Original Web Location: www.emedicine.com/emerg/topic826.htm 1998-2007.
Retired in 2007 when Medscape/WebMD took over the references.

Preview / Edit Topic

Critical Incident Stress Management

Author: **Stephen A Pulley, DO**, Vice-Chairman, Clinical Assistant Professor, Department of Emergency Medicine, Philadelphia College of Osteopathic Medicine, Montgomery Hospital Medical Center.

Stephen A Pulley is a member of the following medical societies: American College of Emergency Physicians, American College of Osteopathic Emergency Physicians, and American Osteopathic Association.

Editors: **Debra Slapper, MD**, Consulting Staff, Department of Emergency Medicine, St Anthony's Hospital; **Francisco Talavera, PharmD, PhD,** Senior Pharmacy Editor, eMedicine; **Matthew M Rice, MD, JD**, Vice President, Chief Medical Officer, Northwest Emergency Physicians, Assistant Clinical Professor of Medicine, University of Washington at Seattle; Assistant Clinical Professor, Uniformed Services University of Health Sciences; **John Halamka, MD**, Chief Information Officer, CareGroup Healthcare System, Assistant Professor of Medicine, Department of Emergency Medicine, Beth Israel Deaconess Medical Center; Assistant Professor of Medicine, Harvard Medical School; **Barry E Brenner, MD, PhD, FACEP,** Program Director, Department of Emergency Medicine, University Hospitals, Case Medical Center.

Synonyms, Key Words, and Related Terms

CISM, CISD, CIS, debriefing, defusing, crisis intervention, burnout, PTSD, impairment, disaster, LODD, line of duty

---

Introduction

Stress, a ubiquitous part of life, results from the totality of all that humans experience. The decisions that people make both sharpen and dull stress. Stress is part of what makes people both alive and human.

People experience stress from physiologic and emotional perspectives. External pressures placed upon any organism alter physiologic pathways. Thus, the body produces more heat when the environment is cool; when the environment is hot, the body cools. Internal pressures also affect the organism's functioning. When substrate is low (ie, sugar, oxygen, water), the organism seeks and absorbs more.

In the vast animal kingdom, the complexities of their brains make humans unique. Humans can respond to physiologic urges and can make judgments regarding them.

Humans not only interact within their environment but also deliberately alter it. People not only observe events but also make judgments about them. They not only remember experiences but also learn from them.

All people react and respond differently to the many varied stresses in their lives. Reactions extend from the knowledge and experience of the individual and are altered by the person's level of physiologic and emotional fatigue. Traumatic experiences are long remembered by involved individuals. Those experiences can affect people in ways that alter their future functioning. Severe vehicular accidents may cause individuals to always avoid certain intersections. Death of loved ones may lead individuals to become anxious when they enter hospitals.

Stress is not unique to emergency workers, whether they are paramedics, nurses, or physicians. In fact, the uniqueness of all emergency workers, including police officers, dispatchers, firefighters, and rescue personnel, causes them to react differently to traumatic stress. Certain critical incident stressors ultimately can alter individuals' abilities to perform their jobs or merely to achieve satisfaction with their personal lives.

Dedicated to the emergency medical worker, this article not only addresses the concept of stress in general but also specifically discusses critical incident stress (CIS) and why it is an important part of emergency medical workers' lives. Finally, this article reviews the process of managing stress and CIS.

Emergency medical workers have selected a highly rewarding, yet highly demanding, field in which to work. Daily, they place themselves in all sorts of danger, ranging from personal violence and exposure to disease, to gruesome imagery and bone-weary fatigue. Without emergency medical workers, society would not function as well, resulting in an adverse effect on people's lives and an increase in suffering. Emergency medical workers have chosen to be a part of an important safety net in society. While they select the setting in which to practice, they do not choose what comes through the doors. If CIS is allowed to affect workers adversely, they become less effective in their jobs and personal lives. This can lead to harm not only to patients but also to emergency medical workers and their families.

Stress As A Concept

History

The concept of emergency medicine is as old as humankind. In the past, the response to an emergency medical condition might have been prayers to idols, poultices, euthanasia, or primitive surgical procedures. The desire then, as today, was to improve the condition of the injured or ill individual.

The field of emergency medicine is relatively young. Many of today's emergency care concepts developed during the Vietnam War, in which 97.5% of injured soldiers reaching medical care survived. In 1967, the following statement was made: "An American . . . has a better chance for quick definitive . . . care by . . . specialists coming out of the jungle . . . than were he hit on a highway . . . in the [US]."

While emergency care in the Southeast Asian Conflict was a high priority, the field was not yet born in the US. Around 1968-1969, the first paramedic/advanced life support systems was started in the US. In 1972, the National Academy of Sciences stated that emergency medicine "is one of the weakest links in the delivery of health care in the nation." The American Medical Association (AMA) finally recognized emergency medicine as a specialty in 1979; the American Osteopathic Association (AOA) followed suit in 1980.

Definition

The concept of stress has come full circle through history. In ancient Greece, the philosopher Epictetus described stress on a psychological basis with the following words: "People are disturbed not by things but by the views they take of them."

However, in more recent history, stress was viewed from its physiological basis. In 1867, Bernard wrote, "All of life is dependent upon . . . physiological . . . mechanisms" that "can be altered by . . . environment." Canon, in 1935, described the well-known fight-or-flight response: "Homeostasis is an internal state of balance" modified by reactions called stress. Finally, Selye, the Austrian physiologist, stated, "Stress is a non-specific bodily response to any demand made upon the organism." In recent decades, the focus has returned to the psychological nature of stress.

Continuum of stress

How, then, can stress be described? Stress occurs as an internal response to disturbing stimuli, especially when the external stimulus exceeds an internal limit. Thus, stress occurs only when people perceive external demands that exceed their coping capabilities.

Not all stress is bad. Actually, most stress is eustress (ie, good stress). Stress gets people up in the morning. Eustress keeps people sharp on their jobs. Good stress motivates people to attend school for years. "It is stress that produces human progress," according to Selye. In this article, the focus is distress (ie, bad stress).

When individuals exceed their abilities to manage stressors properly, they start down the slippery slope of distress. With increased distress, individuals pass through a myriad of psychological issues that, at first, are intrinsically annoying and distressing. At the top of the downward slope, psychological consequences are symptoms of too much stress. If recognized by emergency workers, changes can help patients avoid sinking deeper. If not addressed, later psychological features become disabling and impair proper functioning. Besides the potential damage to the individual, the collective consequences to patients in the emergency health care system may be dire.

