

2018

# Education and Prevention of Stress and PTSD in Prehospital Care Providers

Adriana Goad  
*Parkland College*

---

## Recommended Citation

Goad, Adriana, "Education and Prevention of Stress and PTSD in Prehospital Care Providers" (2018). *A with Honors Projects*. 231.  
<https://spark.parkland.edu/ah/231>

Open access to this Article is brought to you by Parkland College's institutional repository, [SPARK: Scholarship at Parkland](#). For more information, please contact [spark@parkland.edu](mailto:spark@parkland.edu).

Adriana C. Goad

EMS115

March 10<sup>th</sup>, 2018

### Education and Prevention of Stress and PTSD in Prehospital Care Providers

The field of prehospital emergency care is one full of unpredictability, high physical demand, and mental stress. EMTs and Paramedics are called to the unknown to treat whatever they come upon with the limited supplies and equipment that can be found in their trauma bag and ambulances. Some calls may be rewarding as they save the life of a patient, or they can be run of the mill as they get a call for a person not feeling well. Some calls, though, do not end in a relaxed drop off at the ED and back to the station for the next call. These calls that stick out are the ones that can cause extensive emotions and impact the lives of these providers. Just a few examples: mass casualty incidents, significant traumas, and a large variety of pediatric calls can lead to emotional trauma. Research, though limited, has shown that there is extensive risk to these providers, yet PTSD education and training is not greatly implemented. PTSD is a valid concern for those in the field, and precautions must be put in place to prevent this in any way possible.

Before PTSD is further discussed, we must look at the causes and steps that can lead up to that diagnosis. PTSD does not often develop overnight, as there is a progressive process needed for the diagnosis to be made. This progression involves a trigger, which is a situation

involving high levels of stress that are not able to go away with normal action. These can be incident stressors affecting a patient or the provider themselves. Burnout is frequently a result of a trigger, and burnout can lead to PTSD if action is not taken to correct the emotional response. EMS providers and those who are in leadership of them must be aware of the risks that come with the career and trained on how to handle stressors. While it is inevitable in some scenarios, if the provider is aware of ways to handle the emotional aspects of the job in proper ways the field may see a drastic decrease in PTSD cases. This not only would benefit the providers, but the agencies they work for as there will be stability in their staff and patient care will be placed at a higher level.

What are the direct causes of emotional stress in the field? One of these factors is death. Death is something EMS providers experience regularly. It comes with the job, and is to be expected. Some deaths though, are more difficult to swallow. One hundred and seventy-three care providers were placed in a research study where they listed thirty-three incident stressors, then ranked them by level of stress they cause. The graph of the study results listed their stress score (based on a 100-point scale) and the number of times these incident stressors were experienced by the providers. Of the thirty-three ranked stressors, an adult found dead on arrival (DOA) because of natural causes ranked the lowest, but still had a stress score of 23 on a 100-point scale. With this being ranked relatively low, it is clear that EMS providers aren't always greatly affected by death. On the other end of the scale, ranking the most stressful is the witnessed death of a coworker on duty. This had a stress score of about 80 on the 100-point scale (Beaton 824). With that score it is clear, just as one would suspect, that death takes a much greater toll when there is a relationship between the provider and the deceased. These are just

two examples of the thirty-three that are listed, and those are only a handful of the countless stress incidents that can be experienced in the field.

Only a small portion of these incident stressors in the study involved a death, though. A call doesn't have to involve a fatality to be considered highly stressful. Varying degrees of injury or life altering changes for the patient can cause long term emotional distress. Or, a patient can cause stress because of their behavior and the fear the provider has of being injured by the patient. From the same study mentioned before, rendering aid to a seriously injured friend or relative ranked high on the list with a score of about 70. Rendering aid to a dangerous psychiatric patient scored a 56 (Beaton 824). This study shows not only the statistical variances of incidents, but the wide range of types of emotional distress these care providers experience.

Likewise, there is a high personal risk that comes with the field. This, as studies have shown, can cause emotional distress along with the other factors previously discussed. Along with injury, those in prehospital care are exposed to large amounts of pathogens making them at an increased risk of illness. In the previously discussed study, the incident stressor of a career ending injury scored a 73 on the 100-point scale. An exposure to dangerous chemicals scored a 76 (Beaton 824). In the case of a dispatch error, the responders are sent into a tailspin of stress. They not only are rushing to find out the correct dispatch and get ahold of who holds this information, but they stress over whether or not their delay will cause more harm for the patient they are responding to. This scored a 37 on the stress scale (Beaton 824).

