





# Trauma and Death in the Emergency Department: A Time to PAUSE (Promoting Acknowledgment, Unity, and Sympathy at the End of Life)

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<b>BACKGROUND:</b>	Witnessing death can be difficult and emotionally draining for health care workers and presents a risk factor for burnout. The practice of a ritual pause at patient death to recognize the patient as a person, reflect, and acknowledge the health care team is an emerging intervention that has not been well studied in trauma.
<b>OBJECTIVE:</b>	This study aims to explore the effect of a team pause on trauma team member attitudes after emergency department patient death.
<b>METHODS:</b>	This is a pre- and postintervention study of the implementation of a Trauma PAUSE (Promoting Acknowledgment, Unity, and Sympathy at the End of Life) conducted from March 2018 to June 2020.
<b>RESULTS:</b>	A total of 466 participated in this study. Emergency department employee responses to the pre- (296 of 745 employees contacted responded) and postimplementation surveys (170 of 732 employees contacted responded) were compared. Although not statistically significant, responses to the postsurvey suggested an increased connection to patients and belief in the need for a moment of silence following a death. Employees who had participated in a PAUSE (57/170) reported improvements in internal conflict, feeling of emptiness, resilience, and ability to move on to the next task. Overall, 84.2% (48/57) of Trauma PAUSE participants were satisfied with the Trauma PAUSE.
<b>CONCLUSION:</b>	The Trauma PAUSE is a meaningful way to help trauma staff members find peace, maintain resiliency, and readily shift their focus to providing care to other patients.
<b>KEY WORDS:</b>	Burnout, Death, Emotions, Health occupations, Pause, Trauma

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## BACKGROUND

Unintentional injuries cause more than 173,000 deaths in the United States each year (Centers for Disease Control and Prevention, 2021). This number increases to over 246,000 when deaths due to violence-related injuries are included. Several studies have shown that witnessing patient death is one of the factors that have been associated with health care worker burnout

(Dimou et al., 2016; Guest et al., 2011; Lee et al., 2021; Wang et al., 2021). Indeed, it may be one of the many factors contributing to trauma surgeons having the highest rates of burnout among surgical subspecialties, a rate some have reported to be over 50% (Balch et al., 2011; Dimou et al., 2016).

Trauma activations can be intense and demanding experiences that are amplified by the death of a severely injured patient. Despite aggressive interventions such as cardiopulmonary resuscitation, massive transfusion protocol activation, and implementation of other life-saving modalities, some patients with significant trauma burdens do not survive. The moment the code is called, trauma team members watch each other remove their personal protective equipment and exit the trauma bay to care for other patients. Patient volume and acuity frequently do not allow the team time for meaningful closure because team members must move on to care for other patients (Ramírez-Elvira et al., 2021). Thus, the permanent and irreversible end of another's life leaves us with little opportunity for a pause in our own life (Bartels, 2014).

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**KEY POINTS**

- A Trauma PAUSE takes minimal time to perform.
- A Trauma PAUSE is a meaningful and straightforward way to show respect for human life.
- Trauma PAUSE participants reported an improved resilience and ability to cope with internal conflict.
- Trauma PAUSE participants reported an improved ability to transition on to their next tasks.
- The Trauma PAUSE was well received, and participants found overall satisfaction.

**OBJECTIVE**

This study aims to explore the effect of a team pause on trauma team member attitudes after emergency department patient death.

**METHODS**

This is a pre- and postintervention study of the Trauma PAUSE conducted from March 2018 to June 2020. Our trauma and spiritual care departments designed and implemented a short Trauma PAUSE (*Promoting Acknowledgement, Unity, and Sympathy at the End of Life*) for use after trauma deaths in one of the five trauma bays at our Level II trauma center, which cares for an average of 1,000 patients each year. The trauma center is part of an independent academic medical center with a 325-bed tertiary care hospital. Our health care system serves 21 largely rural counties in western Wisconsin, southeastern Minnesota, and northeastern Iowa, with a population of over 586,000. We hypothesized that the Trauma PAUSE would strengthen trauma team members' ability to remain resilient, find peace, and transition to their next tasks.

The Trauma PAUSE script was carefully worded by a multidisciplinary team representing multiple religious backgrounds and beliefs. The Trauma PAUSE was designed for one of the five trauma surgeons to pronounce the time of death and then make a brief statement to honor the patient and staff. Having the trauma surgeons lead the Trauma PAUSE felt natural because they lead the team and can ensure that the message remains consistent from case to case. The chaplain, who is present at all level red activations at our institution, then takes over and initiates a moment of silence followed by a scripted statement to honor the life lost and the efforts of the team involved. The entire process takes less than 1–2 min to perform, and participation is voluntary.

