



Published in final edited form as:

Acad Psychiatry. 2023 February ; 47(1): 59–62. doi:10.1007/s40596-022-01648-7.

Peer-to-Peer Trauma-Informed Training for Surgical Residents Facilitated by Psychiatry Residents

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Abstract

Objective—This article describes the implementation of trauma-informed care (TIC) didactic training, using a novel, interdisciplinary peer-to-peer teaching model to improve confidence surrounding trauma-informed practices in a surgical residency program.

Methods—Eight psychiatry residents and two medical students with a background in psychological trauma and TIC and an interest in medical education were recruited to participate in three 2-hour “train the trainer” sessions led by a national expert in TIC. Eight psychiatry residents and two medical students subsequently developed and delivered the initial TIC training to 29 surgical interns. Training included the neurobiology of psychological trauma, principles of trauma-informed care, and developing trauma-informed curricula.

Results—Surgical interns reported significantly improved understanding of the physiology of trauma, knowledge of TIC approaches, and confidence and comfort with TIC and practices. Among surgical interns, understanding of the physiology of the fear response increased from 3.36 to 3.85 ($p = 0.03$). Knowledge of the neurobiology of trauma improved between pre- and post-training surveys (2.71 to 3.64, $p = 0.006$). Surgery interns also expressed an improved understanding of the connection between fear, trauma, and aggression (3.08 to 4.23, $p = 0.002$) from pre- to post-training surveys. Post-training knowledge of trauma-informed approaches increased from 2.57 to 4.71 ($p < 0.001$) and confidence in delivering TIC on the wards increased from 2.79 to 4.64 ($p < 0.001$).

Conclusion—This TIC curriculum delivered via a peer-to-peer training model presents an effective way to improve comfort and confidence surrounding TIC practices and approaches in a surgical residency training program.

Keywords

Trauma-informed care (TIC); Peer-to-peer resident teaching; PTSD; Curriculum development

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Psychologically and/or emotionally traumatic experiences that can result from stressful situations and interfere with normal functioning are common in both surgical and intensive care unit (ICU) patients [1, 2]. Common admissions to the surgical ward or ICU include physical trauma like stabbing, gunshot wounds, assaults, burns, or motor vehicle collisions. Of patients admitted to trauma surgery, ~29% report an existing psychiatric condition—a risk factor for developing a traumatic stress reaction or post-traumatic stress disorder (PTSD) [1, 2]. Upon single-incident civilian trauma, 10–40% of patients experience PTSD and 23–26% of patients may have symptoms consistent with PTSD a year post hospitalization [3–5]. The experience of ICU treatment and clinical interventions can lead to symptoms associated with psychological trauma such as flashbacks, hyperarousal, hypervigilance, nightmares, and feelings of fear [6]. PTSD is likely when these symptoms last for over a month and cause impairment. About 25% of all ICU patients experience some form of post-intensive care syndrome, which can include the development of PTSD [7–9].

Psychological trauma is experienced in patients and surgical residents. Studies suggest that surgical residents are exposed to psychologically traumatic events and stressors throughout their residency [10]. The prevalence of PTSD in surgeons is 3 times greater than the general population [11]. One study of surgical residents found that 22% screened positive for PTSD and another 35% screened in the “at-risk” range [10]. Most trainees use informal coping strategies out-side of their academic and hospital environments and can benefit from an organized response to support their emotional health when facing difficult patient encounters [12].

TIC is a systems-based approach designed to create safe environments, realize the effects of psychological trauma, resist retraumatization, and identify and respond to the signs and symptoms of psychological trauma in everyone who is part of the system [13]. Trauma-informed systems change includes revising policies, procedures, and practices to prioritize safety and prevent retraumatization; and training staff in TIC principles—trust and transparency; collaboration; safety; peer support; cultural-historical, and responsiveness; and empowerment [13].

Despite evidence that psychological trauma is common in both patients and residents and that TIC can benefit both patients and residents, the integration of TIC training and policies into the residency curricula has been slow [14, 15]. This gap in the integration of TIC into training and patient care warrants attention. Here the authors describe the implementation of TIC training using a novel, interdisciplinary, peer-to-peer model to improve surgical resident physician understanding of the effects of psychological trauma, introduce TIC principles and practices, and increase comfort with the application of trauma-informed approaches to patient care.

Methods

Eight psychiatry residents and two medical students with a background in psychological trauma and TIC and an interest in medical education were recruited to participate in three 2-hour “train the trainer” sessions led by a national TIC expert and author of *Training for Change: Transforming Systems to be Trauma-Informed, Culturally Responsive and*

Neuroscientifically Focused [16]; then eight psychiatry residents and two medical students developed and delivered the initial TIC training to 29 surgical interns [15]. Sessions included topics on the neurobiology of psychological trauma, principles of TIC, and developing trauma-informed curricula. The TIC curriculum was based on the text *Training for Change* and the Substance Abuse and Mental Health Services Administration guidance on a trauma-informed approach [13, 15, 16]. A senior psychiatry resident (and a former surgical intern) collaborated with the surgery program director to integrate relevant case examples in the training.

