching dead bodies, and killing people. Those who were casualties from Beirut, where the headquarters had been blown up, had more problems with sleep initiation because they were fearful of returning to sleep. They would sometimes “play possum” and act as if they were sleeping to the nursing staff but not sleep. This was confounded by the fact that they had crossed several time zones.⁵³

The casualties from Grenada had less survivor guilt at the time than the Beirut casualties. Beirut casualties already manifested survivor guilt. Group goals were different. The U.S. Marines who had been in Grenada wanted to get back to their units immediately as their units were going to Beirut. They had high morale and wanted to rejoin their units. The Beirut casualties primarily wanted to go home. Parenthetically, once they got home, they wanted to get away from home.⁵³

The Grenadan casualties were more embarrassed by public attention. They did not want it or seek it out; they appeared to be comparing themselves with the Beirut casualties in the sense that they were only in combat for a day or a few hours and that the other casualties had been many months in Beirut. The Beirut casualties while in the hospital responded more positively to attention. When they went home and were afforded honors such as parades, they had great difficulty in tolerating that attention.⁵³

SPECIAL PSYCHIATRIC RAPID INTERVENTION TEAM

History

Separate from the sequelae of stress in combat, psychiatrists in the U.S. Navy have long noted that there are psychiatric responses to disasters that affect sailors and marines long after the trauma itself. Often, personnel referred for evaluation with emotional or behavioral problems do not connect their problems or the onset of difficulties with a disaster they may have survived.

Disasters at sea are not uncommon nor are deaths due to operationally related training or other activities ashore. In November of 1975, the USS *Belknap* and the USS *Kennedy* collided, resulting in many deaths and extensive damage to the USS *Belknap*. Afterwards, the USS *Belknap* was towed to the Philadelphia Naval Shipyard with a portion of its crew, many of whom subsequently had outpatient psychiatric evaluations at the Philadelphia Naval Hospital. They had symptoms such as depression, sleepiness, poor concentration, and intrusive thoughts about the accident. These symptoms were noted to persist despite treatment. This was seen again after that psychiatry department moved to the Portsmouth Naval Hospital which was near the USS *Belknap's* home port.⁵⁴

In January of 1977, a liberty launch collision in Barcelona Harbor in Spain resulted in some survivors who had long-term emotional problems that resulted in medical board action, early discharge, or psychiatric hospitalization. At that time, the staff at Portsmouth Naval Hospital felt that these problems appeared similar to those that were combat related. They formulated a clinical hypothesis that use of the same techniques proved in the combat setting might be useful in preventing or minimizing adverse psychiatric sequelae in disaster victims.

The first opportunity to test this hypothesis was in October of 1978 when a collision sank the USCGC *Cuyahoga* in the Chesapeake Bay offshore from Maryland. The U.S. Coast Guard requested that a team of mental health professionals work with the survivors. This occurred after the team leader had contacted them and informed them of the team's availability. That team saw themselves as following the basic combat psychiatry principles of immediacy, proximity, and expectancy in that the intervention was provided rapidly at the home port of the USCGC *Cuyahoga* with the 18 survivors. Furthermore, group cohesion and early return to duty were strongly encouraged.⁵⁵

Preliminary clinical observations suggested that the intervention was successful and that survivors "appeared to be in much better physical and emotional health than would be expected based on the available literature on disaster victims." The special psychiatric rapid intervention team (SPRINT) concept was thus initially validated and the capability and need for a rapid contingency response was ultimately recognized. In February of 1983 SPRINT became one of the U.S. Navy's Mobile Medical Augmentation Readiness Teams (MMART).

Organization and Mission

These contingency response teams are located at U.S. Navy hospitals at Portsmouth, Virginia; San Diego, California; and Bethesda, Maryland. The composition of a full SPRINT is two psychiatrists, a clinical psychologist, a chaplain, a psychiatric nurse, and four corpsmen (neuropsychiatric technicians). They are required to be trained and immediately available in the event of a contingency, be it combat or disaster. There is no specific doctrine as to intervention methodology.

