

The Critical Incident Stress Debriefing Process for the Los Angeles County Fire Department: Automatic and Effective

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ABSTRACT: *Los Angeles County Fire Department has one of the oldest Critical Incident Stress Management (CISM) programs in the country. One core component for the LACoFD has been the Critical Incident Stress Debriefing (CISD). Two important questions for the emergency managers are: 1) Do individuals find a significant difference in symptom reduction for events that were debriefed? 2) Does helpfulness of a debriefing for a specific individual correlate with recommending the process for others?*

A Department-wide evaluative survey was conducted in 1996 to determine the satisfaction and effectiveness of the debriefing program.

Individuals reported a significant difference in the speed of symptom reduction for incidents that were debriefed versus incidents that were not debriefed. The majority of individuals would recommend the debriefing process to others regardless of whether they personally found the process helpful or not.

Based on this, the recommendations are to continue the debriefing process for specific events and to make the process mandatory; furthermore, it is recommended that the term "mandatory" be changed to "automatic." By using the term "automatic," debriefings become standard operating procedures. By doing so, a method to protect the psychological welfare of emergency personnel becomes as automatic as putting on safety protection equipment [International Journal of Emergency Mental Health, 2000, 2(4), 249-257].

KEY WORDS: Critical Incident Stress Debriefing; CISD; Critical Incident Stress Management; CISM; traumatic stress; fire service

The Los Angeles County Fire Department (LACoFD) has one of the oldest Critical Incident Stress Management (CISM; Everly & Mitchell, 1999) programs in the United States. The program, implemented in 1986, is comprehensive. It is based on the "ICISF model" approach to reducing traumatic stress after critical incidents following emergency operations (Mitchell, 1983; Everly and Mitchell, 1999). The program spans the entire three phases of the crisis spectrum: 1) the pre-crisis phase; 2) the acute crisis phase; and 3) the post-crisis phase. It embodies ten components: pre-incident education, demobilizations, on-scene support, defusings, Critical Incident Stress Debriefings (CISD), individual

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counseling, significant other support, specialty debriefings, follow-up, and a strong peer firefighter support program. The intent is to reduce and control the harmful effects of critical incident stress on LACoFD personnel.

Since 1986, the LACoFD has conducted more than 500 Critical Incident Stress Debriefings (CISD and defusings with its personnel. The underlying goals of the CISM program are:

- 1) To reduce the impact of a traumatic event;
- 2) To accelerate the normal recovery process from a traumatic event;
- 3) To normalize the stress response for emergency workers

Note: This project was an applied research investigation originally submitted to the National Fire Academy as part of the Executive Fire Officer Program.

in traumatic events; and
 4) To provide for education in stress management and coping techniques.

The underlying assumption among Department management personnel is that CISM meets these goals. However, supporting evidence had never been gathered. In 1996, the author undertook a Department-wide evaluative survey to determine the satisfaction and effectiveness of the CISM program, focusing specifically on three components: defusings, CISD, and individual peer support. The results of this survey were previously reported in a National Fire Academy document (Hokanson, 1997).

The results showed that the CISM program is effective in educating LACoFD personnel about stress symptoms, coping techniques, and creating an environment where open discussion of traumatic events is possible. Overwhelmingly, the program was well received and participants expressed their overall satisfaction with the defusing, debriefing, and peer support processes.

One of the questions within CISM programs for emergency personnel has been whether CISD attendance by an individual should be mandatory or voluntary. Mitchell (1983) initially stated that emergency responders should be required to attend debriefings. Later, he softened a bit on this and stated that they should be required for specific incidents such as line-of-duty deaths, multiple fatality events, large-scale disasters, suicide, or critical injury of personnel

(Mitchell & Everly, 1995) leaving other events up to the decision of the responders.

There is often an inherent resistance by firefighters to admit the presence of virtually any psychological or emotional problem as well as a persistent, often dysfunctional, need to maintain a “macho image.” These are some of the reasons that within LACoFD, debriefings have always been mandatory.