**Trauma PAUSE Script**

The typical flow of a Trauma PAUSE is as follows:  
Trauma surgeon/physician:

1. (*Calls time of death*) Time of death \_\_\_\_.
2. (*While everyone is still in room, the surgeon/physician states*) At this time, we would like to take a moment to honor the patient and staff.

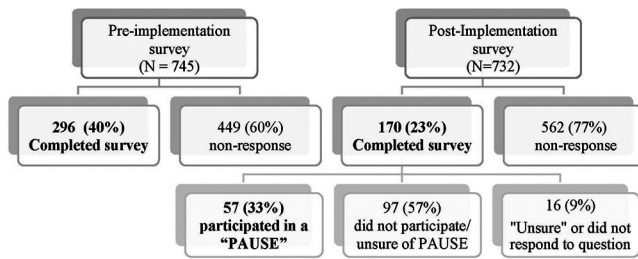
Chaplain takes over:

1. (*Chaplain states*) For those who would like to stay, we'll take a moment of silence to acknowledge this person, their death, and our care for them ...
2. (*Moment of silence—10 s*)
3. (*Blessing*)  
We give thanks for \_\_\_\_ (Name), those they loved, and those who loved them.  
We give thanks for the privilege of caring for them.  
We give thanks for our caring team.  
We ask that all may be whole and find peace. Amen.
4. (*Chaplain states*) Thank you for your care—for those who would like to stay, please do, for those moving on to other duties, Thank You.

After obtaining approval of the project from Gundersen Health System's Institutional Review Board (IRB #2-18-03-010), in March 2018, an email providing background on the study and a link to an electronic pre-PAUSE survey (see Supplemental Digital Content 1, available at: <http://links.lww.com/JTN/A64>) was sent to all emergency department employees who participate in level red trauma activations at our institution to establish a baseline perspective on trauma death in this population. Completion of the survey was voluntary, and responses were anonymous. A survey reminder was sent via email after 2 weeks, and the survey was closed 1 month after the initial email invitation.

The Trauma PAUSE was implemented in April 2018. In June 2020, approximately 2 years after initiating the Trauma PAUSE, a post-PAUSE survey was sent to the same employees who received the initial survey. This survey contained the same questions as the pre-PAUSE survey, but it also contained six questions geared specifically toward respondents' experience with the Trauma PAUSE (see Supplemental Digital Content 2, available at: <http://links.lww.com/JTN/A65>).

Statistical analyses of the surveys were conducted with  $\chi^2$ , Fisher exact, and Mantel-Haenszel tests using SAS statistical software Version 9.4 (Cary, NC). First, we compared responses to the pre- and post-PAUSE surveys. Two subgroup analyses were then performed: the responses of those who had participated in a PAUSE were compared with the pre-PAUSE survey responses. The responses of those who had participated in a PAUSE were compared with those of respondents who had not. We also analyzed responses to the additional questions on the post-PAUSE survey for those who had participated in a PAUSE. The significance threshold was set at .05.



**Figure 1.** Flow diagram of the pre- and post-PAUSE survey responses.

## RESULTS

A total of 466 participated in this study. Overall response rates for the pre- and post-PAUSE surveys were 40% (296/745) and 23% (170/732), respectively (Figure 1). Not every respondent answered every question, so the percentages provided are based on the total responses to each question, not on the number of respondents. Pre- and postimplementation survey comparisons were not statistically significant (Table 1); however, 121 of 138 (87.6%) respondents to the postsurvey indicated that they felt *somewhat* or *very* connected to patients, a 9.2% increase from presurvey responses (214/273, 78.4%). The percentage of respondents who felt that a moment of silence following a death was beneficial also increased from 66.1% (181/274) in the presurvey to 74.7% (118/158) in the postsurvey.

### Overall Comparison of Pre-PAUSE Survey Versus Post-PAUSE Survey Responses

Respondents to the pre- and post-PAUSE surveys were demographically similar regarding gender, employee role, and mean years of work experience (Table 1). Their responses were also similar concerning whether they reflected on patient deaths, and if they did reflect on patient deaths, whether they characterized their thoughts as *at peace*, *stressful*, *indifferent*, or *other* (Table 1). Similarly, no differences were observed on respondents' discussion of trauma death with *coworkers*, *family*, or *not at all*, ability to transition to the next task noted as *difficult*, *somewhat easy*, or *no problem*, or their feelings of connectedness to the patients labeled as *somewhat*, *very*, or *not connected*. When asked about a need for a moment of silence following a trauma death, 66.1% (181/274) of pre-PAUSE respondents felt this was needed compared with 74.7% (118/158) of post-PAUSE respondents ( $p = .07$ ). Of note, 73 of 149 (49%) respondents to the post-PAUSE survey could recall at least one time they felt a PAUSE had been needed but did not occur.

