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REVIEW ARTICLE

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# Care of the clinician after an adverse event

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**ABSTRACT**
The past two decades has seen a growing understanding that health care leads to harm in a large number of patients. With this insight has come an understanding that clinicians who care for patients who are harmed experience an understandable and predictable emotional response. After an adverse event, medical care givers may experience a wide range of symptoms including anger, guilt, shame, fear, loneliness, frustration and decreased job satisfaction. These may be accompanied by physical signs of fatigue, sleep disturbances, concentration difficulties, tachycardia and hypertension. These clinicians have been referred to as the "second victims." While many clinicians recover relatively quickly from an adverse event, for some this syndrome can last for weeks, months or indefinitely. Some have even contemplated or completed suicide. Being involved in an adverse event or error may also negatively impact the quality of care the clinician subsequently provides, either because of acute emotional distraction or chronic burnout. This can lead to additional errors and a vicious cycle of error, burnout and error. Health care systems have a moral responsibility to care for second victims. Care might be as simple as asking, "Are you OK?" and acknowledging the normal human emotional response to adverse events. Some centers have developed formal peer support programs in which clinicians are trained to act as peer supporter for emotional recovery after adverse events. Finally, more formal emotional support systems might be needed by some clinicians, including employee assistance programs, hospital clergy or psychological and psychiatric services. 

## My story (BRJ)

*It was a Friday. I had the weekend off. Prior to the event, the date was notable for being my paternal grandmother's birthday. And then…I was the staff anesthesiologist on a fairly normal c-section that ended with a catastrophic event and maternal death. I will not give further details other than to say that the entire operating room was full of the regular staff, nurses, obstetricians, plus the code team and other first responders. We were all shaken to the core. The first few moments after she died are a blur. I remember many of us crying. I was shaking. One of the first responders hugged me and held me for a very long time. I came out to tell one of the other anesthesiologists what had just happened, and couldn't complete my sentences for the tears that were running down my face. Word spread quickly. Someone came to send me home. I left the hospital, dazed. Aimless. Where was I going? I went for a walk. What had just happened? This couldn't all be real. My aimlessness was interrupted by my pager going off, asking me to come back to the hospital for a debriefing. So back I went. At that point in time, that was the WORST thing for my psyche. I didn't want to relive everything…I was quite sure I would be doing that all on my own for a long time to come, and doing it with the people that were there? Not helpful.*

*What was to have been a relaxing weekend at home became a weekend with very little sleep as I rehashed EVERYTHING over and over and over and over and over again. Did I miss something? Was there ANYTHING I could have done differently? Was there a lab value or some other clue I had missed? What had just happened? It is now several years later. I still remember every lab value, every detail, everything about that patient and that day.*

*Upon returning to work the next Monday, I was on OB again. The staff who had been there were all shaken, and all very supportive. There was mention that social workers would be available to speak with us on an upcoming day. I thought, "Seriously? What are they going to say? 'This must be hard for you'?" I didn't need that. I needed a colleague who understood obstetric anesthesia to say one of two things to me after hearing everything: either a) you could have done X differently – so that I could learn from a mistake I had made – if it existed, or b) there is NOTHING you could have done differently. The next week, I*

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*was informed that the department clinical committee would review the case to see if there was anything that was missed and my acting-chair told me to be at the meeting. I received the news in the middle of the work day and started crying uncontrollably, shaking and was completely inconsolable for endless hours. Up until that point I thought I had been holding myself together fairly well. Apparently not. I did not attend the meeting. I could not. The thought of sitting in a room full of my peers and rehashing everything again was too painful. What would they think of me? Did this mean I was incompetent? Was I going to lose my job? Was I to be deemed a worthless anesthesiologist?*

*The case was reviewed in my absence and only the next day did I hear that no one found fault with anything I did or did not do. That did not end the agony. Five weeks to the day after the tragic event, the medical examiner's autopsy report stated the catastrophic cause of her death and, finally, all of us in the operating room felt some reprieve. But the journey was many, many months from over.*

*During these first weeks, I did what I could to survive. But that is about all I did. I went to the gym. I went to work. I made myself eat. There were people from work who called to check on me. I appreciated this, but wondered, ''What was being said about me that made them do this? Did they question my skills as an anesthesiologist?'' There were others who offered specific advice. One of the most disturbing things I heard was from a well-intentioned senior staff member who said: ''You know that you can't talk about anything that happened.'' If I couldn't talk about what had happened how was I supposed to get over it and move one? So, I didn't listen to his advice, and I spoke about how I felt to family members and friends (some of whom were my co-workers). Helpless. Self-doubting. Would I be able to care for any patient in a crisis again? Sleep eluded me. What would happen next? I went through the motions of life, but I wouldn't call what I did living. I existed. And yes, I shopped. At least that part of my life could remain normal, even if everything else wasn't. I started isolating myself. I no longer made plans like I always do. Or if I made them, I would cancel because I just wanted to be alone. I did not realize it at the time, but I went into as much of a clinical depression as I could without totally stopping to function.*

