The JointVentures Program: Improving Outcomes and Satisfaction in Joint Surgery Patients

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Approximately 450,000 total joint arthroplasties are performed in the United States each year [1]. This number is expected to increase due to a growing elderly population and a higher life expectancy. Total joint procedures have a substantial impact on health care costs, accounting for more than 2 million bed days per year. With an average cost of just over $10,000 for each inpatient stay, the estimated annual cost of total joint procedures is $4 billion. When physician fees and the costs of extended rehabilitative care are taken into account, this amount almost doubles.

We sought to deliver quality care to patients requiring hip or knee replacement while reducing the costs of these procedures. This report describes a community hospital’s efforts to standardize joint replacement practices and improve patient satisfaction through the development of a joint replacement center.

Initial Efforts

Anne Arundel Medical Center (AAMC) is a 200-bed community hospital located in Annapolis, Maryland. Between 1991 and 1995, AAMC launched a program to improve the delivery of joint care to patients in need of hip or knee replacement. As part of this program, AAMC implemented a clinical pathway that established standardized preoperative and postoperative orders and created a dedicated joint replacement team, including an operating room nursing team who became experts at joint surgery. A joint care coordinator was appointed to better organize patient education and discharge planning. During this time, patients’ length of stay decreased from 11 days to 5 days. In addition, surgical time, which had varied from 2.5 to 4 hours, decreased and became more consistent, while the number of joint replacements performed each year increased from 75 to 200. These changes indicate some success, yet overall care remained inconsistent according to anecdotal reports from patients and physicians. Two causes of inconsistent care emerged: joint replacement patients were placed on the orthopedic floor with other patients who often were more severely ill and required more attention from nurses and staff, and staff were often uncomfortable caring for joint replacement patients.

The “Joint Camp” Initiative

In 1996, AAMC opened the Center for Joint Replacement using an approach to total joint care based on the JointVentures program developed by Dr. John P. Barrett Jr. The resulting system of patient care has a dedicated unit for joint replacement patients, a separate nursing staff expert in replacement procedures and care, and group therapy and activities. This program became known as “Joint Camp” among the patients. The goals of the program were as follows:

- To identify and eliminate the variables in the continuum of care
- To systematize the patient care process
- To standardize and simplify the clinical process
- To make the patient experience as enjoyable and satisfying as possible

Standardized Patient Care Plan

The orthopedic surgeons and anesthesiologists agreed to perform all total hip or knee replacement surgeries on Monday or Tuesday. The operating room schedule was also reorganized, in collaboration with the operating room executive committee, so that 2 or 3 surgeries would be done simultaneously. These patients could then go into group therapy together and be discharged together. Typically, all patients are discharged by Friday at noon and the unit is closed.

A wing of the hospital that had recently been vacated was designated as the postoperation unit; it can accommodate up to 16 patients per week in private rooms. Postoperation care was provided by a dedicated team consisting of nursing staff, a therapist, and aides. The team members cross-train each other to enhance their ability to provide assistance beyond...
performing their primary responsibilities. For example, the therapist changes dressings when needed, and the nurses and aides assist with walking patients and answering questions about therapy. Finally, arrangements were made to purchase approximately 85% of all prostheses from one vendor.

Patient Education
The goal of the education program is to ensure that patients’ questions are answered correctly and consistently. Educational videotapes, brochures, and displays are used to achieve this goal. Educational videotapes have proven value for total joint patients [2] and comprise a significant portion of the education process. In the physicians’ offices, patients receive instruction on osteoarthritis, including videos on joint surgery and other treatments. On admission to the joint center, patients and their families view a video detailing what they will experience over the ensuing 24 to 48 hours. Prior to discharge, patients view another video that helps to prepare them for going home by reviewing wound care, discharge medications, and signs and symptoms of infection and deep vein thrombosis. The video also offers tips on home safety, bathing, and guidelines for return to various activities.

Patients are taught the basics of joint anatomy, the signs and symptoms of arthritis and related conditions, and treatment options such as diet, exercise, medications, and surgery. Patients receive a comprehensive patient manual that provides information and guidance about each phase of their treatment and recovery covering the period from 6 weeks prior to surgery to 2 years after surgery. Patients at the center also receive a daily newsletter that lists the day’s activities and offers suggestions for a speedy recovery. In the postoperation unit, a large color wall display lists the 10 Most Frequently Asked Questions and the 10 Steps to Recovery for total joint surgery.