### Pre-PAUSE Survey Versus Post-PAUSE Survey for Only Those Who Participated in a PAUSE

Fifty-seven of the 170 postsurvey respondents (33.5%) reported participation in a Trauma PAUSE.

Survey data from this post-PAUSE group were not statistically different from the pre-PAUSE responses regarding reflection on a patient's death, how they characterized their thoughts, their ability to transition to the next task, or feeling connected to patients (Table 2).

### Post-PAUSE Survey Only: Those Who Participated in a PAUSE Versus Those Who Did Not

Further exploration of the post-PAUSE data indicated that 97 staff members had not participated in a PAUSE, whereas 16 respondents were either unsure whether they had been involved in this process or did not answer the question (Figure 1). Respondents who participated in a PAUSE were similar to those who did not with regard to whether they reflected on patient deaths, how they characterized these thoughts if they did, ability to transition on to their next tasks, or level of connectedness to the patient (Table 3).

### Post-PAUSE Survey Responses for Only Those Who Participated in a PAUSE

The majority of the 57 post-PAUSE survey respondents who participated in a Trauma PAUSE reported being present in only one or two PAUSEs over the 2 years since its implementation. Employees who participated in a PAUSE (57/170) reported improvements (minimal, slight, or significant) in internal conflict (40/55, 73%), feeling of emptiness (39/55, 71%), resilience (46/56, 82%), and the ability to move on to the next task (46/55, 84%) (Figure 2).

The majority of PAUSE participants reported being *very satisfied* (17/57, 30%) or *satisfied* (31/57, 54%) with this experience. Nine percent (5/57) were *neutral*, 5% (3/57) were *not satisfied*, and 1/57 (2%) was *dissatisfied*.

## DISCUSSION

The Trauma PAUSE can be a meaningful way to show respect for human life. In their own way, it allows individuals to recognize the body in front of them as more than just a patient, but rather as a fellow human life who had lived, breathed, loved, and was loved. In a world where emotional exhaustion and depersonalization in health care providers is becoming more prevalent, interventions like the PAUSE help individuals reconnect with their purpose and the people they serve (Balch et al., 2011; Copeland & Liska, 2016; Cunningham et al., 2019; Elkbuli et al., 2020; Howard et al., 2018).

Providers having varying levels of comfort initiating a Trauma PAUSE may have affected how often the PAUSE was performed. We believe that staff members other than the trauma surgeon and the chaplain—anyone who is comfortable with the process—could initiate and perform a PAUSE. This would perhaps remove one of

**Table 1.** Comparison of Pre- and Post-PAUSE Respondents' Characteristics and Perspectives on Trauma Death

Survey Item	Pre-PAUSE (n = 296)		Post-PAUSE (n = 170)		p
	n	%	n	%	
Gender					.84
Female	200	68.7	113	68.5	
Male	49	29.7	49	29.7	
Prefer not to answer	3	1.0	3	1.8	
Role					.10
MD/DO	30	10.1	19	11.2	
Nurse	98	33.1	65	38.2	
EMT	15	5.1	17	10.0	
Respiratory therapist	26	8.78	17	10.0	
Resident	9	3.0	3	1.8	
Other	118	39.9	49	28.8	
Years in practice, M(SD)	12.1 (10.4)		11.4 (10.3)		.39
Reflecting on patient death					.21
Yes	252	88.4	153	92.2	
No	33	11.6	13	7.8	
Thoughts characterized					.91
At peace	43	17.5	24	15.7	
Stressful	65	26.4	45	29.4	
Indifferent	81	32.9	50	32.7	
Other	57	23.1	34	22.2	
Discussion of trauma death with					.85
Coworkers	223	64.5	126	61.8	
Family	69	19.9	47	23.0	
Not at all	48	13.9	27	13.2	
Other	6	1.7	4	2.0	
Ability to transition to next task noted as					.84
Impossible	2	0.8	0		
Difficult	35	13.1	18	11.8	
Somewhat easy	147	54.9	95	62.5	
No problem	84	31.3	39	25.7	
Feeling connected to patients					.07
Somewhat	192	70.3	107	77.5	
Very	22	8.1	14	10.1	
Not connected	59	21.6	17	12.3	
Need for a moment of silence					.07
Yes	181	66.1	118	74.7	
No	18	6.6	7	4.4	
Unsure	66	24.1	24	15.2	
Other	9	3.3	9	5.7	

Note. Some respondents did not answer every question; therefore, the percentages are based on the number of responses received for each item, not on the total number of respondents. PAUSE = Promoting Acknowledgement, Unity, and Sympathy at the End of Life.