*And then the second shoe dropped: three months after the event, I got a registered letter from the Board of Registration of Medicine and the Department of Public Health (DPH) telling me I needed to explain, in writing, my involvement with the patient that day. I was terrified. What did this mean? Did this mean my license to practice medicine was in danger? Would this mean the end of my career? On the other hand, I was angry and wanted to respond with four words: ''See the autopsy report''. Instead, I got a lawyer and we carefully wrote my response over a couple months. Single-spaced typed, extremely detailed, 13 and 1/2 pages long. Again reliving everything. The pain. The doubt. The sadness. The fear. The saving grace of the process was that the Barrister-gods had clearly smiled upon me when my malpractice firm had assigned me my lawyer. ''Sandy'' (not her real name) was perfect for me. She was tough as nails, with a perpetual manicure — the color of which would change depending on whether she was in court or not. She was a very elegant woman with a great sense of humor. I truly felt extremely well-cared for with her. Sandy was ''what you see is what you get'', and a lot like me. After months of working on the document, right before we submitted it, Sandy had a surprise for me. During that time she had three separate expert witnesses comment on my involvement in the events of the day. All three supported my actions unconditionally. I felt validated. And then wondered: did Sandy do this because she herself had doubted my actions? I was always questioning my own ability even in others' eyes. We submitted the requested document and waited. And waited.*

*Then, six months after the event, the case was presented at our complication meeting. I sat there, as my resident presented the case, tears welling up in my eyes; not sure I would be able to speak if I needed to. But I was able to speak. I was starting to feel somewhat sick of being doubted. Sick of self-doubting. Afterwards, one of the senior staff members in the department came up to me and said, ''That was great. It was wonderful to hear some of the rumors dispelled.'' Rumors? There had been rumors? What kind of rumors? And for six months and no one had told me? I was disappointed by my department. Clearly they had discussed things behind my back. And someone had obviously either embellished or made things up.*

*And yet, something in me was changing. After six months I was starting to feel stronger. Starting to sleep better. Started making plans again. Started living rather than just existing. And then, unexpectedly Sandy called to say both the DPH and the Board of Registration of Medicine had cleared me of any neglect or wrong-doing in the event. A huge weight was dropped off my shoulders. But the memory lingers.*

*I don't dwell on it these days. But the memories are always there. If I re-examine them, they stir up all the same feelings of self-doubt, sadness, helplessness. I am no longer imprisoned by those feelings however. On each anniversary of the event a shadow does fall over me. It is, and probably always will be, a sad day. My mother even tried to change the karma of that day by having a one-of-a-kind piece of hand-painted porcelain autographed and dated by the artist on that day a few years after the event. I told her it helped; what else could I say?*

*I don't think anyone can really predict how they will feel or if or how they will be able to function at all after a tragic event. I certainly would not have predicted my own feelings and actions. I certainly would not have*

*predicted the duration of those feelings either. My "recipe" for existing through those months is likely very different from what someone else would need. My co-workers helped a lot just by being there and listening. The endless inquisitions did not help as they made me relive the events and they each questioned my abilities. Ultimately, time and support helped me to heal.*

## Introduction

Large numbers of patients experience harm from the health care they receive. Tens, or even hundreds of thousands of patients die each year due to preventable medical error.[1,2] Approximately one in seven Medicare patients is harmed during their hospitalization, with about half of the events being preventable.[3] One in five medication administrations is associated with potential or actual patient harm.[4] Clearly, modern health care is a high-risk, high-reward industry. Both the academic and lay press have been filled with data about the negative impact that medical error has on patient harm over the 15 years since the Institute of Medicine published its ground-breaking report, *To Err is Human.*[2]

Perhaps not coincidentally, that same period has seen a much smaller, but important growth in the understanding of the negative impact that medical error and patient harm have on clinicians. Every medication error is administered by a clinician. For each patient who dies unnecessarily, many clinicians may have been involved in the unfolding of the error. Even adverse events that are unpreventable, like the one described above, must be endured by caring providers. Dr Jachna and the team watched a young mother die due to no fault of theirs or any medical error. But they had to bear witness as a young life was lost, a family was torn apart and a child was brought motherless into the world. Well-meaning, competent and caring clinicians understandably respond with strong emotions when confronted with these situations. These clinicians have been referred to as the "second victim" of medical harm.[5]

