CLINICAL EXPERIENCE OVERVIEW

Guide to Outpatient Total Joint Arthroplasty

Moby Parsons, MD

The Knee Hip and Shoulder Center, Portsmouth, NH

Note: The information contained in this Guide is intended to be general guidance based on the experiences of Dr. Parsons and does not supplant the independent medical judgment of a physician or other healthcare professional.

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Currently, the Centers for Medicare and Medicaid Services (CMS) has not cleared joint replacement to be done at an ambulatory surgery center (ASC). However, same-day surgery (SDS) is still possible by doing the case in the hospital setting and simply discharging the patient the same day they are admitted. Commercial insurance cases can be easily done at an ASC provided appropriate contracts have been negotiated and the center is capable of performing joint replacement cases.

BENEFITS

Home is a more familiar and comfortable environment and allows patients to manage their recovery in real time rather than at a fixed schedule according to the availability of ancillary services in a hospital setting. In our experience of more than 1,000 outpatient joint replacement cases in the past three years, with a comprehensive and customized multimodal pain control program, patients can do a very effective job managing pain at home.

Patients undergoing elective joint replacement are generally well or have stably managed medical problems that do not require a hospital setting postoperatively. Hospitals care for sick patients who may have chronic illness and harbor bacteria with greater virulence. Fomites such as clothing, stethoscopes, blood pressures cuffs, etc., can spread such bacteria between patients. Avoiding such exposure may be beneficial for patients undergoing implant surgery.

BACKGROUND

Historically, what has kept patients in the hospital is pain management as well as the perception that joint replacement cases are more complex. Cases like ACL reconstructions used to routinely be admitted to the hospital in the past until we realized this was not necessary. Now it is almost unheard of for an ACL reconstruction to stay overnight despite the fact that it is a painful operation that involves bone and soft tissue work. Our experience has supported the value of patient education and engagement in the preparation process. Coupled with modern pain management techniques, optimization and risk mitigation programs, and advanced surgical techniques, we have found that many patients now embrace the concept of outpatient joint replacement.

Because joint replacement patients used to spend 3-4 days in the hospital, the concept of same-day discharge seems like a large leap. This type of change from a routinely inpatient to an often outpatient setting is seen as "change," which can be difficult at an institutional level. Changing culture across an institution is often an uphill battle that is fraught with frustration and resistance. And yet, the tenets of a program that make SDS total joints successful are quite simple and easy to implement—and rarely involve significant change to pathways that most centers are already using as part of an "enhanced recovery" protocol.

HOW TO GET STARTED

The surgeon needs to take the lead in transitioning patients to same-day joint replacement as he or she best understands the process that defines the full episode of care and which steps in the process may require modification to permit same-day discharge. While it may be common practice to form a committee to address the transition to outpatient total joints, and while this can be a valuable method of aligning clinical stakeholders toward the formation of an integrated care pathway, one needs to be cognizant of the potential delays that such committees can cause due to scheduling difficulties. A surgeon-led effort can expedite stakeholder alignment through individual meetings with the various providers whose care is necessary for outpatient joint replacement.

The best place to start is by scheduling an educational meeting with the same-day surgery and post-anesthesia care unit nurses. They are the front line that will interface with the patient on admission the day of surgery. They are the ones who will deliver the perioperative care and transition the patient from recovery room to home. Thus, they need to have complete buy-in to the process so that they can deliver a consistent message to the patient that supports the intent to go home. If anyone in the care pathway raises surprise about the prospect of same-day discharge, patients may begin to question whether it is in their best interest, and this uncertainty can sometimes cause patients to change their mind despite meeting acceptable criteria for outpatient joint replacement.

The next place to start is with surgical scheduling. The critical concept in the scheduling process is that the discharge planning needs to take place prior to the operation and not after. Preparation for a smooth home transition needs to be arranged in advance and not at the last minute. The patient should not have to worry about anything on the day of surgery other than the operation, recovery and transition home. This will be explained in further detail below.

PATIENT SELECTION

Surprisingly, a majority of patients can go home after surgery, even those with some degree of medical complexity. Patients with medical problems are living independently prior to surgery and still can after surgery, usually with minimal change to their routine. Patients who are classified as American Society of Anesthesiology (ASA) Class 1 or 2 are generally good candidates for outpatient surgery based on their health status. ASA Class 3 patients need to be evaluated on a case-by-case basis in conjunction with your hospital's Department of Anesthesiology. We routinely will consult anesthesiology on patients preoperatively if there are concerns about medical problems that would benefit from observation overnight. Based on our experience, it is a good practice to start the transition to outpatient joint replacement with the healthiest patients until the program is well established, at which point the program can be extended to patients with stable, well-managed medical problems.

The one stipulation for same-day discharge is having someone at home to monitor the patient for at least 24 but preferably 48 hours. If patients live by themselves, they need to have family or a friend help with this. If such arrangements cannot be made, we will not send patients directly home. This is by far the most common reason patients stay in the hospital. Other reasons include having a spouse who is infirm or has cognitive issues, being slightly frail, and sometimes, just not being comfortable with the thought of going home. This last item can include both the patient and the caregiver. In such cases, we never force the issue.