Impairment and burnout

Impairment or burnout can result when an individual is distressed severely or for lengthy periods. Impairment can occur at cognitive, emotional, and physical levels. Individuals may become unable to reason or to make decisions properly. Possibly, they cannot control their emotional states, or they may have a physical or psychological addiction that affects health or clouds judgment.

Burnout is a syndrome of emotional exhaustion, depersonalization, and reduced personal accomplishment that can occur among individuals who work with people in some capacity. Disillusionment and exhaustion with a loss in creative involvement may occur. Thus, the emergency worker becomes disinterested. Disinterest breeds apathy and unhappiness. With this scenario, mistakes can occur in both professional and personal lives.

Stressors

From where do these stressors come in emergency medicine? Emergency medical workers are first stressed—before even leaving the gate—during training. It could be said that ED professionals are trained to be stressed. During school, grades and scores, along with information overload and long hours, initiate a chronically stressed state. At all levels of education, gratification is delayed; personal sacrifice, perseverance, anger, depression, negative attitudes, social conformity, and time constraints are prevalent, and concern exists about defensive medicine, peer review, finances, and interference with family. When ED professionals obtain feedback, it is more likely to be negative.

Once ED professionals are in practice, additional stressors come into play. Health care professionals are first stressed when they discover that the reasons for which they chose the emergency medicine field ultimately are not satisfying. The attractions originally were variety, hours, excitement, free time, and intellectual challenge. Yet, most satisfaction comes from the use of skills, variety, excitement, and sense of teamwork. Emergency physicians dislike any aspect other than the actual hands-on treatment of patients. Thus, paperwork, administration, and other nonmedical duties are viewed negatively.

Other actual stressors include a lengthy list, ranging from patient anger, workload, and emotional drain to rotating schedules, sleep interference, missed meals, and family interference. Daily practice includes unexpected death, normalcy of crisis, high visibility, problematic professional relationships, difficult patient dispositions, lack of medical backup, medical ethics issues, and managing the sometimes trying clientele of an ED. It has been said that the behavioral norms of medicine and of emergency medicine, in particular, emphasize compulsive overachievement, low trust, and distant interpersonal relationships. The life of an emergency medicine physician depends upon keeping stress in balance.

Critical Incident Stress

Historically, CIS was called other names, including traumatic stress, combat fatigue, and rapid-onset burnout. Simply put, CIS is any situation that causes emergency personnel to experience unusually strong emotional reactions that could interfere with the ability to function.

Normal reactions occurring in normal people exposed to highly abnormal events are the key component. No rhyme or reason explains which events cause a critical stress reaction. The reactions and the people are normal. Only some aspect of the event has the abnormality. When people accept invitations to a party, they do not know

who else will go. Similarly, individuals choose to put themselves in the ED or emergency response vehicle; yet, they have no control over what comes through the door or over the alert radio.

Several factors affect an individual's response to a critical incident. Advance warning allows the person time to develop coping strategies. The more intimate the person's role, involvement, and proximity to the event, the more potential impact. The severity of the event and any loss are also contributing issues. The emergency worker's coping style and prior experience help with physical and emotional survival. An individual's ego strength and level of stress prior to the critical incident are also important factors. Finally, the degree of professional and personal social support after the situation also impacts upon their response.

Some events are expected to increase the likelihood of a CIS reaction. The chances for an event to be troubling to an ED worker increase proportional to the degree of resemblance between an ED worker and a patient. Additionally, the younger the patient, the higher the chance for the event to trouble the ED worker. The greater the exposure and peritraumatic emotions, the greater the level of distress. Exposure to a critical incident does not mean an individual must have a stress reaction, although the following critical incidents predictably cause stress reactions.

Types of critical incidents

- Assault - Physical, sexual, psychological; patient, self, organizational member
- Abuse - Physical, sexual, emotional, child; patient, self, organizational member
- Life-threatening experience - Usually to self, maybe close coworker
- Perception of serious threat - Usually to self, maybe close coworker
- Serious injury - Self, organizational member
- Suicide and homicide - Organizational member
- Line-of-duty injury or death - Self, organizational member (prototypical; usually worst cause of CIS)
- Disasters - Natural, man-made, technological; especially if risk or damage involves self, family, or organizational members
- High-publicity events and crimes - No matter how horrendous an event, the presence of today's never-sleeping media greatly magnifies and intensifies affairs. The intense media interest in the crash of TWA Flight 800 was a significant factor in imposing a heavy burden upon those counseled.

Psychological Mechanisms

Exposure to a critical incident involves many psychological mechanisms. The individual first tries to react and deny simultaneously. Two figurative sides of the brain exist. Emergency medical workers call on the professional side to remain calm and to perform the job at hand. Many initial responses are automatic due to experience and rote drill through simulation. At the same time, the emotional side of the brain absorbs the many sights and sounds of the events. Preventing emotional reactions to some cases is difficult.

If emergency medical workers reacted emotionally, their jobs would be difficult to perform. Preventing emotional reactions can be difficult, considering some of the cases that emergency workers see. The professional side functions somewhat automatically to keep the emotions pushed aside and out of the way. This split requires much energy. If emergency medical workers enter into an event already physically and/or emotionally fatigued, their reserve energy buffers are low. This makes them more susceptible to events and more likely to suffer stress reactions, thus losing their abilities to function effectively. The worst scenario exists when this sudden deterioration occurs during the event.

Early responses to stressful events have been described as alternating between denial and intrusive thoughts. This process allows for eventual integration of the trauma.

Coping

Coping is a threat-appraisal process that comprises 3 distinct components, as follows: (1) primary appraisal (perception of the threat), (2) secondary appraisal (formulation of a potential response to the threat), and (3) coping (execution of a response to the threat). Coping self-efficacy has been hypothesized as a significant variable in exposure to a critical incident, and it is defined as a person's self-appraisal of his or her ability to cope with the stressful situation.

Humans have a survival-mode function when threatened. These specialized cognitive-affective mechanisms are flight, fight, or freeze behaviors. The clinical presentation of a traumatized patient is due to the persistence of the patient's primary survival response, according to Osterman. High levels of anxiety and avoidance are associated with flight responses; increased anger and aggression represent the persistent mobilization of a fight response; and dissociative symptoms, emotional numbing, or depersonalization reflect freeze responses.

