

Physicians' perspectives of prognosis and goals of care discussions after hip fracture

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Funding information

Received support from the NIA (K08AG043548-05) to pay for professional transcription of recorded interviews.

Abstract

Background: Hip fracture often represents a major transition in patients' health, with a 1-year mortality rate between 25% and 30% and a challenging recovery course. Caring for hip fracture patients presents opportunities for goals of care discussions that include prognostic information and guidance about functional dependence.

Methods: We conducted qualitative, semi-structured interviews with 23 attending physicians involved with the care of hip fracture patients, including orthopedic surgeons, anesthesiologists, internists, and geriatricians, across 13 health systems in the United States and Canada. Questions addressed knowledge and interpretation of prognosis, discussing prognosis and goals of care, and timing and prioritization of surgery. Interviews were analyzed using a constructivist grounded theory approach to identify themes and develop a coding taxonomy.

Results: Physicians agreed that hip fracture had a considerable 1-year mortality, felt that it was important to discuss prognostic outcomes and the recovery process, wanted to elucidate patients' priorities, and often promoted timely surgery. Physicians perceived challenges when discussing mortality data with new patients in an acute setting. They more easily discussed outcomes related to functional dependence and quality of life. Some physicians used iterative communication as a strategy to have in-depth conversations in a busy perioperative setting.

Conclusion: Providing timely, compassionate care for hip fracture patients is challenging. There are opportunities to study iterative communication to encourage dialogue at key points of patient care to better discuss prognosis and recovery and bolster coordinated multidisciplinary care that focuses on patients' goals and values.

Material from this paper was presented as an oral abstract at the Annual Meeting of the American Society of Anesthesiologists (Murthy S, Clapp JT, Burson RC, Fleisher LA, Neuman MD. *Hip Fracture Care Pathways and Goals of Care Discussions: A Qualitative Study*. Oral Presentation at American Society of Anesthesiologists Annual Meeting; 2017, October).

KEYWORDS

communication, goals, hip fractures, patient care planning

INTRODUCTION

Hip fracture often represents a major transition in patients' health, with a 1-year mortality rate between 25% and 30% and a high likelihood of long-term functional decline.¹⁻⁵ In this setting, experts have advocated for goals of care discussions that include prognostic information and guidance about functional dependence.⁶⁻⁸

A potential barrier to goals of care discussions with hip fracture patients is the acute nature of patients' presentations. The American Academy of Orthopedic Surgeons (AAOS) recommends surgery within 48 h of patient presentation.⁹ Time constraints are perceived by physicians to be a barrier to goals of care discussions with hospitalized patients¹⁰ and these conversations can be pressured and transactional.¹¹ A host of patient, physician, and health system factors are associated with delayed goals of care discussions with seriously ill hospitalized patients and patients with chronic diseases^{10,12,13}; barriers specific to hip fracture are unknown.

To ensure timely, conscientious care, some hospitals have designed hip fracture care pathways. These usually involve early collaboration among providers of multiple disciplines to risk stratify patients, optimize comorbidities, improve operating room availability, and coordinate care along the hospital stay.^{14,15} Benefits to date are heterogeneous but promising, with some studies suggesting improvements in short term mortality,^{16,17} hospital length of stay, and inpatient complications.^{18,19}

We sought to better understand how efficient hip fracture care intersects with prognostication and goals of care discussions. We wanted to explore (a) what physicians who care for hip fracture patients know regarding the prognosis of hip fracture, (b) how physicians' understanding of hip fracture prognosis informs their communication with patients, (c) what practical demands physicians encounter when caring for hip fracture patients, and (d) how physicians navigate these demands to incorporate discussions about prognosis and goals of care in a busy perioperative environment.

METHODS

We conducted semi-structured interviews with attending physicians who care for hip fracture patients in 13 health systems in the United States and Canada. The study protocol was approved by the Institutional Review Board of the University of Pennsylvania.

Key points

- Physicians wanted to discuss prognosis, elucidate patients' priorities, and promote timely surgery.
- Some used iterative communication to have in-depth conversations.