## Emotional response to adverse events

Christensen et al. published one of the early reports describing the emotional impact of medical errors, poignantly entitled, "*The heart of darkness: the impact of perceived mistakes on physicians.*"[6] Using semi-structured interviews, the authors identified several common themes among physicians who had been involved in medical errors, including: the high frequency of error in clinical practice; the infrequency of self-disclosure about mistakes to colleagues, family and friends; the lack of emotional support; and the large emotional impact on the physician. Other early investigators found similar results among nurses,[7] pediatricians,[8] family practitioners,[9] and medical trainees.[10] The surgical and anesthesia specialties received little attention in these early manuscripts.[11]

In 2000, Wu published a letter entitled, *Medical error: the second victim. The doctor who makes the mistake needs help too.*[5] He argued that "although patients are the first and obvious victims of medical mistakes, doctors are wounded by the same errors: they are the second victims." In this brief essay, Wu identified the symptoms of this phenomenon (agony, grief, guilt, terror), the ways in which healthcare promotes the syndrome (isolation, blame, silence) and even ways to help with healing (discussion with a trusted colleague, honest disclosure to the patient/family). No specific clinical criteria exist for the second victim, but it may be broadly defined as any clinician who experiences significant emotional distress due to the course of clinical events. Not surprising, the presentation is thus protean. Waterman et al. surveyed more than 3100 physicians from the USA and Canada and found that 81% of those who had been involved in a clinical event (serious error, minor error or near miss) experienced some degree of emotional distress.[12] The likelihood increased as the severity of the error increased (Fig. 1), but even those involved in a near miss experienced a high rate of emotional impact. Schelbred and Nord described an evolving series of emotions among nurses after drug administration errors.[13] These started with shock and dread ("I can't believe I made such an error"), panic, and even feeling like they had "died inside". Despite the fact that few patients were harmed by the errors, many described feelings of guilt, shame, and that they had betrayed their patients. This evolved into post-traumatic stress disorder in several nurses. Ullstrom et al. divided the impact of being involved in an adverse event into three subcategories: (a) emotional reactions; (b) professional performance

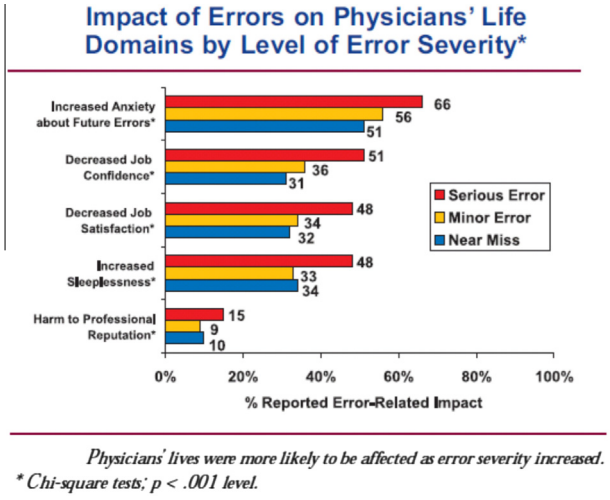


**Fig. 1** Percentage of clinicians developing symptoms based on severity of outcome. Reprinted with permission from: Waterman AD, Garbutt J, Hazel E, et al. The emotional impact of medical errors on practicing physicians in the United States and Canada. Jt Comm J Qual Patient Saf 2007;33:467–76.

and self-confidence; and (c) duration of impact.[14] Most clinicians reported emotional reactions such as sadness, anxiety and reliving the event (flashbacks). Guilt, shame, frustration and feeling blamed were also common. Many described physical disturbances including loss of sleep. Most respondents felt that the event influenced their future professional performance to some degree with many describing a loss of self-confidence. These clinicians generally felt the impact of the event for a long time, ranging from months to a year or more. Luu et al. found that surgeons tended to feel that they were unique in their emotional responses to these events: ''I'm a little more sensitive than they are and certainly a couple of them are absolute rocks''.[15] This highlighted the sense of isolation and loneliness experienced by clinicians after adverse events, often exacerbated by the fact that they are told not to discuss events due to medicolegal concerns, and colleagues frequently avoid them due to discomfort.

