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# Caring for the Care-Giver: Debriefing Following Intra-Operative Death

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## Abstract

**Introduction:** Intraoperative death affects a team of individuals, each with different levels of training and experience. Although briefings, time-outs, and debriefings have been well described, it is unclear how often they occur following intraoperative catastrophic events. We utilized an electronic survey to assess the frequency and potential utility of a formal debriefing process following the intraoperative death of a patient, and discuss our findings in light of the mental well-being of perioperative medical personnel.

**Methods:** A 19 question electronic survey was distributed to primary operating room staff in two hospital systems. The survey was designed to identify which OR staff members had experienced intraoperative loss of a patient, what emotional response was elicited, and what resources were available to them following this event.

**Results:** Of the 196 people who responded to the survey, over half (56%) had experienced the loss of a patient in the operating room. 80% of those who had experienced the intraoperative loss of a patient reported moderate to strong emotional responses to the event. Almost no one reported any formal support offered following the event, yet, over 50% people felt that a formal debriefing of the entire surgical team would have helped either themselves or others members of the team cope with the intraoperative death. Over 85% of team members felt that the most effective strategy in reducing stress following intra-operative patient death is talking to co-workers. Over 80% of team members felt that their activities of daily living and relationships were not interrupted following the event.

Conclusions: Our survey confirms that a lack of resources is available for health professionals after a catastrophic intraoperative event. A growing body of literature suggests that early debriefing followed by targeted follow-up is an important means of ensuring prompt recovery for perioperative team members.

## Introduction

The universal goal of healthcare is to ensure patient well-being. Despite our best efforts, however, individual physicians will not always be able to achieve this goal and will experience patient death. The death of a patient can be a traumatic and stressful experience, with intraoperative death being particularly immediate and emotionally difficult. Although stress is ubiquitous, reactions between individuals vary widely, making assumptions about stress recovery difficult to predict. The ability to effectively cope with the stress associated with intraoperative death will allow an individual to avoid the emotional repercussions of grief that can disrupt daily living.

Time-outs, huddles, and briefings have become the norm in the perioperative environment, based, in part, on experience from the airline industry. Debriefings following eventful or uneventful operations are less common, but still occur in some operating theaters, however, these debriefings generally focus on “what we did right, and what we could have done better”.

Debriefing following patient death is not a part of routine clinical practice, with nearly all of the literature regarding this practice coming from the nursing field (1, 2, 3, 4, 5). Furthermore, the majority of this literature reflects reactions to death following a long-term relationship with a patient, a relationship that rarely develops in the peri-anesthetic setting. Although methods to debrief a perioperative team following death are poorly described, the literature that does exist stresses the need for resources, time, and formalized process.

As anesthesiologists, we are frequently considered the “captain of the ship” when it comes to the intraoperative team. Although surgeons bring their patients to the operating room (OR), anesthesiologists tend to work in the same rooms daily, and have a more developed working relationship with the nurses, technicians, and ancillary staff that care for these patients. Appropriately, when an intraoperative event occurs, we are almost always the ones to manage resuscitation, direct resources, and supervise the operative team. When patients die, however, we share the grief with the surgeon, and we should meet with family members together to provide information and solace. Other members of the operative team, however, are left out of this process, and are frequently left to guess at what happened, and whether they played any part in the patient’s death. Training of our younger intraoperative colleagues, especially surgical technicians, is very different from that received by physicians and nurses, and they may be especially susceptible to emotional distress following such an event.

Following two intraoperative deaths in one day in one OR at our institution, we created a survey to determine the incidence of

experience with intraoperative death, and experiences with subsequent debriefing, if any. This manuscript will discuss results of that survey, and provide a discussion and blueprint for debriefing and grief management following intraoperative death for all members of the surgical team.

## Brief Case Report

During induction of anesthesia for a liver transplant operation, a patient suffered cardiac arrest and died. Another patient was quickly identified for transplantation, and that patient also died during the course of his surgery. One anesthesia team (one anesthesiologist and two residents) completed both cases, and there was no debriefing following either death. The attending anesthesiologist expressed grief over the deaths, met with the family, and attended the patient funerals. One resident, requested (and was granted) time off to emotionally recover/grieve on his own while the other resident reported no such problems, and returned to work the following day without difficulty. The nursing and technician staff were not contacted, and it is unclear what sequelae, if any, they experienced.