Why does this paper matter?

Understanding the perspectives of physicians in acute-care settings may point to opportunities to improve communication with patients.

Participants

We used stratified purposive sampling to identify health systems representing a range of hospital sizes and locations. We targeted interviewees based on the practice patterns of the health systems represented—if a particular health system had an orthopedic trauma surgeon and a geriatrician care for its hip fracture patients, we chose to interview these specialists. If instead, a general orthopedic surgeon and a hospitalist would more likely be involved, we interviewed these specialists. Within hospital and specialty, we used purposive snowball sampling to recruit interviewees representing orthopedic surgery, anesthesiology, internal medicine, and geriatric medicine; each participant was asked to suggest additional participants at their hospital. Recruitment continued until theoretical saturation.

Data collection

One-on-one semi-structured interviews were conducted by SM by telephone. An interview guide was used for every interview, comprised of open-ended questions and follow-up probes in the domains of (1) understanding prognosis, (2) discussing prognosis and goals of care, (3) timing of surgery, and (4) pain and symptom management. A hip fracture pathway was determined to exist if the interviewee could describe an institutional protocol related to triaging and optimizing patients to expedite hip fracture surgery and/or improve care throughout the admission.

Data analysis

Interview recordings were transcribed by an independent professional transcription service. Three researchers (SM, JTC, RCB) analyzed transcripts using a constructivist grounded theory approach.^{20,21} NVivo 11 (QSR International Pty Ltd.) was used to code data. The researchers first annotated the interview transcripts of two interviewees selected at random to identify themes. These themes were discussed and then formalized into a codebook (a thematic taxonomy). This codebook was used to double-code the transcripts of six additional randomly selected interviews (~20% of total transcripts); SM and JTC coded the same three transcripts and SM and RCB coded a different set of three transcripts. Codes were compared and differences rectified through discussion and consensus. The codebook was revised to account for themes it had not adequately captured. Having developed a refined coding taxonomy, SM coded the remaining transcripts. Finally, JTC and RCB each coded a random 10% set of these transcripts to verify SM's coding. Theory development was ongoing throughout this process.

RESULTS

Twenty-three physicians at 13 institutions were interviewed (1–3 physicians per site): 11 anesthesiologists, 7 orthopedic surgeons, and 5 internists or geriatricians (Table 1). Interviews took place between June 23, 2016 and February 28, 2017. The median conversation length was 24 min (range: 14–36 min).

Respondent knowledge and interpretation of prognosis

Physicians quoted similar mortality data about hip fracture in older adults, stating that hip fracture carried a 1-year mortality between 20% and 30%. Many physicians remarked that hip fracture was an acute exacerbation of chronic problems such as progressive osteoporosis and frailty.

Well, the prognosis is good to fair. Most patients, the literature shows us, will require some sort of assisted device to walk. Most patients that are independent are no longer independent. The mortality, somewhere around 25, 30 percent for the first year, depending on the health of the patient. ... the way I think about it is the patient has a hip fracture, the bones heal, they have good

TABLE 1 Demographic and practice characteristics of study subjects

Subject characteristics	
Sex, n (%)	
Female	5 (22%)
Male	17 (78%)
Clinical specialty, n (%)	
Anesthesiology	11 (48%)
Orthopedic surgery	7 (30%)
Internal medicine ^a	5 (22%)
Hospital characteristics	
Clinicians at hospitals with standardized hip fracture pathways, n (%)	14 (61%)
Number of hospitals with standardized hip fracture pathways, n (%)	6 (46%)

^aIncludes geriatric medicine as a subspecialty.

fixation for them. It's not so much a problem with the bones, but an overall marker of declining health.—Orthopedic Surgeon

Attitudes toward discussing prognosis and goals of care

Physicians agreed that it was important for patients to understand the prognosis of hip fracture. However, many physicians described discomfort when discussing mortality rates with patients and found it easier to discuss outcomes related to functional status or other perioperative complications.