When considering the wide ranges of incident stressors, we see that death, patient scenarios, and uncontrollable factors such as injury and dispatch errors all have the potential to

affect the provider in significant ways. They are stuck in the middle of being in the field of police and fire, but trying to perform medical procedures without the benefits of being in the hospital. In the magazine article: *Most Stressful Jobs: On-The-Job Dangers, Long Hours Cause EMT/Paramedic Burnout*, writer Richard A. Webster describes this by saying “Paramedics and emergency medical technicians are the first responders, the vital links between the patient and survival. While surgeons operate in the safe environments of the hospital, paramedics struggle to stabilize the gunshot or heart attack victim on the road surrounded by frantic family members and friends desperately pleading for a miracle.”

This emotional distress can translate into physical distress as well. This includes factors outside of the ones previously discussed such as personal injury. In a field that often involves long hours with limited opportunities to sleep, the brain increasingly struggles to complete complex thoughts in emergent situations. A magazine article states that “It is well documented that poor sleep and fatigue can reduce focus and attention, impair central nervous system function and have a net negative impact on cognition, reaction time and overall health. Numerous studies have also identified a strong association between poor sleep, fatigue and poor safety outcomes” (Page, David and Will Krost 13). In the long run, this increases error risk and puts continual stress on the body. In the same article, the author writes that “Exhausted crews, afraid to ask for a safety break, afraid to refuse a call they are not trained or equipped to handle, and afraid to report errors from fear of discipline, combine into a perfect storm of errors” (Page, David and Will Krost 13). This perfect storm is a large stress factor that affects the provider’s health from lack of sleep, and risks patient outcomes.

These incident stressors can build quickly, and this leads to a high burnout rate for EMS providers. Per an EMS magazine article, “Burnout is typically described as an individual’s pattern of negative affective responses that further reduces his or her own job satisfaction, productivity and job performance and is known to increase absenteeism and turnover. It may also be an indicator of a more serious problem: PTSD” (*Are You Under Stress in EMS* 47). This not only defines the idea of burnout, but recognizes the risk it has of leading to PTSD. With burnout being an early sign of PTSD, it is important for it to be recognized as soon as possible. Burnout is not only a serious problem in the life of the provider, but can lead to poor patient care.

With this high burnout rate in the field, it makes emergency medicine a transient career. New providers are constantly being trained, while providers are frequently leaving. This creates difficulty for strong relationships to form. Communication is a key element of maintaining healthy emotional statuses. When partners are constantly being switched around, the lack of trust between the two unfamiliar individuals can create a stressor on the person as they do not know how the other person handles various calls and scenarios. Building strong relationships is a vital aspect in the emotional and physical well-being of providers. In addition, if friendships are formed this can create a positive environment that reduces both burnout and suicide risks.

All of these things; burnout, stressors and physical strain, are part of the job. EMS providers know when they get their medical license that it is far from an easy job and it has clear ups and downs on a regular basis. But, these can combine to take a significant toll on a person. This toll unfortunately can result in PTSD. “Post-traumatic stress disorder (PTSD) is a mental health problem that develops following exposure to a stressful event or a situation of an exceptionally threatening or catastrophic nature, which is likely to cause pervasive distress in

almost anyone” (Fry 32). The diagnosis essentially can be explained as the result of an untreated summation of the factors previously discussed and explained.

To further look at the steps required for diagnosis, we must look at the work of Raymond Flannery Ph.D. In an article, he brings up three domains of good physical and mental health. This includes the mastering of one’s own environment, maintaining a caring attachment to others, and having a meaningful life purpose. On the other hand, he also includes three symptoms. These are physical arousal (hypervigilance, startle reactions), intrusive symptoms that are memory based, and avoidance. “If these disruptions are not treated, PTSD emerges after 30 days. Without treatment, The PTSD symptoms may last until death” (Flannery 263). This makes it extremely clear that fast action must be taken after significant stressors occur, and that use of effective treatment of PTSD is vital for recovery. Without treatment, the provider will have significant long term emotional issues combined with an inability to continue in their career.

The prevalence rates of PTSD vary widely. In an EMS magazine, it was written that “the Trust estimates 16 to 24 percent of its country’s medics will be diagnosed with PTSD at some point.” And “some investigators have suggested rates as high as 37 percent, though most determinations are lower. Per the American Psychiatric Association, by comparison, the general public’s rate is around 3.6%.” (Erich 41). In a separate research study, 546 care providers were given a questionnaire to screen for PTSD indication. Out of this number, over one-third of participants screened positive (Luftman 293). A significant reason that the statistics have a very wide range of variances is due to the limitations in research. Although it is clear that there is an extremely high prevalence in the field, research tends to be focused in other fields. In the previously mentioned research article *Treating Psychological Trauma in First Responders: A*

*Multi-Model Paradigm*, Raymond Flannery goes into depth on the lack of research. The researcher wrote “Although 5.9-22% of first responders may develop psychological trauma when responding to critical incidents and remain an at-risk population because of recurring, daily critical incidents much of the research effort thus far has focused on combat and rape victims with less attention directed to the treatment needs of first responder victim. This is an important neglected area in the trauma research literature” (Flannery 261). He goes on to mention a few reasons why they may receive less attention including things such as the reduced media attention and the need for responders to be tough and not ask for help. In a career that focuses on both mental and physical strength, asking for help may feel like an almost inappropriate behavior from the perspective of the provider.

