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ORIGINAL ARTICLE

Creation of a Novel Recuperative Pain Medicine Service to Optimize Postoperative Analgesia and Enhance Patient Satisfaction

Brian D. Philips, RN, NP · Spencer S. Liu, MD · Barbara Wukovits, RN · Friedrich Boettner, MD · Seth Waldman, MD · Gregory Liguori, MD · Stephanie Goldberg, CNO · Lisa Goldstein · Joanne Melia · Marion Hare · Laura Jasphey, LMSW · Sharyn Tondel, DNP

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Abstract Many patients have difficulty with pain control after transition from patient-controlled analgesia modalities to oral analgesics. The creation of a Recuperative Pain Medicine (RPM) service was intended to bridge this gap in pain management at the Hospital for Special Surgery. Specific goals were to improve patient and staff satisfaction with management of postoperative oral analgesics by improving clinical care, administrative policies, and patient and staff education. Primary outcome measures for improved satisfaction were Press Ganey surveys and staff surveys. From inception in Aug 2007 to Dec 2008, RPM has seen 6,305 patients for discharge planning and education and 997 patients for pain management consultation. Administrative and educational accomplishments have included creation of a patient "Helpline" for emergent phone questions regarding postdischarge home pain medications, a policy for prescribing pain medications for home discharge, patient education booklets, a pain management webpage on the Hospital for Special Surgery website, and direct education of staff. Press Ganey measurements of patient satisfaction increased from 87th percentile up to the 99th percentile among peer institutions since the implementation of RPM. Staff satisfaction was 92% positive regarding the RPM service's function and patient management. An RPM appears to be an effective means to optimize postoperative pain management after transition off patient-controlled analgesia devices. Further research is needed to ascertain the exact cost–benefit and potential impact on postoperative quality-of-life measurements.

Keywords orthopedic surgery · pain services · patient satisfaction · postoperative analgesia · postoperative outcomes

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Level of Evidence: Retrospective Study Level IV

B. D. Philips, RN, NP (✉) • S. S. Liu, MD • B. Wukovits, RN •
F. Boettner, MD • S. Waldman, MD • G. Liguori, MD •
S. Goldberg, CNO • L. Goldstein • J. Melia • M. Hare •
L. Jasphey, LMSW • S. Tondel, DNP
Hospital for Special Surgery,
535 East 70th Street,
New York, NY 10021, USA
e-mail: philipsb@hss.edu

Introduction

In March 2007, a number of negative patient letters/comments were received by our institution, including a negative editorial published in a prominent national newspaper.[1] A recurrent theme in the letters was that, following discontinuation of management by the acute pain service (APS) of patient-controlled analgesia (PCA) modalities, patients experienced inadequate pain management with oral analgesics and perceived that they were not being monitored by a pain management expert. A committee comprised of the surgeon-in-chief, the vice president of the hospital, the chief nursing officer, the director of risk management, and the chairman of the anesthesia department was formed to evaluate and formulate a plan of action to resolve these issues.

Based on the committee's discussion, the chairman of the anesthesia department drafted a "Comprehensive Pain Management Program." This document outlined the "phases" of pain management that a patient should transition through, from pain management prior to surgery,

[1] http://query.nytimes.com/gst/fullpage.html?res=9D02E5D9133AF93-BA35751C0A9639C8B63&scp=2&sq=By+Jane+E.+Brody&st=nyt. Last accessed March August 6, 2009

pain management throughout their hospitalization, and pain management following discharge from the hospital. The goal of the Comprehensive Pain Management program was to create a seamless transition between the phases during the patient's hospitalization and posthospitalization recovery. Already in place, the APS managed the presurgical and immediate postoperative analgesia, relying primarily on a PCA modality. It was, however, readily apparent that once the APS transitioned patients from PCA to oral analgesics that the supervision and success of pain management was sharply reduced. It was, therefore, decided to optimize patient care by creating a novel service at our institution, the Recuperative Pain Medicine (RPM) service, to fill this void. The RPM would consist of a multidisciplinary advisory committee, a medical director (director of APS), and an assistant director nurse practitioner (NP) who would implement the action plans for RPM.

