Review

The World Trade Center Attack
Helping the helpers: the role of critical incident stress management

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Abstract

Healthcare and prehospital workers involved in disaster response are susceptible to a variety of stress-related psychological and physical sequelae. Critical incident stress management, of which critical incident stress debriefing is a component, can mitigate the response to these stressors. Critical incident stress debriefing is a peer-driven, therapist-guided, structured, group intervention designed to accelerate the recovery of personnel. The attack on the World Trade Center, and the impact it may have on rescue, prehospital, and healthcare workers, should urge us to incorporate critical incident stress management into disaster management plans.

Keywords critical incident, debriefing, disaster, stress, stress management, post-traumatic stress disorder

While the first tasks in disaster management are to secure the scene, to triage, and to evacuate victims to definitive care, the disaster plan fails if it stops at the hospital door. It has been recognized that both disaster victims and workers are at risk for acute and chronic post-traumatic stress disorder (PTSD). It has also been acknowledged that treating established PTSD has only a marginal effect. All this has led to attempts to intervene early so as to prevent, or at least minimize, psychological morbidity following traumatic events. The underlying premise for early intervention is to limit the establishment of maladaptive and disruptive cognitive or behavioral patterns.

What are critical incident stress debriefing and critical incident stress management?

Mitchell described, in 1983, a brief, structured, interventional technique to be used immediately or shortly after a traumatizing event, and coined the term 'critical incident stress debriefing' (CISD) [1]. A critical incident is one that leads to an unusually powerful stress reaction that overwhelms the person's ability to adjust emotionally. In 1989, Dyregrov modified and expanded the technique and called it 'psychological debriefing' [2]. This was designed to take place within a group setting 48–72 hours after a traumatizing event in an attempt to assist participants in cognitively and emotionally processing their experiences.

CISD is now part of a comprehensive spectrum of techniques called critical incident stress management (CISM), and may be supplemented by earlier interventions, such as demobilization or defusing, or one-on-one encounters. CISD is neither psychotherapy nor counseling, but is instead designed to promote emotional health through verbal expression, cathartic ventilation, normalization of reactions, health education, and preparation for possible future reactions. The debriefing technique consists of reviewing the traumatic experience, encouraging emotional expression and promoting cognitive processing [3]. All this is carried out in group sessions, facilitated by a mental health professional and a peer of the group but one that was not involved in the event. The group setting is preferred as a forum for communication as it helps to re-establish order and a sense of safety. Participants are invited to recount their experiences chronologically and to describe the most terrifying aspects. The facilitators acknowledge the intensity of the experience, but also emphasize the universality of

CISD = critical incident stress debriefing; CISM = critical incident stress management; EMS = Emergency Medical Service; PTSD = post-traumatic stress disorder.

Table 1

Common signs and symptoms of excessive stress

Cognitive	Emotional	Behavioral	Physical
Confusion	Anger	Changes in eating	Tachycardia
Disorientation	Grief	Sleep disorders	Tachypnea
Attention deficits	Depression	Decreased personal hygiene	Dizzy spells
Difficulty making decisions	Hopelessness	Withdrawal from others	Hypertension
Memory loss	Helplessness	Prolonged silences	Excessive sweating
Nightmares	Feeling overwhelmed	Panic attacks	Dazed or numb appearance

their reactions. They also describe reactions that the group should expect and teach coping strategies, including the importance of resuming normal activities and the value of continued dialog with friends and family.

Reserved for dramatic events, CISD does not focus on work-related complaints because these are the province of an employee assistance plan. CISD is also not intended as a 'one shot' remedy. It is part of the systematic approach to CISM that includes pre-incident stress education programs, on-scene support, peer support programs, follow up services, and referral procedures [4].

Do we need CISM?

There is no doubt that working in the emergency services exposes workers to numerous stressors. Critical incidents include deaths in the line of duty, coworkers committing suicide, significant events involving children, incidents involving relatives or knowing the victims, excessive media interest, and disaster or mass casualty events [5]. All of these can be applied to the attack on the World Trade Center. One of the most difficult aspects of the emergency services, including disaster work, is the exposure to sudden, violent death, including that of children, and the exposure to dead bodies and body parts. The risk to personal safety, especially in an age of biohazards, adds to the stressors of service delivery.

These stressors are often cited as reasons for increased rates of divorce, substance abuse, and loss of personnel through attrition. The symptoms of critical incident stress are varied [6]. Common signs and symptoms of excessive stress include cognitive, emotional, behavioral and physical aspects, and these are described in Table 1.