A tragic aspect seen that is related to PTSD in care providers is the increased prevalence and risk of suicide. Large numbers of providers commit suicide following various events. For some, it can be immediately following a significant stressor such as a mass casualty. For others, it may come following retirement when the memories flood back of the things they have seen and done. No matter the circumstances, much more substantial effort must be put into place to put a halt to these climbing statistics. Based on a magazine article, one statistic states that “a 2012 report from the Chicago FD’s IAFF local 2 counted 41 suicides of active and retired members between 1990-2010 and concluded its members had a suicide risk 25 times that of the wider population.” It also states that “in alarming data reporting in October, 27%-28% of Canadian paramedics had considered ending their lives” (Erich 31). These are numbers that should shock those in the field and outside of it. For those in it, it may bring awareness of the emotional aspects of their jobs that they often may hide. For those who are not in the field, it

should be a call to find ways to support these providers. The same article states that "...numbers seem uncomfortable high and persistent, and in a profession fond of boasting that no brother or sister gets left behind, we don't do a very good job of supporting our brethren in their times of emotional and psychological vulnerability" (Erich 39). The author states it so well. Society in its entirety needs to rise up and link arms with these people who work hard at all hours of the day to save the lives of strangers.

Nearly summing up many of the points already made, authors of a research study wrote:

First responders are immensely self-sacrificial and deserving of our deep veneration and careful attention. Several occupational considerations make the study of suicidality among these populations particularly compelling. First, first responder occupations carry inherent risks that pose acute and chronic dangers to one's health and safety: a police officer shields the public from deadly bullets; a firefighter runs into a burning building when everyone else is running out; and EMTs/paramedics are charged with saving someone from a life-threatening situation. Beyond the potential for loss of life, these experiences may also lower one's fear of death, creating conditions under which suicidality emerge). Second, shift-work may cause sleep disturbances and disruptions in familial social, both of which are potent risk factors for suicide. Third, many of these individuals serve more than one of these roles (e.g., a full-time firefighter who is dually certified as an EMT), and these additional occupational hazards may confer additive risk. Fourth, these individuals have access to highly lethal suicide means (e.g., firearms in the case of police officers). Finally, though not exhaustively, first responder

groups are overwhelmingly comprised of white males—the same demographic group that is also at the highest risk for suicide (Stanley et al 28).

How do we stop it from getting this far? Can we prevent PTSD? Can we put the suicide statistics to a halt? These are all questions that EMS students, providers, and agency directors must ask themselves. Even though evidence and research clearly point to the high-risk rates, education on this subject is slim. It is vital to the future of EMS that this education be put in place, and not only for the providers. For example, after describing a type of resiliency training, the writer states “Our ultimate goal is not only to have resilient families; firefighters and emergency medical providers are also in a perfect place to create resilient communities: to go out and teach these skills to kids and others through their regular community activities” (Erich 46). This is an excellent example of how education impacts those even outside of the relatives and providers themselves.

It is obvious that treatment begins before the disorder exists. When looking at how to reduce the risks of PTSD and promote proper treatment, a key factor involves education on improper ways to handle stress and potential psychological disorders. Substance abuse is an often-sought way to handle emotions. While it may be effective in the moment, the long-term results can be tragic. Using alcohol or drugs (that possibly were taken from the EMS system) to numb emotions is not a valid treatment.

In addition to removing negative coping mechanisms, proper ones must be added. Proper sleep habits should be encouraged. An article called *Strategies for Longevity in EMS* offers twelve pointers for how to remain healthy as providers both emotionally and physically. Sleep

was something regarded as vital, and “make naps a priority” if a shift didn’t allow you to get enough quality sleep. Another strategy uses the clever analogy of how during the preflight instructions on an airplane, the crew members always explain that in case of an emergency to always apply your personal oxygen mask to before helping others. Similarly, it is beneficial to take a personal day every now and then to re-oxygenate ourselves before we help others oxygenate themselves. Working through exhaustion or running like a machine will not be beneficial to you or your patients (Dick 74).

Based on a study from Oxford University and King’s College London, there is strong evidence that early training and assessment can reduce the risk of PTSD. According to writer Dr. Jennifer Wild, “Early assessment means those at risk can be offered training to improve their resilience to stressful experiences. That has the potential to reduce PTSD and major depression, and improve the long-term health of a valued and essential work force” (Wild 53). This continues to support the vital need of educating those in the field of the risks and give them information on how to handle the stressors. By preventing PTSD to begin with, the number of cases can be stopped. If protocols are implemented for an assessment such as one described by Wild, the agency will have a much better grasp of where they need to be more observant of developing psychological problems in their crews.