For the purposes of the current paper, specific data from the original survey (Hokanson, 1997) were reanalyzed to answer these questions:

- 1) Did individuals find a significant difference in symptom reduction for events that were debriefed vs. events that were not debriefed?
- 2) Does helpfulness of a debriefing for a specific individual correlate with recommending the process for others?

Background and Significance

The Los Angeles County Fire Department provides fire suppression, prevention, emergency medical services (paramedics), terrorism preparedness, urban search and rescue, hazardous materials management, ocean lifeguard services, and public education services to over four million residents in a 2,298 square mile area. The Department is comprised of 157 fire stations serving 57 contract sites and employs over 3700 men and women whose lives may be

Table 1: CISM Interventions Following Cerritos Air Disaster

Cerritos Air Crash, 1986		CISM Interventions	
Total fatalities	86	Demobilizations	after each shift
Planes lost	2	Debriefings	12
Homes destroyed	16	Hotline	1
Civilians killed on ground	18	Follow-up	by Employee Assistance Program
Firefighters engaged	300	Firefighters filing workers' compensation	1
Body parts recovered	>10,000	Increase in mental health utilization	1%

impacted by critical incident stress on a daily basis.

In 1985 after a firefighter suicide, the Department's Health and Safety Committee, under the direction of the Health Programs Coordinator, outlined a comprehensive wellness program oriented to stress reduction for Department personnel exposed to traumatic stress. One of the components was CISM.

The Cerritos Air Crash of August 1986 was the largest mass-casualty event to which Department personnel had ever been exposed. The impact on the firefighters involved in this traumatic incident catapulted the Department into implementing CISM for the first time. An internal study was conducted after this incident. This study suggested that the interventions provided within the CISM program benefited firefighter stress recovery as evidenced by only one firefighter filing a workers compensation stress claim and a relatively small increase in mental health use subsequent to the disaster. Data were collected by contacting each fire station involved in the incident and verifying the information with dispatch logs of personnel deployed, contacting the coroners' office and gathering mental health use data from the Health Programs Office (Hokanson & Jordan, 1986). These findings are indicated in Table 1.

Since 1986, the 500+ CISDs and defusings have included line-of-duty deaths, firefighter suicides, multiple fatality events, prolonged rescues, severe injury of personnel, life-threatening training accidents, and unusual pediatric fatalities. Also included were large-scale events such as the civil disturbance of 1992, the fire storms of 1993, the earthquake of 1994, and the USAR team from the Oklahoma bombing.

In 1995, one station complained about a debriefing following a multi-fatality house fire on Christmas. This was a typical incident within our department protocols requiring a mandatory debriefing for all personnel involved. Based on the complaint, an investigation team consisting of the senior author serving as Peer Support Coordinator, the Health Programs Coordinator, and one mental health clinician interviewed the complainants. Two of the issues personnel complained about were the mandatory status of the debriefing process and the lack of Department research on the helpfulness of a debriefing following emergency operations.

This investigation led to the original Department-wide survey. Initially, the question of mandatory versus voluntary was not addressed. Therefore, this research paper is further

refinement of the original data to specifically address this question.

It is generally believed that critical incidents can impact firefighters' psychological and emotional functioning, and such an impact can lead to unproductive job performance in subsequent emergency situations. Emergency managers are entrusted to protect the health and welfare of their most valuable asset: the personnel under their command. It seems reasonable that if department personnel are to be required to participate in the debriefing process, there should be some systematic, empirical evidence that such an intervention is, indeed, useful.

Literature Review

The stressful effects of fire fighting are well-documented (Bryant & Harvey, 1996). Marmar, Weiss, Metzler, Ronfeldt, and Forman (1996) found a 9% rate of moderate to high distress in their sample of emergency services workers exposed to the Loma Prieta earthquake of 1989. Beaton, Murphy, and Corneil (1996) found a 31.7% incidence of posttraumatic stress disorder (PTSD) in their study of U.S. firefighters and 17.3% incidence in Canadian firefighters. In reviewing data from the NFPA for the last 20 years, Washburn, Lablanc, and Fahy (1997) state: "the leading cause of fatal injury for on-duty firefighters in 1996 was, in fact, stress as it has been in almost every year of this 20-year study, and this stress usually resulted in heart attacks" (p. 48).

