**Chapter 24  
Prevention and intervention for psychologically stressful events**

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**Introduction**

There can be little doubt that EMS work contains more than its fair share of strain or that certain EMS calls are apt to produce a significant level of stress. This is not a calling well suited for those disposed toward the sedentary or the serene. The emergency side of the enterprise ensures EMTs a ringside seat, if not a central speaking role, in the majority of events listed on the classic Holmes and Rahe checklist of stressful life events [1]. Even the most routine elements of contemporary EMS work (e.g. non-emergency transfers) can bring providers into repeated contact with demanding people in difficult circumstances.

Whether looking from the health care side or the rescue viewpoint, the field provider often perceives himself or herself to have been relegated to a rather lowly position in the overall pecking order. When it comes time to pay the bills, there is no escaping the reality of limited pay for long hours. There probably couldn’t be a better recipe for disenchantment, especially for people who studied hard and competed intently for positions in which they could help others and maybe save lives.

But do EMS workers endure radically greater stress than other health care and public safety workers? Are they grossly unsatisfied with their jobs? Are they falling victim to posttraumatic stress disorder (PTSD), suicide, and depression at epidemic levels? Do their careers “burn out” in just 4 or 5 years? Does unrelenting exposure to life’s most poignant events lead to intractable harm? Can that harm be prevented or ameliorated by patent remedies and “self-help” programs? Does the absence of such programs lead providers to unravel and organizations to fail?

A quick survey of the industry’s folk wisdom could lead one to think so [2–4]. Several years ago, articles in trade magazines and presentations at trade shows and conferences made sweeping claims about the risk of PTSD while a booming cottage industry arose to offer instruction in how to mount stress management programs [5]. It all seemed reasonably simple, straightforward, and intuitively clear.

Human responses to life’s many challenges are anything but simple. Those seemingly straightforward questions posed above are actually multidimensional and layered with nuance. EMS workers report more frequent and proximal involvement with objectively distressing events than do many others but this should be expected, given the nature of their work. Just when their reactions should be considered symptoms of dysfunction rather than signs of exposure poses another, considerably thornier set of questions [6–8]. EMTs are well aware of the limitations their occupation presents but are also uncommonly attuned to its rewards [9]. To whom should they be compared to determine whether their satisfaction with their careers is greater or lesser than one might reasonably expect of workers in any challenging enterprise? Rates claimed for PTSD and depression vary widely between studies, depending on criteria, methods, and assumptions employed [10]. Those looking for high rates of disorder seem to find what they are seeking while those looking for resilience find it as well.

The question of whether prescriptive, prophylactic efforts at prevention and intervention can effectively mitigate these effects is no less complicated. Programs built around “critical incident stress management” (CISM) and its signature intervention, “critical incident stress debriefing” (CISD) permeated the industry and were typically well received as indicators of the organization’s concern for the impact of work-related stressors on EMS personnel [11]. Yet despite years of proclamation from promoters and purveyors regarding the effect of these efforts on job satisfaction, career longevity, and clinically significant sequelae, there is little evidence that these interventions have any appreciable effect on limiting PTSD and a disturbing trend in more extensive studies for debriefing to show paradoxical effects on natural recovery for at least some recipients [12,13]. A number of authoritative guidelines for evidence-based practice now caution against the routine application of debriefing, and some list it as contraindicated [14–19].

This leaves the EMS manager with a troubling conundrum. It seems evident, on the one hand, that EMS workers have chosen to take on a challenging occupation and deserve to receive every effort the organization can muster to assist them in coping with its effects. It is also increasingly clear that what was once widely accepted as a *de facto* industry standard for addressing this concern has proven less than effective and might even become a complication for some persons in at least some situations.

Even though traditional CISM interventions failed to live up to sweeping promises regarding prevention or mitigation of PTSD, they were generally well received as expressions of organizational support [5]. Such expressions are indeed important, and it is only reasonable that some cogent set of supportive responses continues to be made following distressing events in the field. Fortunately, a widely growing research base containing increasing sophisticated information now offers useful suggestions.

**Occupational health approach: organizational systems perspective**

Traditional CISM programs were marketed and disseminated as “grass roots” approaches designed to operate in a “peer-driven” structure; the program and its operation were typically insulated from the usual structure and boundaries of daily operation and management. The original dissemination model was centered on two-day “Chautauqua-style” workshops in which dozens of would-be interveners, typically dominated by prospective “peer” providers, received training that was oversimplified with respect to underpinnings and overspecified with respect to intervention [20]. While these teams were to include a mental health professional as “clinical director,” there was no qualification prescribed other than licensure or certification in some field related to counseling and attendance at one of these 2-day workshops.