In a research article previously mentioned, Raymond Flannery Ph.D. has a perspective that involves the idea that first responders need what he terms as a “multi-modal intervention” for recovery. He uses the brilliant example of a person involved in a car accident. If the person had a concussion, a dislocated finger, and a laceration that became infected, there would never be any expectation for it to be treated with a single antibiotic. Very similarly, trauma affects a

person in many ways so we cannot expect single interventions to fix everything (Flannery 263). This is a good way to view PTSD, as the causes that lead up to the disorder can come from a very wide range of factors. Because of the wide range of stressors and PTSD risks, this is an excellent approach. By widening the treatment attempts, the person may experience quicker results along with a much more effective recovery.

The lack of research is evidence alone that greater education on the psychological risks an EMS provider faces is needed. Without education, providers will not be aware of the signs to look for or what to do if they begin to feel that they have a psychological issue related to the stressors they experience. A stronger focus should be placed on what evidence has shown to be effective: prescreening, time off duty, and multi model treatments. This, along with teaching new medical providers appropriate coping mechanisms, could do wonders for the rates of suicide, burnout, and PTSD. If these things are reduced, employees will last longer in the field and be more passionate about the often-difficult job they do each day. In turn, this will better the lives of patients and increase success rates. EMS is not an easy job, and it has its ups and downs. But, with better education and training it can become an incredibly rewarding job that can bring a smile to a child with a broken bone and see people come back from the brink of death.

## Works cited

"Are You under STRESS in EMS?: Understanding the Slippery Slope of Burnout and PTSD."

EMS World, vol. 41, no. 10, Oct. 2012, pp. 47-56. EBSCOhost,

ezproxy.parkland.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true

&db=ccm&AN=108101767&site=eds-live.

Beaton, Randal, et al. "Exposure to Duty-Related Incident Stressors in Urban Firefighters and

Paramedics." *Journal of Traumatic Stress*, vol. 11, no. 4, Oct. 1998, p. 821. EBSCOhost,

ezproxy.parkland.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true

&db=a9h&AN=11308522&site=eds-live.

Dick, Thom. "Strategies for Longevity in EMS." *EMS World*, vol. 45, no. 10, Oct. 2016, pp. 72-

75. EBSCOhost,

ezproxy.parkland.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true

&db=ccm&AN=118492653&site=eds-live

Erich, John. "EARLIER THAN TOO LATE: Stopping Stress & Suicide among Emergency

Personnel." *EMS World*, vol. 43, no. 11, Nov. 2014, pp. 38-47. EBSCOhost,

ezproxy.parkland.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true

&db=ccm&AN=107837737&site=eds-live.

Flannery, Raymond. "Treating Psychological Trauma in First Responders: A Multi-Modal

Paradigm." *Psychiatric Quarterly*, vol. 86, no. 2, June 2015, pp. 261-267. EBSCOhost,

doi:10.1007/s11126-014-9329-z.

Fry, Mandy. "Post-Traumatic Stress Disorder." *Practice Nurse*, vol. 46, no. 2, Feb. 2016, pp. 30-34. EBSCOhost,  
ezproxy.parkland.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true  
&db=ccm&AN=113300207&site=eds-live.

Luftman, Kevin, et al. "PTSD in Those Who Care for the Injured." *Injury*, vol. 48, 01 Feb. 2017, pp. 293-296. EBSCOhost, doi:10.1016/j.injury.2016.11.001.

Page, David and Will Krost. "CASES with a TWIST. When Exhaustion Equals Errors." *EMS World*, vol. 45, no. 4, Apr. 2016, pp. 12-14. EBSCOhost,  
ezproxy.parkland.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true  
&db=ccm&AN=114316241&site=eds-live.

Webster, Richard A. "Most Stressful Jobs: On-The-Job Dangers, Long Hours Cause EMT/Paramedic Burnout." *New Orleans Citybusiness (LA)*, n.d. EBSCOhost,  
ezproxy.parkland.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true  
&db=f5h&AN=L54104952NOCB&site=eds-live.

Stanley, Ian H., Melanie a. Hom, and Thomas E, Joiner, "A Systematic Review of Suicidal Thought and Behaviors among Police Officers, Firefighters, EMT's, and Paramedics." *Clinical Psychology Review* 44 (2016): 25-44. *Science Direct*. Web. 24 April. 2017.

Wild, Jennifer. "Mental Illness Can Be Spotted - If You Get Started Early." *People Management*, Aug. 2016, p. 53. EBSCOhost,  
ezproxy.parkland.edu:2048/login?url=http://search.ebscohost.com/login.aspx?direct=true  
&db=ofs&AN=117286421&site=eds-live.