



Factors Determining Discharge Destination for Patients Undergoing Total Joint Arthroplasty



Behnam Sharareh, BSc, Natasha B. Le, BA, Melinda T. Hoang, BSc, Ran Schwarzkopf, MD MSc

Department of Orthopaedic Surgery, Joint Replacement Service, University of California, Irvine, School of Medicine, Orange, California

ARTICLE INFO

Article history:

Received 2 December 2013

Accepted 1 February 2014

Keywords:

skilled nursing facilities
post-operative care
discharge destination
length of stay
physical therapy

ABSTRACT

Discharge destination to skilled nursing facilities (SNF) following total joint arthroplasty (TJA) plays an important role in healthcare costs. The pre-operative, intra-operative, and post-operative factors of 50 consecutive patients discharged to an SNF following TJA were compared to that of 50 consecutive patients discharged to home. Patients discharged to SNFs had slower pre-operative Get Up and Go scores (TGUG), lower pre-operative EQ-5D scores, higher ASA scores, increased hospital length of stay, increased self-reported post-operative pain, and decreased physical therapy achievements. We believe that the results of this study indicate that patients who get discharged to SNFs fit a certain criteria and this may be used to guide post-operative discharge destination during pre-operative planning, which can help lower costs while helping decrease the length of inpatient stay.

© 2014 Elsevier Inc. All rights reserved.

With the aging population, increasing rates of obesity, and increasing prevalence of osteoarthritis, there is a growing demand for lower-limb joint arthroplasty [1]. Total knee (TKA) and total hip (THA) arthroplasty have shown to be effective in alleviating lower-extremity pain and restoring joint function in those who elect to undergo the procedure. While systemic disease, obesity rates and age, play roles in determining long-term outcomes, proper post-operative care and physical therapy following surgery is instrumental in allowing a patient to return to his daily activities and active lifestyle [2,3]. Following total joint arthroplasty (TJA), patients are generally admitted to the hospital until they have systemic stability and have achieved certain physical therapy milestones. Upon discharge, patients are either sent to their respective homes or to an extended care facility such as a skilled nursing facility (SNF). While such facilities have the benefits of direct patient care and sustained physical therapy, it is estimated that \$1.82 billion is spent annually on rehabilitation at such facilities after lower-extremity arthroplasty [4–6]. The average Medicare reimbursement in Southern California for SNF therapy is \$500 per day on weekdays and \$300 per day on weekends (since physical therapy is not performed on weekends). Thus a 1-week stay at an SNF will cost \$3100. On the contrary, the average Medicare reimbursement for home-health physical therapy and outpatient physical therapy is \$158 per day and \$210 per day, respectively, which sums to \$474 and \$610,

respectively per week (total joint protocol requires 3 days of PT per week). Furthermore, inpatient hospital stay following surgery can vary in length depending on patient progress prior to discharge and this further places a burden on the cost of post-operative care. It is thus important to determine which factors influence discharge to SNFs and if such factors can be used to minimize unnecessary long-term post-operative hospital stay or SNF discharge as well as assist in pre-operative planning.

In this study, a cross-sectional analysis of pre-operative, intra-operative and post-operative factors of a consecutive patient cohort who have undergone total knee and hip arthroplasty was performed to determine which, if any, of these factors play a crucial role in determining discharge destination.

Methods

After approval by our institutional review board (IRB) was obtained, a retrospective review of the medical files of patients who underwent total hip and total knee arthroplasty from October 2012 through June 2013 was performed. Patients were broken down into two groups based on discharge destination following total joint arthroplasty. The first 50 consecutive patients who were discharged to a skilled nursing facility (SNF) were deemed the SNF-group. The first 50 consecutive patients who were discharged to home were deemed the home-group. As per our protocol, patients who were discharged home had home-health physical therapy arranged for them unless they did not receive approval for such from their insurance (2 of the 50 patients were denied home-health PT and underwent outpatient PT). Discharge instructions and physical therapy goals are discussed with patients during a mandatory pre-operative total joint arthroplasty class that is offered at our institution.

Supplementary material available at www.arthroplastyjournal.org.

The Conflict of Interest statement associated with this article can be found at <http://dx.doi.org/10.1016/j.arth.2014.02.001>.

Reprint request. Ran Schwarzkopf, MD MSc, Department of Orthopaedic Surgery, University of California, Irvine, 101 The City Drive South, Pavilion III, Building 29A, Orange, CA 92868.

<http://dx.doi.org/10.1016/j.arth.2014.02.001>

0883-5403/© 2014 Elsevier Inc. All rights reserved.

Table 1
Pre-operative Factors for Patients Discharged to Home or Skilled Nursing Facility Following Total Joint Arthroplasty.

	SNF-Group (n = 50)	Home-Group (n = 50)	P-value
Age (±SD, range)	67.10 (±9.52, 27–86)	63.14 (±14.92, 48–88)	P = .12
Gender	M: 14; F: 36	M: 21; F: 29	P = .20
BMI (±SD, range)	30.36 (±6.27, 23.59–43.51)	29.33 (±7.78, 18.65–44.34)	P = .47
Living status (patient lives alone?)	Y: 14; N: 36	Y: 5; N: 45	P = .04
Use of prior Alternate therapy*	Y: 28; N: 22	Y: 23; N: 27	P = .42
Exercise/Active	Y: 14; N: 36	Y: 14; N: 36	P = 1
Currently smoking	Y: 8; N: 42	Y: 8; N: 42	P = 1
Depression	Y: 12; N: 38	Y: 19; N: 31	P = .19
Previous surgery	Y: 23; N: 27	Y: 25; N: 25	P = .84
Employed	Y: 6; N: 44	Y: 11; N: 39	P = .29
Visual Analog Scale for pain (VAS, 1–10) (±SD)	6.48 (±2.23)	6.52 (±2.23)	P = .93
UCLA activity score (1–10) (±SD)	3.20 (±1.17)	3.03 (±1.37)	P = .51
Timed Get up and Go scores (TGUG) (seconds) (±SD)	21.12 (±10.23)	15.75 (±6.76)	P < .01
EQ-5D (0–100) (±SD)	55.82 (±22.19)	68.35 (±18.02)	P < .01
SF-12 physical component score (0–100) (±SD)	27.04 (±6.13)	28.22 (±8.11)	P = .42
SF-12 mental component score (0–100) (±SD)	43.21 (±11.83)	43.86 (±11.82)	P = .78

Bold indicates P-values that are of statistical significance ($P < 0.05$).