The RPM aims and actions included: (1) improved clinical care through a dedicated nurse practitioner, (2) creation of specific administrative policies to improve the use of oral analgesics, and (3) creation of educational programs for patients and staff. The primary aim of this report is to document that the RPM was able to improve patient satisfaction with postoperative oral analgesia, as measured on the Press Ganey Survey and by a low volume of rescue calls being made to the "Pain Helpline." Additionally, this report aimed to document improved staff satisfaction with pain management of their patients as measured on a staff survey developed for this purpose.

Methods

In August 2007, the RPM service was designed and implemented by a multidisciplinary team consisting of the Director of the APS, Chairman of the Department of Anesthesia, Director of the Chronic Pain Service, Executive VP and COO, Chief Nursing Officer, Director of Pain Services, Assistant Director of the RPM Service, Orthopedic Surgery, Director of Risk Management, Vice President, and Patient Education. The RPM service was designed as part of a comprehensive approach to the pain management need of hospitalized patients and would cover the time period after the sign off of the APS due to discontinuation of PCA modality through hospital discharge.

The first task of the RPM service was to develop a practical plan on how to incorporate the service into the pain management continuum. A clear description of the RPM service's role and responsibilities was developed and distributed to hospital staff to ensure that the service was used for its intended purpose, to work with, but not infringe upon, the well-established acute and chronic pain services (Table 1).

Table 1 Basic guidelines to determine which pain management service to consult on inpatients with unrelieved pain

Chronic pain service is to be called for
Any patient with a current chronic pain consult
Any patient that has or is followed by a pain management MD in the chronic pain clinic here at HSS
Any patient that the surgical team feels will require complex pain management following discharge. These patients should be identified as early as possible during their hospital course. It is not acceptable to contact CPS for a patient on the day of discharge
Any chronic pain patient who is followed by a non-HSS pain management physician, who is currently taking long-acting pain medications (contins) or is taking methadone
APS is to be called for
Nonchronic pain patient (see above) with a PCA pump or within 8 h of having their PCA pump D/C'd
Recuperative pain service is to be called for
Any nonchronic pain patient that is on oral analgesics unless they were transitioned from PCA to oral analgesics in the last 8 h. These patients should be seen by APS

The RPM provided clinical, administrative, and educational services to optimize pain management for patients. Consults to the RPM service were initiated by the APS or by the surgical teams themselves. The RPM service then made any changes necessary to the pain medication regimen to optimize patient comfort. These patients were followed from the day of the initial consult until discharge, usually being seen twice during the day. Initiation of stronger opioid medications and adjuvant medications and the addition of long-acting opioids were typical actions taken. Also, initiation of alternative pain control methods was offered (i.e., guided imagery and Reiki). The RPM service might also initiate referrals/consults to other hospital services, such as chronic pain if the patient appeared to require long-term management, psychiatric consults for depression or substance abuse issues, and social work consults for home care needs and issues. If postoperative pain could not be controlled with multimodal oral analgesics, the RPM service would refer patients back to the APS for restarting of PCA therapy. In addition, the RPM service would attend daily all patients being discharged home to ensure that they received appropriate prescriptions and answers to any pain management questions. The RPM NP also attended morning nursing rounds on the patient floors. During nursing rounds, the NP worked directly with the registered nurses (RNs) making recommendation on patient care, along with identifying patients that may need further pain management.

The administrative role of the RPM service aims directed hospital and pain management policies and procedures to assist in optimizing pain management for patients. The RPM NP was active in many of the hospital policy-steering committees (Table 2).

Important accomplishments of the RPM from these committees included creation and distribution of patient education tools (see below), designing content for patient presurgical classes, and introduction of new analgesics into the hospital formulary. Another administrative duty of the RPM service was policy development and implementation. The first policy, which had been approved and implemented, was focused on standardizing the pain medication prescription for hospital discharge. This policy was developed to ensure that patients were discharged home with the pain medication that was currently working for them while in the hospital and to ensure that the patient was given an adequate supply of pills to provide analgesia until the patient's first follow-up visit.