Within recent years, a growing body of data has emerged regarding debriefings in general and CISD specifically. Unfortunately, the studies are not similar, nor are the populations to which CISD is applied. Some researchers apply CISD to first responders, and some apply it to civilians. First responders include professional firefighters and police (Beaton et al., 1996; Blak, 1991; Dunning, 1991; Fullerton, McCarroll, Ursano, & Wright, 1992; Hytten & Hasle, 1989; Marmar, Weiss, Metzler, & Delucchi, 1996; Mitchell, 1983), volunteer firefighters (Hytten & Hasle, 1989; McFarlene, 1986), emergency medical technicians (Fitts & Tabor, 1997; Marmar, et al., 1996a; Wee, Mills, & Koehler, 1993), hospital personnel and trained disaster workers (Armstrong, Lund, McWright, & Tichenor, 1995; Chemtob, Tomas, Law, & Cremniter, 1997; Spitzer & Burke, 1993), and military personnel (Busuttill, Gordon, Neal, Rollins, West, Blanch, & Herepath, 1995).

Other researchers look at groups that are mixed between responders in the line of threat versus non-threatened and paid versus volunteer, and they do not separate the effects of debriefing on these groups (Kenardy, Webster, Lewin, Carr, Hazell, & Carter, 1996). One must remember that there may be significant differences among professional and volunteer workers, police, fire, and EMTs, mental health, and other disaster workers. There are differences in the intensity and frequency of the traumatic events on different responders including their variations in the amount of exposure varies as well.

CISD was specifically designed to prevent or mitigate posttraumatic stress in emergency responders exposed to traumatic events. For many years, previous to Mitchell, various methods of psychological interventions called “debriefings” were used by the military, law enforcement, and hospital personnel, but no one had detailed the actual steps of the debriefing process. In 1982, Mitchell implemented his first application of a formal CISD process following a large-scale incident: the Washington Air Crash of January 1982 with 76 fatalities. Firefighters, police, disaster managers, and paramedics who attended the voluntary debriefing reported that the process was very helpful (Mitchell, 1983).

Providers have now recorded almost two decades of CISD application. CISD is based on crisis intervention theory and practice, which has been effectively applied for over fifty years (Mitchell & Everly, 1995). It has become an accepted and widely used intervention strategy in the field of recovery after exposure to traumatic events. Deahl et al. (2000) in a randomized study of CISD found it to be effective in reducing alcohol use and posttraumatic stress. Everly and his colleagues (Everly, Boyle, & Lating, 1999; Everly & Boyle, 1999; Everly & Piacentini, 1998) have meta-analyzed group debriefings, in general, and CISD, specifically, and found them to be effective in reducing psychological distress.

Various departments, depending on size, have preferences about voluntary versus mandatory, but nothing has been formally researched on this question. Organizations such as the American Red Cross (Armstrong, Lund, McWright, & Tichenor, 1995; Armstrong, O’Callahan & Marmar, 1991) and various mental health agencies (Talbot, Manton, & Dunn, 1992) use a voluntary process. First responder organizations, such as fire and police departments (Blak, 1991; Bohl, 1991) tend to have a mandatory process. The LACoFD CISD intervention is mandatory.

Procedures

Definition Of Terms:

- *Critical Incident:* A critical incident is often called a crisis event which has an impact sufficient enough to overwhelm the usually effective coping skills of either an individual or group.
- *Critical Incident Stress Management (CISM):* CISM is a comprehensive, organized approach for the reduction and control of the harmful aspects of stress in the emergency services.
- *Critical Incident Stress Debriefing (CISD):* CISD is a seven step, group psychological process developed as a method for mitigating the harmful effects of work-related trauma and mitigating posttraumatic stress disorder.