After-action reports and interviews after some 13 SPRINT deployments resulted in recurring observations.⁵⁴ A period of receptivity lasts about 24 to 72 hours after the initial tragedy. Anger is commonly expressed and is directed at any convenient focus such as lack of training, inanimate objects, adverse weather, and personnel up and down the chain of command. Loss of ships has special meaning for the survivors who lose not only shipmates but their unit identification, place of work, personal belongings, and abode. In those cases, salvaging part of the ship as a memorial is found to be beneficial. Team members dealt with survivor guilt, bereavement, and issues of death. Survivor guilt analogues were also seen in wives who felt guilty that their husbands had survived and were concerned about how to deal with the wives of the deceased in their community. There has also been a persistent denial of death by spouses when bodies recovered are not recognizable. Speculation, misunderstanding, and rumors tend to make all situations worse and disseminating accurate information is often essential prior to any resolution of symptoms.

Intervention Techniques

Successful interventions have had some common technical components. These involve the planning

and training of team members; the notification process; arrangements for deployment and travel; and the structure of the intervention.

Planning and Training Phase

Team members must be selected, trained, and given an opportunity to work with each other. Given that the best training is that which is most realistic, they must train in environments similar to those where they will be expected to work. As they may have to go to sea, they need to have the skills that others expected to go to sea must have, such as fire fighting, and disaster control. They must be prepared to deploy within 24 hours of notification and will often be expected to leave sooner. This entails some detailed logistical preparation. Realistic training can also be seen as “service” when a team responds to incidents other than “disasters.” This might include situations such as a suicide at a local command. They may also participate in disaster planning at local commands and may form liaisons in the community through such services as the provision of suicide prevention and stress management lectures. Through these activities, team members can develop a necessary attitudinal shift towards prevention rather than reaction to already developed pathology. A team without such a philosophy will seldom be requested. The team can also learn the useful “consultant’s stance” as an appropriate approach to interventions of any size.

Notification Phase

At some point in time, team members will be notified that they are in an alert status to respond to a disaster or will hear through official or unofficial channels about a disaster. It is during this phase that some “systems” knowledge related to U.S. Navy organization is most helpful. After a large-scale disaster, the U.S. Navy community, particularly at higher echelons, is now sophisticated and understands the need for response teams. They conceive of such a team as being able to handle acute problems but do not often see the team in terms of prevention. Thus, liaison is needed with the appropriate commanders’ staff, usually a staff surgeon or senior medical officer, to explain what assistance is available or has the potential to be most helpful. If the disaster has occurred at sea, the primary planning priority would be assistance to the crew of the casualty. A second planning priority would be aid ashore for families of victims and

survivors. A third planning priority is ashore in support of the surviving injured who would be evacuated to local hospitals. The Bureau of Medicine and Surgery, Operational Readiness Division, is charged with ensuring execution of MMART, including SPRINT, deployments. (Some disaster responses may be handled by teams within local areas without activation; and, as long as they do not degrade SPRINT capability, they are usually considered a local command issue.)

This is the period of time during which the Specialty Advisor for Psychiatry and the officer in charge of the SPRINT can coordinate with line medical staff to ascertain preliminary data in order to plan the most effective intervention possible given resource, transportation, berthing, and other constraints. Liaison can also be initiated with local family service centers as well as hospital commanders where the injured may be evacuated.

Past experience indicates that the primary intervention sites will be with the crew, either at sea or in home port with the home port being an additional site for aid in the support of families. It is also necessary during this period to transfer patient care responsibilities of deploying team members safely and expeditiously. In those situations in which an entire SPRINT is not deployed, careful consideration must be given to which team members will be deployed.

For those teams that must operate somewhat independently, it is crucial that there be team members with professional and operational experience. Which professional disciplines are required for team makeup can create delicate questions. Everyone usually wants to go.

Deployment and Travel Phase

Some teams must travel to an intervention site away from their home port. Deployments are often on short notice and may require travel to sites where passports are needed. Loss of sleep and attendant fatigue can be degrading factors for team effectiveness once on site. Logistical coordination for berthing and local transportation can be time-consuming so that identification of points of contact prior to team departure can aid immensely.

