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Comfort or Care: Why Do We Have to Choose?

Implementing a Geriatric Trauma Palliative Care Program

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ABSTRACT

The geriatric (≥65 years of age) population is one of the fastest growing age groups in the United States. As this number increases, so does the number of geriatric trauma patients. Because this group has higher mortality rates and requires more resources, a Geriatric Trauma Palliative Care Program was created at a Level 1 Trauma Center in Dallas, TX, to provide concurrent lifesaving therapies and primary palliative care to older adults. The trauma program implemented the American College of Surgeons (ACS) Trauma Quality Improvement Program *Palliative Care Best Practices Guidelines* (ACS, 2017) to better care for acute traumatic injuries as well as the specific spiritual, emotional, and psychiatric needs of the geriatric trauma palliative care patient and family. Using the guidelines, the team performed a gap analysis, carried out program development, created a palliative care pathway to guide our evidence-based practice implementation, and performed retrospective chart reviews for 3-month pre- and postimplementation analysis. Using Person's χ^2 test and Fisher's exact test, our initial evaluation of the program showed statistically significant ($p < .001$) improvements in the measures related to the implementation of primary palliative care, pain and symptom management, and end-of-life care. The guidelines gave the team a consistent framework for implementing the basic competencies required to deliver primary palliative care, pain and symptom management, and end-of-life care to trauma patients.

Key Words

American College of Surgeons, Best practice guidelines, Geriatric trauma, Palliative care

In 2012, there were an estimated 43 million older adults (population 65 years and older) in the United States and that is expected to double by 2050 to 84 million (Ortman, Velkoff, & Hogan, 2014). Adams and Holcomb (2015) attribute this to the increasing "baby boomer" generation living into their 80th decade. Current predictors indicate geriatric trauma hospitalization at Level I and Level II trauma centers increasing from 18% (2005) to 30% (2015) (Cooper et al., 2017; Hashmi et al., 2014; Kozar et al., 2015). This trend is important because older adults have increased mortality, morbidity, and functional decline when compared with younger adults with similar injuries (Cooper et al., 2017; Hashmi et al., 2014; Kozar et al., 2015).

Trauma is the fifth leading cause of death in the geriatric population (Adams & Holcomb, 2015), with fall, motor vehicle collision, struck by an object, cut/pierce, and firearms as predominant mechanisms of injury (Kozar et al., 2015). These types of injuries result in longer hospital stays and greater resource utilization (Keller, Sciadini, Sinclair, & O'Toole, 2012). For geriatric trauma patients, an early priority is accurately identifying those at high risk for poor functional outcome or mortality, implementing age-appropriate interventions, and continuing heightened awareness of geriatric-specific needs. The American College of Surgeons (ACS) addressed these priorities in the first evidence-based practice guideline specific for the geriatric trauma patient, *Palliative Care Best Practices Guideline* (ACS, 2017).

PROBLEM DESCRIPTION

A Level 1 Trauma Center in Dallas, TX, was tasked by its leadership with becoming one of the first to fully implement and incorporate trauma palliative care best practice guidelines into its trauma program. The initial practice was to consult Palliative Care Specialists. A problem existed in the initiation of palliative care for geriatric trauma patients because the palliative care team was uncomfortable taking care of surgical trauma patients and the trauma team was uncomfortable starting primary palliative care. By implementing a Geriatric Trauma Palliative Care Program (GTPCP) using the ACS guidelines, our trauma program took the first step to integrate evidence-based palliative care in a multidisciplinary trauma team.

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The authors declare no conflicts of interest.

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DOI: 10.1097/JTN.0000000000000410

AVAILABLE KNOWLEDGE

Multiple databases were searched and the results narrowed to focus on research from the past 5 years using the following terms: palliative care, geriatric trauma, trauma palliative care, ACS, symptom management, and trauma end-of-life care. Three central themes surfaced: (a) care provided by a multidisciplinary team; (b) patients, families, and team work to collaborate and communicate regarding information; and (c) services rendered in conjunction with curative or life-prolonging care (Dunn, Martensen, & Weissman, 2009; Gwyther, 2011; National Consensus Project for Quality Palliative Care [NCPQPC], 2013). These three themes are expanded throughout the ACS guidelines.