Table 2 Role of the RPM service in hospital committees

Medication Management Steering Committee—a multidisciplinary committee comprised of members of the pharmacy, nursing, and pain services. The RPM service plays an active role in establishing and modifying pain medication protocols, identifying potential medication problems and developing solutions, and providing guidance in the implementation of new pain medications being initiated

Falls Team Committee—a multidisciplinary committee which reviews all patient falls. The RPM service plays an active role in reviewing patient falls and helps to determine the cause of the incident, especially if it was a direct result of pain medication side effects

Patient Education Counsel—a multidisciplinary committee that reviews and initiates hospital-wide patient education material and classes. The RPM service provides pain management information and ensures that pain management education material is up to date and accurate with current standards

Clinical Pathways Committee—a hospital-wide multidisciplinary committee that develops standard pathways for patient progression following a specific surgical intervention. The RPM service provides insight and advice to the committee regarding postoperative pain management in order to ensure a smooth transition from PCA to oral analgesia

Quality and Education Committee—a multidisciplinary committee that reviews all (QI) quality improvement issues within the hospital. The RPM service provides insight and guidance with regards to QI issues related to pain management

The educational role of the RPM service was comprised of two areas: patient education and medical staff education. One of the first major projects was to design and implement a patient discharge education booklet. The purpose of this booklet was to give all patients an additional written resource that they could refer to for basic pain management information. Information on expectations for pain control, common pain medications, and common expected side effects was printed in booklet form, which all patients received at discharge. During the development of the booklet, many patients began to express a need for instruction on how to deal with opioid-induced constipation. A collaborative effort between RPM and the chronic pain service was initiated, and a bowel regimen was developed. This is now also included in the discharge booklet for patients.

Another focus on patient pain management education was to educate our patients prior to surgery. Through preoperative patient's education class observation and patient interviews, a list of eight commonly asked pain management questions was compiled. These eight questions and answers were then put in a booklet format and distributed to all areas of the hospital, including both the inpatient and outpatient areas.

After successfully addressing the patient's educational needs, both prior to and during their stay, a focus on how to help our patients should they require pain management information or help following discharge was addressed. In the theme of providing our patients a "safety net" after discharge, we developed a pain telephone hotline that would be available to patients should they not be able to reach their surgeon or medical doctor regarding pain issues. A toll-free number was obtained, and a set of specific directions for its use was drafted. The set of directions was then added to the discharge booklet, ensuring that all patients leaving the hospital would be aware of the hotline. This hotline has proved very valuable in helping some patients who may have otherwise "fallen through the cracks." When a call is received, both the patient's surgeon and the internist are notified via email and a phone call to their offices. If any interventions, such as a phoned-in prescription for a stronger narcotic medication, are performed, a progress note is generated and faxed to the respective doctor's offices.

The other area of education that the RPM service impacts was education of the hospital staff to optimize postoperative analgesia. The RPM service provided many in-services in conjunction with the APS to educate the doctors, physician assistants, and the staff RNs on current pain management treatments. The RPM service also contributed to the quarterly Hospital for Special Surgery Pain Management newsletter. A "clinical corner" article was submitted to the newsletter, highlighting a specific pain medication and reviewing its uses and pharmacodynamics. The RPM NP also taught an orientation class on a monthly basis to provide our new employees an overview of pain management at the hospital.

Three outcome measures were selected for initial assessment. Our primary outcome measure was the Press Ganey satisfaction survey (Press Ganey Associates, South Bend, Indiana) all patients receive following discharge. The survey is used by multiple hospitals across the USA, is administered to all patients, and contains specific pain management satisfaction questions. The Press Ganey questions measure patients' perception of how well aspects of their experience were handled, using a rating scale of very good, good, fair, poor, and very poor. Results of the pain control section of the Press Ganey survey were used to monitor overall pain management performance. A secondary measure of patient satisfaction was the volume of calls to our postdischarge Pain Helpline. If the RPM improved

Table 3 Volume of patient visits and consults

Month	RPM consults	Discharge patients seen
2007 patient volume		
Sept 2007	16	168
Oct 2007	56	405
Nov 2007	56	381
Dec 2007	24	188
Total	152	1,142
2008 patient volume		
Dec 2007	24	188
Jan 2008	74	376
Feb 2008	60	418
Mar 2008	48	393
Apr 2008	76	527
May 2008	49	391
Jun 2008	68	435
Jul 2008	53	379
Aug 2008	86	328
Sep 2008	142	265
Oct 2008	62	236
Nov 2008	103	227
Total	845	4,163

care and education prior to hospital discharge, then we expected a low volume of phone calls from patients requesting additional information or care. Thus, we monitored all calls to the Pain Helpline.

