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Not the Last Word

Not the Last Word: Geriatric Hip Fracture Centers: The Time Has Come

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Many years ago, I had a brief but provocative conversation with the Chief of Trauma in the basement of our hospital. I was on my way to the travel clinic, planning to get a half dozen shots before an off-road bicycle trip to Chiang Mai, Thailand. I mentioned my concern to the trauma chief about various infectious diseases I was hoping to avoid. "I don't like those bugs either," he replied. "But if I were you, I'd worry about falling off the bike and breaking a leg. They don't have Level 1 trauma centers over there, you know."

Level 1 trauma centers add plenty of value even for the management of fairly ordinary injuries such as an off-road bicycle accident. For example, most emergency rooms can resuscitate a patient in shock and diagnose and treat visceral injuries. Long bone fixation can be done well by most orthopaedic surgeons, and postoperative care is pretty routine. What the Level 1 center uniquely provides is the capability of doing all of this well, every time.

I suggest that this thinking applies to low energy geriatric hip fractures as well. Here, too, there are a lot of tasks: Medical comorbidities need to be managed; the patient then has to be taken to the operating room expeditiously; the fracture itself must be treated expertly; and rehabilitation and recovery must be coordinated by surgeons, internists, physical therapists, and social workers, among others. Like the case of the bicycle accident injury, a geriatric hip fracture is challenging not so much because any one of these tasks is particularly difficult, but because there are so many tasks that need to be managed in harmony. I therefore submit that a "Geriatric Hip Fracture Center" [11, 16, 20] can improve the care we give to elderly people who fall and break their hip. We are not there yet.

To start, although there is ample evidence that higher volume is associated with higher quality, many hip fracture procedures are performed at institutions that do not do very many cases. For example, a recent study [8] reported that in the Philadelphia metropolitan area, more than 500 operations on geriatric patients with hip fractures were performed annually at hospitals with yearly case volumes of 50 or fewer (that is, not even one case per week). In addition, hip fracture centers likely will get patients to the operating room quicker and thereby avoid the unnecessary delays that could increase the mortality risk [22].

The hip fracture center is also likely to have the rehabilitation protocols that will get the patient up and moving, and therefore more likely to have a better functional outcome. (And if you are thinking, "But wait a minute—there are no data proving that better protocols lead to better outcomes!"—you are suggesting yet another justification for the centers: Namely, a hip fracture center is more likely to generate high-quality evidence regarding best practices).

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Hip fracture centers also make more financial sense. Based on national reimbursement rates, hip fracture surgery is a money-losing proposition for an institution until it attains a volume of about 72 procedures per year [8]. In the Philadelphia study noted above, 143 of the 168 hospitals that perform hip fracture surgery (85%) do not meet that threshold. Ceding the cases to a few institutions will be profitable for all.

What impedes the formation of hip fracture centers?

First to consider is surgeon resistance. Surgeons who are poised to lose these cases to colleagues at hip fracture centers are not likely to give them up willingly. In the United States, almost all geriatric patients have medical insurance and the surgical fees are on par with joint replacement. In nearly all instances, the indications are clear and the procedures themselves are technically straightforward and can be performed during daylight hours. In short, these are good cases from the surgeon's perspective.

Hospitals may also resist. Yes, for many hospitals these cases are money losers, and most institutions would agree that only a few places should be doing them. Yet most institutions, I would bet, believe that they should be among the selected few who stay in business. And even if a hospital were to recognize that hip fracture cases themselves lose money, it may still be reluctant to give them up, for fear of losing all geriatric referrals.

Whatever is impeding the formation of hip fracture centers must be overcome. Because of Level 1 trauma centers, patients with off-road bicycle accidents sent there fare better than they would elsewhere. Hip fracture patients deserve the same care.

It very well may be that geriatric hip fractures will languish despite our best efforts: The state of debilitation [17] that leads patients to fall and break their hips might portend a bad outcome even with good treatment. But we owe our patients the best shot at doing well, and a designated hip fracture center may be a central part of that effort.