Palliative care focuses on a multidisciplinary team providing patient and family care that optimizes quality of life; it addresses physical, emotional, social, and spiritual needs and allows well-informed decisions about care (Aldridge et al., 2016; Aslakson, Curtis, & Nelson, 2014; Dunn, 2015; Lilley et al., 2016; NCPQPC, 2013). A frequently referenced publication *Clinical Practice Guidelines for Quality Palliative Care, 3rd Edition* (NCPQPC, 2013) emphasizes the importance of care delivered by a multidisciplinary team. These practice guidelines were the first collaboration with five major palliative care organizations. They served to shape policy makers', providers', practitioners', and consumers' understanding of multidisciplinary palliative care (NCPQPC, 2013).

Ample evidence supports embedding palliative care with other hospital services to create a multidisciplinary team to improve the quality of communication, increase patient and family satisfaction, improve symptom management, and decrease health care costs (Aldridge et al., 2016; Aslakson et al., 2014; Kupensky, Hileman, Emerick, & Chance, 2015; Lilley et al., 2016; May, Normand, & Morrison, 2014). The multidisciplinary team approach was advocated by the ACS because it determined that surgeons were poorly prepared to address the most straightforward issues encountered at the end-of-life care such as communication, pain control, and determination of appropriate medical interventions (Dunn, 2015). The ACS was in a unique position to advocate for palliative care education for surgeons because of its history, scientific and educational reputation, and ethical credibility (Dunn, 2015).

Current literature supports providing concurrent lifesaving therapies and palliative care to trauma patients simultaneously (ACS, 2017; Dunn, 2015; Kupensky et al., 2015; Lilley et al., 2016). Benefits include decreased length of stay and cost at the end of life without a change in mortality rate; increased quality of care, pain and symptom management, and minimal cost for implementation because it requires no new hiring of hospital staff (ACS, 2017; Dunn, 2015; Kupensky et al., 2015; Lilley et al., 2016). According to the ACS, palliative care should be provided at trauma centers by a multidisciplinary team led by a "primary or generalist" palliative care trauma surgeon (ACS, 2017). Trauma surgeons have expertise regarding prognosis after acute traumatic injury, and most already perform some function of palliative care in their current practice.

ACS TQIP PALLIATIVE CARE GUIDELINE

The ACS has taken a leading role in advocating the use of palliative care by surgical services, publishing the first evidence-based trauma palliative care guidelines in November 2017 (ACS, 2017). The guidelines discuss the points previously stated for four special populations, geriatric, pediatric, spinal cord injury, and traumatic brain injury, and provide other resources (Table 1). For this project, only geriatric trauma patients (≥65 years of age) were included.

On the basis of the performance improvement initiatives listed in the guidelines, the following benchmarks

TABLE 1 ACS Palliative Care Best Practices Guidelines

Highlighted Topics	
• Introduction	• Special Considerations:
• Interdisciplinary Palliative Care Team	○ Geriatric
• Essential Components of Palliative Care	○ Pediatric
• Breaking Bad News	○ Spinal Cord Injury
• Palliative Care Assessment	○ Traumatic Brain Injury
• Goals of Care Conversation	• Supporting the Health Care Team
• End-of-Life Care	• Clinical Documentation
	• Performance Improvement initiatives
	• Guidelines

Note. From "Palliative Care Best Practice Guidelines," by American College of Surgeons Trauma Quality Improvement Program, 2017, Retrieved from https://www.facs.org/~/media/files/quality%20programs/trauma/tqip/palliativecare.ashx. Adapted with permission.