PATIENT EDUCATION

More than anything else, patient education is the keystone that enables successful SDS. The first step in this process is an explanation to patients that it is no longer necessary for them to stay in the hospital after joint replacement. I believe phrasing it like this is psychologically different than telling them they can go home. Surprisingly, many patients—even older ones—are very happy to learn this, and it rarely takes any convincing apart from reassurance that modern pain management techniques make this entirely possible and quite successful.

We have handouts in our office with detailed information about our same-day total joint pathway. Patients are provided this at the time their surgery is booked so they have a reference in the weeks leading up to surgery with specific instructions and recommendations. This handout contains information about preparation for surgery, how the surgery is performed, wound care, home transition, home therapy and transition to outpatient therapy. We also have a series of short PowerPoint presentations that provide detailed information on the following topics: Optimization for Surgery, Infection Prevention, Pain Management, Home Preparation, and Final Preparation. Patients can access these on our website. We also have a presentation that educates the coach or caregiver about important aspects of that role.

PATIENT OPTIMIZATION

In our experience, getting patients involved in their own readiness for surgery creates a sense of buy-in to the process and motivates patients to "Own Your Outcome." I like to give patients the analogy that having surgery is like running a road race. You need to train your body to accomplish the task well. Joint replacement should be no different in the sense that it creates a surgical stress response. This stress response can be reduced through different methods and the body's ability to process the stress can be optimized through preparation. Following are the recommendations we give patients to prepare for surgery in the weeks preceding the operation:

Lifestyle modification: We try to encourage patients to reduce or cease alcohol consumption in the weeks or months prior to surgery. A healthy liver will better metabolize medications, and patients will require less pain medication to achieve the same effect. They will also require less anesthesia. Smoking cessation is also an obvious target. Smoking is known to impair wound healing and increase the risk of infection.

Nutritionally, we educate patients about improving their consumption of real foods and increasing their intake of food with protein and antioxidants. We tell patients to avoid processed foods and those with empty calories. I also recommend that patients start taking vitamins as soon as their surgery is scheduled.

SURGICAL SCHEDULING

The key to successful outpatient surgery is set everything up in advance. We have a checkbox on our scheduling form that alerts our scheduler when a patient plans for SDS. This triggers certain items. First, these cases should be scheduled earlier in the day so there is more time to work with toward same-day discharge. At the outset of transitioning to outpatient joint replacement, start with only one or two cases each surgical day so there is ample time and staff available to work with the patient toward going home. As programs gain experience and efficiency and as this experience ensures adequate staffing of support services, more cases can be added for intended same-day discharge.

Next, the scheduler gives patients a choice of which visiting nurse association (VNA) provider they wish to use depending on where they live. S/he then contacts this service and alerts them of the patient's scheduled surgery date and procedure so they know in advance to see the patient on postoperative day one. We tend to try to use very select VNA providers who know our protocols very well and know to contact our office if there are any concerns. If you have five local companies, I would recommend picking the three best ones and meeting with them to discuss the program and your expectations.

We also like patients to set up their outpatient therapy prior to surgery. Good therapists may book out a few weeks, and setting this up well in advance ensures that things do not fall through the cracks. As with VNA, I think it is best to identify a few select therapists in the area who are particularly knowledgeable about total shoulder and have an interest in it.

NAVIGATION

The steps leading up to joint replacement are often fragmented and complex. We have a nurse practitioner in our office who serves as a navigator, ensuring that patients get all of the proper testing accomplished prior to surgery. The role of the navigator is to make sure patients are succeeding and to head off problems before they escalate. This person serves as a contact point for VNA if there are concerns about the patient postoperatively. Because VNA is on the front lines of patient care after they leave the hospital, good communication between VNA and the office is essential to reduce emergency room visits and readmissions. The navigator can also be in touch with patients in the days after surgery to ensure everything is going smoothly with the recovery.

THE PRE-OP VISIT

This is valuable time to ensure that patients fully understand the process and to uncover any hidden issues that might jeopardize same-day discharge. When patients come in for their preoperative appointment (usually 7-10 days prior to surgery), my physician assistant spends at least 30 minutes and often longer going over details about our rapid recovery program. Careful review of current medications, any history of intolerance to medications and any prior problems with anesthesia is important so that adjustments to the standard plan can be made as needed. Having a multimodal pain schedule printed is very helpful as patients have a hard time remembering what to take when.

Critical things to do at this visit:

1. Give the patients all prescriptions they will need postoperatively so they can get their medications in advance
2. Provide them a written schedule of the pain management program
3. Review medications to take the morning of surgery
4. Review bathing instructions prior to surgery
5. Provide them a prescription for postoperative physical therapy and have them contact that office to arrange transition to outpatient PT 5-7 days after surgery

PREOPERATIVE INSTRUCTIONS

- We like patients to hydrate well starting 1-2 days prior to surgery with an electrolyte solution like Powerade Zero.
- We encourage patients to carboload the day before surgery with foods rich in complex carbohydrates and anti-oxidants. We recommend against high fat foods in the days prior to surgery.
- We recommend that patients start taking stool softeners prior to surgery to prevent constipation afterwards.