The surgery TIC curriculum utilized peer-to-peer case-based learning, reflection, and collaborative small group work to describe the neurobiology of trauma and fear, identify TIC and practices, and discuss provider experiences of vicarious trauma and methods of coping with stress and psychological trauma—this method is consistent with current TIC training approaches [15]. Psychiatry resident pairs delivered two 2-hour sessions during protected surgery didactic time [17–19]. An hour of time was dedicated to facilitated reflective discussion on challenging encounters using the core principles of TIC. Discussions occurred in breakout groups of 5–7 surgical residents with one psychiatry resident leader, guided by this question: “Have you ever taken a patient home with you?” and explored what feelings were experienced during the encounters and coping skills residents used.

The impact of the training on surgical residents’ knowledge, attitudes, and comfort was assessed with pre- and post-training surveys using a Likert scale [15]. The survey was designed by the training team to assess topics covered in the two training sessions. Likert scale values were defined as follows: 1 = Not at All, 2 = Not Well, 3 = Neutral, 4 = Well, 5 = Very Well. The pre-training survey was administered at the start of the first session and the post-training survey was administered immediately after the conclusion of the second session. A Wilcoxon matched-pairs signed-rank test was performed on individual Likert scale survey items using Stata 15.1 software for statistical analysis on all residents with pre and post data. In the post-training surveys, surgical interns were asked to share ideas about how they can incorporate TIC into their role and their units.

Oregon Health and Science University (OHSU) IRB approval and informed consent was obtained from all participants prior to participation in the study. This study was initiated and completed in the fall/winter 2019.

Results

Twenty-nine surgical interns total participated in the two-session training. Thirteen interns attended one session and 16 interns attended both sessions. The most common reason for missing a session was being post call. Of the interns who attended both sessions, 14 completed the pre- and post-training surveys (87.5% response rate). Among surgical interns completing both sessions, understanding of the physiology of the fear response increased from 3.36 to 3.85 ($p = 0.03$) (Table 1). Knowledge of the neurobiology of trauma improved between pre- and post-training surveys (2.71 to 3.64, $p = 0.006$) (Table 1). Surgery interns also expressed an improved understanding of the connection between fear, trauma, and aggression (3.08 to 4.23, $p = 0.002$) from pre- to post-training surveys (Table 1).

Post-training knowledge of trauma-informed approaches increased from 2.57 to 4.71 ($p < 0.001$) and confidence in delivering trauma-informed care on the wards increased from 2.79 to 4.64 ($p < 0.001$) (Table 1).

Discussion

Post-training survey results showed statistically significant increases in the confidence of surgical interns to include trauma-informed care in their practice. Post-training survey question results from interns revealed a desire to improve engagement and communication with patients and teammates, and improve awareness and mitigation of trauma in their environment—these findings are consistent with research demonstrating that peer-to-peer instruction can buoy the confidence and mental wellness of learners [20]. The systematic application of trauma-informed principles improves the mental health and practice of members within a system [13]. Peer-to-peer training and curriculum development shaped by trauma-informed principles can contribute to the positive transformation of education training environments and reduce the experience of psychological trauma in surgical interns and patients—in part because of the burden sharing and safety of group support and processing, which improves clinical practice and patient care [13, 15, 20].

The results of the trauma-informed peer-to-peer teaching model discussed in this brief report are both promising and instructive as it reveals a potentially effective model for innovation in residency teaching and learning that can improve resident and organizational mental wellness, strengthen resident knowledge and confidence, and positively impact resident learning environments and clinical practice [1, 2, 11–13, 15–20].

Acknowledgements

The authors have informed the journal that they agree that both Heather Buxton and Mollie C. Marr completed the intellectual and other work typical of the first author.

Disclosures

Heather Buxton received an Educational Mini Grant from Oregon Health and Science University (\$7,000). Mollie Marr was supported by the National Institute of Mental Health under award number F30 MH118762. The other authors declare no conflicts of interest.

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Surgery resident Likert scale data ($n = 14$). Likert scale values were defined as follows: 1 = Not at All, 2 = Not Well, 3 = Neutral, 4 = Well, 5 = Very Well. A Wilcoxon matched-pairs signed-rank test was performed on individual Likert scale survey items

Table 1

	Pre-training mean (SD)	Post-training mean (SD)	Z	P-value
I understand the physiology of the fear response	3.36 (0.84)	3.85 (0.66)	-2.23	0.03
I understand the neurobiology of trauma	2.71 (0.83)	3.64 (0.63)	-2.73	0.006
I understand aspects of the brain involved in the process of fear conditioning $*(n = 13)$	3.08 (0.95)	3.77 (0.60)	-2.19	0.03
I understand the connection between fear, trauma, and aggression $*(n = 13)$	3.08 (0.76)	4.23 (0.60)	-3.15	0.002
I know trauma-informed approaches that I can use with my clients/people I work with	2.57 (0.85)	4.71 (0.47)	-3.24	0.001
I am comfortable talking about trauma with my patients	3.14 (0.95)	4.36 (0.50)	-3.05	0.002
I am confident that I can deliver trauma-informed care on the ward	2.79 (0.89)	4.64 (0.50)	-3.24	0.001