Individuals function at a lesser level during an event when the professional and emotional sides meet or when inappropriate coping mechanisms come in to play. Poor decisions or indecision could lead to direct harm to the patient or worker. Unique issues increase the risk for CIS. The emergency worker's degree of exhaustion or familiarity, sense of frustration, and level of patient deterioration and helplessness, along with the length of time involved and amount of personal risk, all factor into the chance for the incident to become critical.

Memory imprint

Emergency medical workers make a memory imprint of events. The more senses involved in a learning process, the better the retention. Similarly, the more senses involved actively in an event, the deeper the memory imprint may be. This article includes, along with the 5 senses, a sixth sense of intuition or instinct (eg, bristling hair on the neck, itchy palm syndrome). The sense of smell is the strongest for encoding traumatic memories. Normally, when people experience disturbing sense stimuli, the brain tries to filter and buffer the stimulus to make it less disturbing.

When the brain receives an input, it tries to place it in the proper location, to compartmentalize, similar to the file system or directory of a personal computer. When people get bills, they need to put them someplace. If they initially file the bills

in a proper place, they are always easier to find. Similarly, it is easier to recall information filed properly in the brain. The more warning the brain has, the better it can prepare itself and do its job. Thus, a grotesquely disfiguring facial injury does not seem as bad when workers can prepare themselves, as opposed to pulling down a sheet and observing the injury without warning.

During an event that requires high functioning, such as a resuscitation or a rescue, much of the brain is occupied with multitasking and juggling of the many aspects of the operation. The brain tracks all that is happening, evaluates actions, and anticipates what to do next. Then, suddenly, an unanticipated moment occurs as a smell, a feeling, or a sight is experienced. The brain already is almost totally committed when this stimulus appears from nowhere. The brain's normal buffering and filing is unavailable, because of maximal cognitive and physical efforts, and the impulse courses through the brain unfettered to indelibly imprint itself randomly at the core of memory in the hippocampus.

Perception

The final piece of this picture is perception. A major problem in CIS is misperception. As mentioned earlier, Epictetus said, "People are disturbed not by things but by the views they take of them." Additionally, Selye offered, "It's not what happens to you that matters, but how you take it." To take the proper view of something, the right information must be available to draw the correct conclusion.

In a critical incident, many elements and many people usually are involved. It is difficult for a single individual to have all the important information, or an individual may be exposed to the correct information but improperly processes it as discussed above and, thus, cannot retrieve it when needed. Without all of the important information, drawing the wrong conclusion is very easy. Even with all the facts, individuals may interpret all available data in the wrong way, possibly resulting in a wrong conclusion. The misplaced or missing information frequently does not allow the brain to properly process the event. As a result, the individual with a lack of closure or proper processing, at a subconscious level, may perceive the event as still ongoing. In this manner, the individual then continues to react to it with physiologic and physical stress.

Imagine a scene in which a paramedic responds to a shooting. The patient is alive at the scene. En route to the hospital, the paramedic cannot establish intravenous access because of vein scarring from drug abuse and hypovolemia. The blood pressure drops quickly as the heart rate rises, and, before arrival at the hospital, the pulse disappears. The patient dies, and the paramedic blames himself for the death because he did not possess the skill needed to obtain intravenous access and administer lifesaving crystalloid. What part of the story is the paramedic not processing? The paramedic did not pull the trigger, and the patient had destroyed his or her own veins. By emphasizing the wrong element of the situation, the paramedic ended up with the wrong perception. An improper reaction then results.

Stress reactions

Any symptom that is not present before an event that manifests afterward can be a stress reaction. Classic examples are listed below.

- Physical - GI upset, rapid heart, chest pain, breathlessness, dizziness, fatigue, cramps, headaches, chills, sweating
- Emotional - Anxiety, guilt, fear, panic, disturbed thought, grief, denial, depression, apprehension
- Cognitive - Memory, orientation, sleep, hyperalertness, nightmares, concentration, problem solving, judgment, intrusive images
- Behavioral - Withdrawal, avoidance, blaming, alcohol, hygiene, restlessness, outbursts, speech, appetite, startle
- Spiritual - Shaking of faith, anger at deities, bitterness, denial of spiritual needs, "manifest destiny" thinking, focusing on losses rather than on blessings

---

Treatment

Treatments for traumatic stress have been available for some time. Jeffrey Mitchell, PhD, at the University of Maryland, Baltimore County, developed a standardized program that focuses on the mitigation of traumatic stress in emergency workers. Much work in traumatic stress started and was further developed in wartime. These principles were then adapted in the civilian sector and further developed. Dr Mitchell, in conjunction with George Everly, PhD, and others, pulled together these methods for the mitigation of traumatic stress and crisis intervention.

Critical Incident Stress Management (CISM) is a multicomponent program that works to decrease the effects of CIS early on, before reactions become rooted. CISM's strength is attributable to its emergency service peer-driven process that is monitored by mental health professionals. Peers and mental health professionals are cross-trained, so that peers increase understanding about mental health issues, and mental health professionals increase understanding about emergency services.

Often, a mental health professional already has a background in emergency services. Peers usually are senior emergency workers who have experienced critical incidents through their own careers. Both groups receive very specialized training about the CIS process.

The goals in CISM are to restore the health and environment of the individuals, to decrease traumatic stress effects, and to speed recovery and productivity when they do occur. An important feature is helping the individual recognize that the danger has passed and that the need to react also has passed.

CISM teams

More than 500 CISM teams exist in the US and at least as many exist worldwide. All branches of emergency services (eg, emergency medical services [EMS], fire, police, rescue, air ambulances, EDs) and all branches of the military and federal law enforcement have CISM teams. Teams even exist for industry (eg, airlines, banking) and in schools at all levels. The CISM teams accredit and network through the International Critical Incident Stress Foundation (ICISF). Teams have many functions, detailed in the following, within the CISM process that involve multiple

distinct activities that are meant to be used in combination. No activity is, or was, ever meant to be a stand alone intervention.

Preincident education

Of all the functions a team performs, preincident traumatic stress education is the most essential in the prevention and reduction of CIS. Stress education has many benefits. Forewarned personnel recognize symptoms earlier. A timely call for help and CISM intervention is more effective.

