

# A MISSING COMPONENT IN YOUR EMERGENCY MANAGEMENT PLANS: THE CRITICAL INCIDENT STRESS FACTOR

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## ABSTRACT

In emergency management, the effects of stress on the performance of emergency personnel, typically have been ignored or regarded as too enigmatic to quantify. This paper discusses the concept of Critical Incident Stress in responders to emergencies. It presents the rationale for considering stress as a significant factor in the management of emergencies. It is proposed that Critical Incident Stress Debriefing in a disaster can improve the effectiveness of response teams on site, their turnaround time on site, and post-disaster time off the job. Critical Incident Stress intervention also can mitigate potential deleterious emotional effects associated with emergency work. This paper, prepared by a U.S. Bureau of Mines researcher, offers some ideas to the mining industry in general, to mine rescue team trainers, and to developers of program simulations on the specific issue of how people, time, materials and space may be factored into a plan for emergency management. The impact of stress on emergency workers is presented as a missing component in present emergency management models.

## INTRODUCTION

A main focus in the management of emergencies has been on resources and logistics, on providing the necessary resources to meet a crisis within an urgent time frame; in other words, having **what** and **who** you need, **where** and **when** you need it. The necessary resources include trained manpower, appropriate equipment, available communication, plus knowledgeable and decisive leaders. In the mining industry,

emergency response planners have concentrated on designing better and safer equipment, on producing rescue apparatus such as the person-wearable, self-contained self-rescuers, on decreasing response time, on increasing training of mine rescue teams, and on developing escape plans that comply with mine safety regulations. Mining operators must develop escape plans that are designed to comply with regulations under 30CFR Part 75 (sec 1101-23 and 1704-2).

Immediate and appropriate response to mine disasters is, of course, essential. "Longer hoses and higher ladders" are important. New technology and increased training improves the efficiency of the rescue worker. An often missing consideration in mine and other disaster training and management programs however, is the impact of stress on the emergency workers themselves. This paper offers information and proposes how the effects of human stress on emergency/rescue workers may be factored into emergency management planning.

## THE RATIONALE FOR INCLUSION

The stress response is a normal human characteristic, an adaptive preparation for action by humans in crisis. The human organism survives because of the maintenance of a normal internal balance referred to as homeostasis. A physical or psychological threat tends to disrupt homeostasis and produce physiological reactions in the body. These physiological reactions involve the nervous and endocrine systems and produce various system, and organ responses. Specifically, stress leads to activation of the autonomic nervous system and to an increase or

1 - 2% (10). The general statistical risk of PTSD, however, can be misleading. For those in high risk professions, any single traumatic incident may engender symptoms of post-traumatic stress or fully developed PTSD, at an incidence up to 90% or more in those who are primary or secondary victims. (8)

By definition, a traumatizing event is one that is outside the normal range of everyday life events. It is experienced by the individual as overwhelming. (11) Traumatizing events or **critical incidents** are especially frequent among emergency workers. A critical incident is one experienced by personnel that produces an emotional reaction with the potential for inhibiting a worker's ability to function either at the scene or later. (12) An example of a critical incident would be the serious injury or death of a colleague in the line of duty or an incident where the circumstances, the sights, sounds and smells are so distressing as to result in an immediate or delayed reaction. (12)

Researchers have identified both immediate and long range symptomatic reactions to trauma. (11) Initially, individuals will report numbness, denial, avoidance of places or things that remind them of the trauma, withdrawal from social interaction, depression, difficulty with concentration and relationships. Long range, more acute symptoms include fearfulness, irritability, sleep disturbance, flashbacks and heightened sensitivity. These responses can fluctuate within an individual and be confusing and disturbing. Although researchers and psychologists who specialize in job stress generally agree that persons attracted to emergency work are, as a group, basically more emotionally stable than the general population, emergency workers, however are subject to an increased incidence of stress-related diseases such as heart disease. (13)

Generally, emergency workers close ranks after a crisis. They prefer to talk to others in their unit or on their rescue team. Telltale signs of distress such as excessive humor, increased derogatory remarks against one another,

irritability, withdrawal from others or significant changes in behavior are often overlooked by peers. Post trauma reactions are natural - though not necessarily healthy - responses to trauma, and they can be resolved. There is consensus among clinicians and researchers that the presence of a supportive environment is crucial to a positive resolution for the traumatized worker. (11) Successful resolution of the crisis experience not only allows for the worker's return to productive work but can help him or her better understand a