From the time of departure until arrival at an intervention site there is rarely any new information available to team members so that the information they have when they depart will be dated by the time of their arrival. Some flexibility must be given to the officer-in-charge of the team for planning purposes. This also requires that the officer-

in-charge have demonstrated flexibility in fluid situations. A team that travels with fewer members usually travels with greater ease.

In several recent interventions at sea, the team has been composed of three members. These “designer teams” have proved highly effective. They must utilize a triage system or prioritization of care once aboard ship. The officer-in-charge can usefully conceive team functioning in a utilitarian manner by trying to provide the greatest good for the greatest number of personnel as well as consulting to the unit itself. The mission that the team leader has as a goal is a limited one in attempting to restore the status quo ante as much as possible.

Intervention Phase

Interventions with military units should begin as soon as possible after arrival. The officer-in-charge must brief the commanding officer, executive officer, and senior medical officer as to team mission, capabilities, and intervention methodology. At this time the “consultant’s stance” is most helpful. This allows the SPRINT members to handle the question, “Who do you work for?” by responding that they work for the commanding officer of the ship or unit. This will usually alleviate some anxiety as almost all disasters are associated with official investigations. All “outsiders” will be viewed with initial suspicion.

The concept of a “trauma membrane” surrounding the disaster victims and bonding them together is useful. Team members who come from a cultural background similar to those of the trauma victims can foster identification between the group victims and the SPRINT. With such identification, victims have an initial trust in those “there to help them” that helps separate the SPRINT members from investigators or other “outsiders.”

This initial phase is also crucial in beginning to debrief the command structure of the ship. The “consultant’s stance” has the team “learn” about what happened to the ship or unit. The team while doing this can, in essence, model for the commanding officer how the intervention will work.

Team members must also meet with members of the wardroom, which consists of all the commissioned officers aboard ship, as well as the Chief Petty Officer’s Mess which consists of the senior enlisted leadership aboard ship. These groups will have the most information available and the team can begin to assess how much of that information is accurate and up to date. Such assessment is crucial and one of the first interventions that may be rec-

ommended is the dissemination of as much information to as many people as possible. This is helpful for two primary reasons: (1) rumor is always rampant and rumor may serve many separate functions in a unit—accurate information can lessen some destructive agendas; and (2) one of the initial steps in dealing with such trauma is the need for the victim to place himself in some context.

After meeting with these initial groups during which time the debriefing technique described below has been used, the team must integrate itself into the organizational structure of the unit in some way and begin further triage and intervention. If there is a medical department aboard ship, this provides a natural organizational placement for the intervention as well as clearly identifying the mission as a medical one. Triage is ongoing and gathering information from the leadership and medical department aboard ship will help in the initial identification process. Some individuals who are either dysfunctional or are considered by the crew as having suffered sufficient stressors that they should be dysfunctional are usually first identified through this process. These individuals can be provided individual assessment and treatment as necessary including recommendation for medical evacuation if indicated, although this would usually be the last resort as recovery could be expected to be most facilitated aboard ship, among shipmates and crew. It must be remembered that symptomatology for most individuals would be most acute immediately following the trauma.

The second triage task is to identify “at risk” individuals and groups. These are usually those individuals who were most intimately involved with the trauma. The first subset is those who were in danger of dying at the time of the initial trauma or who knew the casualties. A second “at risk” subset is those who were in danger during damage control or fire-fighting operations in the immediate post-trauma period. A third “at risk” group is those who handled bodies, body parts, or the more severely wounded. This last group must include the medical department personnel. These “at risk” groups should usually have a group intervention. Such groups are most effective if there are about 25 or less people in a group. Such groups should be planned to fall within the organizational structure of the ship so that people within similar divisions debrief together.

Those identified “at risk” individuals and groups as well as the wardroom and Chief Petty Officer’s Mess would normally be provided with a debriefing. Evolution of this technique has stemmed from

observations that there appear to be specific needs that can be addressed efficiently.

