

Chapter 37

COMBAT AND OPERATIONAL STRESS CONTROL

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INTRODUCTION

Military operations are inherently stressful, whether due to the stress of combat or the more insidious operational stresses of the operating environment. Combat and operational stress control encompasses practices that promote individual and unit resilience and ameliorate negative stress reactions. Combat and operation stress control is the collective responsibility

of all unit personnel. The unit military medical officer (MMO) plays a key role in enhancing leadership efforts in promoting unit resiliency. MMOs also have responsibility to evaluate and treat members impaired by combat and operational stress injuries. This chapter will provide an overview of fundamentals of combat and operational stress control for the unit MMO.

PHYSIOLOGY AND PSYCHOLOGY OF HUMAN STRESS RESPONSE

In order to understand the role of the MMO in promoting resilience and evaluating and treating combat and operational stress casualties, it is necessary to first consider fundamental principles behind the human stress response. The human stress response system functions to maintain homeostasis in the presence of external threats and environmental changes. It does so by causing protective behaviors such as “fight, flight, or freeze” in the face of a threat. The stress response system also promotes rapid recall of past threat information. Under extreme stress these reaction and recall systems can generate behaviors and symptoms out of proportion to the threat.

The primary brain systems involved in stress response include the amygdala, hippocampus, and prefrontal cortex.¹ These regions all process sensory information, but do so in different ways and at different speeds. The amygdala receives direct sensory input from the thalamus and rapidly identifies threats. In the presence of threat, the amygdala generates signals for appropriate fight, flight, or freeze responses. The hippocampus and prefrontal cortex receive the same sensory information, but pathways to these brain areas are slower and designed to incorporate additional memory and context information. In healthy, non-stressed individuals these pathways modulate or inhibit amygdala response. Prolonged or extreme

stress can shift the balance of the amygdala–prefrontal cortex–hippocampus system to produce a persistent threat response. In other words, the amygdala becomes hyperactive and the prefrontal cortex hypoactive and unable to sufficiently modulate the fight/flight/freeze response. An affected individual is hyperresponsive and less able to self-regulate stress responses. In the combat environment some hypervigilance and enhanced reactivity is typically adaptive, but excessive hyperarousal is impairing.

A useful paradigm recently adopted by the Department of Defense is the Stress Response Continuum, shown in Figure 37-1.² This model places individual responses along a continuum of ready-reacting-injured-ill. *Ready* individuals demonstrate effective coping and are adapting to any stress without significant distress or impairment. Under stress many individuals will demonstrate mild distress or impairment and would be considered otherwise healthy but *reacting*. Under significant stress, a percentage of individuals will go on to be *injured*, meaning that they experience possibly transient severe distress or impairment, but also are at significant risk for persisting negative alterations. Finally, some individuals may experience true *illness* under extreme stress and develop a mental disorder or diagnosis. This distinction is usually made after a significant period of impairment, arbitrarily about 60 days.

COMBAT AND OPERATIONAL STRESSES

Combat operations present a variety of stresses to deployed personnel. Direct exposure to killing and death are significant and psychologically toxic.³ If the exposed individual experiences horror or helplessness, the exposure to killing and death becomes much more traumatic. Examples of severe exposures include witnessing fellow soldiers burn to death in a vehicle and being helpless to intervene; close proximity to the sudden death of a teammate, as in an improvised explosive device blast; or engagement in which troops find themselves outnumbered or defenseless. Handling human remains or cleaning blood and

brains from vehicles or buildings are also potentially traumatic events. The act of killing enemy combatants is potentially traumatic, and inadvertent killing of noncombatants even more so. Patrolling or defending in a sustained and unpredictable threat environment even in the absence of killing can generate severe or persisting stress responses.

In addition to stress associated with death and killing, all individuals must manage the stresses of the operational environment.⁴ At the simplest level, living in austere conditions with exposure to the elements and diminished access to regular physical comforts is

READY	REACTING	INJURED	ILL
<p>DEFINITION</p> <ul style="list-style-type: none"> • Adaptive coping • Effective functioning • Well-being <p>FEATURES</p> <ul style="list-style-type: none"> • In control • Calm and steady • Getting the job done • Playing • Sense of humor • Sleeping enough • Ethical and moral behavior 	<p>DEFINITION</p> <ul style="list-style-type: none"> • Mild and transient distress or loss of function <p>FEATURES</p> <ul style="list-style-type: none"> • Anxious • Irritable, angry • Worrying • Cutting corners • Poor sleep • Poor mental focus • Social isolation • Too loud and hyperactive 	<p>DEFINITION</p> <ul style="list-style-type: none"> • More severe and persistent distress or loss of function <p>TYPES</p> <ul style="list-style-type: none"> • Trauma • Fatigue • Grief • Moral injury <p>FEATURES</p> <ul style="list-style-type: none"> • Loss of control • Can't sleep • Panic or rage • Apathy • Shame or guilt 	<p>DEFINITION</p> <ul style="list-style-type: none"> • Clinical mental disorders • Unhealed stress injuries <p>TYPES</p> <ul style="list-style-type: none"> • PTSD • Depression • Anxiety • Substance abuse <p>FEATURES</p> <ul style="list-style-type: none"> • Symptoms persist > 60 days after return from deployment

Figure 37-1. The combat and operational stress continuum model with its four color-coded stress zones.

