

Geriatric Fracture Programs

Implementation of a Geriatric Fracture Program

Jennifer Sedlock ▼ Jaymie Green ▼ Lauren Diegel-Vacek

The successful implementation of a geriatric fracture program is dependent on engaging a multidisciplinary team. The goal of these programs is to address the unique needs of patients with geriatric fracture by providing the support necessary for return to their prefracture level of activities of daily living. Identifying the key stakeholders and clarifying their role in pre- and postoperative patient support are vital to the development of such an initiative. The purpose of this article is to discuss the steps to plan and implement a geriatric fracture program in a hospital and lessons learned from our experience initiating such a program.

Introduction

Implementation of geriatric fracture programs improves both quality outcomes and efficacy of care provided. The purpose of this article is to review key elements for successful design and rollout of a geriatric fracture program, based on a review of the literature and lessons learned from development, implementation, and evaluation of such a program at a Level 1 trauma center.

Developing a successful geriatric fracture program requires identifying and engaging key stakeholders, using evidence-based guidelines to standardize the pre- and postoperative patient care for all patients with geriatric fracture, and formulating a continuous quality improvement (QI) process to evaluate and track program outcomes.

Program Development

INITIAL STEP: ASSESSMENT

The first step is evaluation of the hospital's fracture data using evidence-based benchmarks. The International Geriatric Fracture Society (IGFS) CORE Certification Program collects data from numerous facilities and uses them to design benchmarks for measurement of outcomes. The IGFS CORE Certification Program recommends quality measures that include time from admission to surgery, length of stay (LOS), 30-day readmission, mortality in the hospital, and 30-day mortality (see Table 1) (IGFS, 2015; Mears & Kates, 2015). Meeting designated benchmarks suggests that key indicators are being met and the facility is achieving quality care.

FORM A MULTIDISCIPLINARY TEAM

Development of a collaborative, multidisciplinary team dedicated to the success of the geriatric fracture program is vital. Members of this team include all stakeholders with an active role in the patient's care throughout hospitalization. A team member from senior management, operations, or nursing can be vital in providing support for practice changes across the organization required to advance the goals of the team and enlisting stakeholder engagement and support for the initiative.

Physician Specialties

The orthopaedic surgery service is a first-line team member because their commitment to improving fracture care processes can encourage participation and buy-in from other specialties and departments throughout the facility. Standardizing the patient admission process with emergency department (ED) staff is crucial to providing patients with the appropriate referrals and care in a timely manner leading up to surgery. It may be prudent to seek support from subspecialties, including cardiology and pulmonary medicine, to evaluate patient comorbidities that likely require specialty clearance prior to surgery. Including the hospitalist and/or geriatrics teams will facilitate standardizing patient pre- and postoperative management. The department of anesthesiology's input is vital to establishing guidelines for patient surgical clearance because time from admission to surgery is a quality measure. Avoiding unnecessary

Jennifer Sedlock, DNP, APRN, AGPCNP-BC, CFRN, is a board-certified adult gerontology nurse practitioner at Carle Foundation Hospital in Urbana, IL.

Jaymie Green, MSN, RN, NE-BC, is a nurse manager for two inpatient surgical units at Carle Foundation Hospital in Urbana, IL. She is a board-certified nurse executive with 13 years of orthopaedic and surgical experience.

Lauren Diegel-Vacek, DNP, APRN, FNP-BC, CNE, is the Director of the DNP program at College of Nursing, University of Illinois at Chicago.

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Correspondence: Lauren Diegel-Vacek, DNP, APRN, FNP-BC, CNE, College of Nursing, University of Illinois at Chicago, 845 S. Damen Ave, MC 802, Chicago, IL 60612 (Ljvacek@uic.edu).

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TABLE 1. IGFS CORE CERTIFICATION DATA POINTS**Data Point**

Mean age of patients
Transfer from outside facility
Length of stay
Time to surgery
Discharge disposition
30-day readmission rate
If readmitted, facility the patient was transferred from
In-hospital mortality
30-day mortality
Percentage of patients provided osteoporosis education
Outpatient bone health clinic consult ordered
Percentage of patients comanaged by Medicine or Geriatrics

Note. IGFS= International Geriatric Fracture Society. Reprinted with permission from International Geriatric Fracture Society, Inc., CORE Program, Geriatric Fracture Care Program Certification.

delays in time to surgery can also reduce the overall length of the hospital stay. The selection of anesthesia for the operation is also an important consideration for this population because they are at high risk for mortality after general anesthesia and often have multiple pre-existing comorbidities, including an estimated 30% with dementia (Unneby et al., 2017). Use of preoperative femoral nerve blocks has been shown to provide effective pain management for patients with hip fracture who often do not have adequate pain control (Unneby et al., 2017). Perioperative nerve blocks also reduce the need for administration of opioids that can cause serious untoward side effects such as delirium and sleep disruption (Unneby et al., 2017).