Scott et al. published an in-depth analysis of 31 second victims that gives a very granular view of this experience.[16] The authors interviewed physicians, nurses and other clinicians with a wide range of clinical experience using a semi-structured guide. The second victim phenomenon was described as ''a life-altering experience that left a permanent imprint on the individual''. The authors were struck by the degree of meticulous detail with which clinicians could recall events, some of which had occurred years earlier. Six physical and 17 psychosocial symptoms were identified by at least 10 of the 31 participants (Table 1), again highlighting the broad array of clinical presentations for this syndrome. Two important and common traits of the second victim syndrome are ''mulling'' and ''triggering.'' Mulling involves near compulsive thinking about the event. These intrusive thoughts may dominate the clinicians psyche, preventing concentration on other tasks, limiting sleep, and increasing stress and guilt. Triggering involves the sudden recurrence of the emotional impact of the event due to a subsequent triggering event. A patient with the same name, or performing the same procedure in the same location might bring back the feeling of guilt, anxiety, self-doubt and shame. This triggering can occur months or years after the event and may be as emotionally disruptive as the original event.

Unfortunately, relatively little research has been performed specific to the impact of adverse events phenomenon among anesthesiologists. White et al. described anesthetists' attitudes to perioperative deaths,[17] but focused on the incidence of intraoperative death (92% had experienced at least one), the sense of responsibility (35% felt responsible despite the fact that anesthesia-specific causes are extremely rare), and the degree of support they received. Todesco et al. reported on the effects of unanticipated perioperative deaths, but concentrated on more logistical concerns such as death rates, demographics of those involved, acute and long-term practice patterns after the event, with little attention paid to the specific emotional effects.[18] The authors reported that many respondents ''noted a tendency to disabling rumination over what they might have done differently.'' Nearly half of the of the clinicians surveyed by Hu et al. were anesthesia providers, but the authors focused on the perceived need for emotional support and not on describing the emotional impact of adverse events on the providers.[19] McCready and Russell assessed the emotional support needs of anesthesia providers after a maternal death, but not the degree or character of the emotions themselves.[20]

**Table 1 Range of signs and symptoms described by second victims.**

| Physical symptoms | *n* (%) | Psychosocial Symptoms | *n* (%) |
|---|---|---|---|
| Extreme fatigue | 16 (52) | Frustration | 24 (77) |
| Sleep disturbances | 14 (45) | Decreased job satisfaction | 22 (71) |
| Rapid heart rate | 13 (42) | Anger | 21 (68) |
| Increased blood pressure | 13 (42) | Extreme sadness | 21 (68) |
| Muscle tension | 12 (39) | Difficulty concentrating | 20 (65) |
| Rapid breathing | 11 (35) | Flashbacks | 20 (65) |
| | | Loss of confidence | 20 (65) |
| | | Grief | 20 (65) |
| | | Remorse | 19 (61) |
| | | Depression | 17 (55) |
| | | Repetitive/intrusive memories | 16 (52) |
| | | Self-doubt | 16 (52) |
| | | Return to work anxiety | 15 (48) |
| | | Second guessing career | 12 (39) |
| | | Fear of reputation damage | 12 (39) |
| | | Excessive excitability | 11 (35) |
| | | Avoidance of patient care | 10 (32) |

Reprinted with permission from: Scott SD, Hirschinger LE, Cox KR, McCoig M, Brandt J, Hall LW. The natural history of recovery for the healthcare provider ''second victim'' after adverse patient events. Qual Saf Health Care 2009;18:325–30.

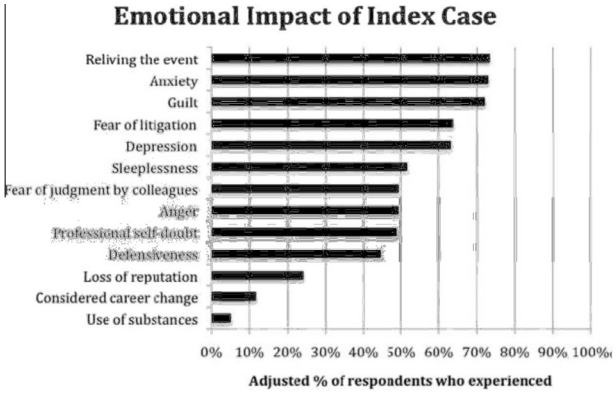


**Fig. 2** Percentage of anesthesiologists who experienced each emotion after major intraoperative event. Reprinted with permission from: Gazoni FM, Amato PE, Malik ZM, Durieux ME. The impact of perioperative catastrophes on anesthesiologists: results of a national survey. Anesth Analg 2012;114:596–603.