Learning to deal with routine stress helps protect individuals against critical stress. Personnel are taught what to do before a potential critical incident, further decreasing the effects. An important point emphasized both in this article and in training is that the individual is normal, only the event is abnormal. Because of perceived negative connotations in society, people tend to withdraw if they feel that they are becoming unbalanced. People are much more open within their support systems when they first realize that what they are experiencing is normal.

Scene support and staff advisement

During very large and protracted events, midaction scene support comes into play. Teams respond during disasters, plane crash recovery efforts, terrorist activities, and other prolonged rescue events. The team functions within the incident command structure, and its members are present in a primarily supportive and advisory role. Their activity is emotional first aid, allowing for venting of feelings. They also watch for physical needs. Team members try to keep distressed workers in or near the action. The team leader makes suggestions to the incident commander about ways to decrease the high-intensity stress. Issues frequently discussed are recommendations for shorter rotation schedules and addressing biological needs (eg, rest, nutrition, bathroom use). During a disaster or a mass event, addressing the basic needs is key in mitigating the immediate stress. The team also prepares for demobilization.

Demobilization

Demobilization in the CISM realm is for psychological, not operational, purposes. Demobilization occurs rarely and is reserved for only very large disaster events. An arranged site allows all units (as intact groups regardless of affiliation) to rotate through before they return to their stations for postoperation procedures. Several goals of this intervention exist. The intervention provides a decompression period before the intense work needed to clean and restage their units for the next emergency. The intervention also allows for a proper (healthy, no junk food or caffeine) nutritional break. CISM team members provide a brief educational presentation about recognition and management strategies as discussed here. Educational and contact information is disseminated.

Defusing

Next to education, the most commonly employed CISM technique is defusing. Defusing usually is a 1-on-1 interaction between a team member and a concerned individual. These individual consultations occur for limited-scope events or when only

1 or 2 individuals are having problems. Defusing differs from debriefing (discussed next) in that it can take place a short time after the incident. During defusing, the emergency worker receives education about recognition of stress reactions and management strategies for dealing with stress. Often, defusing may substitute for a debriefing if it involves only a few people. Defusing may be informal or may follow an abbreviated debriefing format. In large events, the defusing is a short-term decompression tool with other processes designed to provide more lasting benefits. Sometimes, the defusing identifies the need for a more in-depth involvement by the team such as debriefing.

Debriefing

The most intense and complex activity for the CISM team is a Critical Incident Stress Debriefing (CISD). Originally, the main focus of CIS efforts was on the debriefing. However, as the critical incident process has developed and expanded, CISD has become a small part of CISM's total management process.

Debriefing is a complex process led by specially trained personnel and typically occurs 2-14 days after the event. The team will consider other time frames. Debriefing takes approximately 2-3 hours. This peer-driven process focuses on psychological and emotional aspects of the event. Specifically, it is not an operational critique or group therapy.

An important aspect of peer involvement is that team members are selected to complement the group being debriefed. Examples of this include paramedics chosen for paramedics or nurses chosen for nurses. In this way, the group can discuss their feelings with people who have shared similar experiences. Through the process, the individuals traverse the cognitive realm to the emotional realm and then return to the cognitive. The room has a circle of chairs with team members evenly dispersed. Discussion progresses around the circle of attendees. This is a voluntary process. From the CISM team's perspective, attendance is voluntary and active participation (actual talking) is voluntary.

The 7 phases of debriefing

- Introduction phase: During the introduction, ground rules are established for the process. Confidentiality is paramount. Only individuals involved in the event should be present. All personnel must be off duty because leaving in the middle of the CISD could prove harmful to the person and disruptive to the process. Emergency workers receive instructions that they do not have to talk and to not say anything that could potentially be incriminating. After the preliminaries, all personnel introduce themselves and identify their role in the incident.
- Fact phase: During this phase, specific details emerge for the group. Usually, a few individuals provide core facts, while others fill in missing details. This is important because incomplete knowledge may have elicited misperceptions. The introduction of missing facts helps correct misperceptions.
- Thought phase: Touching on emotional aspects begins during the thought phase. At this point, the group considers the following question: "When did

you first realize this was a bad one?" Responses are as varied as the group. Usually, sight experience (or involvement of another sense) is the first clue. Sometimes, a level of familiarity exists. Others discuss the sheer magnitude of the event.

- Reaction phase: In this most intense phase, some people bare their souls when they answer the following question: "How did you react to the incident?" For many, emotions are intense. Not everyone feels comfortable talking, especially at this juncture. The important part of participation is being present and listening. Many participants discover that their reactions were similar to their peers' reactions. Usually, it is a minority of participants who have more severe stress reactions. However, the presence of their less affected peers is important in showing support for the more affected individuals.
- Symptom phase: During this phase, the many varied symptoms that people have been experiencing are discussed. Reactions, such as recurrent intrusive images, are common. In this phase, along with the reaction phase, workers realize that they are not alone in how they have been feeling. People only feel abnormal if they are different from a comparison group. The sudden realization that they are normal is the needed step for many emergency workers to start feeling better.
- Teaching phase: Similar to preincident education, the teaching phase provides similar postincident education. The process of CIS, stress reactions, and techniques to decrease stress are explored.
- Reentry phase: This final phase allows an opportunity for team members to expand upon points that they feel are important and for answering questions. The main purpose of this phase is to ensure that emotions are not still raw when the participants leave.

Postdebriefing

- Afterwards: After the debriefing, prearranged healthy snacks are available, and the team members mingle with the group. This allows the team members to focus on those individuals who are troubled. Also, members of the group can bring up issues that they did not feel comfortable with in the larger group. Expansion of points brought up during the CISD is usually a part of this informal setting.
- Debriefing the debriefer: The interaction between the CISM team members and the involved workers can be emotionally intimate. In this setting, it is possible for the CISM team to be vicariously traumatized by the experience of the debriefing. Their own emotions can be left raw, and stress reactions do occur. Remember, this group was not at the incident itself. Because of the potential for harm to team members, a postdebriefing contact, and possibly session, is important with the participating members to help alleviate lingering stress and to maintain their optimum functioning. This activity can be done by senior team members or by an outside team in a large event.

Additional CISM activities

In addition to the 5 interventions mentioned above (preincident education, scene support, demobilization, defusing, and debriefing), the CISM team uses 5 additional activities.

