Family members of patients undergoing surgery often sit glued to waiting room chairs for hours—anxious, hungry, and exhausted. Many woke early to travel long distances into busy Boston and find themselves surrounded by a sea of unfamiliar faces. They worry about the comfort and safety of their loved ones and often ignore their own needs. But now, thanks to the new Orthopaedic RN Surgical Liaison program, begun in January 2016, family and significant others are receiving additional comfort, support, and reassurance.

The RN Surgical Liaisons—Debra Gonchar, RN, Lisa Corcoran, RN, and Karen Losi, RN—are dedicated to recognizing the needs of the family as well as the patient. On BIDMC’s East and West campuses, they meet patients and their families before surgery and discuss any concerns. Then throughout the procedure, they keep family members posted on the patient’s progress, answer any medical questions they have, and allay their fears. They let family members know approximately how long the surgery will last and how long to expect their loved ones to be in the post-anesthesia care unit (PACU) or recovery room before they can see them again.

“We built the program to reflect the needs of our patients and families, some of whom may not speak English or may have come to BIDMC in an emergency,” says Susan Dorion, RN, Director of Perianesthesia Nursing. “We worked with the orthopaedic surgeons to shape the program for what their patients and their family members need.”

Medical updates

“We customize the experience to the individual,” says Gonchar, who previously worked for 20 years as a BIDMC operating room (OR) nurse. “Families come in all shapes and sizes. We use family as a generic term—it might be a person’s partner, very close friend, or anyone the patient designates. Sometimes people are here whose families are all out-of-state, and they ask us to contact someone like a daughter in California. Often I’ll bring a phone to the patient in the recovery room, so they can speak to each other.”

Family members can also follow a patient’s progress on the newly installed electronic tracking boards in the Feldberg, Shapiro, and Rosenberg buildings. When checking in, every patient is assigned
Letter from the Chairman

Dear Colleagues and Patients:

In this issue of Orthopaedic Connections, we are proud to highlight recent changes designed to enhance the quality of care for our patients. During the past two years, we adopted new organizational procedures and patient service tools from joint venture partner New England Baptist Hospital and customized them to our medical center. We launched a variety of initiatives to determine the best medical practices, eliminate operational inefficiencies, and enable patients to become informed, active healthcare partners. Through the combined efforts of Orthopaedics, Nursing, Anesthesia, Case Management, and Rehabilitation Services, we developed innovative, cost-saving approaches to care.

To better prepare our patients before surgery, we created print and video guides explaining what to expect. We also developed a new pre-op education class for patients undergoing spinal surgery and updated our total joint replacement class. In addition, patients now meet with a case manager and physical therapist in Preadmission Testing to discuss discharge planning and rehabilitation before surgery.

We have established an exciting new RN Surgical Liaison program, in which knowledgeable nurses provide comfort, answers to medical questions, and progress updates to family and friends of patients during their surgery.

To promote rapid recovery following joint replacement, physical therapy may now begin as early as the day of surgery. An increased use of spinal anesthesia is helping patients regain mobility sooner.

Our recent introduction of quality scorecards and patient-reported outcome surveys has allowed us to evaluate our performance and look for even more ways to improve. Since implementing these changes, we have already received positive feedback from patients and made significant progress towards our goals of shorter length of stay, increased discharge to home, and low readmission rates.

I applaud the efforts of Stacy Lewis and her team, and Jayne Sheehan, Senior Vice President Ambulatory and Emergency Services & System Clinical Integration, and all of whom have worked tirelessly over the past months to achieve these goals. Special thanks also goes to other key clinical leaders at BIDMC, Elena Canacari, Phyllis West, Deb Adduci, Mary Jo Brogna, Dr. Sheila Barnett, and Dr. Lisa Kunze, for their hard work and dedication. This not only makes the operating room more efficient for the surgeon, but increases patient safety and patient satisfaction with the perioperative experience.

