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R JOHN WRIGHT: Musculoskeletal disease is very important in terms of the national health care landscape, particularly the effects of osteoarthritis. For example, in the work I do, knee osteoarthritis, knee replacement, approximately 12% or one in eight of the population over the age of 60 has symptomatic knee osteoarthritis. Now, not all of those patients are going to need a knee replacement, but it does have an effect on their overall health. We have a long history of development in total joint replacement at the Brigham and Women's Hospital. It really stems from our history at the Robert Breck Brigham Hospital, one of the founding institutions for the Brigham. We took a look at our total joint patients, which is the largest procedure we perform at the Brigham and determined that we thought our patients could do better than they were. We thought their experience could be improved, and we're always looking for ways to improve their outcomes. So we got together a multi-disciplinary team. I worked very closely with our nursing supervisor and the head of our physical therapy, and we looked at how our patients were doing. And we looked at the literature and the data about best practices in total joint replacement. And we thought there were changes we could make to improve that outcome. At the core of all the work we do is the patient. How can we make things different for the patient? How can we reduce their pain? How can we decrease the amount of time they need to spend in hospital, away from their families, away from their work? How quickly can we get them back to their normal lives? The first thing and perhaps the most important thing for a patient having a total joint replacement is to take care of their pain around the time of surgery. It's very important because, clearly, we want to reduce the pain for its own sake. The less pain they have, the better they're going to do. But it's also very important that we control their pain so that they can get up and about and start moving as soon as possible. Getting up and moving quickly within a day of the surgery, the next day doing stairs, walking longer distances, reduces the amount of pain they have but also rapidly accelerates their overall recovery. If patients get up and are active right away after surgery, they shorten the overall recovery time. They increase the potential for increasing their range of motion, their walking ability, their ability to do stairs. So the first thing we wanted to address was what we could do about their pain, and we did that in a number of ways. They get a lot of medication before the surgery, what we call preemptive analgesia. So they get a mixture of medications-- narcotics, anti-inflammatories, that really are given perhaps an hour before surgery so that they have a cocktail of medication on board before the operation. We then changed the kind of anesthetic we were doing. We had been doing epidurals, but they tended to keep the patient in bed after the surgery. So we switched to some peripheral nerve blocks that, combined with the preemptive analgesia, gave them much better control of pain after the surgery. What that allowed us to do was get them up and about sooner. We also, as a result of reducing their pain, found that they were able to walk further so that, at time of discharge, they were more mobile. They would be independent. They didn't rely on walking aids like a walker or crutches for as long. The second thing we looked at was, how could we set their expectations? So we did this through making sure that the surgeons had, if you like, a script to work from so that they would make sure that, right when they first started talking to the patient about the need for joint replacement surgery, they would start to tell them what to expect, what the process would be. We then reinforced that with the total joint class. That's taught by our nurses and physical therapists. And family members and caregivers of the patient are welcome to attend that class. And by setting those expectations, we reduce their fears, and they come to the hospital much better prepared for the surgery. We then worked very hard to make sure that all the staff who interact with our patients-- the physical therapists, the care coordinators, the nursing staff, the patient care assistance-- all understood what the program was going to be. So that uniformity of experience of the patient on the floor and the uniformity of the care provided by the staff has been very important in this. Now, a lot of people will say, well, patients are all different. They have different needs. And that's very true, but, in fact, patients are more alike than they are different. One of the beauties of standardizing the care is 95% of the care happens automatically. You don't forget to do things because it's something you do every time. When you do it every time it becomes reliable, and you don't have to think about it. Because of that, you can really concentrate on what that patient needs individually. What are the things about this patient that are different? What is it we need to do to them that makes sure that they have the best possible outcome? So by standardizing 95% of the care, the 5% that's left is really customized care for that patient. That's how you personalize the care, not by concentrating on the entire cycle of care-- most of that should be taken care of-- but by concentrating really on the parts of the care that make a difference for an individual patient. I think that's how you give outstanding care. That's how you give personalized care to a patient. We want to make sure that our patients receive the best possible care in a timely fashion in a way that's efficient for them and their families so they have as few visits to the hospital as possible, they spend as little time here as possible. But at no point do we want to compromise their outcome to achieve that. For that reason, we have to be more creative in the way we deliver the care. And we have to make sure, at each step, that what we're doing actually adds value to them, that the therapies that we're employing are things that actually make a difference for them and aren't things that-- for example, we had a machine called a CPM machine, a Continuous Passive Motion machine. And all our knee patients were put into that after their surgery. And it moved the knee for them while they were recovering. Well, it's expensive to do. It's inconvenient. The nurses have to put it on and off. And it keeps the patient in bed because they're kind of tied into the machine moving. So we looked at whether that was beneficial or not. So we tried a series of patients with the machine and a series of patients without the machine. And what we found was that the patients who weren't using the continuous passive motion machine had less pain, got up and about and moved around more quickly, and actually had a better range of motion when they were discharged from the hospital than those who were in the machine. So we stopped using the machine. We had a better outcome, and we were able to use the resources that had gone into the continuous passive motion machine to give all the patients more physical therapy. One of the real pleasures of doing this work is to understand that we're not just affecting the care of the patients at the Brigham and Women's, we're affecting the care of patients throughout the country through our education and our scientific publications.