Only one paper has specifically assessed the impact of adverse events on anesthesiologists. Gazoni et al. surveyed 1200 members of the American Society of Anesthesiologists (960 active and 240 resident), receiving 659 responses.[21] Most (84%) had been involved in at least one unexpected death or serious injury, with the average being 2.8 events over the past 10 years and 4.4 over their career. The authors asked respondents questions about their "most memorable" adverse event, and received replies from 570 (86.5%) of the responders. Important findings included the fact that 64% of those who believed that the event was not preventable still felt personally responsible. Most experienced guilt, depression, anxiety, sleeplessness, fear of litigation, fear of judgment by colleagues, anger, and reliving of the event (Fig. 2). A small but important percent admitted using drugs or alcohol (5%) or considering a career change (12%).

## Natural history

Since the psychosocial and physical responses to adverse events are so varied, it is not surprising that the natural history of these responses is not uniform. Scott described six specific stages of response which can be seen played out in Dr Jachna's narrative.[16] The first three stages might be experienced simultaneously or in series.

1. **Chaos and accident response:** the clinician becomes aware of the event and feels a sense of confusion, chaos and panic. They are likely to be distracted and concentrating poorly. At the same time the patient may be unstable and need care. Most clinicians are able to provide the care needed, but help from others may be sought. ("*I left the hospital, dazed. Aimless. Where was I going? What had just happened? This couldn't all be real.*")
2. **Intrusive reflections:** This is the time for mulling as described above. Thoughts of the events and what might have happened (assuming all went well) dominate the clinicians' thoughts. ("*a weekend with very little sleep as I rehashed EVERYTHING over and over and over and over and over again. Did I miss something? Was there ANYTHING I could have done differently? Was there a lab value or some other clue I had missed? What had just happened?*")
3. **Restoring personal integrity:** The clinician might seek support from colleagues, peers, friends or family. Many do not know where to turn and may be told not to speak to anyone about the events. They may worry that friends and family will not be able to understand. Fears about how they will be perceived by their colleagues are common. ("*The staff who had been there were all shaken, and all very supportive.*")
4. **Enduring the inquisition:** In-depth case review can be an important part of the quality improvement process after an adverse event. However, reliving the events during a debriefing or departmental morbidity and mortality conference can cause triggering of the emotional responses and increase the sense of shame, guilt and self-doubt. Legal actions that may occur months to years later may again trigger these responses. ("*The next week I was informed that the department clinical committee would review the case to see if there was anything that was missed and my acting-chair told me to be at the meeting. I received the news in the middle of the work day and started crying uncontrollably, shaking and was completely inconsolable for endless hours.*")
5. **Obtaining emotional first aid:** The second victim begins to heal, often with the help of a trusted colleague. ("*After six months I was starting to feel stronger.*")
6. **Moving on:** The authors described three distinct paths: (1) dropping out, which included leaving medicine or changing one's job; (2) surviving, which generally involved maintaining one's career, but with clear emotional burden from the events; and (3) thriving which often occurred when the clinician was able to be part of a solution or otherwise making some good come from the event. ("*I don't dwell on it these days. But the memories are always there. If I re-examine them, they stir up all the same feelings of self-doubt, sadness, helplessness. I am no longer imprisoned by those feelings however.*")

Others have described similar stages to the emotional experiences of the second victim. Luu et al. described four stages among surgeons.[15] First they experienced the "kick," a visceral blow to their core. They experienced self-doubt, a sense of failure, and were not entitled to feel good. Next they described the "fall." This was a

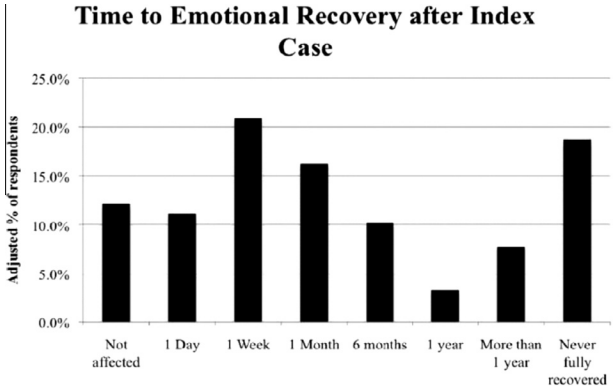


**Fig. 3** Time to emotional recovery of anesthesiologists after major intraoperative event. Reprinted with permission from: Gazoni FM, Amato PE, Malik ZM, Durieux ME. The impact of perioperative catastrophes on anesthesiologists: results of a national survey. Anesth Analg 2012;114:596–603.