Orthopaedic Nurses

Registered nurses (RNs) who staff the facility orthopaedic unit can provide unique insight into gaps in the current state of pre- and postoperative care. Because orthopaedic RNs are responsible for day-to-day care delivery for patients with geriatric fracture, soliciting their input and expertise is invaluable to operationalizing the program and meeting QI goals. Implementing best nursing practices for standardized care of patients with geriatric fracture has been demonstrated to impact multiple nursing-sensitive quality indicators, including early patient mobility, nutrition status, pain control, and prevention of venous thromboembolism (VTE) and pneumonia (MacDonald et al., 2018). Unit-based nurse educators and clinical nurse specialists for orthopaedics have the specialty knowledge and abilities needed to develop unit policies and protocols based on expert clinical guidelines to achieve quality benchmarks, in addition to providing geriatric fracture program education to frontline nurses.

Ancillary Support Specialists

Malnutrition is common in older adults, and consultation from a dietician is essential to ensure patients

nutritional needs are addressed. Patients with hip fractures are more likely than the general population to be malnourished or at risk for malnutrition at hospital admission (Fiatarone-Singh, 2014). Malnutrition is also identified as an important factor in outcomes of patients with hip fracture, including mortality (Fiatarone-Singh, 2014). A dietitian can expertly assess the patient's nutritional status, including body mass index and albumin, and make recommendations for dietary and nutritional supplementation to ensure adequate caloric, protein, vitamin D, and calcium intake (Fiatarone-Singh, 2014). Nutritional support from a dietitian post-hip fracture is positively related to a decrease in both the incidence of pressure injury and LOS (Klemm et al., 2016).

Pharmacists are an important part of the multidisciplinary team and should be consulted for recommendations to address patient polypharmacy, a common issue in the geriatric population (Haddad, Bergen, & Luo, 2018). In addition, pharmacists have expertise in developing pain management guidelines for geriatric patients to consider prevention of delirium as a side effect while providing adequate comfort (MacDonald et al., 2018). Physical and occupational therapists are essential to success for early mobilization strategies and rehabilitating patients to optimize their return to prefracture level of activities of daily living. The program team should also consult with the health informatics technology department to determine the capabilities of the electronic charting system and support for the creation of geriatric fracture-specific order sets with appropriate provider alerts.

Discharge Planning

Seeking input from nursing case management or social work to facilitate discharge planning needs facilitates the patient discharge process. Not only does early discharge planning shorten hospital stays but also it may expedite direct and timely admission to preferred partner skilled nursing facilities or rehabilitation units for continued physical therapy and rehabilitation. Collaboration with the director of nursing or admissions coordinator from rehabilitation facility partners can streamline the process of hospital discharge for a smooth patient discharge to a facility appropriate to the level of care needed to maximize patient rehabilitation.

Finally, it is imperative that the patient's primary care provider (PCP) is included in the discharge planning process because they will resume responsibility for care at discharge. A gap in care identified in patients with geriatric fractures is the undertreatment of osteoporosis (Bauer, 2018). A study of U.S. patients with Medicare or private insurance showed that only 21% of patients post-geriatric fracture were receiving pharmacological treatment (Bauer, 2018). The PCP can evaluate the patient's bone health or refer the patient to a fracture liaison service (FLS) or program. The purpose of an FLS program is to evaluate patients with geriatric fracture for osteopenia or osteoporosis and initiate secondary prevention of subsequent fractures (Dreinhöfer et al., 2018).

PRE- AND POSTOPERATIVE ORDER SET DEVELOPMENT

Developing a specialized geriatric fracture order set begins with reviewing evidence-based guidelines

specific to the patient population and injury. The American Academy of Orthopaedic Surgeons has specific guidelines and recommendations for management of hip fractures in older persons (American Academy of Orthopaedic Surgeons, 2014). Conducting a literature search and reviewing recent studies will provide insight into current evidence-based guidelines, along with any new trends in care. The IGFS developed a CORE Certification Program that independently verifies and certifies the achievements of geriatric fracture care programs on key indicators of quality (IGFS, n.d.; Mears et al., 2014). Reaching out to hospitals that have achieved this certification can provide valuable insights into practice changes, as well as successes and failures they may have experienced.

Allow time for the order sets to be built in the electronic health record (EHR) used. The EHR's design needs to be considered in discussing integration of specific orders that should automatically populate versus orders that must be specifically selected by the provider. Options should be included that allow the provider to select or deselect certain items in the order set. During this process, consider creating best practice alerts within the documentation system that will populate for the specific patient population. This alert will then prompt the orthopaedic surgeon or hospitalist/geriatrician to select the geriatric fracture order sets.