Research and Methodology

The research procedures used in preparing this paper consisted of: an initial literature review conducted at the University of Southern California in February of 1998; an additional literature review conducted at the Learning Resource Center of the National Fire Academy in April 1998; a survey of Department personnel conducted in August of 1996 with analysis of that data done in December of 1996 and refined pertinent to this paper in November of 1998 by statistical consultants on contract to the Department; and personal interviews conducted with Marguerite Jordan, Director of Health Programs, LACoFD, and Bonnita Wirth, Ph.D., Director of Crisis Response Services in June 1998.

A 26-question survey was developed by selected peer and mental health members of the CISM Team for the Department. This survey was distributed in September 1996 and returned October 1996. Three thousand questionnaires were sent to all Department personnel, including civilian support staff. An Executive Action Directive (EA) accompanied this survey. This EA is an internal memo sent to all administrative sites and all Chief Officers. This ensures that the entire Department will read it and instructs the Battalion Chiefs on how to distribute and return the questionnaire. The survey was returned to the Health Programs Office. All non-emergency response personnel were excluded from the analysis leaving only firefighters, lifeguards, hazard materials personnel, helicopter pilots, heavy equipment operators, and dispatchers.

This questionnaire asked questions pertaining to (a) the effectiveness of the debriefings, defusings, and peer support

in relation to four stated goals; (b) overall helpfulness of the debriefings; and (c) symptom reduction. Five demographic questions pertaining to age, gender, tenure, ethnicity, and battalion were also asked. Open-ended and fixed alternative questions were asked; the latter using a 4-point Likert scale: high, moderate, low, not at all or very helpful, helpful, somewhat helpful, or not at all helpful. Frequency distributions and chi squares between selected variables were conducted. A paired t-test and Cochran's Q were conducted on two questions comparing debriefed and non-debriefed incidents. This survey was fully described in a previous paper. The reader is directed to this document for a complete description of all 26 questions (Hokanson, 1997).

This survey obtained valid data from 2,124 emergency services workers within LACoFD. The four questions relevant to the current research include:

- 1) Did you find the debriefings helpful to you? (high, moderate, low, not at all).
- 2) How soon after the debriefing(s) did you notice significant symptom reduction? (within 24 hours, within 25-72 hours, within one week, 3-6 months, still have symptoms)
- 3) Please remember a critical incident of the same severity as above for which you were not debriefed. How soon after the incident did you notice significant symptom reduction? (within 24 hours, within 24-72 hours, within one week, 3-6 months, still have symptoms)
- 4) Would you recommend the debriefing process to others? (yes, no)

Limitations

This is a within subjects, single case, self-report design. There were no objective indices of helpfulness nor effectiveness (e.g. psychological measures, sick days off following an incident, etc.). And, of course, there are the

problems inherent with retrospective designs. The control condition is, as is the experimental condition, based upon recollective processes subject to contamination.

Based on a review of the literature, this is one of the largest surveys of professional emergency responders in the country. Given the valid responses, it is a representative sample of the Department. There was no mixture of victims with responders, nor voluntary with professional personnel.

In spite of its limitations, the survey may still serve to provide useful insight into the value of mandatory CISD.

Results

Of the 3,000 surveys sent out, 2,121 were returned and 2,073 were valid (69%). Mean age of respondents was 40 years (DS = 8.14) with average years with the Department being 14.47 years (SD = 7.95). Of the respondents who answered the question regarding defusings, 645 out of 1,735 had participated in at least one defusing. Of the 2,073 who responded to the question regarding debriefings, 972 (47%) reported that they had attended one or more debriefings. And of the 1,325 respondents who answered the question regarding peer support, 6% (70) reported having contacted a peer supporter. Only 13 people reported using all three CISM interventions.