PTSD: posttraumatic stress disorder

Reproduced from: Nash WP. US Marine Corps and Navy combat and operational stress continuum model: a tool for leaders. In: Ritchie EC, ed. *Combat and Operational Behavioral Health*. Fort Detrick, MD: Borden Institute; 2011: Figure 7-1.

an operational stress. Cold, heat, dirt, noise, and unpleasant smells all take a cumulative toll on forward personnel. Separation from family or other primary social supports can present significant stress, as can living in a confined environment with fellow soldiers

for a prolonged period of time. Combat operations typically occur around the clock, with significant risk of fatigue as an additional stress. Table 37-1 summarizes common combat and operational stresses the MMO should consider.

RESILIENCY AND CHARACTERISTICS OF HEALTHY INDIVIDUALS AND UNITS

“Some of the most potent factors which contribute to high morale in military groups are confidence in their own ability, faith and trust in their leaders and a sureness of purpose.”

—Captain Francis Braceland, 1946⁵

Prevention is the best medicine. Commanders of military units are charged with developing and training combat-ready units. The unit MMO plays a key role in fostering an environment that promotes a unit’s ability to withstand stress. Resilience represents a state in which members of a unit are able to tolerate significant stress and react constructively to diminish that stress. By understanding factors in individuals and units that promote resilience, the MMO can be a vital advisor to unit leadership.

Individual Resilience and Vulnerability

Every individual brings strengths and vulnerabilities into military service. Resilient individuals possess a stable sense of self. From a military perspective, this is an individual who has a clear sense of identity as a soldier, sailor, airman, or marine and whose experi-

ences in the military reinforce that identity. Resilient individuals also show use of adaptive coping mechanisms such as recognizing areas of control, positive cognitive appraisal, and engaging social support.⁶ Past exposure to trauma has a variable impact on individual resilience. There is significant evidence to support that risk of psychological injury is related to the burden of childhood trauma.⁷ Individuals with significant home-front stress demonstrate worse overall psychological health.⁸ Members of elite combat units typically show greater resilience, and this is believed to be a combination of selection factors for membership and ongoing high-intensity training to promote resilience.

Unit Resilience and Vulnerability

Group dynamics can both promote and detract from individual resilience. The most consistently cited protec-

TABLE 37-1
EXAMPLES OF COMBAT AND OPERATIONAL STRESSORS

PHYSICAL STRESSORS	MENTAL STRESSORS
<p>Environmental</p> <ul style="list-style-type: none"> • Heat, cold, wetness, dust, vibration, noise, blast • Noxious odors (fumes, poisons, chemicals) • Directed-energy weapons/devices • Ionizing radiation • Infectious agents • Physical work • Poor visibility (bright lights, darkness, haze) • Difficult or arduous terrain • High altitude <p>Physiological</p> <ul style="list-style-type: none"> • Sleep deprivation • Dehydration • Malnutrition • Poor hygiene • Muscular and aerobic fatigue • Overuse or underuse of muscles • Impaired immune system • Illness or injury • Sexual frustration • Substance use (smoking, caffeine, alcohol) • Obesity • Poor physical condition 	<p>Cognitive</p> <ul style="list-style-type: none"> • Information (sensory overload or deprivation) • Ambiguity, uncertainty, unpredictability • Time pressure or waiting • Difficult decisions (rules of engagement) • Organizational dynamics and changes • Hard choices versus no choice • Recognition of impaired functioning • Working beyond skill level • Previous failures <p>Emotional</p> <ul style="list-style-type: none"> • Being new in unit, isolated, lonely • Fear and anxiety-producing threats (of death, injury, failure, or loss) • Grief-producing losses (bereavement) • Resentment, anger, and rage-producing frustration and guilt • Inactivity producing boredom • Conflicting/divided motives and loyalties • Spiritual confrontation or temptation causing loss of faith • Interpersonal conflict (unit, buddy) • Home-front worries, homesickness • Loss of privacy • Victimization/harassment • Exposure to combat/dead bodies • Having to kill

Adapted from: US Department of the Army. *Combat and Operational Stress Control*. Washington, DC; DA; 2006. Field Manual 4-02.51.