These programs were ostensibly developed to address risk of occupational injury but have rarely been articulated with or supervised by the agency’s occupational health provider. It is not uncommon, however, to find integration with an organization’s employee assistance program (EAP). EAP programs are typically capitated delivery models, most usually from an external vendor, designed to provide limited basic counseling in areas such as substance abuse, depression, and family issues. “Critical incident response” is often provided as an add-on service.

The limitations of these types of insulation were addressed in recent revisions to National Fire Protection Association Standard No. 1500, *Standard on Fire Department Occupational Safety and Health Programs* [21]. Changes recommended by a series of consensus groups convened through the National Fallen Firefighters Foundation as a part of its occupational health and safety initiatives included placing the organization’s program for response to atypically stressful occupational events under the supervision of the occupational health physician and integrating elements of basic support into the daily structures and operations of the delivery system; changes were also made to provide more specific standards for EAPs. These consensus groups also adopted guidelines and recommendations for an integrated, stepped care approach to organizational support of employees and competent professional assistance where clinical issues arise, derived from current best practices and published guidelines (e.g. guidelines of the Oxford-based Cochrane Collaboration regarding debriefing following trauma [19], guidelines of the United Kingdom’s National Institute for Clinical Excellence [16], guidelines of the Australian Centre for Posttraumatic Mental Health [14], recommendations of the NIMH/Department of Defense consensus panel on early interventions following terrorism [18], and various refereed reviews [11,12,15,22]). A basic outline of current recommendations is summarized below.

* **Immediate assistance** should be proximal, non-intrusive, and ecologically intact, using principles of basic stress first aid as indicated by the situation and circumstances. The Combat Operations Stress First Aid program of the US Navy and Marine Corps [23] was identified as a prototype combining evidence-based principles and organizationally integrated implementation.
* **Early, reliable, and non-intrusive assessment** should be seen as an essential element in the process of resolution. While most EMS providers experience some level of distress following difficult duty, the greatest majority will not see that distress rise to levels that demand clinical treatment. The best approach in the early stages is generally one of practical support, compassion, and watchful waiting, referring any displaying obvious or profound difficulties for professional behavioral health intervention as indicated by their level of impairment. Easily utilized, non-intrusive screening measures are therefore an important element in tracking employee resolution and identifying those for whom more focused intervention is warranted.
* **Stepped care** entails providing treatment specifically to those who need it at levels that match their clinical needs. While basic supportive assistance is generally appreciated by most who have experienced distressing events, it may not be of universal benefit and can feasibly prove detrimental to some. Indeed, studies of cardiac patients following major coronary events found that a significant minority actually fared better if not enrolled in seemingly benign interventions such as psychoeducational support and symptom education [24,25]. Studies of early interventions based on debriefing techniques have also shown these sorts of paradoxical effects [26,27].

 Experienced EMS providers tend to be well acquainted with the transient discomfort that particularly poignant occupational experiences can bring and most have developed methods of regulating their discomfort that keep it from interfering with their lives and careers [5]. Where transient but subsyndromic discomfort proves recalcitrant or troublesome, referral to EAP providers or reliable self-help resources can be beneficial in shoring symptom management skills and in addressing external stressors that may be compounding the provider’s ordinary capacity for self-regulation [28]. Where symptom manifestation reaches clinical thresholds, referral to specialty providers for evidence-based treatment of the clinical conditions manifested is warranted.

* **Evidence-based treatment of clinical conditions** by competent and credentialed specialty behavioral health providers should be considered the standard of care for cases that reach diagnostic thresholds. Just as we fully expect to refer orthopedic injuries to competent surgical specialists or occupationally engendered infections to appropriate specialists in infectious diseases, we should be prepared to refer cases of psychiatric syndromes associated with occupational exposures to the care of carefully selected behavioral health specialists employing evidence-based treatments consistent with current authoritative guidelines for appropriate intervention.

 This can be especially confusing in the realm of psychological trauma, where (as noted above) there is little objective regulation upon which to rely for guidance and where “fringe therapies” that offer sweeping claims but little objective evidence abound [29,30]. The treatment guidelines noted earlier converge on the well-documented efficacy of trauma-focused variants of cognitive behavior therapy using graded exposure (see the Institute of Medicine’s detailed overview of evidence regarding clinical treatment of PTSD [31]). This approach has demonstrated efficacy in a range of applications, including treatment of PTSD in World Trade Center survivors [32]. On the other hand, many treatments typically employed in routine therapy have been found to be relatively ineffective in treating conditions such as PTSD.