sense of having their life spiral out of control and was equated to Scott's stages 2–4 as described above. Surgeons described a pall over their life and concerns about their reputation. Ultimately came the "recovery," and long-term impact phases. Rassin et al. described the immediate response to the event, characterized by stress, fear, shame, inattention and a sense of responsibility.[22] This was followed over the next month by concerns over being fired, waiting for the inquiry, and seeking support from colleagues and family. Then clinicians described a sense of resolution. As with Scott's cohort, time did not heal the emotional wounds for all providers, ("absurdly it got worse over time"). For others they "learned their lesson" and were able to move on. Finally, Gazoni et al. found that the time required for emotional recovery varied significantly among anesthesiologists, ranging from "no impact" to needing a year or more (Fig. 3).[21] Nearly 20% reported that they never fully recovered.

A small subset of second victims may experience a catastrophic emotional response. Suicide has been described in the aftermath of an adverse event.[21] Shanafelt et al. surveyed more than 7900 members of the American College of Surgeons and found that 501 (6.3%) had experienced suicidal ideation within the past year.[23] This figure was about twice the expected rate and was strongly correlated with having been involved in a major medical error in the previous three months. As many as 5% of anesthesiologists[21] and 6% of surgeons[23] have admitted to drug or alcohol abuse after an adverse event. Others have required prolonged absence or have even retired from practice.[18]

## Incidence and risk factors

Little is known about the frequency of, or risk factors for, becoming a second victim. Most clinicians experience an adverse event, error or other emotionally impactful event during their career. Scott et al. found that as many 30% of clinicians had reported "experiencing personal problems within the past 12 months, such as anxiety, depression, or concerns about their ability to perform their jobs, as a result of a clinical patient safety event."[24] Hu et al. found that >50% of clinicians had been involved in a serious adverse patient event within the previous year.[19] Perhaps as many as 35% of obstetric anesthesiologists have been involved in a maternal death.[20] However, simply being involved in an adverse event does not necessarily lead to becoming a second victim. Edrees et al. found that 60% of clinicians could recall an adverse event in which they described themselves as a second victim.[25] Apparent risk factors for greater emotional impact include high severity of harm,[12] spending >75% of one's time in clinical practice,[12] female gender,[12] death occurring in healthier patient,[18] and self-blame for the error.[26] Other factors that may influence risk for becoming a second victim include: pediatric cases; failure to rescue cases; any patient that 'connects' a staff member to his/her own family; first death under clinician's watch; unexpected patient demise; staff member death; and triggering.[27]

## Caring for emotional needs

With the increased recognition about the degree and frequency with which clinicians are emotionally impacted by adverse events has come the realization that health care systems have a responsibility to care for these injured clinicians. Available data suggest that we currently do this infrequently and badly. A majority of nearly 200 000 respondents to the Agency for Healthcare Research and Quality (AHRQ) Hospital Survey on Patient Safety Culture believed that their organization responds to clinician error in a punitive and non-supportive way.[28] Ullstrom et al. found that only five of 21 clinicians reported receiving support from hospital management after an adverse event that lead to significant distress.[14] Among 269 clinicians reported by Scott who described experiencing personal problems within the past 12 months as a result of a clinical patient safety event, only 35% received any support for these feelings.[24] Low rates of institutional support after adverse events appear to be the rule rather than the exception.[12,25,29–31] Even among the surgeons with suicidal ideation reported by Shanafelt, only 26% of those contemplating suicide obtained formal support.[23] Anesthesia personnel fare no better. Most anesthesia providers felt that support, both emotional and in the ability to be relieved from clinical duties, was inadequate after an unanticipated perioperative death.[18] Support was offered to only 34% of anesthesia providers involved in a maternal death, and most were unaware that support was available.[20] While most anesthesia personnel believe that discussions with colleagues, hospital staff,

the patient or family, or even formal counsellors was appropriate, it was actually done by relatively few.[17] It is heartening to note that a majority of the anesthesiologists in Gazoni's large series did receive some support after the event, but the vast majority of this support came from colleagues or family members, with little formal institutional response described.[21]

It is not clear why support is offered so infrequently to those involved in adverse events. Until recently, a lack of understanding of the emotional impact of these events certainly played a role. The sense of guilt, shame and isolation so common after an adverse event or error likely prevents clinicians from seeking help. Logistical issues related to getting clinician time away from the clinical environment may also limit the ability to provide support.[19] A lack of understanding about what is helpful to the clinician almost certainly plays a role. Most clinicians believe that being involved in a formal debriefing is a good idea and is likely to be helpful.[17,21] However, Gazoni found that anesthesia staff who attended a debriefing were more likely to feel personally responsible, blamed, depressed, anxious, or to experience sleeplessness, fear of litigation, fear of judgment, reliving of the event and anger.[21] This is consistent with findings among first responders that debriefing has unproven benefits,[32] and may worsen symptoms of post-traumatic stress disorder.[33]