The notion of 'victim', however, is not generally applied to rescue, medical, or support staff associated with disaster medicine. Nevertheless, several studies suggest that personnel involved in disaster medicine, especially those involved with the recovery and identification of human remains, are at particular risk for the development of PTSD.

For instance, a survey of 459 Australian firefighters identified that 32% self-reported psychological disturbances 4 months after they combated a disastrous bush conflagration. After 29 months, 18% reported that recurring imagery continued to interfere with their lives [7]. In a different study, nearly one-half of 285 emergency workers surveyed 1 year after two major bus crashes reported stress-related symptoms, and 13% felt they would probably never recover [8].

A study of 116 US soldiers handling remains from Operation Desert Storm, employing the Impact of Event Scale [9], identified a significant association of intrusive and avoidance behavior 3–5 months after their return home that was directly related to the number of bodies handled in a 'dose response' fashion [10]. Intrusive and avoidance symptoms of PTSD were also present, at a high clinical threshold, among 16% of 54 Navy personnel involved in mortuary duties following the 1989 turret explosion on the USS Iowa [11]. The baseline rate of PTSD in the general population is held to be 1.9% [12].

But does CISM work?

During the past two decades, CISD has been successfully used with emergency workers and prehospital providers such as the Emergency Medical Service (EMS), police and fire-rescue, as well as with soldiers, prisoners of war, hostages, and disaster workers. Most evidence is anecdotal, and few controlled or randomized studies exist. However, multiple doctoral dissertations indicate positive results from CISM, including CISD [4]. Police officers and firefighters receiving as little as a 1.5-hour debriefing within 24 hours of an incident exhibited statistically significant less depression, anger, and stress-related symptoms at 3 months than did nondebriefed subjects. EMS personnel receiving CISD after the 1992 Los Angeles riots also exhibited significantly less stress than non-debriefed EMS staff.

A decrease in Impact of Event Scale scores among rescue workers in Hawaii after Hurricane Iniki in 1992 included both clinical and administrative workers [13]. Eighty-eight percent of 219 Emergency Department nurses felt that the CISD process was helpful to them after a tragedy [14]. Anxiety

scores from 35 British police officers 3 months and 3 years after retrieval and identification of remains from the 1988 Piper Alpha oil rig disaster were significantly lower in the intervention group compared with controls [15]. These individuals received CISM in the form of pre-event orientation, nightly debriefings, and the pairing of experienced with inexperienced personnel. Because they had taken part in an occupational survey prior to the disaster, it was possible to determine that anxiety levels returned to near baseline in the treatment group.

Studies casting doubt on the efficacy of CISD or psychological debriefing are often flawed. For instance, debriefings may have been performed improperly, they may have been unstructured or delayed, or the outcome measures used were unclear [16]. Outcomes other than PTSD may be important to investigate. Using the CAGE measure of problem drinking [17], 25% of 106 British servicemen returning from Bosnia had scores consistent with alcohol misuse. At 12 months after a single CISD debriefing, the intervention group had a 6.3% rate of alcohol misuse versus 30.4% for those randomized to the nondebriefing arm. A 1999 meta-analysis of five studies of the 'Mitchell model' of CISD, incorporating 341 adult subjects, demonstrated a large effect size supporting the power of CISD to mitigate the symptoms of psychological distress [18].

CISM as part of a disaster plan

An infrastructure for CISD should be incorporated into hospital and regional disaster plans, including provisions for volunteer and inhospital workers. This should also include a group not previously studied: 911 dispatchers. The call volume to New Jersey 911 dispatchers increased 66% during 08:00 to 14:00 on the day of the World Trade Center attack. Unlike the usual, short duration calls reporting an accident, these calls were often from individuals inside the World Trade Center itself. Often long, final conversations from anguished trapped victims asking what to do, these were calls for which the dispatchers were not trained. Some of the dispatchers have not yet returned to work 1 month later (New Jersey EMS Council, personal communication, 2001).

Adequately trained individuals must provide CISD. Not only are positive effects more probable, but also the chance of inadvertent harm is reduced after CISD. Mistakes in providing CISD as part of a disaster response include failure to have an adequate number of trained mental health professionals, misunderstanding the CISM process, not having a CISD team strategy, attempting to turn CISD into psychotherapy, and breaking confidentiality. A peer is always required for emergency services, hospital-based personnel, military, and disaster worker debriefings.

Finally, it is important to recognize the risks associated with CISD [19]. The CISD team members may in fact become secondary victims. Adequate 'down time' between debriefings, and defusings or debriefings for team members, will avoid stress reactions among the helpers of the helpers.

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Competing interests

None declared.

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