PAIN MANAGEMENT PROTOCOL

- Preoperative:
  - There is evidence that preemptive analgesia can reduce postoperative pain.
  - Most joint replacement programs now employ some preemptive regimen, and you should use your standard regimen, tailored to each patient, in terms of allergy, intolerance or any medical contraindications.
  - We avoid narcotic pain medications preoperatively to reduce the risk of nausea and vomiting. Most anesthesia departments now routinely prophylax against nausea and vomiting. This is also important and should be continued per their protocol.
  - The use of regional nerve blocks is quite helpful in reducing postoperative pain.
- Postoperative
  - A multimodal approach that uses a combination of synergistic medications has proven successful in our experience.
  - Maximizing use of non-narcotic medications, especially in the immediate postoperative setting can reduce sedation, nausea and vomiting—all of which can prevent same-day discharge.
  - Avoiding a large dose of narcotics when the patient emerges from anesthesia can also reduce sedation and other side effects.
- Home Management
  - Continuation of the multimodal program for the first few days has proven very successful in managing pain.
  - Ensuring that patients fully understand the schedule of medications to be taken is critical since the use of several medications with different dosing intervals can be confusing for patients. A written guideline for this given preoperatively has been helpful in our experience.
  - Patients should be educated about some possible rebound pain when the regional anesthetic wears off and the importance of staying on a schedule of oral medications to ease this transition.
  - We have also found it helpful to set expectations for patients to anticipate some degree of pain. The object is not to achieve a pain level of 0 but a level that is manageable.
  - We also educate patients about the risks of long-term opioid medication use and set the expectation in advance to use these only as needed and to wean their use first before stopping other non-narcotic medications in the multimodal program.

INTRAOPERATIVE LOCAL ANESTHETIC INJECTION

Even with a regional anesthetic, I use a periarticular local anesthetic injection. There are many different options for medications that can be added to formulate these injections and surgeons should use whichever regimen they have found successful. The preparation I have found successful is diluted with injectable saline for a total volume of 100 mL. I use a 20 mL syringe and a 20 gauge spinal needle.

For the shoulder, I will typically inject the posterior capsule and cuff area at the time of glenoid preparation. Upon conclusion of the case, I inject the pectoralis, deltoid, and skin. Finally, I inject around the coracoid base posterior to the clavicle.

INFECTION PREVENTION

This is a multimodal algorithm.

- Preoperative: Patients shower with Hibiclens starting three days preoperatively as well as the morning of the surgery.
- Intraoperative: I use a diluted Chlorhexidine irrigant generously during the case. This includes immediately following skin incision to sterilize any bacteria that may be dragged into the deeper tissues by the incision. The skin knife is discarded. At the termination of the case, I put 2 grams of Vancomycin powder in the wound prior to closure. My surgical team also operates in space suits.
- Postoperative: patients get 24 hours of routine prophylactic antibiotics.

BLOOD MANAGEMENT

Fortunately, transfusion rates for total joint arthroplasty are quite low given modern transfusion guidelines. I do use Tranexamic Acid (TXA) 1gm prior to incision and an additional gram at closure. Apart from that, blood management consists largely of bleeding control at the time of surgery.

OTHER POINTS RELATED TO SURGERY

- In our experience, wound closure with an absorbable suture is well tolerated and avoids the need to remove surgical staples.
- We use a waterproof dressing so that patients may shower early in the postoperative setting.

HOSPITAL COURSE AND DISCHARGE

We no longer admit patients to the floor prior to discharge home, although we used to do this. We now send them from PACU directly back to SDS where they can be cared for by the same nurse who saw them prior to surgery. This provides nice continuity.

Physical therapy and occupational therapy see the patient in SDS prior to discharge and review home exercises and ADL management. The nursing staff is trained to review the medication schedule for how patients continue their multimodal regimen and when to take the antibiotics. They are also trained to review expectations for an increase in pain when the block wears off and any signs or symptoms that warrant a call to the office.

Having written discharge instructions can be helpful, and most systems now allow these to be populated in the EMR so they can be printed with the patients other discharge materials.

Criteria for discharge include: 1) stable vital signs; 2) adequate pain control (usually not an issue with the blocks); 3) tolerating po intake; 4) voiding spontaneously; 5) understanding of the postoperative care plan.

POST DISCHARGE

All patients are called the next day by both our office and the SDS nurses to ensure a smooth transition home. We will often call patients a few times over the course of the first week and more often if there are any concerns. These calls are usually done by my PA or the nurse practitioner and make a huge difference in warding off problems, providing reassurance and demonstrating a higher level of care.

OBSERVATIONS

In our series of outpatient joint replacement, readmissions are very rare. ER visits for pain control are also very rare with the regimen outlined above. Most patients who go directly home are very satisfied with the process, provided smooth navigation. The critical concept here is that care of the patient does not end when the surgery is over and the bandage applied.

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