**Help-seeking predilections versus help delivery systems**

Building a system that can integrate seamlessly into the agency’s standard organizational and incident management structures is vital to achieving an effective solution. Rather than imposing help delivery systems that are essentially insulated from organizational structures and patterns, and which may inadvertently run counter to the organization’s occupational health objectives and practices, successful programs will ordinarily be built on analysis of the help-seeking patterns and preferences of its members as they encounter difficult occupational conditions and events. These efforts will generally be imbedded into standard operating practices that serve established organizational objectives.

In detailed qualitative interviews of Canadian EMS providers, Halpren and colleagues asked what types of assistance they felt to be useful and how they would want that assistance to be delivered [33]. Paramedics, supervisors, and dispatchers were questioned in detail about their strategies for coping and their ideas for enhancing recovery. Systematic interviews were conducted in both groups and individual sessions where the responses were transcribed, coded, and analyzed for common themes. Most of the providers’ suggestions concentrated on very practical workplace steps, such as a half-hour to one hour “time out” period to recoup and regroup (alone or with peers of their choosing, at their option) coupled to expression of support and interest from supervisors. Should professional intervention become advisable, providers indicated that they would prefer to exert greater influence over the nature, context, and sources for the intervention sought.

[Figure 24.1](https://jigsaw.vitalsource.com/books/9781118990827/epub/OPS/Vol2/c24.xhtml?favre=brett#c24-fig-0001) provides a flow chart for a basic protocol addressing potentially traumatic events derived from elements outlined above, as developed by consensus groups matching leading research programs and industry constituency groups. It is not intended to be prescriptive but rather to serve as a basic schematic to be adapted to the needs, structure, and pragmatics of any given organization. It is built to accommodate stressful effects of more basic EMS encounters with full expectation that it will be treated flexibly and adapted as required for more complex incidents.

[**Figure 24.1**](https://jigsaw.vitalsource.com/books/9781118990827/epub/OPS/Vol2/c24.xhtml?favre=brett#R_c24-fig-0001) PTE protocol flow chart. PTE, potentially traumatic event; TF-CBT, trauma-focused cognitive behavior therapy.

**Experience of a potentially traumatic event**

One provider’s trauma may well be another’s routine experience. The reaction is on many levels a subjective one, driven by the individual provider’s experiences, sensibilities, and personal situations. Accordingly, the first question is, “Does the provider consider it significant?” If so, he or she can request initiation of the protocol; if not, an expression of concern and the availability of help if needed may be all that is required.

**Supervisor “hot wash”**

The “hot wash” is an element of the military after-action review process that, especially if flavored as indicated with principles of stress first aid, can make the initial system response useful, helpful, and non-intrusive. Its basic structure is simple: What happened? What was successful? What could have gone better? How might we improve? Who should we tell about what we have learned? The hot wash is not reserved for complex, troublesome, or tragic events; it is most effective where it is a routinely practiced element of quality improvement, used to review routine events as well as complex encounters. The objective is “local learning” that can identify and reinforce successful practices while noting opportunities for improvement.

If routinely practiced – not as a response to troubling incidents and equivocal outcomes but as a routine quality improvement exercise – this quick review becomes the default outline for response when confronted by trying events, making the transition to discussion natural and uncontrived. This discussion alone helps place the event into an appropriate occupational context and provides an easy segue into discussion of emotional reactions if sought or indicated. If that appears to yield sufficient resolution, the process may be complete; if serious issues are obvious, referral for assessment is prudent. If it still seems unsettled, a quick and non-intrusive screening may be employed at 3–4 weeks.

**Trauma Screening Questionnaire**

Brewin and colleagues reported on the development of the Trauma Screening Questionnaire (TSQ), a simple, straightforward, and non-intrusive short questionnaire that has demonstrated very good utility in identifying those for whom resolution is progressing well and suggesting who may require fuller assessment for clinical treatment of PTSD [34]. Consisting of ten simple queries with “yes” or “no” responses regarding whether the indicated symptom has been experienced more than twice in the preceding week ([Table 24.1](https://jigsaw.vitalsource.com/books/9781118990827/epub/OPS/Vol2/c24.xhtml?favre=brett#c24-tbl-0001)), it can be scored by rote counting of positive responses using a threshold of six or more affirmative replies as a positive screen for advancing to full assessment. It can accordingly be used with outstanding efficiency in primary care settings, workplace screening, and even as a self-assessment tool. Its capacity in various trials to screen out cases that will not experience clinical levels of impairment has been shown to be quite strong and its capacity to identify those who will require further intervention has shown acceptable sensitivity and specificity for use a screening instrument.