**Table 2.** Comparison of Pre-PAUSE Responses With Post-PAUSE Responses of Staff Who Participated in a Trauma PAUSE

Survey Item	Pre-PAUSE Participants (n = 296)		Post-PAUSE Participants (n = 57)		p
	n	%	n	%	
Reflecting on patient death					.31
Yes	252	88.4	53	93.0	
No	33	11.6	4	7.0	
Thoughts characterized					.99
At peace	43	17.5	10	18.9	
Stressful	65	26.4	13	24.5	
Indifferent	81	32.9	17	32.1	
Other	57	23.2	13	24.5	
Ability to transition to next task noted as					.83
Impossible	2	0.8	0	0	
Difficult	35	13.1	8	15.4	
Somewhat easy	147	54.9	30	57.7	
No problem	84	31.3	14	26.9	
Feeling connected to patients					.36
Somewhat	192	70.9	39	79.6	
Very	22	8.1	4	8.2	
Not connected	57	21.0	6	12.2	

Note. Some respondents did not answer every question; therefore, the percentages are based on the number of responses received for each item, not on the total number of respondents. PAUSE = Promoting Acknowledgement, Unity, and Sympathy at the End of Life.

the barriers to it being performed, but it might also prevent people from ascribing religious meaning to the PAUSE.

Trauma PAUSE takes minimal time to perform and can profoundly affect those involved. In less than a minute, the nondenominational PAUSE enables individuals to experience mindfulness by taking a moment to reflect upon the human aspect of their work. Cunningham et al. (2019) discussed the benefit of a PAUSE to the care team as a “self-care experience for the loss for the team,” and some individuals noted that it changed their relationship with other team members. There is something universally understood in the simplicity, yet complexity, of taking a moment of silence to recognize and show respect for human life (Cunningham et al., 2019; Pace & Mobley, 2016). Although our survey results did not indicate that the PAUSE made a significant difference in how participants processed death, overall, it was well received by those who participated in one, with over 80% satisfied or very satisfied.

Although the majority found the PAUSE beneficial, it is important to note that a small portion of participants felt neutral or dissatisfied with the PAUSE. The exact reasons for this are unclear, but it is important to

recognize that people do not all process death in the same way (Nia et al., 2016). For this reason, the PAUSE must remain entirely voluntary for those who would like to participate. There is no right or wrong way to process difficult situations such as the loss of life. Providing the PAUSE allows each person the opportunity to process this experience in a way that is beneficial to them.

In the pre-PAUSE survey, 66% felt that a moment of silence after a trauma death was needed compared with 75% in the post-PAUSE survey. It may seem counterintuitive that more felt that it was needed *after* the PAUSE was implemented. However, it perhaps illustrates that more people either realized the benefit of having a PAUSE or that they were more aware that it was missing when it did not occur. Nearly 50% of respondents in the post-PAUSE survey could recall at least one time they felt a PAUSE was needed but did not occur.

As noted, we did not find a statistical difference between the pre- and post-PAUSE survey responses, even when we compared only the prerespondents with those who had participated in a Trauma PAUSE in the postsurvey. In part, this may be due to a lack of statistical power because only 57 postsurvey respondents had