tive factor against psychological injury in combat is unit cohesion.⁹ Key elements of cohesion are a sense of attachment to members in the unit and viewing other members as a source of emotional support. Conversely, units with significant internal distrust or a perceived

disregard for individual welfare are less resilient and may put their members at risk under stress. Leadership is another key element of unit resilience. Units gain resilience when leaders communicate a clear sense of mission and recognize the contribution of all members of the unit.¹⁰

REACTIONS TO COMBAT AND OPERATIONAL STRESS

Prolonged or extreme stress can leave units or individuals with significant impairment. Such emotional reactions or behaviors are referred to as combat and operational stress reactions or injuries. These reactions tend to fall into distinct categories, and more than one type of reaction may occur within any individual or in reaction to particular stressors. Patterns of combat and operational stress reaction include acute stress reactions, operational fatigue, traumatic grief, and moral injury.⁴

Acute stress reactions represent a maladaptive psychological and physiologic reaction to an extreme stress. This is typically a single severe traumatic event, but acute stress reactions can also occur after a series

of severe traumas. Emotional manifestations of acute stress reactions include restlessness, panic, irritability, rage, and sometimes numbing. Cognitive responses include confusion, memory problems, and traumatic amnesia. Physical complaints can include fatigue, loss of bowel and bladder control, insomnia, palpitations, and shortness of breath. Dissociation, in which an individual becomes detached from their surroundings or experiences amnesia, represents a severe form of acute stress reaction. Acute stress reaction should not be confused with posttraumatic stress disorder. Even though many symptoms are shared, an acute stress reaction is a time-limited response to psychological trauma.

Operational fatigue occurs in the presence of less intense but prolonged stresses. Throughout history this condition has received names such as “soldier’s heart” and “old sergeant’s syndrome.” Such reactions are characterized by a persistent and constant anxiety or depressed state. Affected individuals may experience irritability or depressed mood, persistent anxiety or restlessness, changes in appetite or energy, insomnia, concentration difficulties, muscular tension, or tremor.

Traumatic grief is a disruption in the normal grieving process brought on by sudden or traumatic loss. Normal grieving is the healthy process by which individuals allow themselves to experience emotional reactions associated with loss and engage in the cognitive process of adapting to a world without the deceased individual. Losses experienced in combat, by their abrupt and violent nature, tend to promote traumatic grief reactions. Significant complications of traumatic grief involve distorted beliefs about the causes and

implications of the death. An affected member may present with problems with excessive guilt and sense of responsibility over the death. Conversely, an individual may externalize their guilt through acting out or undermining leaders.

Moral injury refers to psychological reactions stemming from real or perceived transgressions of moral codes by self or others and betrayals of trust.¹¹ Modern warfare increasingly puts individuals in ambiguous circumstances where the distinction between hostile combatant and innocent civilian is blurry. A well-intended soldier may fire on a presumed insurgent only to discover that he has killed a noncombatant. In the same vein, individuals may engage in intentional acts while in the heat of battle that later produce intense feelings of shame or anger. As a result, individuals can respond with symptoms of intense anger, revenge fantasies or acts, intense feelings of shame and guilt, and self-destructive or avoidant behaviors.

PRINCIPLES OF COMBAT AND OPERATIONAL STRESS ASSESSMENT

Assessment of combat stress control casualties is a core competency of the MMO. The tasks of assessment involve gathering relevant history, inquiring about individual and unit factors promoting or detracting from individual resiliency, screening, establishing appropriate differential diagnosis, and communicating disposition. The simplified goal of a combat and operational stress control assessment is to identify where the individual is along the stress response continuum. Exhibit 37-1 summarizes important elements of a combat stress control evaluation.

Relevant history entails focus on the presenting symptoms and circumstances. By constructing a narrative of the events, thoughts, and feelings immediately preceding presentation, the MMO gains valuable insight into the nature of the problem. For instance, an individual presenting with 24 hours of restlessness, irritability, insomnia, and intrusive images of a firefight immediately following the event suggests a combat stress reaction or acute stress injury. An individual presenting with 6 weeks of insomnia and irritability in the context of concerns that his wife is having an affair back home suggests an adjustment disorder. In both individuals it is essential to identify the number and significance of potentially traumatic exposures in the current deployment to promptly identify risk for acute stress injuries.

In assessing individual and unit resilience, it is important to identify and assign weight to each factor contributing to or detracting from resilience. Does the soldier identify a sense of purpose or meaning to their current job? Does the identity of their unit or military

occupational specialty reconcile with their sense of who they are? Do they view their leaders as effective and having the best interest of unit members in mind? Once the breadth of resiliency factors are considered and weighed against each other, a clearer picture of an individual’s prognosis emerges. Members with significant questions about the usefulness of their job, uncertainty in their ability to effectively complete it, disconnection from peers, or a distrust of leadership they view as inept are less likely to be resilient and therefore at higher risk for persisting combat stress reactions. Further, they are less likely to respond favorably to typical combat stress control interventions and may require significantly more intervention to restore capability.