When they ask I do try and sort of give the statistics about walking. I'm probably a little more open about that and a little less open about death rates. But it's a difficult conversation, and I don't think any of us probably do a great job of that. It's just hard to bring that in.—Orthopedic Surgeon

I think from my perspective, primarily perioperative complications. So I think the long-term consequences in morbidity, we leave to the orthopedic surgeons.—Anesthesiologist

The outcomes discussed also varied based upon the timeframe of interest to the physician interviewed, ranging from optimizing patient care in the perioperative period to describing the following year and long-term prospects for patients' functional status (Table 2).

TABLE 2 Interpretations of time and prognosis

Short timeframe: hospitalization	<p>Hip surgery patients are systemically unwell until they have their hips fixed. ... as soon as the surgery is finished patients start coming around again, once they haven't been waiting too long, once they're not dehydrated, once they're not too confused from narcosis.—Anesthesiologist</p> <p>It's often a discussion with the patient like you're very high risk for the operating room. But without the surgery, there's a potential you would never walk again. ... <u>We have had times where the surgeons have decided that the risk of repair are not worth the benefit.</u>—Internist</p> <p>The primary things that we talked about, or at least I talk about, with the patient, things like post-operative delirium, the potential for blood lost, the potential for transfusions and just other kind of generic anesthetic risk factors.—Anesthesiologist</p> <p>Overall, we try and define a prognosis based on what we perceive as the ability to deliver a safe and successful anesthetic, which again we're able to do in a very high percentage of the time.—Anesthesiologist</p>
Intermediate timeframe: weeks to months	<p>I do think one thing we can get them focusing on is sort of what's the next stage. ... If we sort of just focus on, look, the next step is we're going to have two or three days of rehab in the hospital, and the step after that is she's going to go to a skilled care facility, and that gives you a month to figure out where you're going to go to after that, I think we can be really helpful with some of the just focusing on the next step in the chain.—Orthopedic Surgeon</p> <p>I don't want them to think that just because she made it through surgery, now she's out of the woods either. So they just have to be prepared that it's going to be slow and challenging, <u>and I try to prepare them emotionally for the next three to six months.</u>—Geriatrician</p> <p>Probably about 95 percent of our patients end up needing to go to a skilled care facility. And that stay is probably somewhere on average between two and five weeks.—Orthopedic Surgeon</p>
Long timeframe: months to years	<p>So the bigger challenge is that they survive the surgery for the most part. That's not the challenge. ... <u>The major prognostic implication is that you have these people who are living at home independently who probably will not live independently ever again. And even if they are going to live independently, it's going to be six to 12 months, something like that.</u>—Geriatrician</p> <p>I'd say it's very unusual for having a 30-day death. Almost everyone makes it out of the hospital. The one-year death rate is still I think, in our institution as well as nationwide, somewhere between 15 and 20 percent. And if you don't die, <u>about 40 percent of people, so slightly less than average, will walk as well as they used to walk. Forty percent will walk just a little bit worse. And then there's 20 percent that have kind of a significant decline in their level of functioning.</u>—Orthopedic Surgeon</p> <p>I talk to them about how there's roughly an 18 to 30 percent mortality rate within the first year and that most people with hip fractures, if you look at historical data, lose a level of independent function. ... For example, if they're a community ambulator without any assistive devices, there's a good chance they'll need to use a cane. If they were using a cane, there's a good chance they'll need to use a walker or a wheelchair and obviously need more help as far as their day-to-day activities.—Orthopedic Surgeon</p>

Patients' hospital course: What is prioritized?

Physicians quoted AAOS recommendations that surgery takes place within 48 h of presentation; many strove for 24 h or fewer. Some physicians described hip fracture care pathways; the hip-fracture pathways described were heterogeneous, ranging from a single medication order-set to complex triaging, multidisciplinary optimization, and logistical coordination of clinical care. When physicians described a hip fracture care pathway or emphasized adherence to guidelines for early surgery, they tended to have more optimistic perceptions of patients' prognosis, compared to other interviewed physicians who suggested that there have not been recent improvements in long-term outcomes.