Sincerely,

Mark C. Gebhardt, MD
Chief, Department of Orthopaedics
Patient-Reported Outcomes: A Measure of Success

In the early 1900s, Ernest Amory Codman, MD, strongly advocated for, as he wrote, “the common sense notion that every hospital should follow every patient it treats, long enough to determine whether or not the treatment has been successful, and then to inquire, ‘If not, why not?’ with a view to preventing similar failures in the future.”

Care providers at BIDMC are embracing this idea, which was considered heretical in Codman’s time. Kevin McGuire, MD, Co-Director of the Spine Center, is leading the move to establish results-based care, not just in Orthopaedics, but throughout the medical center. Three years ago, with an innovation grant from BIDMC, he teamed up with Henry Feldman, MD, an informatics specialist and hospitalist, to map out how such a system would work. The challenge was how to build it into busy practices.

“We want it to be like a vital sign that we can collect to use in clinical care and to get a pulse check of the entire network,” says McGuire.

In Orthopaedics, the Spine, Joint, Hand, and Trauma Divisions have begun using specialty surveys based on national standards to capture patient-reported outcomes.

Quality of care from the patient’s perspective

Traditionally, physicians have relied on objective measurements, such as range of motion, strength, and fracture healing, to evaluate quality of care. But these measures do not always align with the patient’s perception of improvement.

“Looking at patient-reported outcomes is one part of the story to determine whether you’re doing the right things for patients,” says McGuire. “In the Spine Center, we’re specifically interested in physical function, pain, and satisfaction: How does the patient perceive that they are moving through the world?”

The Oswestry Disability Index or ODI, an outcomes measure designed for the management of spinal disorders, is currently used in the Spine Center. This scientific survey assesses limitations related to back problems for each individual. Questions include: How far can you walk? Can you lift boxes from the ground? Are you able to have sex? Can you climb stairs?

However, the ODI is not specific enough, according to McGuire. “The ODI groups all healthy patients together,” he says. “You can’t see that one is doing better than another. This is known as the ‘ceiling effect,’ and there’s a ‘floor effect,’ too. You can’t delineate between a bed-bound person and a person who can’t get out of a wheelchair. The Trauma service at BIDMC is using the PROMIS [Patient Reported Outcomes Measurement Information System] Adaptive survey, which solves these issues. Spine as well as other specialties hope to move towards using the PROMIS.”

Capturing data electronically

Unlike in past, where clinics sporadically attempted to collect outcome information on paper, today, all data is recorded electronically. In the Spine Center, every patient is handed an iPad when they check in for each visit and asked to complete the survey.

“An electronic system to collect patient-reported outcomes can reduce administrative burden, increase use of this valuable data, more easily display trends in data over time, and make reporting to external agencies simpler,” notes McGuire in a Spineline article.

A Clinical Information Systems Services team, headed by Lawrence Markson, MD, Vice President, Clinical IS, partnered with Orthopaedics to create this technology. “Although this work was with a specific clinic, it is designed to be generalizable, to expand in scale across the organization,” says Markson. “The survey data is linked to the patient’s online medical record. This enables physicians to see the score and trend for each patient. Standardized instruments allow scores to be compared to benchmarks and track success in orthopaedic care.”

Evaluating the results

Patient-reported outcomes surveys collect significant amounts of information. Studying scores prior to and after surgery can show if there was a benefit to the

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Setting Goals Early

Preadmission Testing (PAT) has expanded to help patients about to have a joint replacement or spine operation follow the Boy Scout motto “Be Prepared.” In addition to meeting with a nurse and anesthesiologist in PAT, patients now meet with a case manager and physical therapist. Before surgery even takes place, they begin to discuss postoperative care and rehabilitation.

Predicting outcomes

Patients typically meet with the case manager in PAT two to four weeks before their surgery. Conversations often include questions that patients may not have given much thought to, such as, “How will you get home after surgery?” “Do you have stairs in your home?” “Do you have someone who can assist you at home?”

“I meet with patients to get a sense of their current living situation and how well they’re managing at home overall,” says Caroline Kenney, RN, the PAT case manager since the program began in August 2015. “I identify what their limitations are socially, medically, and physically as well as those that are insurance related. I talk to them about how long they’ll likely be here in the hospital, depending on what type of surgery they’re having.”