Differential diagnosis should first exclude the presence of mental or medical illness. A major depressive disorder should not be confused with a combat fatigue reaction, and the principle of expectancy, or prompt recovery and return to duty, would not be appropriate. Intoxication or withdrawal from substances is another important consideration. Although access to alcohol and other substances of abuse is greatly restricted in the combat environment, they are not impossible to obtain. The evaluator also needs to consider exposure to environmental toxins or side effects of medications. An important example of this is development of anxiety symptoms following prophylaxis with mefloquine for malaria. If combat stress reaction is present, the provider should characterize the type of the reaction. Significant distress or impair-

EXHIBIT 37-1

ELEMENTS OF COMBAT STRESS CONTROL EVALUATION

History

- Circumstances of presentation
- Current symptoms and impairment
- Trauma exposure

Resilience factors

- Individual: sense of self, purpose, home-front concerns
- Unit: cohesion, leadership, communication
- Environmental factors

Screening

- Psychiatric illness
- Medical conditions
- Medication and supplements

Mental status examination

Safety assessment

ment in response to home-front stressors typically represents adjustment disorder, but in more severe

or prolonged cases, such distress may represent a depressive or anxiety disorder.

PRINCIPLES OF COMBAT AND OPERATIONAL STRESS CONTROL

The principles of combat and operational stress control were first developed by the British and French forces during World War I. These principles were characterized as “PIES”: proximity, immediacy, expectancy, and simplicity.¹² While these principles were more recently modified into a new acronym, “BICEPS” (brevity, immediacy, contact/centrality, expectancy, proximity, simplicity), the basic forward psychiatry principles initially established during World War I continue to serve as the cornerstone to modern deployed mental health care.¹⁰

The concept of *brevity* in forward psychiatry treatment is that the care provided for the treatment of a combat operational stress reaction should be time limited. In US military doctrine there is some variance as to the time limit, but all guidelines state that if symptoms do not improve within 72 to 96 hours, then the service member should be evacuated to a higher level of care. *Immediacy* refers to psychiatric casualties being treated as soon as possible. Embedded military mental health providers are available throughout the operating theater to ensure readily accessible care. The principle of *contact* involves keeping the service member connected to his or her unit. A key aspect to this step is the importance of ensuring that the service member continues to feel an important part of the unit and a vital contributor to the unit’s mission success.

Expectancy refers to facilitating the service member’s

expectation of returning to duty. In essence, the MMO must make clear early that the treatment goal is for the service member to return to duty in the combat role. Once service members assume the identity of “injured” or “patient,” they make a cognitive shift in role and expected outcome. It is therefore important to address service members by their military title and refrain from using the term “casualty” or “patient.” Prior reports have noted that in past operations failure to pay close attention to labeling and to set expectations resulted in a contagion effect and an increased number of soldiers evacuated from the battlefield.¹³

Proximity refers to psychiatric casualties being treated geographically close to operating units in order to reinforce attachment to their unit. Since World War I, US military forces have pushed medical and mental health resources toward the front lines to facilitate this principle. Since the early 2000s, the Army and Marine Corps have embedded psychiatrists, social workers, nurse practitioners, and psychologists at the brigade and regimental levels both in combat and during peacetime. This has not only facilitated adherence to the principle of proximity, but has also increased the chance that service members are treated by providers assigned to their unit, thus providing consistency and greater availability of provider staff.

Simplicity refers to using brief and straightforward treatment focused on the basics to emphasize the nor-

mality of the service member's experience rather than implying some significant level of mental illness.¹⁴ The concept of simplicity in treatment is best exemplified by the "five R's": (1) rest, (2) rehydration and replenishment of nutrients, (3) restoration of confidence through meaningful work, (4) reassurance that recovery is likely, and (5) return to duty.¹⁰

The effectiveness of forward psychiatry principles remains controversial, primarily associated with the desired effect of the treatment. Since World War II, return to duty rates have been cited at levels greater than 70% to 80%.¹⁵ However, critics note that studies find varying rates of combat stress relapse associated with forward psychiatry, and that some symptomatic service members are eventually evacuated from the combat theater despite forward psychiatric

treatment.¹³ Another key question concerns the long-term psychological benefit from forward psychiatry treatment. Israeli researchers noted that evacuation of individuals with mild combat operational stress injuries worsened their prognosis and further complicated their recovery.¹⁶ However, a recent RAND report¹⁵ noted that service members who had a combat operational stress reaction were more likely to later develop posttraumatic stress disorder. Thus, despite the widespread acceptance of forward psychiatry principles, the effectiveness of this treatment to both return service members to duty and to prevent long-term psychological health outcomes remains inconclusive.¹³ Further studies are needed to determine the overall short- and long-term effectiveness of forward psychiatry.