In order to assess staff satisfaction with pain management following initiation of the RPM, we created a survey for our nurses and physician assistant staff regarding patient care and included specific pain management questions in the survey.

Results

The RPM was implemented in August of 2007. Table 3 displays the volume of patient visits and consults since the implementation.

Since the implementation of the RPM service, patient satisfaction with pain management on the Press Ganey survey has increased from the 87th percentile up to the 99th percentile based on a national comparison to our hospital's peer groups.

Press Ganey percentile ranking regarding patient pain control

2007 fourth quarter	2008 first quarter	2008 second quarter	2008 third quarter	2008 fourth quarter
87%	91%	97%	99%	97%

Since the establishment of the Pain Helpline in January 2008, the number of rescue phone calls has been small when compared to the large volume of surgical procedures done daily.

Pain Hotline Phone Calls

2008 first quarter	2008 second quarter	2008 third quarter	2008 fourth quarter
4	4	8	6

The staff satisfaction survey administered after initiation of RPM was returned by 81 floor nurses and seven physician assistants. Ninety-two percent responded that the RPM was helpful for them.

Discussion

The aim of the RPM was to improve patient and staff satisfaction through improving clinical care, administrative policies, and patient and staff education. These aims were assessed by the Press Ganey satisfaction survey, by the number of calls to the postdischarge Pain Helpline, and by a staff satisfaction survey.

Study limitations include the descriptive nature of the study design and the lack of standardized tools to measure patient satisfaction with pain management [1]. The favorable increase in patient satisfaction with pain management on the Press Ganey survey, staff satisfaction with RPM, and low volume of Pain Hotline post-hospital-discharge phone calls suggest a highly favorable impact from the RPM but may also be due to multiple other factors that improved during the same time period. Evaluating patient-reported outcomes, such as satisfaction, may seem intuitively simple; however, the proper psychometric development of a validated instrument with appropriate responsiveness for the intended setting is not an easy task. As noted in a recent review [2], the development of such an instrument/survey after surgery requires "a rigorous process from the item generation process to the assessment of reliability, validity, and responsiveness in the intended patient population and clinical setting." In order to obtain a reasonable patient response rate, these surveys must not be burdensome for the patient to complete, particularly as the patients may not be feeling their best in the immediate postoperative period. As there are no accepted measurement tools to assess patient-oriented outcomes with postoperative analgesia, we elected to arbitrarily measure our three indirect outcome measures of Press Ganey survey, volume of Pain Helpline calls, and staff satisfaction survey.

Postoperative pain is a key concern of surgical patients. Indeed, large surveys indicate that patients are more concerned about pain (59% reported this concern) than surgical outcome (51%) [3]. Unfortunately, this concern remains well justified. Multiple recent surveys consistently indicate that pain is inadequately treated after surgery. The most recent large-scale survey in 2003 interviewed 250 adults, and 75% of patients reported experiencing pain during and after hospital discharge with 73% reporting moderate to severe pain [3]. In addition to humanitarian concerns, severe postoperative pain has also been demonstrated to impair health-related quality of life in the postoperative period [4] and may contribute to postoperative morbidity [5]. Concerns over consistent reports of poorly controlled postoperative pain have led to the Joint Commission on the Accreditation of Health Care Organization requirements to have a comprehensive pain management program and to monitor pain (www.jointcommission.org), but it remains unclear what would constitute a superior model to implement pain control. Multiple institutions have implemented an APS. These services are effective and may improve patient outcome [6] but are also typically costly and are thus typically limited to the high-acuity phase when patients require PCA modalities. There are multiple models for less-intensive pain management after the immediate acuity of the APS is no longer needed. Previous surveys indicated that nursing-centered pain management models could be cost effective in such a situation [7]; thus, the RPM was designed to be implemented by an NP.

In conclusion, implementation of a novel RPM service was associated with improved patient and staff satisfaction with postoperative pain control. This may represent a model to be considered for similar adoption in other institutions. Further studies are needed to more directly assess the impact and role of the RPM and to determine a more formal cost effect analysis.

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