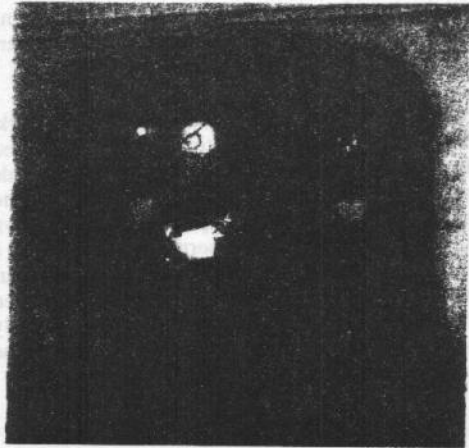


Figure 1.--Miner's escape through smoke

normal response to an atypical situation. Emergency Service personnel generally are normal individuals responding to abnormal situations. Critical Incident Stress Debriefing is an organized approach to the management of the stress reaction.

## BACKGROUND

Throughout history there are references to human stress in traumatic situations. According to Mitchell, Critical Incident Stress Debriefing intervention evolved from four major influences: military experiences, police psychology, emergency medical services and disasters. (14) Mitchell noted that stress reactions during war have been reported by historians since 603 BC.

meet with mental health professionals and are given information on the typical effects of critical incident stress and the symptoms which may or may not appear. They are given practical suggestions for stress management and allowed time to comment or ask questions.

#### Post-incident CISD

For about 24 hours after an incident is over and defusings or demobilizations are complete, emergency personnel typically prefer not to discuss the event with outsiders. Emergency personnel may focus on reports and procedure, not being ready to deal with their feelings about the event. (15)

As stated earlier, CISD is a psychological and educational support group discussion that utilizes a specially trained team composed of a mental health professional and peer support personnel. A CISD team after a mining disaster would be composed of a mental health professional and mine rescue team members who have been trained in CISD. The CISD is a carefully designed, structured process that progresses through seven phases and provides stress-reduction information. Participants are encouraged, but not required, to speak; the process is confidential. (16)

Responders to emergencies are not always trained or experienced personnel. Sometimes they are individuals who simply are "there" and enlisted to perform a task. In a mine fire, rank and file miners from other areas may be called upon to execute emergency assignments and consequently be exposed to critical incidents. An example of this assumption of roles in an emergency, is found in a U.S. Bureau of Mine's case study of workers' escape from an underground mine fire (17). The fire was discovered by the "fire boss" (mine examiner) who disengaged the trolley power and called to warn the shift foreman and the miners working in the three sections which were affected by the fire. The fire boss, joined by the mine foreman and the general assistant foreman fought the fire and extinguished it about an hour after discovery. Meanwhile, twenty-some miners escaped under smoke. There was no time for a mine rescue

team to organize and respond. The individuals on the scene reacted to fight the fire and to execute the escape. All individuals called upon to fulfill emergency roles should be included in debriefings.

#### Follow-up

All defusings, demobilizations and debriefings are followed up in some manner ranging from a phone call to a follow-up meeting. A CISD team must be trained. It takes a special task force six months to a year to organize a CISD team. They need to be carefully recruited, trained, and committed to the process. (14)

#### FURTHER INFORMATION

Critical Incident Stress Debriefing teams have grown remarkably in the past ten years. The Second World Congress on Stress Trauma and Coping in the Emergency Services Professions, held in 1993 in Baltimore, MD attracted attenders from all over the United States and abroad. In January of 1994 there were approximately 350 CISD teams worldwide. (18) The studies cited here suggest that those responsible for the development and implementation of crisis management plans need to be aware of the importance of including resources for meeting the critical incident stress potential for their rescue workers. They emphasize the importance of the intentional creation of pre-incident education programs and a post-trauma workplace milieu that is conducive to healthy resolution of the trauma.

Management personnel are not exempt from critical incident stress syndrome. As reported by Doepel, managers are vulnerable to traumatic stress reactions and need to be offered training and information with the rest of the emergency personnel. (11) His experience suggests that management, whenever possible be involved in the group process. He concludes that a good emergency plan "is enhanced by the inclusion of components designed to mitigate the effects of post-traumatic stress reactions among managers and employees" (11 p. 186).