



## *A Data Review of Over 3,000 Geriatric Hip Fractures*

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## Introduction

Within the geriatric population, hip fractures are a leading cause of hospitalization. According to the Center for Disease Control and Prevention, there are approximately 300,000 hip fractures that occur each year in the United States. The mortality rate for geriatric hip fracture patients is high, specifically within the first few months, but is significant for up to a year after surgery. The rate of morbidity from both immobilization and surgical complications highlight the importance of effective and efficient management of this type of patient. A review of six months of data from Accelero's *OrthoVal*® database highlights the variability in the management of this patient and the potential for improved margins. The data set represents 3,016 geriatric hip fracture cases from 53 hospitals across the United States between June 2009 and December 2009.

## Patient Demographics

For this data set, a geriatric hip fracture is defined as a hip fracture in a patient 65 years and older. The table shows, within this data set, 37% of the hip fracture procedures are open reduction-internal fixation of the femur and 33% are partial hip replacements.

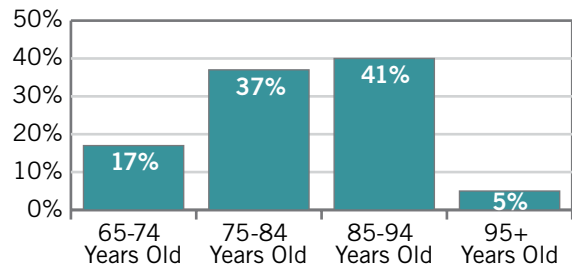
### Hip Fracture Procedures

Code	Description	% of Cases
79.35	Open reduction-internal fixation femur	37%
81.52	Partial hip replacement	33%
79.15	Closed reduction-internal fixation femur	22%
78.55	Internal fixation of femur without fracture reduction	8%

Age is a prevailing factor in the rate of geriatric hip fractures. People who are 85 years and older are 10 to 15 times more likely to sustain hip fractures than people 60-65 years old, according to the Centers for Disease Control and Prevention.

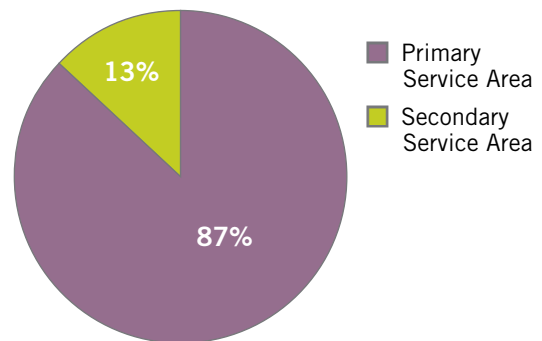
Within the data set, the age distribution shows 37% of the patients are between 75-84 years old and 41% of the patients are between 85-94 years old.

### Hip Fracture Patient Age Distribution



Geriatric hip fracture patients are emergent cases that are usually transported to the nearest hospital for care, generally within a hospital's primary service area. The data set reflects 87% of the geriatric hip fracture patients come from each hospital's specifically defined primary service area (PSA) and 13% come from the secondary service area (SSA).

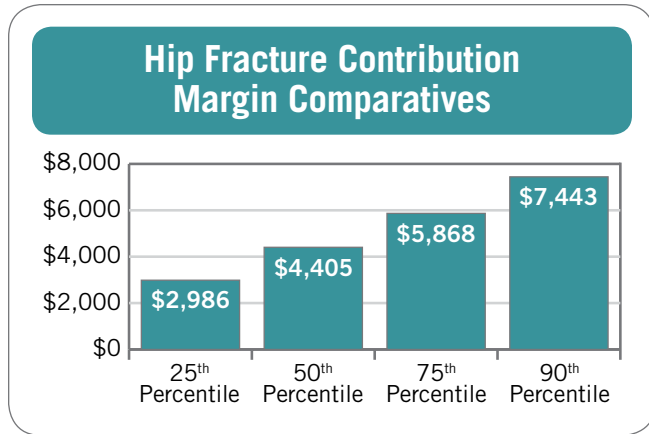
### Hip Fracture Patient PSA & SSA Distribution



## Financial Indicators

There is significant variability between average contribution margin for the geriatric hip fracture cases within the data set. In the graph on the next page, the difference in contribution margin per case between the 25<sup>th</sup> and 75<sup>th</sup> percentiles is \$2,882. The best performers have a contribution margin per case of \$7,443. This patient population can be a significant financial contributor to the musculoskeletal service line.