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The concept of developing specialized centers to care for older adults with a fracture has long been a passion of mine. During the past 40 years, very little improvement in outcomes has been demonstrated for older adults with a hip fracture. The 1-year mortality rate has hovered at 21% to 24% [7] and only the length of stay in the hospital has shortened. Approximately 3% of hip fracture patients die in the hospital [6], 14.5% are readmitted within 30 days [15], and most patients do not regain their preinjury functional status. Hip fracture is the third most expensive diagnosis in American medicine today [10]. These statistics raise the question of how we, as physicians, can drive improvement in the care of our older adults with a fracture. Outcomes are often compromised by adverse medical events occurring during and immediately after the index hospitalization for hip fracture care [19]. Adoption of a geriatric hip fracture center offers the opportunity to standardize care processes and work in an organized manner to reduce errors and waste in the care system [13]. For older adults, minor errors in care often have catastrophic consequences.

Important principles to consider when implementing a geriatric hip fracture center include: Early surgical intervention (< 24 hours), comanagement of the patient with a medical physician or geriatrician, frequent communication among care team members, standardized order sets and care pathways to reduce variability in care, and early discharge planning for the patient [14]. Such programs can be economically viable and an asset to a committed hospital system [20]. Perhaps the most important concept to consider is the need for strong surgeon

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and medical physician leadership to help drive the necessary culture change to achieve a high performing geriatric hip fracture center [21].

Measurement of our results is essential for success. Quality improvement efforts should address problem areas [18]. A new American College of Surgeons National Surgical Quality Improvement Project hip fracture pilot project sponsored by the American Academy of Orthopaedic Surgeons (AAOS) is one such tool available to help drive quality improvement for programs. As more provisions of the Affordable Care Act are implemented, geriatric hip fracture centers will become a model for care redesign that many systems can adopt to achieve both quality of care improvement and reduced costs of care.

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The AAOS Task Force on Serving the Elderly Orthopaedic Patient recommended a collaborative multi disciplinary approach to the injured elderly patient. This approach includes input from the orthopaedic surgeon, the geriatrician, the nursing staff, therapists, pharmacists, nutritionists and pain management specialists [3]. During the past 20 years, there has been a substantial increase in the education provided to the orthopaedic community regarding hip fracture care.

Many studies have evaluated the impact of an early multidisciplinary intervention had on length of stay, morbidity, mortality and function after hip fracture in patients older than 65 years [1, 2, 12, 13, 20, 23]. These authors have demonstrated that for patients whose care was organized and administered by a multidisciplinary geriatric intervention group there was less inpatient mortality, fewer major complications, and a shorter hospital stay. More patients in the co-care groups achieved functional recovery at 3 months than that from patients who do not have this type of coordinated care. Therefore, we can conclude that multidisciplinary care in the treatment of the geriatric hip fracture patient reduces complications and mortality following hip fracture.

Dr. Bernstein brings up the idea of "hip fracture centers" as a way to bring a higher level of care to these patients much in the way American College of Surgeons Level 1 trauma centers have been developed to aid in the care of multiply injured patients. These were developed to allow centers with appropriate resources to care for the most critically ill [4]. These types of resources are not needed in the care of geriatric hip fracture patients. The pieces of a proper geriatric hip fracture program exist within all hospitals currently. All orthopaedic surgeons are well-trained in the technical aspect of hip fracture fixation and patient care during their residency. In fact, hip fracture care is one of the 16 "milestones" competencies to be critically analyzed during training. The American Orthopaedic Association, through the Own the Bone initiative, has developed tools and resources to allow hospitals and care givers the ability to develop fracture liaison services to target these patients [5].

Improvement in fragility fracture care has resulted secondary to these efforts. Identifying patients at risk and treating osteoporosis before fracture has been a strategy with proven benefits. This has occurred in the absence of dedicated "hip fracture centers" [9, 24]. Medical care and team-based approaches have improved with national patient safety measures. Application of these proven concepts to our elderly hip fracture patients at all hospitals should be the goal. Improvement in quality measures such as reduction in postoperative surgical site infection, appropriate administration of antibiotics and reduced hospital readmission have also occurred in the absence of hip fracture centers. Geriatric hip fracture programs that involve co-care with geriatricians, orthopaedic

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surgeons, nursing, pain specialists, physiotherapists and social workers can and should be implemented at all hospitals across our country to provide the highest quality care for this group of patients. I believe the best way for all geriatric patients to have access to this type of care is further development of geriatric co-care programs within al hospitals that serve all communities.

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