## Survey Methods

In order to assess the frequency and utility of debriefing following intraoperative death, a 19 question, IRB approved (William Beaumont Hospital Human Investigation Committee study 2015-292), electronic survey (Appendix 1) was created and then distributed to primary OR staff in two hospital systems. The survey was designed to identify which OR staff members had experienced an intraoperative loss of a patient, what emotional response was elicited from this event, and what resources were available to them following this event. The survey was distributed to anesthesiologists, anesthesiology residents, certified registered nurse anesthetists (CRNAs), CRNA students, surgeons, surgery residents, OR nurses, and surgical technologists.

The first two questions of the survey were used to establish the healthcare provider’s role in the OR, and if they had ever experienced intraoperative patient death. If the healthcare provider had never experienced the intra-operative loss of a patient, they were excluded from the remainder of the survey. The remaining 17 questions consisted of questions that were answered with a simple “yes” or “no” answer, or with a response that ranged from “strongly agree” to “strongly disagree” in order to gauge emotional response.

## Survey Results

196 respondents, the majority of which were anesthesia personnel, completed the survey (Table 1). Of those 196, 110 (56%) responded that they had experienced an intraoperative death. The remaining data comes from those 110 that answered in the affirmative. Nearly 80% of respondents reported a strong or moderate response to the intraoperative death (Table 2). Incidence of debriefing following the event was low (20%), and incidence of mandated counseling or offers of support were even lower (Table 3). Table 4 summarizes opinions concerning value of immediate and delayed debriefing (mostly neutral to agree), willingness to speak openly during such a debriefing (majority agree), and value to the individual alone with a grief counselor (mostly neutral) and as a group to other team members (mostly agree).

Although a portion of respondents reported difficulties with activities of daily living, relationships, and work after the event, the majority reported no problems (Table 5). While responses to utility of different types of formalized post-event interventions varied, the majority of respondents felt that speaking with coworkers was the most helpful means of reducing stress (Table 6).

## Discussion

Our survey results validated what we already suspected; debriefings following an intraoperative death were uncommon, and follow-up support was even more so. Respondents felt that debriefing would be useful, especially amongst colleagues and in the immediate post-event period. Interestingly, they felt that a debriefing would help not only themselves, but other members of the team, suggesting empathy towards team members with different levels of experience/training.

Grieving is a normal response to a tragic event, and stages of grief have been described for decades, most famously by Kubler-Ross (denial, anger, bargaining, depression, and acceptance (6). Grieving and duration of grieving is an individual response and varies amongst individuals (7). A survey of anesthesiologists experiencing “perioperative catastrophes” revealed that most experienced guilt and anxiety following the event, with a substantial portion (19%) revealing that they “never fully recovered” and 12% considered a career change. Although most needed time to recover from the event, only 7% were provided with time or resources to do so (8).

Preoperative “time-outs” have long been recommended to reduce perioperative errors. Similarly, postoperative debriefings have been recommended to improve future OR efficiencies and learning (9), with recent recommendations coming from the simulation literature describing the potential benefit of debrief

education in residency training programs (10, 11). Note that the typical quality improvement process (consisting of morbidity and mortality, or sentinel event meetings) only focus on the medical details of events. These formal meetings, while intended to prevent future patient harm, may make caregivers feel worse afterwards, and may increase feelings of blame and grief (8).

A dramatic example of post-traumatic debriefing comes from the “Miracle on the Hudson” airplane accident, when Captain Sullenberger collected his staff on the dock following their rescue. Debriefing events were followed by coordinated and supportive sessions within 24h for the crew and their families. As pointed out in a recent essay, however, debriefing with the goal of providing emotional recovery is not yet a lesson-learned from the airline industry (12).

We have previously described the military’s system of treating combat stress (Table 7) (13). While our stressors are obviously different than those of a front-line soldier, the principles of the “BICEPS” system are still germane to this discussion. Specifically brevity, immediacy, centrality, and simplicity should be employed whenever possible following a death event, ideally in a formalized debriefing scenario.