TABLE 2 Performance Improvement Measures

Geriatric (≥65 Years of Age) Patients Admitted to Trauma Service	Benchmark
1. Implementation and documentation of advanced care planning before discharge	≥90%
2. Completion of frailty assessment within 24 hr of admission	≥85%
3. Implementation and documentation of advanced care planning within 24 hr of admission	≥90%
4. Implemented comfort care and/or withdrawal of support for geriatric trauma deaths reviewed through the trauma performance improvement patient safety process	100%

Note. From "Palliative Care Best Practice Guidelines," by American College of Surgeons Trauma Quality Improvement Program, 2017, Retrieved from https://www.facs.org/~/media/files/quality%20programs/trauma/tqip/palliativecare.ashx. Adapted with permission.

were used to create measures of the program's success for all geriatric (≥65 years of age) trauma patients admitted to the hospital (Table 2): (a) implementation and documentation of advanced care planning before discharge, goal 90% or more; (b) completion of frailty assessment within 24 hr of admission, goal 85% or more; (c) implementation and documentation of advanced care planning within 24 hr of admission, goal 90% or more; and (d) implemented comfort care and/or withdrawal of support for geriatric trauma deaths reviewed through the trauma performance improvement patient safety process, goal 100%. The percentage used for each measure was consistent with the goal listed in the guidelines.

METHODS

Context

The Level 1 Trauma Center in Dallas, TX, is an 870-bed teaching facility. For the calendar year 2017, the trauma team consulted on 318 geriatric trauma patients and admitted 195. The major mechanism of injury included falls, motor vehicle collisions, and motor pedestrian collisions. The Trauma Nursing Director created the multidisciplinary GTPCP committee in the summer of 2017. Members included Trauma Medical Director, Trauma Nursing Director, Trauma Doctor of Nursing Practice (DNP), Surgical Intensive Care Unit Advanced Practice Registered Nurse (SICU APRN), Palliative Care Physician, Trauma Psychologist, Trauma Injury Prevention and Outreach Education Coordinator, and Trauma Surgeons.

Interventions

Practice integration of the ACS guidelines was completed in phases (Table 3). The first step included performing the detailed gap analysis (Table 4) as delineated by the ACS guidelines. After review by the committee, several items were chosen to guide the implementation: (a) creation of a care conference note, (b) provider and nurse education regarding primary palliative care, and (c) utilization of a frailty screening tool.

TABLE 3 Phases of Implementation

	Action Items	Start Date	Due Date
Phase 1	Evaluate current geriatric trauma palliative care practices including gap analysis.	Jul 1, 2017	Aug 1, 2017
Phase 2	Create an action plan based on gap analysis and evaluation consistent with best practice guidelines.	Aug 1, 2017	Sep 1, 2017
Phase 3	Perform retrospective chart review for dependent measures for all geriatric trauma patients.	Jul 1, 2017	Oct 1, 2017
Phase 4	Implement education on the geriatric trauma palliative care program. Educational materials for both the nursing staff on the trauma floor and the surgical residents rotating on the trauma service will be developed by the APRN that reflects closing the gaps identified.	Sep 1, 2017	Oct 1, 2017
Phase 5	Implement best practice geriatric trauma patient palliative pathway (Figure 1).	Oct 1, 2017	N/A
Phase 6	Evaluate geriatric trauma patient palliative program.	Nov 1, 2017	Apr 30, 2018
Phase 7	Perform analysis.	May 1, 2018	May 30, 2018
Phase 8	Expand program to at-risk patients (high spinal cord injuries, severe traumatic brain injuries, and burns).	Jun 1, 2018	

Note. APRN = advanced practice registered nurse; N/A, not applicable.

TABLE 4 Gap Analysis Highlights

Strength	Weakness	Future Consideration
• Communicating bad news after death • Organ donation procedures • Family visitation and support • Early Physical Medicine and Rehabilitation consults • SICU nursing documentation of advanced directives (although difficult to find for providers) • Comfort care order set • Use of trauma psycho-social team and family support teams	• Advanced care plan implemented and documented during admission • Advanced care plan documented with 24 hr of admission • No early discussions with family/surrogate regarding goals of care and prognosis • Staff training on palliative care • Utilizing prognostic tools to guide family discussions • No frailty assessments documented	• Develop a palliative care screening tool • Create goals of care template progress note • Begin using time-limiting trials in the SICU • Create a protocol for comfort care and withdrawal of care

Note. SICU = surgical intensive care unit.