PROGRAM IMPLEMENTATION

Prior to implementation, all staff members involved in care of the patient with geriatric fracture need to be educated on the new order sets, not only to promote their use but also to understand the goals of the program. Educational content should include how the geriatric fracture order sets are based on evidence of best practices. Education can be provided during staff meetings, mandatory in-services, or videoconferences. Newsletters via email and unit posters may provide visual reminders. Recruit staff RNs from the ED, perioperative services, post-anesthesia care unit or recovery room, and orthopaedic and medical/surgical units to be champions of the new order sets and to identify appropriate patients to increase their use and adherence. Rounding on units by members of the multidisciplinary team during the implementation phase provides support for the change.

DEVELOPING QI MEASURES

Evaluation of the program outcomes through structured quality assessment should be performed to evaluate their effectiveness. The IGFS CORE Certification Program is one resource that provides benchmarks to compare the facility's program outcomes. These data points include time to surgery, readmission rates, LOS, mortality rates, and osteoporosis education. Documentation of additional information, such as whether a patient was readmitted from home or transferred from another facility, provides background information. Reconvening the multidisciplinary committee to review and discuss the outcomes data and identify any barriers that they have encountered will facilitate

sustaining a successful geriatric fracture program that continuously achieves QI benchmarks.

Pearls, Pitfalls, and Lessons Learned

DESIGN AND IMPLEMENTATION OF A GERIATRIC FRACTURE PROGRAM

The design and implementation of a geriatric fracture program at a Midwestern Level 1 trauma center hospital had both challenges and successes. Development of the program was part of a hospital-wide QI goal aiming to decrease LOS for all patients. Design of the initiative and the embedded QI and organizational processes were based on the IGFS CORE guidelines that outline best practices for the care and treatment of geriatric patients with fracture using an interdisciplinary approach and specialized order sets for pre- and postoperative geriatric fracture management. The provider order sets were developed using IGFS CORE recommendations for quality benchmarks and set for activation by providers using an EHR prompt for patients meeting the criteria of age 65 years and older with a low-energy hip fracture that qualified as an isolated injury. The initiative was designed, led, and rolled out by the manager of the orthopaedics unit, with support from a multidisciplinary team, including quality management, that took place over approximately 2 years. The facility-wide preparation for the program included organizational changes for the services necessary to support this and several additional facility QI initiatives, such as an around-the-clock, on-call surgical team and in-house ECHO technician, addressing time from admission to surgery for this program. Nursing unit managers provided staff education for the rollout of the new geriatric fracture postoperative order sets that included the following standing orders: standardized RN assessment on each shift for signs of patient delirium; a decrease in the time that patients are NPO preoperatively; scheduled administration of Ultram (tramadol) and acetaminophen to reduce narcotic use for analgesia; pharmacological VTE prophylaxis; and an early mobility protocol for physical therapy assessment on the day of surgery. At the 2-year mark, a geriatric fracture program evaluation demonstrated that patient LOS had decreased from an average of 5.42 days prior to the program implementation to 4.79 days. This result was well below the IGFS benchmark of 4.91 days.

CHALLENGES AND SUCCESS STORIES

Challenges encountered during the implementation included an organizational change to the standing clinical pathway that resulted in the hospitalist team initiating the geriatric fracture order sets after patient evaluation in the ED, instead of at consultation by the orthopaedic surgeon. Subsequently, there was inconsistent use of the order sets for patients who met the designated geriatric fracture diagnostic criteria. Another barrier was the long time frame for the rollout, as it affected the initial momentum of the program. Multidisciplinary team members' investment

diminished as their attention was diverted to other priority issues within their respective specialties. In addition, because success of the initiative depended on coordination of multiple disciplines, each with a specific role in the program, it was necessary to clarify each support service's role in supporting this program to facilitate their engagement. However, the successes that resulted from the new program outweighed the challenges encountered. The program did streamline the processes of multidisciplinary team support for patient care from admission to surgery to discharge. At the time of the program evaluation, the LOS outcome was well below IGFS CORE certification benchmarks, paving the path for the facility to qualify for designation as an IGFS CORE-certified facility. The program also emphasized the importance of recognition of the unique care processes needed to support the geriatric fracture population and enlisted a team approach to addressing systems changes to improve patient outcomes.

Summary

Developing a geriatric fracture program begins with engaging a multidisciplinary team to provide the expert resources necessary for supporting new care pathway processes. Development of evidence-based order sets can standardize and streamline patient care from admission to timely surgery and discharge. Identifying data benchmarks for evaluating outcomes and providing education for staff and providers helps to ensure that quality care is being provided. Success of a geriatric fracture program will be demonstrated by not only improved short- and long-term QI outcomes but also the commitment to evidence-based practice guidelines to support geriatric patients in reaching their prefracture level of quality of life.

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