Most second victims believe that simply talking to a colleague (peer support) is beneficial.[19,21,24] In Hu's survey, 108 physicians from multiple specialties were asked about needs for, and likelihood of using, emotional support services.[19] Being involved in a medical error or adverse patient event ranked as the second and fourth most likely reasons that physicians would seek support, behind being involved in a legal situation and substance abuse. The top five most likely sources for support were all types of professional colleagues, followed by a psychiatrist or other mental health professional. Nearly all (98%) of anesthesia providers felt that discussing the event with a colleague would be helpful, and most (94%) actually did in Gazoni's survey.[21] The understanding that peers can offer unique insight, empathy and understanding after an event has led to the development of specific peer support programs. van Pelt described the initial stages of just such a program.[31] Amazingly, this effort occurred after van Pelt himself was a second victim when he caused a cardiac arrest from accidental intravascular injection of bupivacaine during a popliteal block. He actually worked with the patient (who survived but required emergent sternotomy and cardiopulmonary bypass) to define the basic precepts of an effective peer support model (Fig. 4). This program continues to thrive (Jo Shapiro, Personal communication). The patient, Linda Kenney, developed her own non-profit organization, Medically Induced Trauma Support Services (MITSS), designed to help

**Hallmarks of the peer support team model**

- Credibility of peers
- Immediate availability
- Voluntary access
- Confidential
- Emotional "first aid" (not therapy!)
- Facilitated access to next level of support (eg, Employee Assistance Program)

**Fig. 4** Hallmarks of peer support program. Reprinted with permission from: van Pelt F. Peer support: healthcare professionals supporting each other after adverse medical events. Qual Saf Health Care 2008;17:249–52.

patients, families and clinicians to heal after adverse events.[34] A similar program has been described at Johns Hopkins University.[35] The Cleveland Clinic has instituted "Code Lavender," a rapid-response team for clinicians who are experiencing acute emotional stress.[36] This response includes healthy snacks, massage and brief time away from work. A growing body of resources provides clinicians and health care institutions with tools to help second victims and to develop formal support programs.[27,37–39]

Scott et al. described the development and implementation of a three-tiered clinician support program (Fig. 5).[24] The first and most commonly used tier consists of local managers, supervisors, departmental chairs or colleagues. These leaders were taught the concepts of the second victim and simple steps to help clinicians after an event. The authors found that approximately 60% of clinicians recovered well if local support simply made sure they were recognized ("Are you OK?"). Some (30–35%) clinicians develop more intense emotional reactions to adverse events and require more in-depth support. The authors trained a large set of clinicians to be formal peer supporters. These supporters provide ongoing one-on-one support, mentor second victims and identify additional emotional support resources when needed. This was specifically designed to help clinicians through the investigation process ("Enduring the Inquisition" stage) and any future legal actions. Tier three (5–10%) consists of formal emotional support such as psychological services, clergy and employee assistance programs. The peer supporters were trained to identify specific criteria for referral to tier three. The program also provides emotional support and mentoring to the peer supporters.

## Impact of emotional state on quality of care

Caring for the emotional needs of the second victim goes beyond being kind. It has been argued that there is a moral imperative to address these emotional needs.[40]

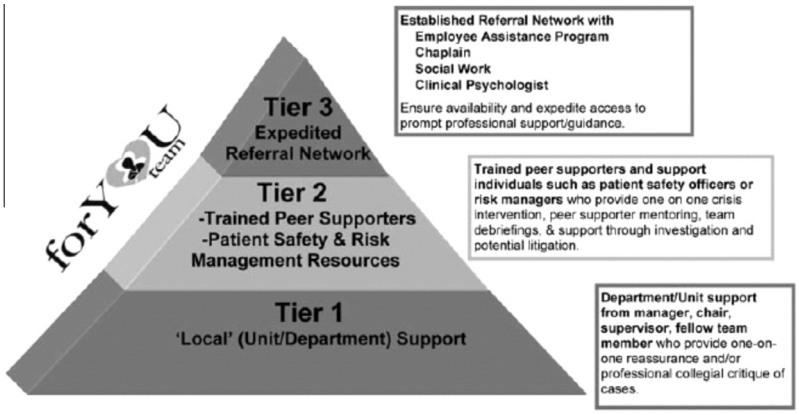


**Fig. 5** Pyramid for emotional support at university of Missouri. Reprinted with permission from: Scott SD, Hirschinger LE, Cox KR, et al. Caring for our own: deploying a systemwide second victim rapid response team. Jt Comm J Qual Patient Saf 2010;36:233–40.