[**Table 24.1**](https://jigsaw.vitalsource.com/books/9781118990827/epub/OPS/Vol2/c24.xhtml?favre=brett#R_c24-tbl-0001) Trauma Screening Questionnaire.

Source: Brewin 2002 [34]. Reproduced with permission of Royal College of Psychiatrists

|  | **Yes, at least twice in the past week** | **No** |
| --- | --- | --- |
| **1** Upsetting thoughts or memories about the event that have come into your mind against your will |  |  |
| **2** Upsetting dreams about the event |  |  |
| **3** Acting or feeling as though the event were happening again |  |  |
| **4** Feeling upset by reminders of the event |  |  |
| **5** Bodily reactions (such as fast heartbeat, stomach churning, sweatiness, dizziness) when reminded of the event |  |  |
| **6** Difficulty falling or staying asleep |  |  |
| **7** Irritability or outbursts of anger |  |  |
| **8** Difficulty concentrating |  |  |
| **9** Heightened awareness of potential dangers to yourself and others |  |  |
| **10** Being jumpy or being startled at something unexpected |  |  |

If six or more items receive positive responses, referral for a more complete assessment is indicated. Should a given provider screen as subsyndromic but still need assistance with symptom regulation or compounding life issues, appropriate referral for basic EAP assistance should be considered.

**Complete assessment**

A qualified EAP provider or other professional can typically accomplish this using appropriately validated instruments and procedures. Specialty treatment may not be indicated, but the EAP can help with symptom management or external stressors that are complicating the provider’s usual capacity to deal with the circumstance. Where clinical treatment is indicated, referral should be made to a competent behavioral health specialist fully qualified in appropriate evidence-based techniques.

**Treatment by specialty clinician**

This should be a specialist (typically a board-certified psychiatrist, a licensed, doctoral level psychologist, or a certified clinical social worker) with advanced training and supervised experience in specific, evidence-based treatment models supported by current clinical guidelines (e.g. cognitive behavior therapy for PTSD, anxiety disorders, and depression). Occupationally related PTSD has typically responded to relatively short treatment cycles (12–25 sessions in the Levitt study [32]), but is often accompanied by other issues that may benefit from further EAP assistance (e.g. family effects). Accordingly, evaluation for other needed or desired assistance completes the protocol.

**Building an integrated system**

It is important to keep in mind that successful approaches build on elements that are integrated into organizational and operational systems rather than invoked in response to limited and specific situations. Accordingly, critical elements need to be incorporated into those systems and used regularly to assure familiarity and appropriate utilization as indicated. The National Fallen Firefighters Foundation program generated training features for each element of the consensus protocol to assist organizations in putting key pieces into play. While developed from a fire service perspective, EMS applicability was a key consideration as medical response dominates the service profile of most fire service agencies and many are primary providers of ambulance service. Available elements include the following.

* **After-action review**. Online training module regarding use of operational after-action reviews (hot wash) in daily operations.
* **Curbside manner**: **stress first aid for the street**. Online training module presenting an abbreviated version of the Stress First Aid program emphasizing daily use of its basic principles in routine contacts, both enhancing patient care and priming these principles to facilitate their application in coworker interactions following difficult or trying events.
* **Trauma Screening Questionnaire**. The TSQ is made available for download and use [34].
* **Developing an effective behavioral health program**. Information to assist organizations in designing and contracting for employee assistance procedures that conform to revised NFPA 1500 standard.
* **Assistance to behavioral health providers**. Online training in evidence-based intervention developed in partnership with the National Crime Victims Research and Treatment Center at the Medical University of South Carolina.
* **Stress first aid**. This imbedded program of coworker assistance and referral, adapted for fire and EMS from the US Navy and Marine Corps Combat and Operational Stress First Aid [23] program by the National Center for Post Traumatic Stress Disorder, provides training at awareness (all personnel), operations (officers and supervisors), and technician (designated peer support personnel) levels.

Access to all of these resources is available through an online portal at [http://flsi13.everyonegoeshome.com](http://flsi13.everyonegoeshome.com/); with few exceptions (classroom instruction in higher levels of stress first aid), all are accessible without charge through that portal.