Based on their medical records, Kenney assesses the clinical needs patients will have at the time of discharge and the services their insurance coverage will provide. She uses a risk assessment and prediction tool (RAPT) to weigh the chances of whether they will go home after surgery or to a post-acute care facility. This questionnaire focuses on factors, such as age, gender, ability to walk, and at-home caregivers. She also tries to ascertain how motivated and independent a person is.

“Many people come in expecting they’ll go to rehab because a family member or friend did,” says Kenney. “We explain that if after surgery, they are medically cleared for discharge to home and the physical therapist has cleared them from a functional status perspective, they will be discharged home with services. We certainly advocate for that as long as it’s a safe plan.

“Going home,” she explains, “decreases the risk of infection, and many patients do better mentally in their own environment. Also, when patients return home, they get back into their routine more quickly and become more self-reliant.”

She involves patients in decision-making about discharge options, such as:
- home with physical therapy provided through a home care agency or outpatient physical therapy services
- a skilled nursing facility
- an acute rehab hospital (an option for some spine patients or patients with bilateral joint replacements or a condition, such as Parkinson’s or multiple sclerosis, that will impact progress)

Kenney prepares an information packet for each patient with lists of their health plan’s preferred skilled nursing facilities as well as home-care agencies. She also includes the schedules for joint replacement and spine surgery preoperative education classes and links to online videos produced by BIDMC.

“Having information in advance and a plan in place decreases anxiety postoperatively for both patients and families,” Kenney says.

Physical readiness

“The patient is getting new joint, but he or she needs to do the work to have as successful an outcome as possible,” says Corinne Fairweather, PT. “That comes down to doing the strengthening exercises and walking, so that everything heals well, and the patient has good range of motion and a good recovery.”

In Preadmission Testing, Fairweather evaluates the strength and joint mobility of patients before surgery. She also looks at their walking capability. In addition, she instructs patients having hip and knee replacements on the exercises they’ll be expected to do as they recover.

Some patients elect to do “prehab” or prehabilitation exercises to build up their strength before surgery. Research shows patients who remain active as long as they can, up until the time of surgery, fare better than those who are sedentary.

The majority of patients are successfully discharged to home. “I let patients know that they might have physical therapy as early as the day of surgery,” says Fairweather. “We set the expectation of going home. We feel if they’re more prepared, that’s more likely to happen.”
Long periods of rest in bed were once thought to be key to recuperating after an operation. Now health-care providers know the opposite is true. Moving as soon as possible is especially important after joint replacement surgery. Early mobility leads to a speedier recovery and return to full functioning.

In 2015, physical therapists began a mobilizing effort—encouraging hip and knee replacement patients to take their first steps on Day 0, the day of surgery. Today, more than half of patients start walking on their new joints on the same day they receive them.

“Patients can walk as early as three hours after surgery,” says physical therapist Corinne Fairweather, PT. “Generally, people with hip replacements do better sooner than those with knee replacements who have had a femoral nerve block [a local anesthetic that numbs the leg]. But some knee replacement patients are able to walk right away as well.”

Day 0 PT is possible, in part, thanks to an increase in the number of physical therapists and the creation of an evening shift to accommodate patients who return from the recovery room late in the day.

Changes in pain relief
The adoption of spinal anesthetic as opposed to general anesthetic during joint replacement has been instrumental in enabling patients to walk soon after surgery. “Studies have shown that regional anesthesia improves recovery rate and pain postoperatively,” says Ayesha Abdeen, MD, joint replacement surgeon. “Both general and regional anesthetics are equally safe; however, general anesthesia can be associated with increased pulmonary and gastrointestinal side effects as well as increased sedation after surgery.”

The Orthopaedic team of joint surgeons worked with the Department of Anesthesia to develop new protocols for pain relief preoperatively, during surgery, and postoperatively. When patients come to the inpatient floor after surgery, they are now less groggy and more capable of moving.