Denham described five rights of the second victim, using the acronym TRUST: Treatment that is just, Respect, Understanding and compassion, Supportive care, and Transparency and the opportunity to contribute to learning.[41] Strong institutional leadership is clearly essential to the appropriate care of the emotionally injured clinician.[42] However, caring for the second victim may go beyond even kindness and moral necessity; it may be good medicine. A growing body of evidence demonstrates that the care provided by clinicians is impaired in the wake of emotionally trying adverse events. The patients who may be harmed by the suboptimal care provided by the second victim have been described as the third victim.[43] Emotional stress has been linked to burnout,[44] and burnout has been linked to increased rates of reported errors,[45,46] decreased patient satisfaction and prolonged recovery.[47] Most anesthesia providers feel that their ability to provide anesthesia is compromised after an adverse event, with 32% feeling compromised "a lot".[21] For most, this compromise lasts only 24 h or less, but a significant minority (12%) believes this lasts more than a week. Similar concerns have been identified among surgeons.[48] Unfortunately, a large percentage of clinicians continue to work immediately after an adverse event. Gazoni found that only 7% of anesthesiologists were relieved after a major event.[21] This number improved to 54% in the series by Todesco,[18] but most cited logistical issues ("no one to take over the rest of the cases") as the major impediment to being relieved. Similarly, White found that 71% of anesthesiologists believed that they should not care for patients for 24 h after in intraoperative death, but only a minority (25%) thought this was practical.[17] Schwappach and Boluarte described a vicious circle in which a clinician who is involved in an error develops the characteristic shame, fear, and guilt.[42] This leads to burnout and a decrease in the quality of subsequent care, which leads to more errors, which in turn leads to more errors (Fig. 6). The long-term impact on both patients and provider can be devastating. Nurok et al. argued that the patients should be informed about sleep deprivation and the possible impact of fatigue on performance if a surgeon plans to perform elective surgery after having been awake on call the night before.[49] Perhaps a similar standard should be considered for clinicians giving care after a major adverse event.

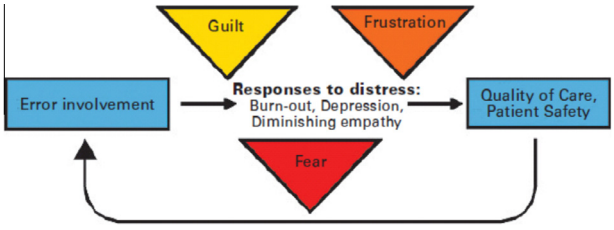


**Fig. 6** Cycle of error, burnout and error. Reprinted from Open Access: Schwappach DL, Boluarte TA. The emotional impact of medical error involvement on physicians: a call for leadership and organisational accountability. Swiss Med Wkly 2009;139:9–15.

## Conclusion

Anesthesia providers are human. As such we make mistakes, and some of these mistakes lead to patient harm. Because of this very humanness, we also have strong emotional responses to the suffering and harm that occurs because of the mistakes we make. We become injured too. Martin and Roy poignantly described this in the *Anesthesiologist's Lament*:[43]

Oh my god, what happened? I need to know.
Did I miss a sign? My response, too slow?
If I was distracted, poorly prepared,
It was not his fault. He should have been spared.

If Lachesis measured a longer thread,
What changed his fate? What? And why is he dead?
When unbidden Atropos came to call
Over our lives she cast her black pall.
Will I see his shroud in another's face?
In waking dreams am I doomed to retrace
The steps untaken, the shock, even shame
And tormenting fear that mine is the blame?

The normal, emotional, human response to the harm that befalls our patients can lead to significant psychological suffering, long-term emotional incapacity, impaired clinical care, drug or alcohol use or even suicide. Feelings of shame, guilt, isolation and fear are hallmarks of this second victim syndrome, and thus clinicians may not feel able or worthy of seeking help. It is incumbent on medical leadership to be vigilant for the signs of emotional distress after adverse events and medical error. Systems should be in place to offer emotional support to the clinician, even (or perhaps especially) in the case of clear negligent error. Backup plans should exist that allow the clinician to be relieved from clinical duties so they can concentrate on their own recovery and to prevent them from harming another patient because of suboptimal care created by the emotional distraction. Like all injured humans, the goal of the health care system must be to care for our injured colleagues, our second victims.

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