**The final fundamental: personal wellness and fitness**

Resilience is ultimately determined more by the providers’ capacity to absorb stressful exposures on the job than by either the nature of the exposures themselves or the responses to exposures after the fact. This requires a fundamental commitment from each EMS provider to his or her own health, wellness, and fitness, and a fundamental commitment from the agency to provide resources and support for maintaining those capacities in its members. While the nature and design of comprehensive wellness and fitness programs are beyond the scope of this chapter, it is important to emphasize their critical role in promoting the resilience of EMS providers. The International Association of Firefighters and the International Association of Fire Chiefs have developed a Joint Labor Management Wellness and Fitness Initiative [35] that provides an excellent overview of the critical elements of effective programs for career agencies, while the National Volunteer Fire Council and the United States Fire Administration [36] have published a similar initiative for volunteer organizations. A strong and effective behavioral health component that includes at a minimum assistance with marital and family problems, substance abuse, basic counseling needs, and capacity to assist or refer for specialty care, where indicated, is an essential element of any comprehensive wellness and fitness program.

**Conclusion**

Emergency medical services is a career that demands a great deal from its providers but also provides strong intrinsic rewards. Sound organizations realize these demands and build processes that promote personal and organizational resilience while providing access to intervention systems employing evidence-based best practices for providers who may require professional assistance following difficult occupational events.

Contemporary best practices have shifted significantly based on evolving research. Traditional CISM approaches were adopted in an attempt to meet an important need but must be reconsidered and reconceptualized to reflect current understandings, advances in strategies and techniques, and emerging standards for evidence-based behavioral health care. Processes to provide both organizational support and access to professional care as needed are suggested as frameworks from which organizationally specific models can be constructed to fit the needs of particular EMS agencies [36].