MANAGEMENT OF COMBAT AND OPERATIONAL STRESS REACTIONS IN INDIVIDUALS

While forward psychiatry principles represent the base of combat operational stress treatment and may be the only level of care available during high-intensity combat, the recent wars in Iraq and Afghanistan have shown that higher levels of care can be delivered in a mature theater.

Psychotherapy in Theater

The most common reasons service members seek mental healthcare during a deployment are family stressors, combat exposure, and difficulties with the unit leadership.¹⁷ Common focus areas of treatment include relationship stress, grief and loss, anger and aggression, depression, anxiety and panic symptoms, and managing traumatic events. Psychotherapeutic interventions can be very effective for these complaints. Providing effective psychotherapy during a deployment can be challenging. Service members' time and availability may be limited, and there is a consistent expectation that they remain combat effective during treatment. Service members seeking mental health intervention typically present for only one visit while deployed.¹⁸ Therefore, treatment approaches used in garrison may need to be adjusted. In order to be effective, interventions must be focused and brief.

Given the large overlap of physiological and psychological symptoms experienced in response to deployment stress, targeting physical symptoms of stress can be highly effective. Relaxation training, incorporating abdominal breathing, progressive muscle relaxation, guided imagery, and self-hypnosis are skills that an MMO can teach quickly and that can provide significant benefit in an environment likely to remain continuously stressful.¹⁹

Abdominal breathing promotes slow and deep breathing by encouraging expansion of the abdomen rather than the chest. This is easily taught by having the individual place a hand on their chest and abdomen while breathing in slowly. The provider encourages the individual to move the abdominal hand and slow breathing through counting.

Progressive muscle relaxation involves intermittently flexing or engaging tension in specific muscle groups for 7 to 10 seconds, followed by relaxation. The provider guides the individual through this pattern of tension and relaxation, starting with the most peripheral muscles and ending with core muscles. In *guided imagery*, the provider talks the individual through a mutually agreed-on peaceful scene with a combination of verbal prompts and periods of silence. The individual keeps their eyes closed throughout the process and visualizes the scene described.

Self-hypnosis requires the individual to focus intensely on an internal stimulus such as breath counting or a neutral word or phrase. This intense focus induces a relaxation response.

Brief cognitive interventions are also available to the MMO and can help distressed service members cope and adapt to overwhelming stress. Cognitive interventions target distorted thoughts common in distressed individuals (eg, "It's all my fault, I always mess up," or "I know he/she is leaving me"). Simple intervention involves helping the individual identify their distorted thoughts and consider possible alternatives that are less distressing.

Mental health providers need to keep in mind that they must be available at all hours of the day to respond to an emergent situation or traumatic event, and these

events, along with enemy engagements, can result in both the provider and the service member being unable to meet as scheduled. Thus, trying to schedule treatment times with military personnel is difficult, making the ability to capitalize on brief treatment modalities key. Providers should adapt their treatment to single-session models because they may not have another opportunity for intervention. If the provider determines that long-term, in-depth psychotherapy is required, a risk assessment should be conducted and consideration for transfer to a higher level of care considered.

Medication Management in Theater

Prior to the operations in Iraq and Afghanistan, mental health treatment focused on triage and non-pharmacological interventions aimed at normalizing and minimizing combat stress. Medications were generally used only in emergency situations to treat acute psychosis or agitation, typically as chemical restraint while awaiting evacuation. With the development of selective serotonin reuptake inhibitors (SSRIs) in the 1990s, providers gained the ability to prescribe medications without requirements for laboratory monitoring, concern for significant side effects, or risk of overdose. This led to more common medication use in theater, either because service members deployed already taking psychotropic medications, or they were prescribed in theater.

For service members with previously identified mental health conditions, the US Department of Defense specifies minimum mental health requirements for deployment. Specific conditions such as bipolar and psychotic disorder and classes of medications such as lithium or anticonvulsants can disqualify service members from deployment, while some may require a waiver.²⁰ Factors to consider for deploying service members with mental health conditions include the ongoing ability to access care, the risk of worsening symptoms, and continuity of care. A recent study showed that when a continuity of care plan is put in place prior to deployment, the risk of worsening symptoms, mental health evacuation, and serious events are decreased.²¹

Generally, combat and operational stress reactions do not require treatment with medications other than possibly short-term use of sleep aids. Those service members who develop significant mood, anxiety, or trauma- and stress-related disorders while deployed may benefit from medication. Factors affecting the decision to prescribe medications in the deployed environment include availability of medication, access to follow-up, and potential side effects. The MMO must

balance these factors against an individual's operational assignment, tempo of operations, and location.