Crisis management briefing

Many events exist that impact a large number of people such as neighborhoods, communities, or departments. In these situations, defusing an emotionally charged crowd or disseminating timely information may be necessary. The crisis management briefing (CMB) is a structured town meeting–style intervention. It puts forth the highest authority figure appropriate and available in conjunction with the CISM team leadership. The authority figure, or designee, presents the facts and status of the event. The audience then has the opportunity to ask questions to the authorities. The CISM team leadership then provides an educational piece about the stress of the situation and the appropriate ways to deal with it including resources available for assistance. The CISM members are also present if crisis intervention techniques are needed to assist the authorities with defusing the emotionality of individuals or the group.

Family support

When a major event affects the members of emergency organizations, usually a ripple effect occurs in the family members. Many times, emergency workers do not like to discuss the details of their occupations with the family for many reasons. Sometimes, they view these details as socially unacceptable, grotesque, or distressing to the lay public. Other times, the details would also disclose the dangers and hazards of the occupations causing worry within the family. Finally, the emergency workers do not like to display their own self-perception of weakness.

All of the mentioned interventions are used by specially trained CISM members to assist the spouses, significant others, children, and extended family. The family feels and sees the distress in their loved one and all at once worries about, feels at a loss about how to help, and experiences their own distress as a result. The CISM team assists the family with understanding what is happening to their loved one and how they can assist that person with the mitigation of their stress. In addition, the education includes stress mitigation techniques they can use for themselves.

Assessment/consultation

Many times, issues arise with the employees in emergency organizations. It is not always possible for the leadership to know if there is a problem, or if there is, what to do about it. This can be particularly true for the many small organizations that exist throughout the nation. In these cases, the CISM team offers the ability to do an assessment or consultation. These can be performed over the phone or via an in-person visit. The assigned member obtains the details of the situation and provides recommendations. Sometimes, the issues fall within the purview of the CISM process. Many times, it does not and appropriate options or referrals are suggested.

Follow-up and referral

CISM is designed for short-term assistance and, as previously emphasized, it is not psychotherapy. After CISM is provided for an individual or organization, follow-up is indicated when issues are identified. If indicated, brief follow-up meetings are held. Sometimes, the issues persist. In addition, follow-up meetings are not appropriate in all situations. Some individuals need more formal counseling. The CISM team assists with finding an appropriate setting. (See Professional counseling.)

Mutual aid

In a large part of the country, CISM team membership is voluntary. As such, times occur when a need exists for CISM involvement, but the local team is unable to muster the resources to respond. Additionally, events also occur where the local team has too close a connection to be effective. Finally, some events are too large for the local team to manage alone. In these cases, a system of mutual assistance exists to help out-of-county CISM teams or other similar in-county organizations.

Psychological immunization

The CISM process has the goal of providing psychological immunization. The strategies are prevention, intervention, and recovery. With tetanus immunization, people are protected against possible exposure to tetanus. This enhanced resistance helps protect the individual on a daily basis. With preincident education and stress management techniques, the emergency worker is better protected against possible exposure to a critical incident.

In certain types of dirty wounds, a tetanus booster is administered to provide a boost to the protective effect of the immunization. Likewise, after a suspected critical incident has occurred, the team interacts with the individuals involved to further boost their resistance. The most important elements of the CISM process provide an arena for venting and an opportunity for personnel to know that they are not alone in the way they are feeling or in their perception of the situation.

Incomplete facts can lead to incorrect conclusions. Incorrect conclusions can lead to improper reaction. By filling in and correcting the facts and, thus, the conclusions, resulting reactions are redirected. It has been said that the person is not responsible for what happened, only for how that person reacts to it. Certain animal bites require rabies immunization in an accelerated fashion. Similarly, even after the fact, psychological immunization may help prevent a full-blown reaction.

Contact information

In the US, most localities have a designated CISM team. Teams usually can be contacted through local or regional emergency dispatch centers. For areas that do not have a designated team, the ICISF in Ellicott City, Md, may be contacted. The business telephone number is (410) 750-9600. The ICISF 24-hour emergency number (through the Howard County, Md, Fire and Police Communications Center) is (410) 313-2473.

Starting a team

As stated earlier, most areas of North America and many areas of the rest of the world are covered by a CISM team. These teams usually cover all emergency workers, including EDs and trauma centers. If a region does not have a team, contact ICISF for information on starting a team.

Large cities with unionized police and fire departments frequently have CISM teams as part of their employee assistance programs. In these cities, CISM teams may be limited to that specific department. This leaves a void in which other emergency

providers, including EDs, do not have access to a CISM team, although large busy institutions have a regular need for CISM interventions. This situation could overtax smaller, spread out, regional CISM teams. Therefore, it is recommended that large academic institutions or large regional health systems develop their own CISM teams. These larger entities, with ED volumes of more than 25,000 per year, have the volume, personnel, and other resources that support establishing a CISM team. A core group of committed individuals is required for success. Health care-based CISM teams already are established. Contact ICISF for referral to these teams for guidance.

General Stress Management

Individuals can do many things on a regular basis to help mitigate not only the effects of CIS but also general life stress. Basic preincident strategies are simple things that people already know to do.

Preincident strategies

- Eat properly: A healthy body means a healthy mind. People need to eat a balanced diet. Caffeine and simple sugar intake should be limited. Emphasis on fruits and vegetables is paramount.
- Exercise: Regular exercise is important. Currently, this is a moderate pulse-raising activity that does not cause shortness of breath and that is engaged in for about 30 minutes per session, 5 days per week. This activity, in addition to maintaining fitness, helps to regularly burn off the various chemicals released in the body when chronically stressed.
- Rest: Adequate rest is elusive for many people. Rotating shift schedules play havoc with circadian rhythms and leave people in chronically fatigued states. Physical fatigue leads to psychological and emotional fatigue. Being rested places an additional layer of protection against stress. Strategies beyond the scope of this article exist for dealing with physical fatigue and shift work. However, excellent information exists in Circadian Rhythms and Emergency Medicine Practice and in Kuhn's 2001 article cited in the bibliography.
- Talk: Finally, talking is important. The emergency worker might say, "Talk? I talk all day. Twenty staff, 40 patients yielding 40 doctors and 80 relatives, why, that is 180 people right there in just 1 day." However, this is the problem. Emergency medical workers spend so much time talking and dealing with people at work that they no longer want to talk when the return home. Emergency medical workers tend to withdraw from active interpersonal communication. After a critical incident, however, individuals need to vent. Venting is helpful and also allows further processing and understanding of the event.
    - Imagine a cartoon with a dialogue bubble. Talking allows people to "read" their own words. After a critical incident, workers may not feel much like talking—exactly why it is important to practice doing so. When workers really need to talk, it will be easier.
    - People must develop their support groups for troubling times. These groups can be fellow employees, peers, family, and nonmedical friends. If people do not identify and exercise their support groups

before an event, they will not know to whom to turn when it really counts.