Techniques utilized successfully have included three basic components: the first component is cognitive or informational, the second component is related to identifying, experiencing, and validating emotions, and the third component is "educational" in nature.

Disasters are, in some respects, not much different from combat and, as S.L.A. Marshall⁵⁶ noted, those who participate in a combat action are likely to be confused by the events that took place. Marshall's interviews after combat with all members of a group who participated in an action were aimed at getting the "facts." His caveat that an interviewer must remember that he or she is not conducting a critique, takes part in no tactical debate, does not become personal or emotional, and avoids any reflection on any individual as he would the plague, is sound advice today. Through such reconstruction of events, cognitive errors and distortions can be corrected by the group and the individual can place himself or herself in a larger context.

The phase of the intervention dealing with emotions is more familiar to mental health professionals and usually coexists in part with the phase dealing with cognition. The debriefer must be ready to deal with emotional responses including anger. Generally, participants have a cognitive construct that they should not have experienced feelings or that they should be able to deal with their feelings without discussion with their shipmates. As individuals describe their emotional reactions or begin to experience emotional reactions during the session, other participants will identify with these reactions. It is important to validate and acknowledge their feelings. If there is any one crucial component of the intervention, it is in getting the message across that these are normal human reactions to extremely abnormal events.

In the "educational or teaching phase," material is presented that should aid the individual in current and future adaptation. Such information may include what the usual responses to overwhelmingly abnormal events are, what sort of symptom time course individuals can expect, and adaptive means of coping with symptoms. How to deal with families and children are always important questions for survivors. Caution should be exercised to some degree in description of potential sequelae which can become a suggestion that such sequelae will occur. An appropriate suggestion would be that acute symptomatology is normal and time limited.

A debriefing format, adapted from those developed by Marshall⁵⁶ for conducting interviews after combat and by Mitchell,⁵⁷ for Critical Incident Stress Debriefing, is shown in Exhibit 9-1. Utilization of this technique with those groups and individuals identified as being "at risk" also allows ongoing triage of individuals by the team. By dealing with groups from the same divisions within the ship, the team fosters bonding in the division amongst shipmates. The attitude of expectancy of recovery and return to the prior level of functioning is crucial to the success of this technique.

Another critical part of dealing with the aftermath of disaster is a memorial service. Such memorial services allow the team to "point" towards some concrete event and facilitate grief reactions. The military has great strengths in its rituals for handling such memorial services. Liaison with the pastoral care department can be most helpful. Usually such memorial services will be held ashore with families. Occasionally, they will be at sea or overseas. SPRINT members are invariably invited to participate in these ceremonies with the crew with whom they have bonded.

Termination with the crew needs to be considered. Interventions last for varying periods of time depending upon circumstances. It is a matter of judgment as to when to terminate the intervention. A good key is when crew members begin to talk about difficulties they had prior to the trauma. Too lengthy an intervention could be counterproductive. When a ship is ashore, ongoing liaison with gradual termination can be maintained through liaison with the medical department.

Interventions with U.S. Navy families must be considered. Past experience in this area has led the U.S. Navy to develop guidelines for commanders ashore in responding to these disasters. SPRINT members can provide a consulting role to activities tasked with providing services. SPRINT members can successfully advise the local base commander, through staff, on areas of intervention. The team can also coordinate with Family Service Centers as consultants and for the provision of individual services, when necessary.

Debriefing groups similar to those above have been used successfully with families as well as with staff at crisis centers on base. A common question is what to expect from spouses returning from sea. Training for casualty assistance calls officers (CACOs) is indicated.

Other anticipated problem areas will realistically include information flow. There are always expectations that more information will be available

EXHIBIT 9-1

PREPARING FOR AND CONDUCTING DEBRIEFINGS

Preparation

1. The debriefer should read everything available on the incident.
2. During this phase, the debriefer should identify the group, notify them, get space, arrive early, set up the room, meet the people to be debriefed, and talk informally with them. The debriefer should also listen for information and cues related to the incident.