“Patients are more alert,” says Abdeen. “They feel better and have less reliance on pain medication.”

Return to activity
While patients are in the hospital, they receive a daily dose of 30 to 45 minutes of physical therapy designed to improve muscle strength and joint flexibility. They are also encouraged to exercise on their own several times a day.

In addition, the physical therapists teach patients how to walk with a walker and crutches, plus how to position the new joint during daily activities and when sleeping.

“We want as much mobility as possible,” says Fairweather. “We recommend that patients walk with the nurses or aides, get out of bed and sit in the chair for all meals, and walk to the bathroom when they can.”

The use of continuous passive motion (CPM) machines for knee replacement patients has largely been discontinued in the past two years. Research, agreed orthopaedic surgeons and physical therapists, did not show a benefit for people who have had a total knee replacement without complications.

“What someone does actively is much more important than what a machine does passively,” explains Fairweather. “Where people are able to participate, we want them doing their exercises, so they have a good range of motion and a quicker recovery.”

Rehabilitation expectations, which are set during Preadmission Testing and reinforced during joint replacement patient education classes, prepare patients to walk on Day 0. Patients become motivated the more they move and realize they are on the road to recovery.
a number to preserve privacy. This allows family members to watch as the patient moves from pre-op to the OR to the PACU.

Other staff members and volunteers are also able to report on a patient’s status, but the RN Surgical Liaisons are uniquely qualified to convey medical information. “My background is as an OR nurse,” says Corcoran. “I’ve been here for 14 years and am familiar with all the surgeons. So I can go in the operating room to see how the surgery is going and relay information in layman’s terms back to the family.”

At other times, the nurse liaisons help by simply letting family members know when a good time is to leave to grab a bite to eat or pick up prescriptions that the patient will need after surgery. Or, they may offer a pillow and a blanket and suggest a quiet place to take a nap.

“We try to be amenable to every situation,” says Losi, whose background includes a wide variety of nursing experience at BIDMC. “We recognize that everyone is different—some people are better off out of the hospital than sitting here waiting. We give family members our cell phone numbers, so they can call us and ask how things are going. It gives them a little relief from their anxiety.”

The RN Surgical Liaisons sometimes care for parents of college-age students with sports or accident injuries. These parents, who may fly in from far away places like Japan or Germany, are happy to have someone to connect with throughout the experience. The nurse liaisons help the parents, while recognizing the need to serve the patient and respect their boundaries as well.

On the other end of the spectrum, the RN Surgical Liaisons assist family members with aged parents. Knowing that elderly patients may sometimes be confused when waking in a strange environment, nurse liaisons can arrange with PACU nurses to allow the family into the recovery room as soon as possible.

“Patients actually wake up from surgery very concerned about their family members,” says Gonchar. “When I visit the patient in the PACU, they’re saying things like ‘My husband is 79 and has diabetes. Did he eat anything?’ Patients and family members can be very anxious. Once I bring the family up to the patient’s room after the surgery, you can see them relax, a burden has been lifted.”

Part of the OR team

In only a matter of months, the RN Surgical Liaisons have become an integral part of the OR team. At times doctors will call in advance to alert them if a patient coming in for surgery will have a family member along who might require care for a medical problem of their own. Nurses in the pre-op area, OR, and PACU know to contact a RN Surgical Liaison when they need to communicate with family members. If a procedure is going to take longer than initially expected, surgeons may call the liaisons directly so that they can let the family know.

The nurse liaisons can make an educated guess about when a reasonable time is to communicate with the OR team, so as not to interrupt the procedure. They also have a good idea of the length of time a patient will be in the PACU.

“A lot of phone calls used to be directed to nurses in the PACU when they might be busy dealing with someone’s low blood pressure,” says Dorion. “Having clinically trained liaisons allows the PACU nurses to focus on the care of the patients.”

After the operation is completed, family members receive a call from the surgeon. If they have questions later, the nurse liaisons can sometimes fill in the gaps or ask the surgeon to contact the family again.