A frequently described intervention in both the nursing and non-medical literature is Critical Incident Stress Management (CISM). Designed initially for first responders, principles of CISM (as with BICEPS) can be easily incorporated into management of intraoperative death. CISM is designed to be a short-term mental health intervention that focuses solely on an immediate and identifiable problem (14). Steps of the CISM protocol include pre-crisis education, defusing, debriefing, and follow-up.

- Pre-crisis education includes incident awareness, crisis response strategies and develops stress management coping skills that can prevent major problems should an incident occur. It takes the form of an employee handbook, e-book and/or workshops and training seminars.
- Defusing takes the shape of a typical postoperative debriefing using BICEPS principles. Only those involved are present, and the session takes place on the same day of the event, where initial details and responses are discussed.
- Debriefing (not to be confused with what perioperative teams would consider “debriefing”) includes those both directly and indirectly involved, including those specifically trained to aid in crisis management. Intervention occurs within 72 hours of the event, and focuses on reflection, identification of coping skills, and early identification of those that may need additional services.
- Follow-up includes individual contact between each member of the affected team and a mental health/crisis management counselor one week following the event. Again, the goal is to provide ongoing services to those that may need them (15).

Although BICEPS and CISM are not the only programs described to aid with crisis or grief counseling, all commonly implemented programs share the following two concepts: immediacy of discussion following the event and post-event follow-up. Meta-analysis studies have shown that the standard “single-session” debriefing, regardless if CISM or non-CISM, is not effective in improving recovery from psychological trauma (16). In other words, debriefing in the immediate post-operative period is important, but so is follow-up to identify those in need of further help.

Survey sample data can suffer from small sample size and excessive extrapolation of findings. Although our numbers were relatively small, we did find that an overwhelming number of providers that had experienced intraoperative death received no debriefing or assistance after the event, and most felt that debriefing would be valuable. Also, circumstances of an event (elderly versus pediatric patient, for instance) can color the impact of the event (17), which was mentioned frequently by respondents in the free-form comments.

Just as preoperative briefings and “time-outs” are meant to improve patient safety, debriefings and follow-ups following intraoperative death will improve mental health of our healthcare providers, and hopefully limit disruptions of daily living and maintain focus and longevity of our workers. We therefore recommend that hospitals implement mandatory debriefings following intraoperative death including all members of the surgical team, followed by touch-base calls by mental health professionals, in attempts to identify those that may benefit from further intervention.

Note: This project was presented in abstract form at the 2016 meeting of the American Society of Anesthesiologists (18).

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## Appendix 1. Electronic Survey Tool Questions

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| Please answer the following three questions with a YES or NO response  |
| 1. Following the death, did you receive any hospital mandated counseling?  |
| 2. Following the death, did the surgeon or anesthesiologist direct you to appropriate support?   |
| 3. Following the death, did anyone follow up with you to assess whether you needed support?  |
| Please answer the following questions with STRONGLY AGREE, AGREE, NEUTRAL, DISAGREE, or STRONGLY DISAGREE  |
| 4. I think that a formal debriefing of the entire surgical team IMMEDIATELY after the event would have helped me to cope with the stress associated with the intraoperative death                                    |
| 5. I think that a formal debriefing of the entire surgical team would have helped OTHER members of the team cope with the intraoperative death.  |
| 6. I think that a formal debriefing alone with a grief counselor would have helped me cope with the stress associated with the intraoperative death  |
| 7. My activities of daily living were interrupted because of the stress associated with the intraoperative death (for example: difficulty concentrating on tasks, sleep disturbance, upset stomach, headaches, etc.) |
| 8. My relationships with others at HOME were negatively impacted because of the stress associated with the intraoperative death  |
| 9. My ability to care for other patients was negatively impacted in the short term because of the stress associated with the intraoperative death  |

10. What strategies did you find to be the most effective in reducing the stress following intra-operative patient death?

11. If offered, which of the following supportive approaches do you think would help surgical team members mitigate the stress associated with intra-operative death?

12. If offered, which of the following supportive approaches do you think would help surgical team members mitigate the stress associated with intra-operative death?

**Note: Survey was electronically sent using the SurveyMonkey web service, and individual answers were selected by radio button**