There is no standardized mechanism for medication management in theater. The proximity of mental health provider and pharmacy resources, as well as the comfort level of the primary care provider in managing psychotropic medications, will significantly impact the process. Common patterns of care are either evaluation and follow-up with a psychiatrist, or initial prescribing by a psychiatrist with follow-up by a primary care provider (with or without telephonic consultation with a psychiatrist). Despite these variables, certain factors remain constant. Providers should generally prescribe medication infrequently, ensure a reliable follow-up mechanism, and evacuate service members with prolonged or more than moderate-level symptoms. The most common medications prescribed by theater mental health providers during the Operation Iraqi Freedom were SSRIs (40% of patients seen) and sleep aids (38% of patients seen).¹⁸

The decision whether or not to prescribe psychotropic medications will be driven by the ability of the provider to safely and effectively care for their units. Providers must recognize the limitations of their resources, capabilities, and situation, and make the decision to treat in theater, return service members to their home station, or delay treatment until the service member returns home as scheduled. The key factors that impact this decision include symptom severity, current level of occupational dysfunction, response to treatment, duty limitations due to the medications, and the responsibilities the service member is expected to perform.

Restoration Centers

Treatment of a service member with a combat and operational stress reaction is meant to be short in duration and should be carried out in close proximity to the unit. The majority of combat and operational stress reactions should be treated locally, with a maximum of 1 to 2 nights away from their unit, typically at the aid station or headquarters. However, if symptoms are severe or persist beyond 72 to 96 hours, the MMO should consider evacuation of the individual to a higher level of care. In recent conflicts, theater commanders have established specialized restoration centers to meet this need.

Restoration centers are located in the theater of operations but generally not close in proximity to the unit or the front lines. These centers are staffed by specialized mental health personnel and provide service members with intensive outpatient treatment for up to a week. Typical interventions include

cognitive and occupational therapy, with a focus on expectancy and return to duty. All interventions occur within a highly structured military environment to reinforce the concepts of contact and expectancy.¹⁰ Service members whose symptoms do not improve within 1 week are normally evacuated from theater and returned to their home station for more intensive psychiatric care. It is important to note that restoration centers are not inpatient facilities; they do not have the capacity to manage severely behaviorally disturbed or dangerous patients other than for acute stabilization and transport. In general, inpatient capabilities are very limited in a deployed environment.

Management and Disposition of Severe Reactions and Psychiatric Illness

Regardless of prevention and resiliency efforts, there will be a small percentage of patients with severe and dangerous reactions and persisting psychiatric illness. Acute psychosis and mania can render individuals dangerous due to unpredictable behavior and ready access to weapons and live ammunition.

Individuals with suicidal ideation, whether in the context of acute stressors or psychiatric illness, should be similarly managed with extreme caution. Those suffering severe symptoms placing them at risk for suicide or unpredictable behavior require evacuation from theater. MMOs must ensure continuous positive control of such patients.

Once a service member with acute suicide risk or unpredictable behavior is identified, the MMO must ensure that the individual stays under direct observation in a safe environment at all times until safely evacuated. This may involve holding the person in the aid station with or without the use of sedative medications or physical restraints. Releasing the individual to a “unit watch” should only be considered when there is a reliable command representative educated on the individual’s condition, and never as an alternative to evacuation. The unit must designate a specific individual to take responsibility for the soldier and understand the specific risks their condition presents. Finally, the unit must ensure the at-risk individual is not allowed access to weapons while awaiting evacuation.²²

MANAGEMENT OF COMBAT AND OPERATIONAL STRESS REACTIONS IN UNITS— TRAUMATIC EVENT MANAGEMENT

Exposure to combat-related potentially traumatic events in which service members experience intense feelings of terror, horror, helplessness, or hopelessness is one of the principal risk factors for behavioral health problems in a combat setting.²³ Examples of combat-related potentially traumatic events include being ambushed by the enemy, being in close proximity to an improvised explosive device or booby trap attack, or having a unit member seriously injured or killed. Traumatic event management (TEM) describes a process of intervention after a potentially traumatic event to prevent, identify, and manage combat operational stress reactions in individuals and units as early as possible.

It is important to recognize that TEM is a continuous process and not an acute intervention. Prior to a potentially traumatic event, leaders should be trained to understand what events are potentially traumatic, how to activate a TEM response, and what TEM services are available. Following a potentially traumatic event, leaders must ensure their service members are safe and in a secure location, that the basic needs of the service members are met, and that a TEM response team is notified. Unit MMOs and ministry personnel are a key link in identifying units at risk and experiencing signs of psychological distress, as well as initiating the chain of response.

A TEM team comprised of embedded mental

health providers and unit ministry personnel works in conjunction with the unit leadership to proactively manage the psychological effects of the traumatic experience. The TEM response begins with a general needs assessment to determine the overall health of the unit and whether service members need immediate mental health care for combat operational stress reactions. Mental health personnel also provide consultation and education to unit leaders and service members regarding available services and how to access mental health care. It is important throughout this process that the TEM response team work in close cooperation with the unit leadership to reinforce the perception that leaders are requesting intervention on behalf of the unit.