Debriefing

1. Introductory Phase
 - a. This phase should be controlled, slow, and designed to motivate participation by each member of the group.
 - b. This phase is conducted by the team leader. Other team leaders are not identified at this time.
 - c. The team leader introduces himself or herself, discusses why he or she is qualified to do a debriefing, discusses confidentiality, and emphasizes that discussions are designed to help them or others like them.
2. Fact Phase
 - a. This is the transition between the introductory phase and the reaction phase.
 - b. The debriefer should ask participants to go around the room to give the following information (and note that this is the only time in debriefing they will have to speak up and they do have the right to pass):
 - who they are,
 - their role at the event, and
 - their perspective of what happened to them at the event.
 - c. Other team members are interspersed in the circle. Their introductions of themselves can help participants maintain emotional control by periodically deescalating the rising tension in the room as their turn comes up for introduction while the event is discussed.
 - d. During this phase the participants are guided in cognitively thinking about the facts and allowed to internalize them.
 - e. Because thoughts are easier to discuss than feelings, this phase allows participants to feel more secure in dealing with the feelings that they are experiencing.
3. Reaction Phase
 - a. During this phase reactions are sought more than just feelings.
 - b. If a participant should cry, the debriefer acknowledges, validates, and moves on to the next person.
 - c. Each participant is encouraged to talk about his or her own issues, not the overall operation and not other issues.
 - d. This phase is usually very intense with a great deal of anger.
 - e. This phase usually lasts 45 minutes to one hour.
4. Signs and Symptoms Phase
 - a. There is some natural movement from the reaction phase into this phase.
 - b. The debriefer asks questions such as, "How did you know your reaction was different than usual?"
 - c. The purpose of this phase is to help participants identify symptoms within the four categories of physiological, cognitive, emotional, and behavioral, at the scene, later at home, and at the time of the debriefing.
5. Teaching Phase
 - a. Incident-specific material is provided to the group.
 - b. This phase is usually lengthy.
 - c. Examples of material presented include how to deal with the spouse, children, stress reactions, grief, what to expect in the future in terms of feelings and thoughts about the event that might occur.
 - d. This is not an appropriate time to teach stress management techniques such as deep relaxation or meditation.
6. Reentry Phase
 - a. The atmosphere of the group now comes back around to normal.
 - b. Debriefing should close when it seems natural.

sooner than is realistic. What people want appears to be information. Once the information related to casualty lists is known, emotion can escalate quite rapidly. Medically unstable cases can be expected because great stress can exacerbate already existing medical conditions. Examples include pregnant women or someone with a history of seizure disorder who begins hyperventilating. Medical assistance should therefore be available.

Before groups are notified of casualty lists, individuals are under great stress, extremely vigilant, and aware of any changes. It is therefore difficult, if not impossible, to unobtrusively locate and notify someone in such a group of the death of a loved one. Acute emotional reactions are not something with which crisis center workers, other than clinicians, necessarily have familiarity. Anger is an emotion known to accompany loss and can be expected. It may also be directed at authority figures. There are individuals who will be missed by usual methods of notification as they would not be listed in service records. A pregnant fiancée of a casualty, for instance, would not usually be known to assistance officers as someone who should be notified. This person may show up at a crisis center. The amount of mental health services demanded in these situations can be overwhelming and as many resources as possible will sometimes need to be mobilized.

Debriefing for the team members themselves is necessary. During the intervention, team members must debrief each other on an ongoing basis. Work days are seldom shorter than 20 hours during the acute phase of an intervention and fatigue rapidly sets in. The team also identifies strongly with the crew and must undergo their own emotional reaction. A more formal debriefing of the team members is most effectively performed after return to home port.

One phenomenon that team members have learned to expect is the feeling of others in their departments that they “left them behind” and that the assignment is perceived as “glamorous” while others must pick up the duties they have left behind. The team must reintegrate into the department. After-action reports from the team facilitate any changes that may be necessary and pass on lessons learned in a recorded format to future teams.