**References**

1. 1 Holmes TH, Rahe RH. The social readjustment rating scale. *J Psychosom Res* 1967;11:213–18.
2. 2 Mitchell JT. When disaster strikes. *JEMS* 1983;8(1):36–9.
3. 3 Mitchell JT. Protecting your people from critical incident stress. *Fire Chief* 1992;36(5):61–7.
4. 4 Mitchell JT. Critical incident stress management. In: Kuehl A (ed) *Prehospital Systems and Medical Oversight,* 2nd edn. Dubuque, IA: Kendall Hunt, 2002, pp.914–21.
5. 5 Gist R, Woodall SJ. There are no simple answers to complex problems: the rise and fall of Critical Incident Stress Debriefing as a response to occupational stress in the fire service. In: Gist R, Lubin B (eds) *Response to Disaster: Psychosocial, Community, and Ecological Approaches.* Philadelphia: Brunner/Mazel, 1999, pp.211–35.
6. 6 Rosen GM, Spitzer RL, McHugh PR. Problems with the post-traumatic stress disorder diagnosis and its future in DSM-V. *Br J Psychiatry* 2008;192:1–2.
7. 7 Rosen GM, Lilienfeld SO. Posttraumatic stress disorder: an empirical evaluation of core assumptions. *Clin Psychol Rev* 2008;28:837–68.
8. 8 Summerfield D. The invention of post-traumatic stress disorder and the social usefulness of a psychiatric category. *BMJ* 2001;322:95–8.
9. 9 Woodall SJ. Hearts on fire: an exploration of the emotional world of firefighters. *Clin Sociol Rev* 1997;15:153–62.
10. 10 Perrin MA, DiGrande L, Wheeler K, Thorpe L, Farfel M, Brackbill R. Differences in PTSD prevalence and associated risk factors among World Trade Center rescue and recovery workers. *Am J Psychiatry* 2007;164:1385–94.
11. 11 Gist R. What have they done to my song? Social science, social movements, and the debriefing debates. *Cogn Behav Pract* 2002;9:273–9.
12. 12 McNally RJ, Bryant RA, Ehlers A. Does early psychological intervention promote recovery from posttraumatic stress? *Psychol Sci Pub Int* 2003;4(2).
13. 13 Lilienfeld SO. Psychological treatments that cause harm. *Persp Psychol Sci* 2007;2:53–70.
14. 14 Australian Centre for Posttraumatic Mental Health. *Australian Guidelines for the Treatment of Adults with Acute Stress Disorder and Posttraumatic Stress Disorder*. Melbourne, Australia: Australian Government Publishing Service.
15. 15 Gray MJ, Litz BT. Behavioral interventions for recent trauma: empirically informed practice guidelines. *Behav Mod* 2005;29:189–215.
16. 16 National Institute for Clinical Excellence. *The Management of PTSD in Adults and Children*. London: National Health Service, 2005.
17. 17 Parry G. *Evidence Based Clinical Practice Guidelines for Treatment Choice in Psychological Therapies and Counselling.* London: Department of Health, 2001.
18. 18 Ritchie EC. *Mental Health and Mass Violence: Evidence-Based Intervention for Victims/Survivors of Mass Violence.* NIH Publication No. 02-5138. Washington, DC: US Government Printing Office, 2002.
19. 19 Rose S, Bisson J, Churchill R, Wessely S. Psychological debriefing for prevention posttraumatic stress disorder. *Cochrane Database Syst Rev* 2007;4:CD000560.
20. 20 Sommers CH, Satel S. *One Nation Under Therapy*. New York: St Martins Press.
21. 21 National Fire Protection Association. *NFPA 1500: Standard on Fire Department Occupational Safety and Health Programs*. Quincy, MA: National Fire Protection Association, 2013.
22. 22 Devilly GD, Gist R, Cotton P. Ready! Fire! Aim! Psychological debriefing services and intervention in the workplace. *Rev Gen Psychol* 2006;10:318–45.
23. 23 Nash, WP, Westphal, RJ, Watson, PJ, Litz, BT. *Combat and Operational Stress First Aid: Caregiver Training Manual*. Washington, DC: US Navy, Bureau of Medicine and Surgery, 2010.
24. 24 Frasure-Smith N, Lespérance F, Gravel G, Masson A, Juneau M, Bourassa MG. Long-term survival differences among low-anxious, high-anxious and repressive copers enrolled in the Montreal heart attack readjustment trial. *Psychosom Med* 2002;64:571–9.
25. 25 Ginzburg K, Solomon Z, Bleich A. Repressive coping style and adjustment following myocardial infarction (MI). *Psychosom Med* 2002;64:748–57.
26. 26 Bisson JI, Jenkins PL, Alexander J, Bannister C. A randomised controlled trial of psychological debriefing for victims of acute harm. *Br J Psychiatry* 1997;171:78–81.
27. 27 Mayou RA, Ehlers A, Hobbs M. Psychological debriefing for road traffic accident victims: three-year follow-up of a randomized controlled trial*.* *Br J Psychiatry* 2000;176:589–93.
28. 28 Litz BT, Engel CC, Bryant RA, Papa A. A randomized, controlled proof-of-concept trial of an internet-based, therapist-assisted self management treatment for posttraumatic stress disorder. *Am J Psychiatry* 2007;164:1676–83.
29. Gist R, Woodall SJ, Magenheimer LK. And then you do the Hokey-Pokey and you turn yourself around… In: Gist R, Lubin B (eds) *Response to Disaster: Psychosocial, Community, and Ecological Approaches.* Philadelphia: Brunner/Mazel, pp.269–90.
30. Lohr JM, Hooke W, Gist R, Tolin DF. Novel and controversial treatments for trauma-related disorders. In: Lilienfeld SO, Lohr JM, Lynn SJ (eds) *Science and Pseudoscience in Contemporary Clinical Psychology.* New York: Guilford Press, pp.243–72.
31. 31 Institute of Medicine. *Treatment of Posttraumatic Stress Disorder: An Assessment of the Evidence.* Washington, DC: National Academies Press, 2007.
32. 32 Levitt JT, Malta LS, Martin A, Cloitre M. The flexible application of a manualized treatment for PTSD symptoms and functional impairment related to the 9/11 World Trade Center attack. *Behav ResTher* 2007;45:1419–33.
33. 33 Halpren J, Gurevich M, Brazeau P, Bishop S, Schwart, B. Rethinking critical incident stress: coping strategies in emergency medical services personnel. *Prehosp Emerg Care* 2006;10:107–49.
34. 34 Brewin CR, Rose S, Andrews B, et al. Brief screening instrument for post-traumatic stress disorder. *Br J Psychiatry* 2002;181:158–62.
35. 35 International Association of Fire Fighters/International Association of Fire Chiefs. *Joint Labor Management Health, Wellness, & Fitness Initiative.* Washington, DC: International Association of Fire Fighters/International Association of Fire Chiefs, 2007.
36. 36 National Volunteer Fire Council/United States Fire Administration. *Health and Wellness Guide for the Volunteer Fire Service.* Emmitsburg, MD: United States Fire Administration, 2004.