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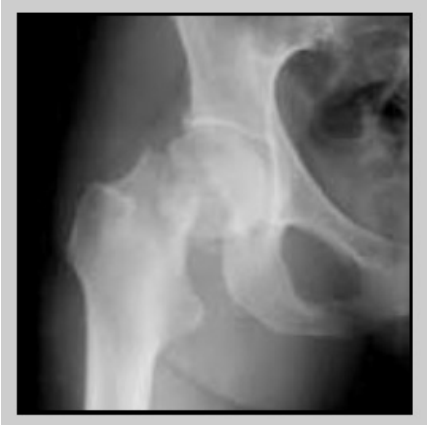
UCH Team Mends Process of Care for Hip-Fracture Patients

By Tyler Smith

It's an unwelcome bit of medical irony: The recovery of an elderly patient with a hip fracture can all too often be hobbled by a hospital with fragmented workflows.



That's been the case at University of Colorado Hospital, where hip-fracture patients 65 years or older too frequently wind up after surgery on floors that are not staffed by nurses and other providers trained to care for them. The geographic scattering strains the physical resources of medical teams. It also lengthens patients' hospital stays, slows their discharge time, and leads to undesirable variations in the care they receive.

A new initiative launched Oct. 29, however, promises to mend these broken links. The Geriatric Hip Fracture Program aims to streamline the care these patients receive, from admission to preoperative and post-operative care, and ensure they receive treatment in a dedicated clinical home: the 8 West Orthopedics Unit.

The program didn't have to wait long for its first test: a 79-year-old hip fracture patient admitted to the hospital Nov. 1. He was evaluated by Orthopedic Surgery and the hospital's Medicine Consult Service, sent to the OR for surgery in less than four hours, and then admitted to 8 West. There he was evaluated for osteoporosis and received post-operative treatment. He was scheduled for an outpatient visit with the hospital's Seniors Clinic and the Metabolic Bone Clinic. Meanwhile, social work and case management worked with his family on arranging transfer to the next level of care.

Providers established this continuum of care using three well-defined order sets custom-built into the Epic electronic health record (EHR) for the Orthopedic Service. Those sets replaced a jumble of orders for labs, medications, X-rays, and so on that providers previously had to sift through the EHR to assemble.

Broken processes. The end-to-end care the patient received – two more geriatric hip-fracture patients went through a similar process Nov. 2 and 3 – is exactly the way Jason Stoneback, MD, director of the hospital's Orthopedic Trauma and Fracture Surgery Service, envisioned it when he set out last year with colleagues to overhaul a system that was really no system.

"We weren't doing a great job of taking care of these patients," Stoneback said. Because of capacity and organizational issues, hip-fracture patients got care from providers on multiple service lines, an invitation to variation.

"Everyone had his own approach to treating patients, the things that needed to be done for them, and the goals of care," Stoneback said. The lack of standards led to delays in getting patients triaged, worked up, transferred to the OR, operated on, treated post-operatively, and discharged.

"There has been no consistency in how these patients are cared for," said Kelly McDevitt, RN, MS, nurse manager of the Orthopedics

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Unit. She compared the random floor assignments to clinical "Russian roulette" for patients.

The problem, McDevitt added, wasn't a lack of skill or concern among providers on non-orthopedic floors, but rather one of familiarity. McDevitt cited the example of a patient on, say, the 10th floor who needs to be placed in traction. The situation typically would generate a call from the 10th floor charge nurse to the Orthopedics Unit charge nurse, who would need to go upstairs and put the patient in traction, leaving his or her own unit shorthanded in the interim, and introducing unneeded travel time and waste, McDevitt said.

Providers unfamiliar with orthopedic patients might also unintentionally delay getting them out of bed and moving about, a key to preventing pressure ulcers, inflammation, pneumonia, swelling, and deep-vein thrombosis, she added.

Leaders of the recently launched Geriatric Hip Fracture Program at UCH. Left to right: Orthopedics Unit Nurse Manager Kelly McDevitt; Orthopedic Trauma and Fracture Surgery Service Director Jason Stoneback, MD; and Medicine Consult Service Director Mary Anderson, MD.

Standard bearers. Not surprisingly, the disjointed approach produced a wide variation in outcomes. Mary Anderson, MD, director of the Medicine Consult Service, said the average length of stay for a geriatric hip-fracture patient admitted to the Orthopedic Service is 5.4 days on 8 West – roughly half the 10 days of other units.