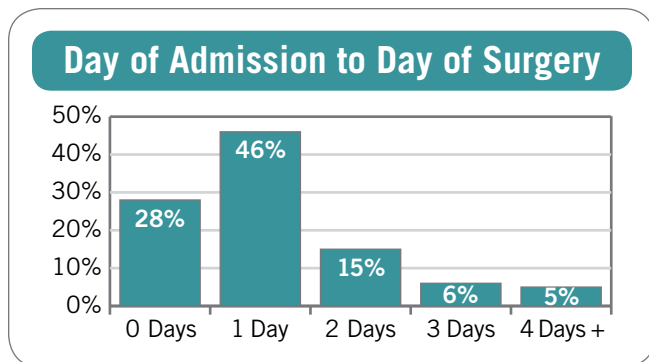
For example, a hospital performing 150 geriatric hip fracture cases at the mean contribution margin would recognize over \$660K in aggregate contribution margin. These same cases at the 25<sup>th</sup> percentile of contribution margin would have an aggregate contribution margin of just under \$440K, a difference of over \$220K compared to the mean. This highlights opportunities not only in improved margin but also how this patient population can be more effectively managed.



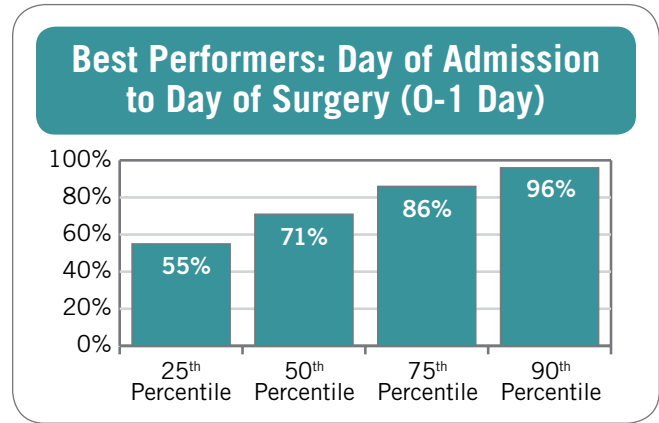
## Hospital Services

Generally, the geriatric hip fracture patient is admitted through the emergency room. Preoperative clearance, the availability of surgeons, capacity in the operating room and post-operative processes are all factors that can impact the length of stay for emergent hip fracture procedures.

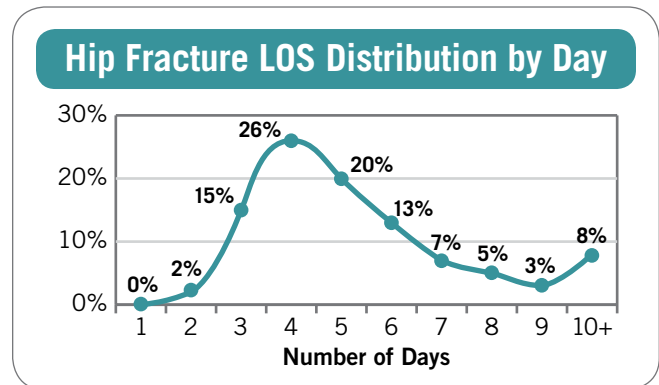
Effective perioperative management of this patient population is critical. It begins with performing the patient's surgery as quickly as possible following admission as long as it is safe for the patient. Within the data set, 74% of the patients have surgery within one day of hospital admission.



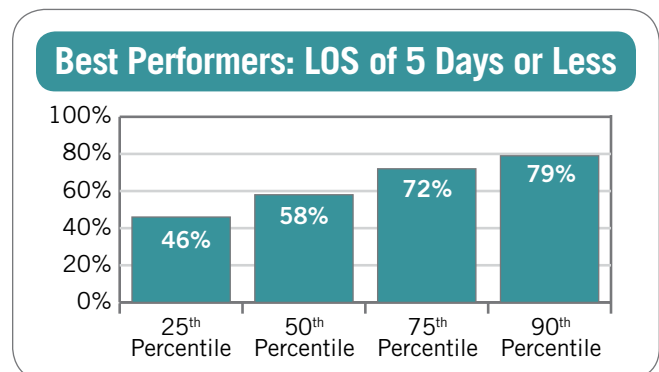
There is significant variability in the time from day of admission to day of surgery. The hospitals in the 90<sup>th</sup> percentile perform geriatric hip fracture surgery within one day of admission 96% of the time.