A key event during the initial response phase is the leader-led after action review. This review is not a psychological debriefing but rather a military process that assists in encouraging service members to talk about the event. In healthy units this review is part of the innate battle rhythm and not a special event when a potentially traumatic event occurs.

Historically, the military mental health provider in conjunction with the unit leader determined if a group psychological debriefing should be conducted. There are numerous psychological debriefing models; however, each model focuses on recognizing the trauma and processing reactions to it. These debriefings differ

from military after action reviews in that the focus is on individual's psychological reactions and is conducted by a trained counselor. Most debriefing models derive from the work of Marshall during World War II.²⁴ Of note, Marshall's sessions were not intended to provide psychological benefits but rather to gather historical data for military record keeping; however, he noted that the process provided clarity of events and support for the participants. He surmised that these debriefings helped to decrease the development of combat stress reactions.²⁴

The effectiveness of psychological debriefings continues to be debated by both military and civilian mental health providers. Few research studies have focused specifically on the effectiveness or risk/benefit of psychological debriefings in military populations. In contrast, civilian studies of victims are mixed with some demonstrating benefits as well as negative outcomes.^{25–29} A recent Cochrane analysis recommended against using psychological debriefings citing that the risks outweighed the benefits based on the civilian literature.²⁹ A key limitation to both the civilian data and the Cochrane review is the lack of a standardized TEM debriefing process. There are multiple models

practiced commonly in TEM debriefings including critical event debriefing (CED), critical incident stress debriefing (CISD), psychiatric debriefing, historical debriefing, and intelligence debriefing. A lack of consistent standardized protocols for TEM debriefing group formation and execution limits the ability to assess its effectiveness and the conclusions that can be drawn from such studies.

In spite of all of the concern about potential risk and lack of effectiveness, psychological debriefings remain a tool frequently employed by military mental health providers as military leaders are attuned to the long-term risks of exposure to potentially traumatic events. As such, MMOs and mental health providers should pursue the most up-to-date evidence on TEM. The current US Army Combat Operational Stress Control field manual provides a guideline for TEM operations but leaves the decision to conduct a psychological debriefing and the method of debriefing open to the mental health provider.¹⁰ A recent review of practices used among NATO forces in Afghanistan indicated that some sort of group intervention remains the norm, but that the term "debriefing" is generally avoided.³⁰

SUMMARY

Combat and operational stress control is a collective effort of individuals, unit leaders, medical, ministry, and mental health personnel. It requires understanding of the fundamentals of human stress response, and knowledge of the predictable patterns of stress injury. The MMO has an obligation to promote psychological resilience within their unit and is a key source of surveillance and recommendations for unit leaders. When properly managed, the majority of individu-

als suffering even the most severe acute stress injuries will likely recover with simple PIES/BICEPS interventions and return to duty. The MMO can initiate many of these interventions with or without the assistance of mental health personnel. Finally, when potentially traumatic events occur, the MMO should understand the principles of traumatic event management and be prepared to request mental health assistance.

REFERENCES

1. Mora F, Segovia G, Del Arco A, de Blas M, Garrido P. Stress, neurotransmitters, corticosterone and body-brain integration. *Brain Res.* 2011;1476:71–85. doi: 10.1016/j.brainres.2011.12.049.
2. Nash WP. US Marine Corps and Navy combat and operational stress continuum model: a tool for leaders. In: Ritchie EC, ed. *Combat and Operational Behavioral Health*. Fort Detrick, MD: Borden Institute; 2011: Chap 7.
3. Grossman DA. *On Killing: The Psychological Cost of Learning to Kill in War and Society*. New York, NY: Back Bay Books/Little Brown and Company; 2009.
4. Nash WP. Combat/operational stress adaptations and injuries. In Figley CR, Nash WP, eds. *Combat Stress Injury: Theory, Research, and Management*. New York, NY: Routledge; 2007: Chap 3.
5. Braceland F. Psychiatric lessons learned from World War II. *Am J Psychiatry.* 1947;103(5):587–593.
6. Gibbons SW, Shafer M, Aramanda L, Hickling EJ, Benedek DM. Combat health care providers and resiliency: adaptive coping mechanisms during and after deployment. *Psychol Serv.* 2014;11(2):192–199. doi: 10.1037/a0033165.