A geriatric trauma palliative care pathway was developed (Figure 1) using recommendations from the ACS guidelines. The SICU APRN created a documentation template to ensure adherence based on palliative care best practice recommendations. The care note was approved by the GTPCP and documentation committees at the hospital. It was incorporated into an accessible template in the hospital electronic medical record (EMR). The hospital participates and subscribes to the Center to Advance Palliative Care (CAPC) and utilized its continuing educational tools and training modules to educate the hospital RNs, social workers, and chaplains on palliative care issues. The clinicians were educated with lectures regarding breaking bad news, best/worse-case scenarios, and primary palliative care. The ACS guideline frailty screening tool was used for initial screening, and any patients who screened positive for frailty and required palliative care were screened again with the Trauma-Specific Frailty Index (TSFI) (Joseph et al., 2014).

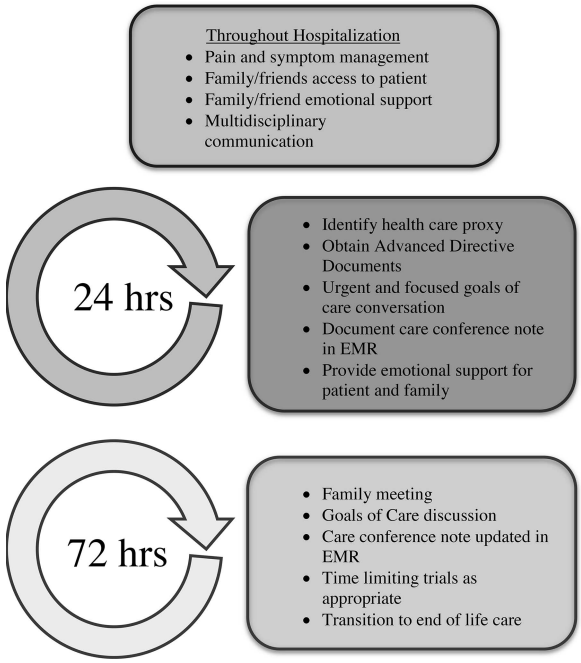

Figure 1. Geriatric trauma palliative care pathway. EMR = electronic medical record.

Program implementation was initially planned for September 2017. However, because of conflicting priorities with a trauma site reverification survey, Phases 4–7 (Table 5 shows updates) were delayed. Education for the nursing and physicians began in October 2017 and concluded in December 2017. The implementation of the geriatric trauma palliative care pathway (Figure 1) began in February 2018 once the competing priorities were resolved. Postimplementation data collection for the cohort was completed at the end of April 2018 and analysis took place in May 2018.

Study of the Interventions

A 3-month retrospective and 3 months postimplementation analyses were conducted. The ACS guideline provided the benchmarks and compliance percentages (Table 2). The impact of the implementation of the guidelines for geriatric trauma was assessed and reviewed for all geriatric (≥65 years of age) patients admitted to Trauma Service.

TABLE 5 Updated Phases of Implementation

	Action Items	Start Date	Due Date
Phase 1	Evaluate current geriatric trauma palliative care practices including gap analysis.	Jul 1, 2017	Aug 1, 2017
Phase 2	Create an action plan based on gap analysis and evaluation consistent with best practice guidelines.	Aug 1, 2017	Sep 1, 2017
Phase 3	Perform retrospective chart review for dependent measures for all geriatric trauma patients.	Jul 1, 2017	Oct 1, 2017
Phase 4	Implement education on the geriatric trauma palliative care program. Educational materials for both the nursing staff on the trauma floor and the surgical residents rotating on the trauma service will be developed by the APRN that reflects closing the gaps identified.	Oct 1, 2017	Dec 31, 2017
Phase 5	Implement best practice geriatric trauma patient palliative pathway (Figure 1).	Feb 1, 2018	N/A
Phase 6	Evaluate geriatric trauma patient palliative program.	Feb 1, 2018	Apr 30, 2018
Phase 7	Perform analysis.	May 1, 2018	May 30, 2018
Phase 8	Expand program to at-risk patients (high spinal cord injuries, severe traumatic brain injuries, and burns).	Jun 1, 2018	

Note. APRN = advanced practice registered nurse; N/A, not applicable.