SD = standard deviation.

* Consisting of physical therapy, massage or steroid injections.

The patient demographics and pre-operative factors that were recorded for each patient included: gender, age, weight, living status, employment status, diet, pre-operative exercise, use of alternative medicine prior to surgery, smoking history, depression, daily visual analog scale (VAS) pain score, UCLA activity score [7], SF-12 physical (PCS) and mental (MCS) component scores [8], Timed Get Up and Go score (TGUG) [9], and EuroQol-5 dimension (EQ-5D) score [10]. The intra-operative factors that were recorded for each patient included the following: type of procedure, method of anesthesia administration (spinal vs. general), ASA physical classification score, estimated blood loss (EBL), and tourniquet time for patients who underwent TKA. The post-operative factors that were recorded for each patient were as follows: length of hospital stay, VAS pain post-op day 1, VAS pain post-op day 2, distance walked post-op day 1, distance walked post-op day 2 and weight-bearing status at discharge.

The ASA score ranges from 1 to 6 and classifies the overall pre-operative systemic health of the patient with 1 being a healthy patient and 6 being a patient classified as brain-dead [11]. The UCLA activity assesses activity levels of patients and is considered to be the only scale that discriminates between insufficiently and sufficiently active patients undergoing THA and TKA [12]. The TGUG assesses the time that a person takes to rise from a chair without using their hands, walk 3 meters, turn around, walk back to the chair, and sit down again [9].

Results

There was no statistically significant difference between patients discharged to an SNF and patients discharged to their home with respect to age, gender, weight, employment status, use of prior alternate therapy, prior surgical history, exercise level, diet, smoking, depression, pre-operative VAS pain, pre-operative UCLA activity score, or pre-operative SF-12 physical and mental component scores (Table 1). There was a statistically significant difference between living statuses of the two groups; of patients who were discharged to an SNF, 14 patients (28%) admitted to living alone compared to only 5

patients (10%) who were discharged to their home ($P = .04$). There was also a statistically significant difference between patients discharged to an SNF and patients discharged home with respect to EQ-5D scores (55.82 vs. 68.35, respectively, $P < .01$) and TGUG scores (21.12 vs. 15.75, respectively, $P < .01$). Regarding type of insurance, there was no statistically significant difference between patients in the two groups; in the SNF-based group, 40% had Medicare, 28% had PPO and 32% had Medicaid while in the home-based group, 34% had Medicare, 36% had a PPO and 30% had Medicaid as their primary insurance ($P = .53$).

There was no statistically significant difference between the SNF-group and the home-group with respect to method of anesthesia administration (66% spinal vs. 72% spinal, $P = .67$), type of surgery (58% TKA vs. 50% TKA, $P = .55$) or EBL (279.2 ml vs. 259.0 ml, $P = .70$) (Table 2). Regarding the ASA physical classification score, there was a statistically significant difference between the SNF-group and home-group (2.94 vs. 2.73, respectively, $P = .03$) (Table 2).

There was a statistically significant difference between the SNF-group and the home-group with respect to patient-reported VAS pain at 1 day post-op (5.71 vs. 4.48, respectively, $P = .02$) and at 2 days post-op (4.77 vs. 3.38, respectively, $P = .03$). There was no difference in weight-bearing status at discharge between the two groups (Table 3). There was a statistically significant difference between the SNF-group and the home-group with respect to length of hospital stay following surgery (2.68 days vs. 2.39 days, respectively, $P = .02$). Regarding the post-operative distance walked, there was a statistically significant difference between the SNF and home groups at 1 day post-op (68.95 ft vs. 151.36 ft, respectively, $P < .01$) but no difference at 2 days post-op (127.49 ft vs. 167.47 ft, respectively, $P = .09$).

Our study showed that patients who lived alone were more likely to be discharged to an SNF; 14 of the 19 who lived alone were discharged to an SNF. In order to determine if these 14 patients had any of the other statistically significant cofactors discussed above (TGUG, EQ-5D, ASA physical classification score, post-operative hospital stay duration, increased pain at PO day 1 and PO day 2, or

Table 2
Intra-operative Factors of Patients Discharged to Home vs. to a Skilled Nursing Facility.

	SNF-Group (n = 50)	Home-Group (n = 50)	P-value
Surgery type	TKA: 29; THA: 21	TKA: 25; THA: 25	P = .55
ASA physical classification system score (±SD, range)	2.94 (±0.48, 2–4)	2.73 (±0.49, 2–4)	P = .03
Method of anesthesia administration	Spinal: 33; general: 17	Spinal: 36; general: 14	P = .67
Estimated blood loss (ml) (±SD, range)	279.2 (±263.3, 50–1200)	259.0 (254.7, 50–1000)	P = .70

THA = total hip arthroplasty. TKA = total knee arthroplasty. SD = standard deviation.

Download English Version:

<https://daneshyari.com/en/article/4061225>

Download Persian Version:

<https://daneshyari.com/article/4061225>

[Daneshyari.com](https://daneshyari.com)