Postincident strategies

If the basics of eating properly, exercise, rest, and talk are important before a critical incident, then they are the equally important basics of postincident stress management.

Coping

Coping enables humans to respond rapidly to stressors. Many coping mechanisms may be employed to deal with stress. Avoidance tactics are the least healthy. Such behaviors as excessive sleep or food, daydreaming, and crying are examples. Denial is perhaps one of the most popular mechanisms. Denial bides time until other defenses can start. However, if an individual denies reality constantly and the problem does not disappear, the energy required to deny actually increases stress. Impulsive overreacting and acting out, either passively or aggressively, are other major maladaptive mechanisms.

On the other hand, approach tactics are positive. These tactics include humor, drawing on experience, and taking definite action. Extremely sarcastic, depersonalized humor is counterproductive.

Not allowing oneself to become a slave to materialism is important. The gathering of things requires the expense of money or the accumulation of debt. This then requires more work to pay for the material objects in one's life. Longer work hours directly increases the level of overall stress and does not allow time for the strategies discussed above including the time to exercise support groups such as family and friends.

Participation in non–medical-related activities (eg, sports, pleasure reading, service organizations, hobbies) away from work also is important. Activities should involve a mixture of family and nonmedical friends. These activities provide diversion, and they also may provide exercise and development of the support groups in which individuals participate.

Rest

Working at full speed all of the time is impossible. People need to allow their bodies and minds opportunities to slow and to have rest periods. Emergency medical workers should adjust to the pace of the shift; if the pace slows, they should take a little time to regroup. More likely, most people use the slow periods to frantically catch up on something else.

Meal breaks are very important for a number of reasons. The first reason is the constant barrage of stimulus changes. Bodies and minds slow during "refueling." Even 10 minutes can make a difference.

After a shift, workers need a transition period between working at full speed and off time. During a decompression period, the body must be assisted with the change

before plunging back into the demands of the administrative office or home. For some workers, a relaxing commute of 20-40 minutes may suffice. For others, relaxation or meditation techniques, pleasure reading, or a walk may help. Crucial to all breaks is avoidance of stimuli; the cacophony of the ED should not be replaced with loud hard rock music.

Nonmedical vacations are important and must be spaced throughout the year. Experience indicates the proper vacation length. Some people do not start to feel relaxed for 5-7 days; therefore, a 5-day break probably is insufficient.

Peer interaction

Emergency medical workers' daily interpersonal relationships with peers can dramatically increase or decrease overall stress levels. Studies reveal that one of the greatest sources of satisfaction is the feeling of teamwork. Efforts to foster teamwork are always beneficial. Effective communication, prompt and positive feedback, and the frequent use of productive humor are just a few of the ways to improve teamwork.

A need to talk about the job and interesting or difficult cases also exists. Emergency workers try to accomplish this during sign-over or double coverage times. A more effective method is to have scheduled periodic reviews of difficult cases and staff psychological retreats or rounds, so that this productive peer interaction is an inherent part of the department routine rather than a casual, hit-or-miss process.

Posttraumatic stress disorder

A number of psychiatric manifestations of stress exist. Posttraumatic stress disorder (PTSD) may occur due to a traumatic or critical incident. Set criteria in psychiatry determine if an individual qualifies for a diagnosis of PTSD. Individuals must be exposed to a high-risk, potentially traumatizing experience or situation. A combination of major and minor symptoms establishes a PTSD diagnosis, as follows:

- Flashbacks
- Dreams
- Déjà vu
- Avoidance
- Sleep disturbance
- Loss of interest
- Detachment
- Emotional numbing
- Increased startle
- Intensification

Within the first 24 hours, more than 85% of emergency personnel experience stress reactions in response to critical incidents. After 6 months, approximately 20% of the original group continue to have stress symptoms. After 1 year, about 5-10% of the original group still have symptoms; approximately 3% of the original group is diagnosed with PTSD. While hard and fast criteria exist to establish a definitive diagnosis, some experts in the field believe that PTSD is a continuum of symptoms from major to minor. This philosophy is not reflected in the current diagnostic classification.

Professional counseling

Most people exposed to CIS recover in a reasonable time, although some emergency workers require professional counseling. Individuals working in emergency services differ from individuals in the mainstream population. A unique action personality is identified in the emergency services. This personality type includes the following traits:

- Need to be in control
- Obsessive (do a perfect job)
- Compulsive (repeat same actions)
- Strong need to be needed
- Action oriented
- High need for stimulation
- Need for immediate gratification
- Highly dedicated and motivated
- Risk takers
- Easily bored

For counseling to be effective with the emergency worker, the counselor must be familiar with the unique stressors of the practice of emergency medicine, EMS, and other emergency services. Not choosing a counselor, a psychologist, or a psychiatrist with this background can cause a failure to connect with the emergency services patient. This can delay treatment, cause harm, or push the individual in need away from the concept of counseling. Most CISM teams maintain a referral list of qualified counselors in their region for treating emergency services issues.

Patient education

For excellent patient education resources, visit eMedicine's Mental Health and Behavior Center. Also, see eMedicine's patient education article Stress.

Conclusion

In 2003 and 2004, a movement occurred to discredit the work done in the CISM field by putting forth a few flawed studies involving single-session debriefing (not the full spectrum of CISM) in heterogeneous civilian groups or in individuals. This movement drew the conclusion that the single-session debriefing was not helpful and may have caused some harm.

Many limitations to these studies exist. The most important limitation is trying to extrapolate these findings to the CISM field. Clearly, group intervention techniques are not intended for individual interventions. Additionally, using situational crisis intervention in medical patients with continuing stressors is inappropriate. The CISD is not designed or was ever intended for use in isolation from the other components of CISM. What is particularly interesting about many of these studies is that the conclusions that are drawn do not correlate with the evidence provided in the discussions. While the opponents of CISM try to discredit CISM, they validate its many parts in the same studies.

