

# The Dangers Facing Paramedics While Performing Their Duties

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Received: 12.08.2024

Revised: 13.09.2024

Accepted: 07.10.2024

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## ABSTRACT

Paramedics perform important and often life-saving duties on a daily basis. The nature of their role means that they must be able to think quickly and make important decisions about a person's medical condition. Not only is the work that is done by paramedics challenging, but it is also often dangerous. In fact, their occupation is at the highest risk for workplace injuries, musculoskeletal injuries, and illnesses, among other health and safety hazards. In essence, not only are the paramedics subjected to low pay and long hours, but the inherent danger that comes with such a crucial role is not as widely emphasized. Given that we really cannot put a price on the lives of each one of the country's brave paramedics, it is worth learning about the very real threats that these essential healthcare workers face on a regular basis. This paper shall seek to expound upon the greatest dangers that face paramedics while they are performing their duties, and explore in depth some of the most tragic events that have cost the lives of these vital professionals.

**Keywords:** injuries, musculoskeletal, paramedics, workplace, illnesses.

## 1. INTRODUCTION

Paramedics perform important and often life-saving duties on a daily basis. The nature of their role means that they must be able to think quickly and make important decisions about a person's medical condition. Not only is the work that is done by paramedics challenging, but it is also often dangerous. In fact, their occupation is at the highest risk for workplace injuries, musculoskeletal injuries, and illnesses, among other health and safety hazards. In essence, not only are the paramedics subjected to low pay and long hours, but the inherent danger that comes with such a crucial role is not as widely emphasized.

Given that we really cannot put a price on the lives of each one of the country's brave paramedics, it is worth learning about the very real threats that these essential healthcare workers face on a regular basis. This paper shall seek to expound upon the greatest dangers that face paramedics while they are performing their duties, and explore in depth some of the most tragic events that have cost the lives of these vital professionals.

## Methods

Data collection was conducted through anonymous surveys disseminated to area emergency medical services organizations in Illinois. Surveys were prepared and could be taken electronically. Surveys were distributed in person to the EMS at their designated locations and were also placed in each organization's employee lounge area. All employees present were encouraged to participate.

All employees were encouraged to participate in the survey. No incentive was provided for participation. The survey listed eight types of hazardous events that have been proven to be high-risk activities for the emergency medical technician: verbal and physical attacks, both nonfatal and fatal motor vehicle incidents and collisions, and injuries from needles that were hidden or voluntary fluid delivery by assailants. Participants were asked to identify whether they have ever experienced each listed event and, if so, how long they have been employed by the EMS at the time they experienced the event. Participants were encouraged to provide a detailed description of the event and how it affected them personally. Personalizing the questions, while allowing the participant to remain anonymous, encouraged candid responses. Participants were assured that they were completely anonymous and that no consequences would result from not participating. Data were collected from both volunteer and paid EMS employees.

## Conclusion

In conclusion, the dangers that face paramedics while performing their duties have been outlined. As the concept of workplace safety becomes increasingly important, it is necessary to highlight the dangers in order to develop and enforce programs that will ensure the safety and health of on-site medical practitioners. Since the

unique characteristics of the paramedic occupation, such as the often unpredictable work hours, the on-the-job stress, and their need to interface with and deliver effective first aid and emergency medical care in a variety of social settings will continue to exist, programs need to take into account these characteristics. These programs should address such areas as injury reporting, communication, consultation, safety training, consensual inspections, medical availability, and safety equipment. Only through an active effort on the part of the medical community, together with paramedics themselves, can these program guidelines be translated into effective actions that minimize the risk factors facing paramedics.

## **2. Physical Dangers**

Overexertion, strains, and muscle sprains are the most common causes of paramedics taking time off. Paramedics are vulnerable to painful and often career-debilitating conditions because of their occupational activities. The many, and sometimes seemingly changing, requirements for the physical health of a paramedic are often underestimated. Paramedics must perform arduous and strenuous tasks that include walking, running, bending, crouching, lifting heavy loads, and driving at high speed or in extreme environmental conditions, which necessitate a high level of physical ability, flexibility, and strength. Common to all aspects of these activities is the potential danger of causing an overload to the structural integrity of the human body. (Friedenberg et al.2022)(Maguire & O'Neill, 2023)(Almaazmi et al.2024)

Following a closer analysis of the relationship between the nature of the job and the physical health of the paramedics, it is fair to assume that activities involving physical efforts of moving patients and dealing with life-threatening situations are still among the most responsible parameters. Normal working conditions and lack of physical activity require a high level of physical conditioning, including aerobic and anaerobic fitness. The nature of the occupation, together with changing and sometimes extreme work conditions, has unique health and physiological implications. Paramedics work in a dynamic environment that renders the estimation of the physical demands of the occupation difficult. Because their role is characterized by the need to be adaptable, self-sufficient, and called upon for high levels of functioning, they are required to be physically fit.