The studies show that it's a high—20 percent mortality rate, sometimes higher within a

year after hip fracture surgery. So studies are variable, but within—if fixation occurs between 24 to 48 hours afterwards, the survivorship is higher. The prognosis is relatively good.—Orthopedic Surgeon

We're doing tranexemic acid which reduces blood loss. We're shortening length of stays. We're making them more active right after surgery. We're not cementing them. There's a whole bunch of little surgical factors I'd say that we're doing to improve the outcome.—Orthopedic Surgeon

Physicians usually proposed similar initial clinical management—early surgical intervention—to optimize patients' future prognosis. It was uncommon for physicians to consider nonoperative treatment.

Tension between urgency of operating and thorough preoperative discussions of prognosis and recovery

The pressure to perform surgery soon after patients' presentation, as well as physicians' responsibilities to other patients, made speaking extensively with patients a challenge.

The 48-hour period is usually pretty chaotic trying to get the—trying to find the family, trying to find the healthcare proxy, just trying to optimize the patient.—Anesthesiologist

Well, I think one thing that would be helpful would be more time. And as an orthopedic

ORTHOPEDIC SURGEON



“I have a discussion with them before surgery, at least to talk about the risks and benefits of surgery itself. Sometimes that plays into the discussion of even operating in the first place. ... So I try to do it beforehand because it determines what surgical procedure I do. And then I discuss with them afterwards kind of depending on the procedure that is performed. ...knowing how fragile the bone was or how bad the break was or things like that, I do try to go talk to—I do talk to the family again, and then at that point I have another discussion about prognosis.”

ORTHOPEDIC SURGEON



“I find the best time for the difficult conversations are either right before surgery or right after surgery with family. In some ways right after surgery is probably the best time because everyone's—the family's sort of usually just relieved to hear that mostly things went well, and we sort of jump that hurdle. And then they really start thinking about, well, what's next. Well, what's next is how are we going to get home, what are our goals around that. And I think that's probably when I find the best time for me to get into difficult issues would be.”

ANESTHESIOLOGIST



“There is a lot of drive to operate on these patients faster. And so do you have the time and the rapport with a patient to engage yourself in a difficult decision like that? If you are—I'm going to try to expedite the surgical care because they have better outcomes. ... maybe pre-op there's too much emotion and anxiety related to the hip and the surgery and anesthesia that—it may be a concerning conversation, but I think it might be better to do it afterwards when, well yeah, you are ready to go out of the hospital, but you need to understand that this was not a minor issue. This was a big deal.”

INTERNIST



“I think, especially when someone's in pain or dealing with the shock of an acute debilitating illness, it can be really hard to have those conversations ahead of time and people are—can be pretty mono-focused or people are in fight-or-flight mode or family are in fight-or-flight mode and it's hard for them to retain information. But I still think it's worth trying, or at least saying, we're going to start talking, we're going to continue this conversation again so that they're not shocked and they're not hit with a wrecking ball in a week or in a month.”

difficult to have family conversations

FIGURE 1 Representative quotes of select physicians describing the timing of conversations regarding patients' prognosis, recovery, goals, and values

trauma surgeon at a busy place, we just don't have the time or don't make the time.—
Orthopedic Surgeon

Some physicians described an iterative approach to their communication. They focused on some topics prior to surgery (e.g., risks and benefits of the procedure, surgical consent) and revisited other topics in greater detail after surgery (e.g., detailed information about recovery, rehabilitation, post-discharge disposition). There was often an assumption that detailed information about the entire hospital course was overwhelming to a patient presenting with a new hip fracture, because these patients may be in pain or anxious about the upcoming surgery. Physicians who practiced iterative communication often hoped for repetition and clarification of information during a patient's hospital stay (Figure 1). Interviewed physicians wanted to ensure consistency of iterative communication by different members of the care-team, with some describing an ideal scenario of having conversations with the patient and doctors from multiple specialties at the same time, but found it difficult to do so in practice.