Whenever possible, the RN Surgical Liaisons visit patients in their hospital rooms the day after surgery. “I just pop in and say hello and ask how things are going,” says Corcoran. “Often a family member is there, who will always remember you. It’s nice; it shows we’re doing our job.”

Recently, says Gonchar, a family member asked her for a glass of water, then apologized saying, “Maybe I shouldn’t have asked you, but I think of you as my nurse.”

Lisa Corcoran, RN Surgical Liaison, (left) shares some medical information with a patient’s family member.

A Thank-You Note

My wife had extensive surgery by Dr. Paul Glazer at BIDMC. As a family member, I spent considerable hours for three days waiting in the Family Waiting Area. Your liaison staff was courteous, helpful and professional every step of the way.

I want to extend special thanks to liaison staff member Lisa Corcoran. On a daily basis she made me feel very comfortable with useful information and helped navigate me when I wasn’t sure where I was going. 5 stars out of 5 for Lisa! A large thank you to the surgical liaison staff.
Patients are now better prepared for joint replacement surgery thanks to an array of new and revised educational tools. In-person classes and online videos help prospective patients learn what to expect before, during, and after surgery. A comprehensive guidebook and a step-by-step checklist serve as handy written references. By learning all about the surgery, patients can become full partners in managing their care.

Patient education classes, which last about two hours, are updated with the latest medical care information. Classes include a question-and-answer session in which participants can ask general questions or raise concerns. A case manager discusses discharge planning, while a physical therapist reviews exercises for the hip and knee, and talks about physical therapy in the hospital. A staff nurse covers such topics as: what to bring to the hospital, dressings and drains, pain medications, fall precautions, deep breathing exercises, and blood clot prevention.

“We encourage all patients to come to class and bring along a family member or friend,” says Unit-Based Educator Caroline Torney, RN. “Classes are held in the solarium on Reisman 12, the floor where patients stay postoperatively. This is helpful for patients to get a sense of where they will be after their surgery, which is a big stress reliever.”

Classes are held four times a month on Monday and Wednesday from 11 to 1 and Tuesday and Thursday from 4:30 to 6:30. Patients can get a class schedule from their surgeon or at their preadmission appointment. Parking is available in the nearby Feldberg garage.

If patients are unable to attend classes due to work or distance from the hospital, they can watch BIDMC-produced online videos that explain joint replacement surgery in detail. (Go to http://www.bidmc.org/trjvideos.)

“Being able to get this education preoperatively in order to know what to prepare for postoperatively is hugely helpful,” says Torney. “More often than not, patients leave classes saying, ‘I feel so much better.’ It seems to ease a lot of anxiety for them.”

Step-by-step guides

When patients make the decision to have hip or knee joint replacement surgery, they receive a comprehensive guidebook from their orthopaedic surgeon. This 62-page binder is divided into sections with colorful tabs, making finding information easy. Lauri Askari, NP, recently updated the reference, working in collaboration with Douglas Ayres, MD, MBA; Ayesha Abdeen, MD; and Robert Davis, MD, of the Joint Service, and Deb Adduci, PT, Clinical Manager of Inpatient Physical Therapy/Occupational Therapy. Ayres created the original guidebook with the help of Jane Wandel, RN, in 2008.

The newest version reflects the current practices of the clinicians. For example, it tells patients to expect to be in the hospital for two days after surgery. It also covers changes in pain management.

“We are implementing a variety of modalities for pain control postoperatively,” says Askari. “We have discontinued the use of PCAs [patient controlled analgesia]. The pain management regimen now includes a combination of narcotic and non-narcotic medications.”

The guidebook helps patients understand joint replacement surgery and make sure it’s the right option for them. It covers the entire process, including the preadmission appointment, day of surgery, hospital stay, rehabilitation, and recovery at home. A section is devoted to physical therapy exercises and positioning following joint replacement. Another contains answers to frequently asked questions.

“After reading the guidebook, patients come in knowing more about surgery as well as recovery,” says Askari. “They are better prepared about the entire process and can advocate for themselves.”