7. Agorastos A, Pittman JO, Angkaw AC, et al. The cumulative effect of different childhood trauma types on self-reported symptoms of adult male depression and PTSD, substance abuse and health-related quality of life in a large active-duty military cohort. *J Psychiatr Res.* 2014;58:46–54. doi: 10.1016/j.jpsychires.2014.07.014.
8. Mulligan K, Jones N, Davies M, et al. Effects of home on the mental health of British forces serving in Iraq and Afghanistan. *Br J Psychiatry.* 2012;201(3):193–198. doi: 10.1192/bjp.bp.111.097527.
9. Sundin J, Jones N, Greenberg N, et al. Mental health among commando, airborne and other UK infantry personnel. *Occup Med (Lond).* 2010;60(7):552–559. doi: 10.1093/occmed/kqq129.
10. US Department of the Army. *Combat and Operational Stress Control.* Washington, DC; DA; 2006. Field Manual 4-02.51.
11. Litz BT, Stein N, Delaney E, et al. Moral injury and moral repair in war veterans: a preliminary model and intervention strategy. *Clin Psychol Rev.* 2009;29(8):695–706. doi: 10.1016/j.cpr.2009.07.003.
12. Rock NL, Stokes JW, Koshes RJ, Fagan J, Cline WR, Jones, FD. US Army combat psychiatry. In: Jones FD, Sparacino LR, Wilcox VL, Rothberg JM, Stokes JW, eds. *War Psychiatry.* Washington, DC: Office of the Surgeon General of the Army, Borden Institute; 1995: Chap 7.
13. Jones E, Wessely S. “Forward psychiatry” in the military: its origins and effectiveness. *J Trauma Stress.* 2003;16(4):411–419. doi: 10.1023/a:1024426321072.
14. Jones DR. US Air Force combat psychiatry. In: Jones FD, Sparacino LR, Wilcox VL, Rothberg JM, Stokes JW, eds. *War Psychiatry.* Washington, DC: Office of the Surgeon General of the Army, Borden Institute; 1995: Chap 8.
15. Helmus, TC, Glenn RW. *Steeling the Mind: Combat Stress Reactions and Their Implications for Urban Warfare.* Santa Monica, CA: RAND Corporation; 2005.
16. Belenky GL, Tyner CF, Sodetz FJ. *Israeli Battle Shock Casualties: 1973 and 1982.* Washington, DC: Walter Reed Army Institute of Research; 1983.
17. Warner CH, Breitbach JE, Appenzeller GN, Yates V, Grieger T, Webster WG. Division mental health in the new brigade combat team structure: part I. Predeployment and deployment. *Mil Med.* 2007;172(9):907–911.
18. Schmitz KJ, Schmied EA, Webb-Murphy JA, et al. Psychiatric diagnoses and treatment of U.S. military personnel while deployed to Iraq. *Mil Med.* 2012;177(4):380–389.
19. Bourne EJ. *The Anxiety and Phobia Workbook.* 5th ed. Oakland, CA: New Harbinger Publications Inc; 2010.
20. US Department of Defense. *Deployment-Limiting Medical Conditions for Service Members and DoD Civilian Employees.* Washington DC: DoD; 2010. DoD Instruction 6490.07.
21. Warner CH, Appenzeller GN, Parker JR, Warner CM, Hoge CW. Effectiveness of mental health screening and coordination of in-theater care prior to deployment to Iraq: a cohort study. *Am J Psychiatry.* 2011;168(4):378–385. doi: 10.1176/appi.ajp.2010.10091303.
22. Payne SE, Hill JV, Johnson DE. The use of unit watch or command interest profile in the management of suicide and homicide risk: rationale and guidelines for the military mental health professional. *Mil Med.* 2008;173(1):25–35.
23. Fontana A, Rosenheck R. Psychological benefits and liabilities of traumatic exposure in the war zone. *J Trauma Stress.* 1998;11(3):485–503. doi: 10.1023/a:1024452612412.
24. Koshes RJ, Young SA, Stokes JW. Debriefing following combat. In: Jones FD, Sparacino LR, Wilcox VL, Rothberg JM, Stokes JW, eds. *War Psychiatry.* Washington, DC: Office of the Surgeon General of the Army, Borden Institute; 1995: Chap 11.
25. Adler AB, Castro CA, McGurk D. Time-driven battlemind psychological debriefing: a group-level early intervention in combat. *Mil Med.* 2009;174(1):21–28.

26. Jacobs J, Horne-Moyer HL, Jones R. The effectiveness of critical incident stress debriefing with primary and secondary trauma victims. *Int J Emerg Ment Health*. 2004;6(1):5–14.
27. MacDonald CM. Evaluation of stress debriefing interventions with military populations. *Mil Med*. 2003;168(12):961–968.
28. Mitchell SG, Mitchell JT. Caplan, community, and critical incident stress management. *Int J Emerg Ment Health*. 2006;8(1):5–14.
29. Rose S, Bisson J, Churchill R, Wessely S. Psychological debriefing for preventing post traumatic stress disorder (PTSD). *Cochrane Database Syst Rev*. 2002(2):Cd000560. doi: 10.1002/14651858.cd000560.
30. Vermetten E, Greenberg N, Boeschoten MA, et al. Deployment-related mental health support: comparative analysis of NATO and allied ISAF partners. *Eur J Psychotraumatol*. 2014;5. doi: 10.3402/ejpt.v5.23732.