**Table 3.** Comparison of Post-PAUSE Responses of PAUSE Participants and Non-Participants

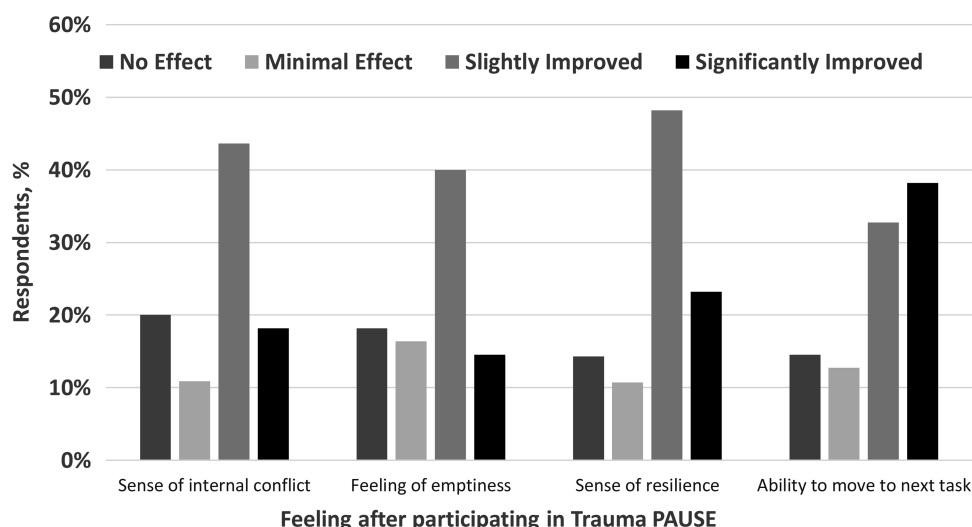
Survey Item	Post-PAUSE Participants (n = 57)		Post-PAUSE Nonparticipants (n = 97)		p
	n	%	n	%	
Reflecting on patient death					.96
Yes	53	93.0	90	92.8	
No	4	7.0	7	7.2	
Thoughts characterized					.60
At peace	10	18.9	12	13.3	
Stressful	13	24.5	30	33.3	
Indifferent	17	32.1	30	33.3	
Other	13	24.5	18	20.0	
Ability to transition to next task noted as					.53
Impossible	0	0	0	0	
Difficult	8	15.4	9	9.6	
Somewhat easy	30	57.7	61	64.9	
No problem	14	26.9	24	25.5	
Feeling connected to patients					.81
Somewhat	39	79.6	66	79.5	
Very	4	8.2	9	10.8	
Not connected	6	12.2	8	9.6	

Note. Some respondents did not answer every question; therefore, the percentages are based on the number of responses received for each item, not on the total number of respondents. PAUSE = Promoting Acknowledgement, Unity, and Sympathy at the End of Life.

participated in a Trauma PAUSE. However, those who did participate in a Trauma PAUSE reported an overall increase in their ability to cope with their internal sense of conflict, a decrease in their personal feelings of emptiness, an improvement in their sense of resilience, and a better ability to transition on to their next task.

Initiation of the Trauma PAUSE in our emergency department has since sparked interest in several other

departments that have recognized the value of this simple tool health care providers dealing with patient death can use. A similar but new protocol to carry out a moment of silence after death was written and initiated in the ICU setting—first responders within our institution are now using a process like the Trauma PAUSE after deaths in the field. Staff working with our COVID-19 units have begun tailoring a similar protocol after



**Figure 2.** Effect of participation in—or presence during—a Trauma PAUSE on respondent emotions, n = 57.

patient deaths because they are seeing a rise in deaths and the toll this is taking on the staff involved.

## LIMITATIONS

Our study has several limitations. We lacked a way to document that Trauma PAUSEs had occurred. This lack of documentation may have created a recall bias because participants relied on self-reporting instead of written verification. The study may also be subject to selection bias because those interested in the topic would be more likely to respond to the survey. Although the pre- and postsurveys were sent to the same people, the population was smaller in the post-survey, possibly due to staff turnover over the 2-year period. Furthermore, although the postsurvey was not sent to new employees, several trauma surgeons and staff joined the organization during the study period, so how (or whether) they were familiarized with the PAUSE is unknown.

Another limitation of our study was the effect of the COVID-19 pandemic. Unfortunately, our postsurvey was sent several months after the start of the COVID-19 pandemic within our community. Although it is challenging to know the overall effect of the pandemic on the implementation of the PAUSE, several factors may have affected our findings. These factors include, but are not limited to, capturing whether a PAUSE did or did not occur, assessing whether fewer staff were present during trauma resuscitations owing to limiting team member exposure, and staff experiences of stress and fatigue associated with the pandemic. Regardless of the factors, it is reasonable to assume that the pandemic affected our study results.


Further study of a process like the Trauma PAUSE should include a range of trauma centers and regional distribution; this could increase the number of survey responses and allow for comparisons based on system-specific factors, volume, and geographical location.

## CONCLUSION

Through this study, we were able to show that a Trauma PAUSE can be a meaningful way to show respect for human life, and those who participated reported overall satisfaction with the Trauma PAUSE. Trauma PAUSE participants reported a better ability to find peace, stay resilient, and move on to their next tasks.

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