Also available now is a step-by-step joint replacement checklist, developed at the urging of patients.

“Patients said, ‘I need to know at a glance what’s going to happen to me,’” says Wandel, Program Director of Patient and Staff Communications in Patient Care Services.

The four-page, easy-to-read checklist helps patients track their progress from the weeks leading up to surgery through discharge. In addition to steps to check off, the handout, designed by Kristina Cicelova of BIDMC Media Services, has “Good to Know” call-out boxes. These contain useful information about blood-thinning medications, Staph aureus testing, pain control, and more.

“The checklist gives patients a map, which helps them to navigate, to know what they need to do,” says Wandel. “This translates to a measure of comfort and control.”
Keeping Score

Measurement can be the first step leading to improvement. In 2013, BIDMC Orthopaedics created a quality scorecard that tracks clinical performance as well as efficiency in an effort to improve outcomes for patients undergoing joint surgery. (A similar scorecard was created for spine surgery.) The quality scorecard establishes targets for success, tracks progress quarterly, and highlights where change is needed.

“The scorecard was created to monitor our outcomes and be sure that we are providing the best care possible,” says Ayesha Abdeen, MD, Quality Assurance Director for Orthopaedics and Chief of the Division of Joint Replacement and Reconstruction. “If we fall short on any of the metrics, we need to implement change to improve outcomes.”

The quality scorecard identifies three important benchmarks: length of stay, discharge disposition (to a post-acute facility vs. home), and readmissions. Abdeen analyzes the data for joints to determine if changes in the care process need to be made to improve outcomes, increase patient satisfaction, and decrease costs.

Here is how the Joint Service measures up:

■ **Shortened length of stay**

“Historically, patients stayed in the hospital longer than one week following joint replacement surgery,” says Abdeen. “Currently, our patients are able to go home the second day after knee and hip replacement surgery.”

This shortened length of stay has been made possible by recent changes, including extensive preoperative screening to prevent complications, early patient mobilization after surgery, and greater use of spinal anesthesia and non-narcotic pain relief medications. These steps help to ensure patients are capable of returning home quickly.

■ **Increased discharge to home**

Currently, 60% of knee surgery patients and more than 70% of hip surgery patients go directly home, according to the quality scorecard. Discharge goals are based on the medical needs of patients and their living situations, but whenever safely possible, patients return to their own homes.

“When patients are discharged to home rather than a post-acute care facility,” explains Abdeen, “it improves outcomes in the sense that patients walk sooner, recover faster, and have less risk of infection.”

Moving sooner reduces the chance of complications, such as deep vein thrombosis, or blood clots, and pulmonary embolism, a potentially life-threatening condition in which a blood clot travels from the leg to a lung.

■ **Low readmission rate**

The scorecard shows unplanned hospital readmissions within 30 days, related to knee and hip surgery, have been consistently low, indicative of quality care. Assessing patients preoperatively and developing a plan to reduce risks have been key to decreasing the personal and economic costs of readmissions.

The use of regional anesthesia has also made a difference. “A greater focus on regional anesthesia has likely contributed to reduced readmissions for anesthetic-related complications, such as gastrointestinal problems and pneumonia,” says Abdeen.

“The scorecard makes us think about how to improve,” she concludes. “Since the scorecard started, we’ve initiated changes in preadmission testing as well as anesthesia pain protocols. We definitely have developed quality improvement measures as a result of keeping these metrics.”

Patient Reported Outcomes continued from page 3

Patient and if it was maintained. “We can compare people who did really well after surgery to those who didn’t do as well and decide what the difference is,” says McGuire. “Is there something we can change about what we’re doing or about what treatment options are we offering to patients in different situations?”

While initially developed for research purposes, patient-reported outcomes surveys can also be used for quality improvement and innovation. McGuire believes the survey data will prompt physicians to think more about the care process, learn from others, and innovate.

“The determinant of success,” he says, “is obtaining buy-in and designing a workflow in each clinic that minimizes the overall burden for the staff, does not rely on the physician for any key step, and integrates the process into the care of the patient.”