Effective and efficient post-operative management can also impact the overall length of stay. Within the data set, 63% of the patients have a total length of stay of five days or less.

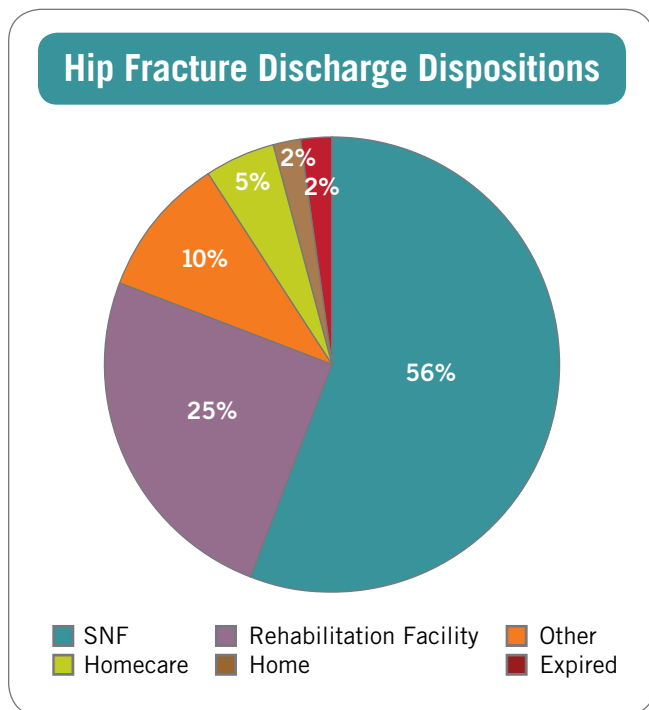


There is substantial variability by hospital with total length of stay. The data set shows the best performers have 79% of the geriatric hip fracture patients discharged within five days or less from time of admission.



## Discharge Disposition

Typically geriatric hip fracture patients are discharged to a post-discharge facility. Within the data set, 81% of the patients were either discharged to a skilled nursing facility (SNF) or to a rehabilitation hospital.



## Keys to Success

A successful geriatric hip fracture program includes the effective coordination of both hospital care and post-discharge care. Below are some key points to consider.

### Admit to Day of Surgery Management

A successful geriatric hip fracture program includes a coordinated approach to managing admit to day of surgery. Hospitals with a successful geriatric hip fracture program have:

- Effective surgical clearance protocols
- Operating room capacity to perform hip fracture cases in a timely manner
- Orthopaedic surgeons on call and available to perform surgery

## Coordinated Care Effort

Hospitals that are best performers also have established key operational elements that include:

- Admitting geriatric hip fracture patients directly to the nursing unit
- Assigning each patient a hospitalist who performs a consult
- Providing consultations on nutrition and pharmacy
- Conducting delirium screenings
- Having mental health consults included in the order sets

## Comprehensive Discharge and Care Coordination with Post-Acute Facilities

Finally, the geriatric hip fracture patient has a high mortality rate and is at a higher risk for morbidities. As a result, they require a greater level of care coordination at the time of discharge. Hospitals that are best performers have established strong relationships with post-acute care facilities to ensure there are no gaps in patient care upon discharge. This coordinated discharge effort includes:

- Hospital provided education to the post-acute care facility on how to successfully care for this type of patient. It includes pain management and timing of discharge to ensure the patient has a seamless transition in services between the hospital and skilled nursing facility.
- The skilled nursing facilities or rehabilitation hospitals that have a higher volume of geriatric hip fracture patients have an orthopaedic surgeon to consult that helps manage the hip fracture patients and reduce readmission rates.

## Conclusion

The geriatric hip fracture patient population will continue to be a part of the future landscape of hospital provided care. There is considerable variability between hospitals with how the geriatric hip fracture patient is managed. It is important to recognize that organized care is not only better for patient satisfaction and outcomes, but it can also have substantial financial impact. Hospitals with a successful geriatric hip fracture program have effectively accessed the care continuum, identified gaps and implemented improvements.