Without a process redesign, that gap was likely to widen, she added. The hospital performed 43 geriatric hip-fracture surgeries in 2012, the year Stoneback arrived. The number jumped to 67 in 2013, and is on track to surpass that by a wide margin in 2014. The opening of new floors in AIP 2, a thriving Emergency Department, and a rapidly aging population makes it nearly certain that the increases will continue.

"We saw that we needed to change the system to effectively care for these patients," Anderson said.

The clear solution is standardized care, Stoneback said. "It's documented in the literature that hospitals that developed a systematic approach to caring for geriatric hip-fracture patients decreased mortality, improved functional outcomes, decreased length of stay, improved efficiency, and reaped cost savings," he said.

It's especially important to follow the best medical evidence for a vulnerable population, Stoneback said. Without quick, skilled care, elderly patients frequently lack the physical reserves to overcome an injury that would be a relatively minor setback for a younger person.

"It takes a tremendous amount out of them," he said. "The quicker we can mobilize them and get them back on their feet, the higher is the likelihood that we can return them to prefracture function and decrease their mortality."

Marching orders. These considerations led Stoneback, Anderson, and McDevitt last year to submit a proposal to the Institute for Healthcare Quality, Safety, and Efficiency (IHQSE), the collaborative effort between UCH, Children's Hospital Colorado, and the CU schools of medicine and nursing to encourage and support process-improvement efforts across the Anschutz Medical Campus. The hip-fracture team aimed to reduce average length of stay by at least one-half day, decrease mortality, and speed recovery for geriatric hip-fracture patients. The primary tools: streamlined order sets and floor placement on the Orthopedic Unit, where they would be co-managed by Orthopedic Surgery and the Medicine Consult Service. Ethan Cumbler, MD, medical director for the Acute Care for the Elderly service, served as their IHQSE coach.

The order sets the team envisioned established standardized approaches to imaging, osteoporosis work-up and treatment, pain medications, deep-vein thrombosis prevention, and delirium prevention before surgery. After surgery, the orders included physical and occupational therapy consults, patient education,

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discharge planning, and referrals to the Metabolic Bone Clinic. The entire process would be time-stamped to measure its efficiency.

The comprehensive approach required buy-in from many teams across the hospital, said Zach Robison, a process improvement consultant with the hospital. Robison helped bring the teams together to decide how to meet the goals of the hip-fracture program. For example, Stoneback and company fine-tuned the items they felt were essential to include on the order sets, then worked closely with JoAnn Young *(see box)*, associate systems analyst with the Epic inpatient team, to implement the order sets in the EHR, Robison said.

The work the hip-fracture team put into its preparation contributed to its success, Robison said. "They limited the number of questions the Epic team had to ask," he said. "They knew what they wanted and were thoughtful in their approach."

"We wanted every single piece of information, when possible, pre-ordered – images, labs, medications, and services – and post-op follow-up in place," Stoneback said. The team also worked closely with hospital managers to ensure geriatric hip-fracture patients would be placed on 8 West.

The team took its initiative on the road to garner support, Anderson added. The effort included grand rounds with the Hospital Medicine Group and Orthopedics Department, as well as meetings with the Emergency Department, 8 West staff, and the NICHE (Nurses Improving Care for Healthsystem Elders) Committee on the 12 West Medicine Unit, which in the past has frequently cared for elderly hip-fracture patients.

"The main goal was to educate people about what we are trying to do," she said.

Over the next several months, the team will gather data to assess the success of the program, McDevitt said. But numbers won't tell the whole story, she added.

"We want to be able to get these patients to a better place, wherever that is," McDevitt said. "The process we followed for this program taught us how to work with each other to understand a complex system and to work together efficiently as a team at the highest levels."

"Dr. Stoneback, Kelly McDevitt, and Dr. Anderson have created something of great value to the hospital, providers, and patients alike," Cumbler said. "This program represents a huge leap forward in how frail patients within our system receive care for fractures."

A Personal Connection

Epic analyst JoAnn Young's work with the Geriatric Hip Fracture Program was more than just another assignment.

Young, who worked with the team to create the order sets now in Epic, has experience with the toll that a hip fracture can take on an elderly person. After Young's mother-in-law fell and broke her hip, she went downhill and passed away just six months later.

She said friends with aging parents have told her of similar experiences. "The loss of a vital life shortly after a broken hip, sadly, was the norm," Young said. "To find out that it doesn't have to be that way, thanks to the work that this team has done, was exciting. It was an honor to work with a team who cares so deeply for the well-being of our aging population."