Many studies have documented the effectiveness of CISM in mitigating the adverse effects of stress. Even more studies have validated the individual components used in the CISM process. In addition, a number of recent studies that validate CISM are being submitted for publication. These multiple studies and analyses support the use of a multifaceted crisis intervention process, such as CISM, to ease the pain of emotional crisis. In-depth discussion of these studies is beyond the scope of this article.

A more telling affirmation is the many emergency service providers who are grateful for a process designed to support them. If emergency workers ask within their spheres of influence, they will find individuals who suffer from CIS that has never been addressed and individuals who have benefited from the CISM process.

The 1995 Murrah Federal Building bombing in Oklahoma City, because of the scope of the incident, received special attention from a mental health perspective. A federally sponsored long-term project resulted, and interesting trends emerged. Studies of emergency responders in the years following the bombing found increases in divorce rates, alcohol abuse, and suicidal ideation. In addition, 14% of responders had PTSD. Of those with PTSD, only one half sought treatment. Even 5 years later, primary contacts for mental health services were still being made. Most of the new cases were rescue workers who had struggled and languished for those years.

In the months preceding the 2003 Columbia Space Shuttle tragedy, NASA had newly established a CISM program. They had not expected to need it so soon. Through the process of interventions for the thousands of NASA employees, they found individuals who still had not recovered or found closure to the Challenger tragedy 17 years earlier in 1986. They also discovered some employees who were still reacting to both the Challenger tragedy and the Apollo 1 tragedy, which occurred 36 years earlier in 1967. These employees never had any interventions or counseling.

In conclusion, given all the information mentioned above, what does CISM accomplish?

- Education: First, and most importantly, CISM provides education. Knowledge is power. The providers become sensitized as to what may cause stress reactions, how to recognize it, and what to do about it.
- Stress training: Through stress training the emergency worker learns how to deal with every day's issues. Less stress fatigue means better stress resistance.
- Physical support: The CISM team provides physical support during major operations. By addressing the basic needs, stress is greatly reduced.
- Social support: By actively networking, the CISM team provides social support. When the emergency services get to know the team members outside of responding to events or issues, the team members are not counselors, they become friends.
- Venting: Part of the social support is the ability to vent in a controlled manner.
- Normalize: Humans normalize the situation. If a person thinks he or she is the only one feeling that way, the person thinks he or she is abnormal. If the person's peers or colleagues are having the same or similar reactions, then the person is part of the norm and thus is normal.

- Assessment: The team provides a means for assessment. Individuals in true need can be identified.
- Referral: When individuals who need counseling are identified, the CISM team has the proper people lined up up-front.
- Ease of contact: One number does it all.
- Decrease stigmata: The CISM process also works to decrease the stigmata/bias that many have against about formal counseling.

People, in general, and emergency workers, in particular, are fairly resilient. However, many persons in the emergency services are in need and have never accessed a CISM team or other mental health resource. No place exists for a single-session "psychological debriefing" in the mental health field. When dealing with psychological first aid, no single intervention can or should be used in all situations.

CISM provides many approaches for the mitigation of acute stress. None of them are used in isolation. Stress is not a bad thing. Too much, or if too intense, stress may be harmful. The name CISM reflects "stress management," not stress abatement. The goal is to decrease excessive distress not eliminate it. An old biblical proverb states: "Give a man a fish and you feed him for a day. Teach a man to fish and you feed him for a lifetime." This comes to mind when discussing CISM: Give a man a shoulder to cry on and you have helped him that day. Empower him to know when he needs and where to find that shoulder and you've helped him for a lifetime.

CISM provides an additional support mechanism for when people feel it is needed. Most people use peers, family, and/or friends first for this support. CISM exists for when these resources of support are not enough. The goal is to help people regain rational, logical problem-solving abilities. People who can make their own decisions and help themselves do not require as much from emergent resources. This decreases the strain on the system, keeps them productive in society, and decreases their own perceived distress. CISM empowers the individual or organization to take care of themselves. Finally, CISM assesses for those that may require referral to mental health care. CISM assists the individual with the transition to the concept of mental health assistance.

Having been involved in a CISM team and in emergency medicine and EMS for a number of years, this author has seen first hand the benefit to individuals and the relief that they have felt after CISM interventions. Stress and CIS are inherent occupational hazards. Along with biohazards, infectious diseases, violence, and scene safety, stress can decrease the effectiveness of the provider and can shorten a career or life. Stressed providers can develop cognitive and emotional impairments that interfere with the ability to make accurate diagnoses or effective interpersonal communication. Patients, family, and emergency providers all suffer. Unaddressed stress impairs the ability to care. Unaddressed stress impairs the ability to thrive and enjoy life.

OPEN SECTION

OPEN SECTION

OPEN SECTION

OPEN SECTION

OPEN SECTION

OPEN SECTION

OPEN SECTION

TEST QUESTIONS

Further Reading

MULTIMEDIA

REFERENCES

1. Adler J. Stress. *Newsweek*. 1999;June 14.
2. Asterita MF. The Physiology of Stress. New York: Human Sciences Press;1985:1-6. [Medline].
3. Barnett-Queen T, Bergman LH. Posttrauma response programs. *Fire Engineering*. 1988;Aug:89-91.