Measures

A report from the EMR was generated for all geriatric (≥65 years of age) patients admitted to Trauma Service from November 1, 2017, to January 31, 2018 (preimplementation), and weekly reports were generated from February 1, 2018, to April 30, 2018. A detailed chart review was performed to assess compliance with the benchmarks set forth by the guidelines. Each measure was documented as either done or not done. Analysis of the rates from pre- and postimplementation data was evaluated for each measure with descriptive statistics, percentage completion, Pearson's χ^2 tests.

Ethical Considerations

This evidence-based project implementation was reviewed by the Office of Research Administration of the hospital and deemed nonresearch (quality improvement) and approved for implementation. The data collected for this project were utilized as part of the trauma programs performance improvement process. Before publication, the manuscript was reviewed to ensure that no protected health information was disclosed.

When implementing palliative care, clinicians may experience moral distress. Orders for palliative sedation and pain medication may lead to the unintended, but predicted, consequence of death (principle of double effect), causing moral distress. To counter concerns for this type of issue, the geriatric palliative care team educated the patient care nurses providing palliative and end-of-life care for geriatric trauma patients and encouraged them to talk with team members about care concerns.

Another form of moral distress may occur when the treatment team has determined the futility of care for a patient and yet the health care proxy wishes for aggressive treatment (Fourie, 2015). A way to combat futility of care moral distress includes early screening for palliative care, advanced care planning, time-limiting trials, prognostication, and goals of care conversations. By having and documenting goals of care conversations within the first 72 hr, the multidisciplinary team can ensure that the patient and/or surrogates have appropriate information regarding life-sustaining treatments in the face of a devastating or poor prognosis.

RESULTS

Descriptive statistics for pre- and postimplementation cohorts revealed similar age and gender ranges. A total of 94 patients were screened in both cohorts; age ranged from 65 to 96 years ($\bar{x}$ = 76). Table 6 enumerates the descriptive statistics for each cohort. The two cohorts were very similar in average age and gender.

Figure 2 shows the percentage completion of each measure for the two cohorts and the goal (benchmark) set forth by the ACS guideline. Before the implementation of the guidelines, advanced care planning (Measures 1 and 3) occurred and was documented less than 20% of the time and improved to approximately 55% after implementation. Frailty assessments (Measure 2) were not done at all prior to implementation and increased to

TABLE 6 Descriptive Statistics.

	Preimplementation	Postimplementation	Total
Patients	46	48	94
Age range (years)	65–90	65–96	65–96
Age average (years)	77	75	76
Male	24	24	48
Female	22	24	46

44% after implementation. Mortality review (Measure 4) was 100% in both cohorts and was not further studied because all trauma deaths are reviewed by the trauma performance improvement process regardless of palliative care implementation.

Measures 1 and 3 were evaluated using Pearson's χ^2 test, and Measure 2 was evaluated using Fisher's exact test because the frailty assessment analysis was 0% during preimplementation cohort. All three measures showed statistical significance ($p < .001$) in the rates of measure completion (Table 7). There were 94 patients and 1 degree of freedom for all three measures.

DISCUSSION

Consistent with the ACS guideline, the presence of frailty was a trigger for the palliative care process, allowing advanced directives and living wills to be obtained sooner to ensure care was being delivered according to the patient's goals and wishes. The multidisciplinary team worked with the patient and/or family to improve the quality of life for the patient. Improvements for geriatric trauma patients included optimizing the quality of life by improving the care, pain, and symptom management. Patients and families were included in more frequent and comprehensive meetings. Care detrimental or contrary to the patient's wishes was addressed sooner. In addition, there was a greater than 85% completion of the CAPC training for nurses, formal education and exposure to palliative care education for the resident and faculty physicians, and a care conference note for use when initiating primary palliative care. The ACS set benchmarks for incorporation of quality indicators in the trauma performance improvement process. Although the Process Measures 1, 2, and 3 did not reach the ACS benchmarks set because of limitations, statistical significance was shown between the pre- and postimplementation cohort for each of those measures.