The media usually has intense interest in disasters. SPRINT members must realize that what the media seem to seek is a “human interest” story that

will allow them to provide responses of “real people.” Media requests are time consuming and may have potential for negative outcomes. They also provide great opportunity for public education about disaster response in general as well as dissemination of information to those who may be affected by the disaster. Interviewees should be aware that sensitive questions relating to policy may be raised. Public affairs officers can be helpful in preparing for such questions.

For those memorial services at which the President or other high ranking persons may be present, the Secret Service, whose mission is the protection of the President, may make inquiry about whether any individuals “debriefed” have made threats against the President’s life. None have been encountered to date. The Secret Service may also request assistance should support be necessary for family members during a memorial service.

Outcomes of past SPRINT interventions have been generally determined to be successful based on broad criteria. There is a paucity of data as to outcome. An intervention with survivors of a fire aboard the submarine USS *Bonefish*⁵⁸ resulted in a 1-year outcome of no psychiatric medical board action; no disqualifications for submarine service, either voluntary or involuntary; no naval service attrition through a less than expected retention rate; and one individual known to be under psychiatric treatment. Outcome as judged by unit effectiveness could be judged by the record of the USS *Iowa* which deployed on a Mediterranean cruise and successfully completed that cruise, including contingency operations. The USS *Iowa* deployed some 2 months after the tragedy aboard and subsequent intervention. A similar outcome was experienced with the USS *Lexington* in November 1989 after a crash aboard the flight deck. The ship returned to its usual duties in a brief period of time after the intervention. The success of outcomes can, of course, not be attributed solely to SPRINT intervention, but must reflect directly on the commanding officers and crews of those particular vessels.

The SPRINT concept and techniques will continue to evolve as has U.S. Naval psychiatry. Applications to the many unique U.S. Naval subcultures and to the constantly changing world will be a challenge that will be met by U.S. Navy psychiatrists and mental health clinicians as they have met the challenges of the past.

SUMMARY AND CONCLUSION

Although the U.S. Navy has unique combat roles, the principles of combat psychiatry derived from World War I and World War II ground combat have found applicability in maritime combat. For combat stress breakdown, restoration of physiological deficits (rest, sleep, nutrition) in an atmosphere of expectation of return to duty and avoidance of evacuation usually suffices to restore the casualty to duty. Maintaining cohesive forces through good leadership while living and working together with shared hardships and dangers helps prevent breakdown in sailors and marines just as it does in soldiers.

There are unique "cultural" aspects to naval service. Some aspects of naval life prevent or promote psychiatric breakdown. Shipboard life reduces the potential for evacuation during combat and may account for lower rates of psychiatric casualties. Long separations from families during deployments in both peacetime and wartime result in increased social stress less often encountered in other services. Prolonged close living in small vessels, par-

ticularly submarines and amphibious transports, can exacerbate minor irritants into major confrontations.

Through experience, the modern U.S. Navy through methods of personnel selection, critical incident debriefing following disasters, and refined leadership has become an efficient force with minimal psychiatric casualties.

Modern naval forces are comprised of volunteers who meet rigorous entrance standards and are further screened psychologically for specific assignments, such as submarine service, before assignment. Naval personnel may be assigned combatant duties in surface, undersea, aviation, or ground combat environments, each of which presents a unique "cultural" milieu, requiring adaptation of the general principles of combat psychiatry. There is also some "plasticity" in the presentation of symptoms between these milieus. Through the use of rapid intervention teams in disasters and combat, naval services have been in the forefront of current paradigms of treatment and prevention.