Group Dynamic
Group activities rather than individual care are emphasized throughout the patients’ stay at the Joint Center. Grouping patients together during therapy and other activities tends to reduce the anxieties and concerns of individual patients and can have a significant impact on the rehabilitation process. One study [3] showed that organized group training can be easily used in elderly patients and leads to improved exercise tolerance and well-being. Patients at the Joint Center participate in therapy, exercise, and other activities as a group. During exercise sessions, patients encourage each other and even compete to achieve the best range of motion. A friend or family member of the patient is educated as a “coach” and allowed to assist the patient during exercise and therapy. The Joint Center provides a checklist that is signed by the patient’s coach to indicate that he or she understands what has been covered during the exercise and educational sessions.

“Personal Touches”
Making the patient’s experience as enjoyable as possible is an intrinsic part of the program. Starting with the first community seminar or office visit, patients are told that they are not sick, they only have bad joints. The educational media and materials emphasize the goal of returning to a healthy lifestyle and enjoying favorite activities while being free from pain. In the postoperation unit, patients are encouraged to wear everyday clothing rather than hospital gowns and to join group lunches. Ambulation therapy has been turned into a fun event. Wall displays in the postoperation unit map out a walk around the United States, with different cities representing milestones in the recovery process. On the day before discharge, a hair stylist visits patients to wash and style their hair. A “main event” such as a movie, bingo, or a putting contest is scheduled for the evening before discharge. Following discharge, contact is kept with patients through quarterly lunches, newsletters, and an annual reunion.

Program Results
The joint care team routinely measures functional outcomes, patient satisfaction, and economic performance with regard to hip and knee replacement procedures. The functional level of patients receiving hip and knee replacement is measured using the Harris Hip Score and the Knee Society Score, respectively. Data compiled from the Harris Hip and Knee Society scores showed that in 1999, 98% of patients rated their functional outcome as excellent or very good and 99% reported a significant improvement in their level of pain 1 year after surgery.

Patient satisfaction is measured in several ways. The Jackson survey is a standardized questionnaire administered quarterly by an outside company to randomly selected patients after discharge. In 1999, the patient satisfaction rating for the Joint Center ranged from 4.28 to 4.74 on a 5-point scale (5-excellent, 4-very good, 3-good, 2-poor, 1-very poor). The nursing staff was rated at 4.8, compared with a hospital average of 4.32 for nurses. In addition, a member of the nursing staff at the Joint Center attempts to call each patient 3 weeks after surgery to ask a standardized list of questions regarding the care and service they received while at the Joint Center (possible responses are excellent, good, fair, or poor). During the first quarter of 2000, 82% of 44 patients contacted rated nursing care as “excellent” and the remainder rated it “good.” If a patient’s response to any question is “fair” or “poor,” the nurse manager places a follow-up call to the patient to investigate the reasons for the rating. Corrective actions are then implemented based on the information the patient gives. Finally, patients are invited to one of 6 lunches that the Center hosts during the year. The goal of the lunches is to get feedback on the program by asking patients specific questions about their experience. Patients
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receive an invitation to the next scheduled lunch as soon as their postsurgical recovery phase is complete.

Between 1994 and 1998, the number of joint replacements done at the Joint Center increased from nearly 200 to 500, as mentioned. During this time, the average length of stay decreased from 5.2 to 3.7 days and total case costs decreased from $9765 to $7860. In addition, the percentage of patients discharged to home increased from 57% to 89%. Using the Patient Care Analyst 2.0 program, AAMC compared its performance with that of 47 other hospitals in Maryland on a quarterly basis. This analysis revealed that AAMC’s charges for hip and knee replacement were $12,438 and $10,280, well below the state average of $15,812 and $14,514.

Discussion

The JointVentures program has made a significant contribution to the success of the Joint Center at AAMC. The program has achieved better clinical outcomes and higher patient satisfaction while reducing length of stay and costs. AAMC hopes to continue streamlining the process of care in order to reduce average case cost further. An initiative currently underway seeks to determine whether blood donation prior to surgery is clinically beneficial for patients.

One of the unexpected results of the joint care program is that the Joint Center is now attracting patients from outside the immediate service area. This development has made patient follow-up after surgery more challenging in certain patients. We have responded by developing a patient “notebook” that explains the surgical process from preoperation to postdischarge and contains exercise information to support the rehabilitative phase. Patients are asked to read the notebook before admission. This innovation has allowed us to further standardize patient management.

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References


TVC, Inc., received the 1999 University of Pennsylvania Health Systems/Journal of Clinical Outcomes Management National Achievement Award in Health Disease Management for its JointVentures program. The award was established to honor health care organizations and providers that have demonstrated excellence in improving patient care through the implementation of health and disease management programs. Award recipients were invited to write an article describing their program.