Symptom Reduction:

The first analysis addressed this question: **Did individuals find a significant difference in symptom reduction for events that were debriefed versus events that were not debriefed?**

From the survey, two questions pertain to the above. How soon after a debriefing did respondents notice significant symptom reduction: within 24 hours, 25-72 hours, 1 week, 3-6 months, or still having symptoms? Next, in remembering a

Table 2: Symptom Reduction after a Debriefed Incident vs. a Non-Debriefed Incident

Symptom Reduction	Debriefed Incident		Non-Debriefed Incident	
	n =	%	n =	%
Within 24 hours	241	39.0	184	29.2
Within 25-72 hours	107	17.3	103	16.3
Within 1 week	110	17.8	126	20.0
Within 3-6 months	74	12.0	113	17.9
Still have symptoms	86	13.9	104	16.5
Total	618	100.0	630	100.0

critical incident of the same severity for which they were *not* debriefed, how soon after the incident did they notice symptom reduction? The hypothesis was that a debriefing would reduce symptoms at an accelerated rate and that there would be a difference in those debriefed versus those not debriefed. See Table 2 for results.

Thirty-nine percent (39%) of the debriefed respondents reported symptom reduction within 24 hours after a debriefing. A debriefing normally occurs within 24-72 hours after a critical incident, so this falls within the expected time frame. Only 29% of the non-debriefed group reported symptom reduction within the same time frame.

Of the debriefed group, another 17% experienced symptom reduction within 25-72 hours, and 18% within one week. Twelve percent reported symptom reduction taking between three to six months. However, 14% of the respondents reported that they still had symptoms at the time of the survey.

More non-debriefed personnel reported symptoms for a longer time period. Eighteen percent reported symptoms lasting from three to six months, and 17% felt they still had symptoms at the time of the survey. The debriefed group reported feeling better significantly sooner than the non-debriefed group: paired t test, $t(572) = -8.24, p < .001$.

Using only the respondents who answered *both* questions regarding an incident for which they were debriefed and one for which they were not debriefed, data from the 24 hour, 25-72 hour, and one week symptom reduction groups were combined into one group and data from the three to six month and still have symptoms groups were combined into the next group and compared (See Table 3).

Using a Cochran's Q Test (Siegel & Castellan, 1988) to compare the distributions, it was found that the probability

Table 3: Frequencies of Respondents' Reported Symptom Outcomes for Debriefed and Non-debriefed Incidents

	Symptom Reduction in 24 hours to 1 week	Symptom Persistence for 3 months or more
Debriefed Incident	445	151
Non-debriefed Incident	386	210

Note: All respondents included in table reported both a debriefed incident and a non-debriefed incident

of significant symptom reduction within one week or less was significantly higher when respondents were debriefed (74.7%) than when they were not debriefed (64.8%), Cochran's $Q(1) = 35.16, p < .001$. Or, in other words, for those incidents for which there was a debriefing, respondents report significantly less time bothered by symptoms than for those incidents that were not debriefed.

Recommended Process:

The second analysis looked at helpfulness of the debriefing process correlated with recommending. **Does helpfulness of a debriefing for a specific individual correlate with recommending the process for others?** Table 4 presents the relevant data:

Table 4: Recommendation of the Debriefing Process

Recommend	Debriefed Sample		Non-Debriefed Sample	
	n =	%	n =	%
Yes	696	78.5	169	84.5
No	191	21.5	31	15.5
Total	887	100.0	200	100.0

Seventy-nine percent (79%) of the debriefed group would recommend the process to others. Eighty-five percent (85%) of the respondents who had not been debriefed would also recommend the process to others. This seems to underscore the reputation the program has within the Department. It also seems to imply that participation in a debriefing does not determine whether or not the process should be recommended.

Next, a cross tabulation was conducted of the debriefed group by how helpful they found the process and by whether they would recommend it (see Table 5). It was found that of the 680 individuals who found the process helpful (low + mod + high), 90% (n= 615) of the individuals would recommend it. Thirty-eight percent (38%) of the 203 respondents who did not find the process helpful would also recommend it. The data also showed 34% (n= 65) of the respondents who found the debriefing helpful would not recommend it.

Helpfulness of the process seems to imply endorsement of the process by ninety percent of the individuals. Another 38% who did not find the process helpful for themselves

would still recommend it for others. For this latter group, helpfulness is not correlated with a subsequent recommendation.