REFERENCES

1. Duncan T, Stout M. *War Surgery and Medicine: Official History of New Zealand in the Second World War 1938–45*. Wellington, New Zealand: RE Owen; 1954.
2. Beach EL. *Submarine*. New York: Zebra Books; 1990.
3. Steyn RW. Retrospections: A system of nautical psychiatry through World War II. *Milit Med*. 1980;June:407–412.
4. White WA. Cited by: Steyn RW. Retrospections: A system of nautical psychiatry through World War II. *Milit Med*. 1980;June:407–412.
5. Braceland FJ. Neurosis and the war. *Proceedings of the 33rd Annual Meeting of the Medical Section of the American Life Convention*. Chicago, Ill, 22–23 June, 1944.
6. American Psychiatric Association. *Diagnostic and Statistical Manual of Mental Disorders*. (DSM-I). Washington, DC: APA; 1952.
7. Ursano RB, Holloway HC. Military psychiatry. In: Kaplan HI, Sadock BJ, eds. *Companion to Textbook of Psychiatry IV*. Baltimore, Md: Williams & Wilkins; 1985.
8. Gray E. *Submarine Warriors*. Novato, Calif: Presidio Press; 1988.
9. Beach EL. *Run Silent, Run Deep*. Annapolis, Md: Naval Institute Press; 1986.
10. Bughhein LG. *The Boat*. New York: Dell Publishing; March 1988. [Originally published as *DAS BOOT*. Munich, West Germany: R Barr & Co; 1973].
11. Duff IF, Shilling CW. Psychiatric casualties in submarine warfare. *Am J Psychiatry*. 1947;103:607–613.

12. Behnke AR. Psychological and psychiatric reactions in diving and in submarine warfare. *Am J Psychiatry*. 1945;May:720–725.
13. McHarg JF. The mental health of submariners with special reference to 71 cases examined psychiatrically. *J Ment Sci*. 1946;92:343–356.
14. Ninnow EH. Submarine psychiatry. *Arch Env Med*. 1963;6:579–588.
15. Wilken DN. *Significant medical experiences aboard Polaris submarines: A review of 360 patrols during the period 1963–1967*. Naval Submarine Medical Research Laboratory. 1969. Report 460.
16. Satloff A. Psychiatry and the nuclear submarine. *Am J Psychiatry*. 1967;125:547–551.
17. Serxnon JL. An exercise in submarine psychiatry. *Am J Psychiatry*. 1968;125:25–30.
18. Biersner RJ. Mental health of submariners. *Undersea Biomed Res*. 1987;14:75–76.
19. US Department of the Navy. *Manual of the Medical Department*. Washington, DC: Bureau of Medicine and Surgery. NavMed P-117. 1951 [with periodic updates].
20. Ryack BL. *A Computer-Based Diagnostic/Information Patient Management System for Isolated Environments*. Groton, Conn: Naval Undersea Medical Research Laboratory; February 1987. Report NSMRL-1089.
21. Hedlund JL. *Development of Computer-Supported Assessment and Treatment Consultation for Emotional Crises (CATLEC) for a Submarine Environment*. Groton, Conn: Naval Undersea Medical Research Laboratory; March 1986. Report AD-A166588.
22. Margolin S, Kubie LS, et al. Acute emotional disturbances in torpedoed seamen of the Merchant Marine who are continuing at sea. *War Med*. 1943;3:393–408.
23. Deutsch A. Military psychiatry: World War II 1941–1943. In: Hall JK, Zilborg G, Bunker HA, eds. *One Hundred Years of American Psychiatry 1844–1944*. New York: Columbia University Press; 1944.
24. Irving D. *The Destruction of Convoy PQ.17*. New York: Simon & Schuster; 1968.
25. Askevold F. The war sailor syndrome. *Danish Med Bull*. 1980;27(5):220–224.
26. Blain D, Hoch P, Ryan UG. A course in psychological first aid and prevention: A preliminary report. *Am J Psychiatry*. 1944;101:629–634.
27. Beach EL. *The United States Navy: 200 Years*. New York: Hout; 1986.
28. Stimson HL as cited in Beach EL. *The United States Navy: 200 Years*. New York: Hout; 1986.
29. Polmer N, Allon TB. *Rickover*. New York: Simon and Schuster; 1982.
30. O’Connell MR. The Falklands experience 1982. In: Manglesdorf AD, King JM, O’Brien DE, eds. *Proceedings of the Fourth Annual User’s Workshop on Combat Stress*, Consultation Report 85-002. Fort Sam Houston, Tex: US Army Health Services Command; 1985: 138–146.
31. O’Connell MR. Personal Communication, 5 June 1989.
32. Hogan BW. Psychiatric observations of senior medical officer on board aircraft carrier USS WASP during action in combat areas, at time of torpedoing, and survivors reaction. *Am J Psychiatry*. 1943;July:90–93.
33. Rubin RT, et al. Life stress and illness patterns in the US Navy: VI. Environmental, demographic, and prior life change variables in relation to illness onset in naval aviators during a combat cruise. *Psychosom Med*. 1972;34(6):533–545.