Physicians described factors that complicate communication and require additional time and resources. These include communicating with patients' family members and caregivers (whether or not they are patients' surrogate-decision-makers), patients being hard of hearing, and language differences.

DISCUSSION

This study points to strategies to improve the quality of communication between physicians and hip fracture patients. Focusing on education about mortality data would likely be low-yield because physicians appear to be in agreement that hip fracture is a serious condition in a vulnerable population. It may be better to focus on how physicians frame information with patients. First, physicians may benefit from a reminder that initiating goals of care discussions, providing treatment, and maintaining hope and motivation throughout recovery are not mutually exclusive.^{9,11,22} There are opportunities for surgical and perioperative providers to incorporate some recommended best practices regarding communication of serious illness goals advocated by palliative care and primary care physicians.^{6,11,22} Second, postoperative timeframes could be discussed with more clarity. When physicians use global adjectives—such as good, fair, poor—to describe prognosis at different points along the recovery timeline, patients can easily become confused if these time points are not made clear.

Our interviews suggest that we should be more longitudinal when we study communication between

physicians and patients. Some physicians employed a strategy of iterative communication before and after surgery. This may be advantageous; patients may require time to process serious news.²³ Iterative communication has long been a model in the geriatric literature, with time-limited trials of treatment courses being a well-established strategy.²⁴ Although iterative communication may be carried out in practice, much recent research about discussions regarding goals and preferences in a surgical setting has been in the context of shared decision making and centered on preoperative discussions of risks and benefits.^{25–27} It may be useful to experiment with innovative communication models that include iterative communication to better inform patients in a fast-paced acute-care environment. Additionally, in the setting of hip fracture, where many institutions are implementing hip fracture care pathways,^{14,18,19} discussions about prognosis and goals of care could be incorporated along key points,²⁸ to show that this communication is prioritized. This would also be consistent with existing research showing that patients and families welcome additional information about prognosis after hip fracture and increased communication during transitions of care.^{29,30}

There were strengths and limitations to this study. The major strength of this study was that the interview design allowed us to elicit rich, deep information about complex systems and interactions. Limitations of this study include that the study was designed to examine communication factors from the physicians' point of view only and did not include patients. The interview design also relied upon recollection rather than direct observation of patient care, which could have provided additional insights. The study was limited by a relatively small sample that only included acute-care providers and did not represent physicians at skilled-nursing-facilities or outpatient primary-care-providers. Finally, this study did not address possible improvements in communication from CMS's bundled payments for care improvement, in which all costs from the hospital to a skilled nursing facility (SNF) to home are in one bundle that may encourage improved coordination between these settings. These changes represent exciting areas of future study.

Providing efficient, personalized, compassionate care remains a challenge, particularly in the setting of hip fracture where patients' medical problems are often complex and time is constrained. There are opportunities to study iterative communication and using hip fracture pathways to encourage dialogue at key points to better discuss prognosis and recovery and bolster coordinated multidisciplinary care that focuses on patients' goals and values.

refining and improving a process

CONFLICT OF INTEREST

The authors have no conflicts.


AUTHOR CONTRIBUTIONS


Sushila Murthy: study concept and design; acquisition of subjects and/or data; analysis and interpretation of data; preparation of manuscript. Justin T. Clapp: study concept and design; analysis and interpretation of data, preparation of manuscript. Randall C. Burson: analysis and interpretation of data; preparation of manuscript. Lee A. Fleisher: study concept and design; preparation of manuscript. Mark D. Neuman: study concept and design; acquisition of subjects and/or data; preparation of manuscript.

SPONSOR'S ROLE

The funders had no role in the design, methods, subject recruitment, data collections, analysis, or preparation of the paper.

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How to cite this article: Murthy S, Clapp JT, Burson RC, Fleisher LA, Neuman MD. Physicians' perspectives of prognosis and goals of care discussions after hip fracture. *J Am Geriatr Soc*. 2022;70(5):1487-1494. doi:10.1111/jgs.17642