Limitations

This program implementation had limitations. It occurred at a single Level 1 Trauma Center in Dallas, TX. The implementation and data collection could not control for seasonal variations in geriatric trauma, small sample size, and injury severity. Another limitation included the inconsistent education of resident physicians and faculty physicians due to the monthly trauma rotations. Because of the inconsistencies, the resident education program has added specific palliative care education into the new resident orientation schedule. The timetable for the

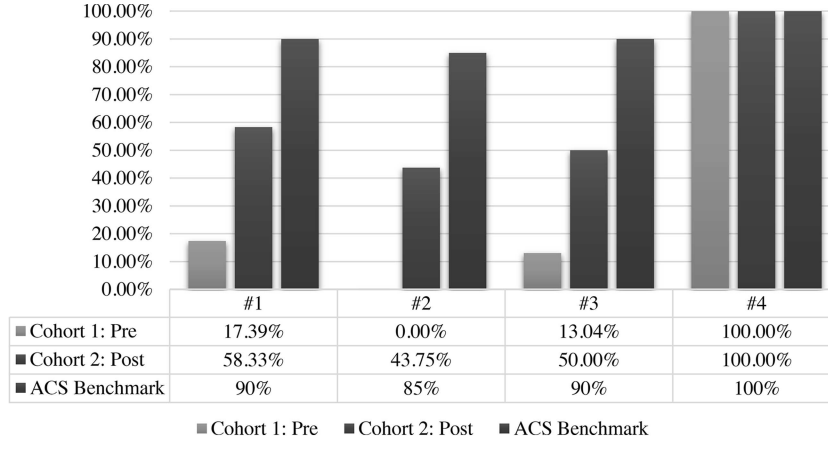

Figure 2. Measure rates and ACS benchmarks. ACS = American College of Surgeons.

TABLE 7 Statistical Analysis of Measures

Measure #	Cohort 1: Preimplementation %	Cohort 2: Postimplementation %	χ^2	*p*
1	17.39	58.33	16.66	<.001
2	0.00	43.75	25.91	<.001[a]
3	13.04	50.00	14.77	<.001

[a]*Fisher's exact test = .000.*

phases of implementation (Table 1) was not the same for every member of the GTPCP committee; therefore, implementation was delayed. During the postimplementation phase, only one person (K.B.) was completing patient interviews and frailty screening; therefore, when not at work, there was no team member to complete the screening, therefore limiting ability to meet the ACS benchmarks set for Measures 1, 2, and 3.

Implications for Practice

After review of the GTPCP, the central themes of palliative care mentioned earlier were shown to be key elements in the positive improvements. Prior to implementation of the guidelines, palliative care education for providers and staff was limited. After increasing education to the medical staff via formal education, the multidisciplinary team was more willing to have early conversations with the patient and/or family to improve quality of life. The improvements of these early conversations optimized quality of life by improving care, pain and symptom management, and eliminated care detrimental or contrary to the patients/families wishes. Increased education has improved the skill of the team to collaborate and communicate regarding goals of care and advanced care planning.

The creation of the geriatric trauma palliative care pathway (Figure 1) has been placed on display in the Trauma Bay and the SICU to trigger the medical staff to identify geriatric trauma patients at high risk for poor functional outcome or mortality and make early considerations for goals of care conversations to identify a health care proxy and secure advance directive documents from both patients and families. Because the multidisciplinary trauma team is initiating advanced care planning sooner, services are provided in conjunction with curative or life-prolonging care based on the wishes of the patient and family. The patient and family are given more frequent information about appropriate medical interventions, pain control, and symptom management, and, if needed, the transition to end-of-life care decisions for the patient and family has been smoother.

Acknowledgments

The author thanks Dr. Herb Phelan, Associate Professor, for his content expertise and guidance during this program implementation. Jorie Klein, BSN, RN, Director, Trauma Program, for her expert guidance, leadership, and clinical support during program development and implementation. Carol Hirschkorn, SICU APRN, and Tina Damas, SICU RNIII, for their creativity, hard work, and dedication to improving trauma patient care.

KEY POINTS

- Implementing the ACS Palliative Care Best Practices Guidelines (ACS, 2017) provides improvement for geriatric trauma patient care by optimizing quality of life and by improving the care, pain, and symptom management.
- Palliative care screening should not be limited by age or severity of illness; it should be included concurrently with lifesaving therapies.
- The multidisciplinary team must have basic competencies in primary palliative care, pain and symptom management, and end-of-life care.

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