### **2.1. Violence from Patients or Bystanders**

Paramedics are the most visible and front-line staff delivering emergency services within pre-hospital care. However, unlike staff of other emergency services, the nature of their work inherently requires them to expose themselves to certain levels of personal danger. Such dangers include, but are not confined to, exposure to violence, a high potential for serious personal injury, the increasing potential to experience violent and tragic events, and psychological trauma associated with exposure to such situations. Paramedics further experience personal friction within patient-paramedic interactions, leading to potential violence and a declined implicit respect for their professional training arising from witnessed inter-professional conflicts within the brotherhood of paramedics. Over the years, society's behavior patterns, lack of respect, violent behavior, and personal quests for desperation have been exposing paramedics to an increase in personal danger and violence in society. It can no longer be excused as an out-of-the-ordinary event that violence is part of the society we live in. It is also not confined to our paramedics, and society as a whole has to be given an understanding in this regard. Due to the nature of the paramedic work environment, this study, from a paramedic's perspective, identifies a number of sources of personal danger and determines the potential levels of consequences as experienced by paramedics on a day-to-day basis. The paper defines personal danger, determines the potential sources of personal danger, and the levels of exposure experienced by the individual paramedics and the consequences thereof. Simple protocols are suggested to provide a safer working environment.

### **2.2. Exposure to Infectious Diseases**

In recent years, the number of viruses, microorganisms, and bacteria identified has increased; a large number are potentially lethal to patients and healthcare workers. Private vehicles, neighborhoods of some cities, deposit grounds, industrial areas, theme parks, and the wards of healthcare institutions are locations where there is a risk of exposure to numerous infectious diseases. These environments come into contact with paramedics and result in the possibility of exposure to hepatitis C and HIV as a result of needle stings, eyes, barriers created by mucus, blood, and other body fluids. Furthermore, diseases are being exposed by patients who may not know they have the infection. (Goncaryk et al.2022)(Wilhelm and Gupta2021)(Qin et al., 2023)

Diseases that are particularly dangerous to paramedics, either due to the gravity of the illness they produce or because of their high infectivity and frequency of appearance, include tuberculosis, hepatitis, infections caused by the human immunodeficiency virus, varicella, mumps, and SARS. There are two main forms of fear when a paramedic is attending a patient and when it is necessary for infectious materials to be cleared up: fear of contracting an infection by accident and passing it on to non-infected patients, and fear that family members may be placed at risk if they come into contact with a member of a household or community who may have contracted an infection. These fears are legitimate. When influenza is passed on, it is possible that the person who has been infected will be infectious to others for up to seven days before and five to seven days after the

clinical signs of illness appear. Thirty to fifty percent of the people who have been exposed to the virus and other acute respiratory diseases become infected. It is worth noting that the probability of transmission is less with very young children. It is accepted that contact with circulatory emergencies results in an additional risk, and one that is greater than that associated with other calls.

### 3. Mental Health Risks

The mental health of paramedics, due to the nature of their work, is also at risk. Since paramedics are constantly exposed to distressing scenes or activities, they are at risk of developing PTSD, with symptoms including hyperarousal, intrusive memories, disconnectedness, numbing, and flashbacks. Paramedics are ten times more prone to develop PTSD compared to the general population. The higher level of workplace performance, higher energy demand, and unusual and irregular routines of paramedics make them prone to psychological breakdown. Sadly, no coherent global literature exists on the rate of depression in paramedics, but it is estimated that about 85%—at least—of South African paramedics suffer from this condition. These findings were collaboratively supported by a study that also found that more than half of paramedics experienced a level of depression that affected their personal and professional lives.

Additionally, evidence suggests that burdened family relationships and exposure to verbal abuse, both of which are experienced by paramedics, also lead to depression. Not only are paramedics more likely to suffer from PTSD but also from general anxiety disorder. Depression and anxiety disorder are interlinked, and most people diagnosed with anxiety symptoms will develop a depressive disorder. The higher forms of these symptoms can result in suicide. There is evidence that paramedics with higher frequencies of suicidal ideation are likely to make emergency visits for injuries, predisposing them to an overdose of medications, painkillers, and cold medication, which can slowly result in death. Reasons for high levels of suicide in paramedics include decreased functional capability, non-existent support, feelings of guilt, mental health non-utilization, and a lack of coping resources, such as how to deal with traumatic scenes.