4. Benight CC. Coping self-efficacy and psychological distress following the Oklahoma City bombing. *www.colorado.edu/IBS/hazards/qr/qr87.html*. 1996;[Full Text].
5. Boudreaux A. On-scene stress and its effects: shoulders to lean on. *Fire Chief*. Jun 2002;56-60.
6. Boudreaux ED, McCabe B. Emergency psychiatry: critical incident stress management: I. Interventions and effectiveness. *Psychiatr Serv*. Sep 2000;51(9):1095-7. [Medline].
7. Bunch K, Wilson T. On-scene stress and its effects: Counselors on-call. *Fire Chief*. 2002;June:42-48.
8. Cohen NL. Lessons learned from providing disaster counseling after TWA flight 800. *Psychiatr Serv*. Apr 1997;48(4):461-2. [Medline].
9. Cowley G. Stress-Busters: What works. *Newsweek*. 1999;June 14.
10. Diener E, Seligman ME. Very happy people. *Psychol Sci*. Jan 2002;13(1):81-4. [Medline].
11. Diener E, Suh E, Oishi S. Recent findings on subjective well-being [University of Illinois Department of Psychology Web site]. March 1997. Accessed January 3, 2005. [Full Text].
12. Dionne L. After the fall. 9/11's Effects on New York's EMS personnel extend far beyond symptoms of post-traumatic stress. It's been a recovery derailed by lacking support systems & quashed by the absence of local & national recognition for EMS efforts & losses. In: *JEMS*. MEDLINE ID: 12209068: 2002 Sep;27(9):36-8, 40-57.
13. Durham TW, McCammon SL, Allison EJ. The psychological impact of disaster on rescue personnel. *Ann Emerg Med*. Jul 1985;14(7):664-8. [Medline].
14. Everly GS, Mitchell JT. The debriefing "controversy" and crisis intervention: a review of lexical and substantive issues. *Int J Emerg Ment Health*. 2000;2(4):211-25. [Medline].
15. Flannery RB. Managing stress in today's age: a concise guide for emergency services personnel. *Int J Emerg Ment Health*. 2004;6(4):205-9. [Medline].
16. Fonatanarosa PB. Occupational issues for EMS personnel. In: Roush WR, ed. Principles of EMS Systems. Dallas: American College of Emergency Physicians;1994:417-420. [Medline].
17. Graham NK. Part 2: How to avoid a short career. *J Emerg Med Serv*. 1981;42-48.
18. Grossman VG. Defying circadian rhythm: the emergency nurse and the night shift. *J Emerg Nurs*. Dec 1997;23(6):602-7. [Medline].
19. Hammer JS, Mathews JJ, Lyons JS, Johnson NJ. Occupational stress within the paramedic profession: an initial report of stress levels compared to hospital employees. *Ann Emerg Med*. May 1986;15(5):536-9. [Medline].
20. Howell JB, Shroeder DP. Physician Stress: Handbook of Coping. *Baltimore: University Park Press*. 1984;152-163. [Medline].
21. Kriner S. Red Cross caseworker helps Oklahoma City move on [American Red Cross Web site]. 2000 Apr 24. [Full Text].
22. Kuhn G. Circadian rhythm, shift work, and emergency medicine. *Ann Emerg Med*. Jan 2001;37(1):88-98. [Medline].
23. Litz B, et al. Early intervention for trauma: Current status and future directions. *Clin Psychol Sci Prac*. 9:1:112-134.
24. Marmar CR, Weiss DS, Metzler TJ. Stress responses of emergency services personnel to the Loma Prieta earthquake Interstate 880 freeway collapse and control traumatic incidents. *J Trauma Stress*. Jan 1996;9(1):63-85. [Medline].
25. Marmar CR, Weiss DS, Metzler TJ, et al. Stress responses of emergency services personnel to the Loma Prieta earthquake Interstate 880 freeway

collapse and control traumatic incidents. *J Trauma Stress*. Jan 1996;9(1):63-85. [Medline].
26. Maslach C. The physiology of stress. *New York: Human Sciences Press*. 1985;1-6.
27. McCabe B, Boudreaux ED. Emergency psychiatry: critical incident stress management: II. Developing a team. *Psychiatr Serv*. Dec 2000;51(12):1499-500. [Medline].
28. McCue JD. The effects of stress on physicians and their medical practice. *N Engl J Med*. Feb 25 1982;306(8):458-63. [Medline].
29. Medical Tribune. Oklahoma City bombing continues to inflict psychological problems. *Medical Tribune: Family Physician Edition*. 1997;38(16).
30. Michaels HE. Night shift work. *Ann Emerg Med*. Mar 1984;13(3):201-2. [Medline].
31. Mitchell JT. Crisis worker stress and burnout. In: Mitchell JT, Resnick HL, eds. Emergency Response to Crisis. Maryland: Robert J Brady Co;1981:183-195. [Medline].
32. Mitchell JT. Critical Incident Stress Management. In: Kuehl A, ed. Prehospital System and Medical Oversight. Baltimore: Mosby Lifeline;1994:339-344. [Medline].
33. Mitchell JT. When disaster strikes...the critical incident stress debriefing process. *JEMS*. Jan 1983;8(1):36-9. [Medline].
34. Mitchell JT, Bray G. Emergency Services Stress: Guidelines for preserving the health and careers of emergency services personnel. Englewood Cliffs, New Jersey: Prentice-Hall Inc;1990. [Medline].
35. Mitchell JT, Everly GS. Critical Incident Stress Debriefing: (CISD). Ellicott City, Md: Chevron Publishing Co;1993. [Medline].
36. Mitchell JT, Everly GS. The scientific evidence for critical incident stress management. *JEMS*. Jan 1997;22(1):86-93. [Medline].
37. North C. On-scene stress and its effects: trauma anonymous. *Fire Chief*. Jun 2002;50-54.
38. Orlowski JP, Gulledge AD. Critical care stress and burnout. *Crit Care Clin*. Jan 1986;2(1):173-81. [Medline].
39. Oster NS, Doyle CJ. Critical incident stress and challenges for the emergency workplace. *Emerg Med Clin North Am*. May 2000;18(2):339-53. [Medline].
40. Osterman JE, Chemtob CM. Emergency intervention for acute traumatic stress. *Psychiatr Serv*. Jun 1999;50(6):739-40. [Medline].
41. Raphael B, Singh B, Bradbury L. Disaster: the helper's perspective. *Med J Aust*. Oct 18 1980;2(8):445-7. [Medline].
42. Solomon RM, Reese JE, Bell PJ. CISM response following the loss of the shuttle Columbia. Presented at: World Congress on Stress, Trauma and Coping. February 20, 2005; Baltimore, Md.
43. Stanley SR, Saxon JP. Occupational stress: implications for vocational rehabilitation counseling. *J Rehabil*. Apr-Jun 1980;46(2):56-9. [Medline].
44. Whitehead DC, Thomas H Jr, Slapper DR. A rational approach to shift work in emergency medicine. *Ann Emerg Med*. Oct 1992;21(10):1250-8. [Medline].
45. Wilkinson CB. Aftermath of a disaster: the collapse of the Hyatt Regency Hotel skywalks. *Am J Psychiatry*. Sep 1983;140:1134-9. [Medline].
46. Zun L, Kobernick M, Howes DS. Emergency physician stress and morbidity. *Am J Emerg Med*. 1988;6:370-374. [Medline].