34. Yacavone DW. Personal Communication, June 1989.
35. Holtzman GR. Personal Communication, 30 June 1989.
36. Drucker AJ, Bradt KH. *A Survey of Opinions of Officers and Senior NCO's in Korea: Factors Contributing to Maintenance of Morale Under Combat Conditions*. Army Project Number 29535100. PRS Report 951, 1 April 1952.
37. Griffith SB, II. *The Battle for Guadalcanal*. Annapolis, Md: The Nautical and Aviation Publishing Company of America; 1963.
38. Zimmerman JL. *The Guadalcanal Campaign*. Washington, DC: US Marine Corps Historical Headquarters; 1949.
39. *The History of the Medical Department of the U.S. Navy in World War II, Vol 1, A Narrative and Pictorial Volume*. Washington, DC: U.S. Govt. Printing Office; 1950.
40. Lecke, R. *Helmet for my Pillow*. New York: Random House; 1957.
41. Werstein I. *Guadalcanal*. New York: Thomas Y Crowell; 1963.
42. Tregaskis R. *Guadalcanal Diary*. New York: Random House; 1943.
43. Smith FR. Neuroses resulting from combat. *Am J Psychiatry*. 1943;100:94–95.
44. Lidz T. Untitled seminar at Uniformed Services University of the Health Sciences, Bethesda, Md. 28 May 1987.
45. Davis R. *Marine at War*. New York: Bantam Books; 1988.
46. Simpson RW. Iwo Jima: A surgeon's story. *Leatherneck*. 1990;88(Feb):28–35.
47. Vedder JS. *Surgeon on Iwo: Up Front with the 27th Marines*. Novato, Calif: Presidio Press; 1948: 66.
48. Johaneck M, Tullidge A. Personal Communication, 1991.
49. Strange RE, Arthur RJ. Hospital ship psychiatry in a war zone. *Am J Psychiatry*. 1967;134(3):37–42.
50. Sears HJT. Personal Communication, June 1989.
51. Shea FT. Stress of caring for combat casualties. *US Navy Med*. 1983;83(Jan–Feb):4–8.
52. Mateczun JM, Holmes-Johnson EK. The psychiatric care of the combat injured. In: Manglesdorff AB, et al, eds. *Proceedings of the Fourth User's Workshop on Combat Stress*, Consultation Report 85-002. Fort Sam Houston, Tex: US Army Health Services Command; 1985: 180–195.
53. Mateczun JM, Holmes-Johnson EK. Clinical differences between Beirut and Grenada casualties. In: Manglesdorff AB, et al, eds. *Proceedings of the Fourth User's Workshop on Combat Stress*, Consultation Report 85-002. Fort Sam Houston, Tex: US Army Health Services Command; 1985: 198–205.
54. McCaughey BG. US Navy Special Psychiatric Rapid Intervention Team (SPRINT). *Milit Med*. 1987;152:133–135.
55. Carlton TG. SPRINT: A psychiatric contingency response team in action. *US Navy Med*. 1979;70:11.
56. Marshall SLA, Atwood L. *Island Victory: The Battle for Kwajalein*. Washington, DC: Zenger; 1983: Appendix. [Reprint of 1945 ed].
57. Mitchell JT. Assessing and managing the psychological impact of terrorism, civil disorder, disasters and mass casualties. *Emerg Care Q*. 1986;2(1):51–58.
58. Aitken JR, Bishop RJ, Dinneen MP. Personal Communication, May 1989.