#### 3.1. PTSD and Trauma

Paramedics often experience traumatic events that have the potential to lead to the development of post-traumatic stress disorder (PTSD). In fact, two national surveys conducted 10 years apart indicated that relaxation time, personal counseling, visits from management, referrals, support from co-workers, support from friends, further education, and stress management programs are all important predictors in expanding the supply of paramedics and retaining the paramedics that are already working in the field. However, research evidence shows that not all paramedics who experience a traumatic event develop PTSD. A large number of personnel trained in high wound management reported detrimental psychological effects of the drill, but they managed the stress more effectively because they knew that they were being trained how to better handle such events. Results like these suggest that a lack of control, predictable trauma, and trauma that are the most intensely disliked characteristics of a situation are key to stress development. (Hoell et al., 2023)(Surgenor et al.2020)

Researchers have postulated that when paramedics experience traumatic stress, they feel a loss of control and feel that the situation is unpredictable. This theory has not been tested or confirmed in paramedics. If prediction and controllability in a stress-inducing situation play a pivotal role in psychological outcomes, then coaching personality defenses prior to applying to a paramedic program could help in preventing the applicant from accepting the job in the first place. Currently, paramedic candidates describe their inability to predict occurrences as fear concerning their jobs. Adults who have the personality characteristics that help them cope with stress may have a less difficult time compartmentalizing their ambulance accidents, an important characteristic of the seasoned paramedic.

#### 3.2. Burnout and Compassion Fatigue

The dangers facing paramedics while performing their duties range from psychological, physical, and emotional pressure. Mental health consequences from line-of-duty experiences exceed those for the general population. Crisis exposure, self-guilt, burnout, and the development of compassion fatigue can interfere with job performance, cause mental health problems, and, at its worst, provoke suicidal ideation. Burnout is the result of continuous stress, contact with others, and poor inherent coping by the healthcare provider. This paralyzing feeling can manifest itself initially as emotional, physical, and psychological fatigue, poor decision-making abilities, and negativity and cynicism, all eventually affecting compassion, empathy, and a general unwillingness to care for others in those who once devoted themselves to their chosen profession. These phenomena often go unrecognized by healthcare workers, who believe they are simply adjusting to their jobs. The impaired individual is often the last to understand that they are ill. Assimilation of extreme crisis levels becomes the norm. Although they celebrate the success of call completion and the impact they have on community events, they are reticent in disclosing their dissatisfaction and horror. Becoming jaded and accepting current service scope is generally observed. Recognition of the loss of meaning and value related to work and the work environment, heightened detachment from clients, longer acquaintance periods with clients, heightened

negativity, inability to emotionally convert from client to client, and burnout were identified by one of the most perceptive individuals associated with the showing of potential burnout due to chronic community care.

#### 4. Safety Measures and Training

In order to ensure that EMS professionals are prepared, both physically and emotionally, to face the inherent dangers associated with their daily responsibilities, extensive training is necessary. Therefore, all fire and police departments should be trained and proficient in first aid, rescue operations, evacuations, and other emergency control measures. This is particularly true in the workplace, as it has a direct impact on the lives of the employees, and it is the employer's responsibility to maintain the safety of employees. The law is clear on this requirement. The Occupational Health and Safety Act was introduced to provide all people with a safe working environment and protect others who might be affected by occupational hazards.

Because of the types of activities that these professionals will typically confront, training will often focus on difficult and critical situations. This would naturally include learning evacuation techniques, developing proficiency in dealing with hazardous chemicals or fires, and gaining valuable knowledge of potential biological and chemical agents that could be encountered in the event of terrorist activities. However, the area of activity that sometimes receives the least attention is also the most frequent and unpredictable of all: assaults on EMS workers meant to do them harm. This hands-on experience also translates to the development of survivor instinct and what to expect and prepare for in potentially dangerous circumstances. Responding to emergencies in outlying rural or woodland areas can produce other physical events that can pose danger to the EMS profession.

#### 5. CONCLUSION

Paramedics are vital workers who are a significant part of any society. This is because of the crucial role they play that leads to the saving of lives, reducing pain and suffering, and increasing the chances of people recovering more fully after an injury occurs. They face several dangers in their line of work, notwithstanding their good intentions to help others and positive intentions towards achieving these objectives. In conclusion, paramedics face an increasingly dangerous working environment with every passing day. This working environment is worsened by the fact that paramedics spend substantial time working and providing care without the help of law enforcement officials. The findings show evidence of the diverse dangers that paramedics face. These experiences of danger take a toll on paramedics both mentally and physically. These dangers should be taken seriously by researchers and government officials. Some of the dangers can potentially lead to the deaths of paramedics. However, regardless of the dangers and the work, paramedics work tirelessly to provide much-needed help, which in most cases has instilled some level of trust by individuals and communities.

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