Discussion

Cohen (1998) writes that a common theme among leaders is to take care of their personnel, and the personnel will take care of their leaders. One means of taking care of personnel is to attend to their psychological as well as physical well-being. Fire fighting is inherently psychologically stressful. The effects of unresolved stress can lead to decreased productivity, posttraumatic stress disorder, and, in some cases, death.

In the literature, the question of voluntary versus mandatory participation in debriefings has not been studied. In fact, the effectiveness of the CISD process has only recently emerged. This research gives us data that supports the helpfulness of the CISD process and supports the fact that those debriefed had significantly faster recovery from symptoms than those who were not debriefed.

The LACoFD has also provided a few debriefings that were open and voluntary to personnel. Less than three people attended any of these debriefings. Based on this and the fact that most firefighters will often state that they do not think they need help after a critical incident, asking the firefighter whether he or she would attend voluntarily does not seem warranted. Therefore, the Department is to keep the debriefing process mandatory.

Recommendations

In light of the term mandatory being somewhat controversial, it is recommended to change this term to *automatic*. In our opinion, there are five potential traumatic events that should trigger an automatic debriefing:

- 1) Major disasters.
- 2) Multiple casualty incidents.
- 3) Line-of-duty death or suicide of a department member.
- 4) Death of a child resulting from violence, neglect or any other condition which may have a lasting effect on personnel.
- 5) Any incident or situation that the incident commander feels may require CISM team intervention.

The fire service has many procedures that are designed to protect the physical health of the personnel and are automatic (e.g. putting air bottles on during structure fires, wearing safety protection gear, etc.). These are not questioned by firefighters. Therefore, concern for their emotional and psychological health should also be automatic. It should not be left up to each individual firefighter to determine whether or not he or she needs to attend a debriefing.

The data demonstrated that most individuals found the debriefing process helpful. Those debriefed recovered significantly faster than those not debriefed and most individuals would recommend the debriefing process to others. Asking a firefighter whether he or she “needs” to attend a debriefing places them in a position of possibly appearing “weak” to their coworkers. Leaving the debriefing process as an automatic part of operational procedures

Table 5: Grouped by Helpfulness of Process, Would Recommend, and Would Not Recommend Debriefing

Helpfulness	Would Recommend		Would Not Recommend		Total	
	n =	%	n =	%	n =	%
Not at all	77	38	126	62	203	100.0
Low	194	79	51	21	245	100.0
Moderate	331	97	12	3	343	100.0
High	90	98	2	2	92	100.0
Total	692	78	191	22	883	100.0

• Percentages based on total respondents in each category

avoids this dilemma.

The term automatic does not sound as heavy-handed as the term mandatory. This will perhaps make it more palatable to those individuals who disagree with the term mandatory. This is only a word change; however, words contribute to perceptions and feelings. Automatic debriefings should also be limited to the five events described, and events other than these should leave attendance to be determined by command staff and voluntarily attended by personnel.

However, discipline and order are essential to the

functioning of emergency service. Maintenance of the physical and emotional well-being of the personnel is essential to this functioning. Although firefighters are used to the paramilitary structure of the professional fire service, some prefer that their wellness not be subjected to the same approach. Firefighters vary in their discipline to their physical health (diet, exercise, substance abuse, etc.) and they vary in their self-assessment regarding the need for stress debriefing.

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American Psychological Association introduces a new section for clinical emergencies and crises.

APA Division 12 has approved an innovative new Section that gives recognition to the difficult clinical work that psychologists do with patients or clients who engage in life threatening behaviors. The Section has been established to advance the clinical and scientific understanding of psychological/behavioral emergencies and crises as well as the clinical abilities needed to evaluate and manage them. Emergencies include life threatening behaviors such as acute suicidality, potential violence, and risk to vulnerable victims of violence. The Section provides a forum for the exchange of clinical information and research findings related to the emergencies noted above and to the crises from which they so often develop. It has the further purposes of fostering education and training in the evaluation and management of these high risk clinical situations, as well as understanding and assisting with the impact of such difficult and intense work on the clinician. Membership is open to all members of the American Psychological Association.

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