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When Patients Call Their Surgeon's Office: An Opportunity to Improve the Quality of Surgical Care and Prevent Readmissions

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Abstract

Background—Little is known about care coordination and communication with outpatient endocrine surgery patients. This study evaluated phone calls between office nurses and surgical patients to identify common issues addressed and their effect on patient care.

Methods—Qualitative analysis of pre- and postoperative phone conversations between office nurses and endocrine surgery patients.

Results—We identified 183 thyroidectomy patients with 38% contacting our office prior to surgery and 54% within 30 days after surgery. Common reasons for preoperative calls included questions about preoperative evaluation (21%), medications (18%) and insurance/work paperwork (12%). Postoperatively, common topics included medications (23%), laboratory results (23%), and concerns about wounds (12%). Nursing staff prevented unnecessary readmission in 7 patients (4%) while appropriately referring 16 (9%) for early evaluation.

Conclusion—Patients frequently contact their surgeons before and after endocrine surgery cases. Our findings suggest several areas for improving communication with patients.

Keywords

Endocrine surgery; Care coordination; Outcomes; Patient education

BACKGROUND

Poor communication with patients and failure to engage them with treatment plans leads to poor compliance, medical errors and increased healthcare costs.[1] For inpatient surgery, there are opportunities to engage and educate patients both prior to surgery and during their hospital stay. Outpatient surgery represents a different challenge since patients are only in the hospital for the actual surgery followed by a brief period of recovery for 23 hours or less. Patient education and preparation must then take place mostly in the clinic rather than the hospital ward.

Improving communication requires first identifying potential areas for improvement where existing efforts fail to fully meet patient needs. There are many ways to assess patient comprehension via surveys and qualitative techniques, but a more direct approach is to look closely at the phone calls between patients and their surgeon's office after the initial

consultation visit or after surgery. By evaluating the reasons that phone calls are made to and from the surgeon's office, we can obtain a practical measure of problems that occur during preparation for and recovery from surgery. At the same time, we can evaluate the response to patient concerns and assess their impact on care.

The current study focuses on patients undergoing total thyroidectomy at a high volume academic endocrine practice. We chose to focus on total thyroidectomy since this is a common endocrine procedure with more than 90,000 being performed in the United States each year.[2] We sought to determine the frequency and reasons for patient calls to and from the surgeon's office. We also wanted to assess how dedicated endocrine nursing staff addressed these phone calls and how they influenced patient care.

METHODS

Inclusion & Exclusion Criteria

All patients 18 years old who underwent total thyroidectomy from January 1 – December 31, 2013 at the University of Wisconsin were included in the retrospective phase of the study.

Data Collection

Patients that underwent total thyroidectomy during the 2013 calendar year were identified using a prospectively maintained endocrine surgery database. Charts were reviewed to determine if there was any documented pre- or postoperative phone contact between patients and the nurses in the endocrine surgery office or clinic. We categorized calls as initiated by the patient or initiated by the surgeon's office. A phone call was considered to come from the patient if the patient or family contacted our clinic or office requesting information. We also considered calls to come from the patient if their physicians placed a call on their behalf. Calls were classified as coming from our office if we contacted the patient without any prior prompting. To categorize reasons for phone calls, we met with our office nursing staff prior to data collection. We discussed potential reasons for calls and agreed on broad categories. We then used an iterative process during data collection. Categories were revised as more data was acquired until we reached thematic saturation and a final categorization scheme was devised. For each phone call, up to three categories could be assigned depending on the number of themes addressed in that call. The study was deemed exempt from IRB review since it was categorized as a quality improvement project.

Outcomes

The primary outcome of interest was the presence of a phone call to or from a patient having total thyroidectomy. Secondary outcomes included number of emergency room or hospital visits avoided and number of early clinic visits, emergency room evaluations or readmissions.

Prospective Data Collection

After completing the retrospective chart review, we prospectively evaluated a convenience sample of patient phone calls from 11/12/2014 to 3/12/2015. During this time, we recorded

the reason/category and duration for each call. If a single phone conversation addressed more than one topic, each topic of the conversation was timed separately and the resulting times were assigned to the corresponding categories on the collection form. The data collection forms were all reviewed by one of the authors (CJB) to determine accuracy and that the call was assigned to the proper category.

RESULTS

Patient Characteristics

We identified 183 patients having total thyroidectomy from January 1 to December 31, 2013 and 63% were admitted for observation while 37% went home the same day (Table 1). Several patients had additional procedures performed at the same time as their thyroid surgery (Table 1). Median age at the time of surgery was 47 (range 18–85) and 85% were women. Most patients had private insurance (81%) while 18% utilized Medicare or Medicaid. Indications for surgery are shown in Table 1 and include local symptoms (dysphagia, pain voice changes), cancer or concern for cancer, enlarging nodule(s) and Graves' or hyperthyroidism.

Pre- and Postoperative Phone Calls

During the time between their initial surgical consultation and the date of surgery, 46% of patients engaged in a phone conversation with our office nurses. This included calls from the patient to our office as well as calls from our office to the patient regarding issues, questions or concerns. Thirty-eight percent of patients initiated a phone call to our office to discuss the issues outlined in Table 2. The most common reasons for preoperative patient phone calls were questions about the preoperative workup including laboratory, radiologic and other tests needed prior to surgery. Additionally, 18% of phone calls dealt with questions about medications. These calls addressed which medications were to be held or initiated prior to surgery as well as potential side effects of medications. Another 12% of preoperative calls involved employment or insurance paperwork. Twelve patients (7%) called regarding symptoms that developed or worsened after the initial evaluation. Other reasons for preoperative calls are shown in Table 2.

Postoperatively, 54% of patients directly contacted our office with questions and an additional 9% were contacted by our office staff. Table 2 indicates the reasons for postoperative phone calls with the most common being symptoms after surgery. Concerns over the wound prompted phone calls for 12% of patients while pain and hypocalcemic symptoms led to 7% of patients contacting our office. These were managed according to established protocols.[3] Additionally, 23% of patients initiated or received a phone call to discuss results of laboratory tests or pathology while a similar number needed to discuss medications (changes in dosing, starting or stopping pills). Other reasons for postoperative calls are shown in Table 2.

Postoperative phone calls handled by our office nursing staff had significant implications for patient care. Seven patients (4%) contacted our office while in the process of going to the emergency room for potential readmission. In each of those cases, our office nursing staff

reassured the patients that their symptoms could be safely managed at home and avoided unnecessary readmissions or emergency room visits. Equally important, 16 patients (9%) contacted our office and relayed concerning symptoms or problems that required prompt evaluation. In each of those cases, nursing staff appropriately recommended that patients either come to the emergency room for evaluation or scheduled a clinic appointment within 24 hours for evaluation. These conversations involved patients who described symptoms consistent with wound infection or hematoma as well as refractory hypoparathyroidism that required more aggressive management.

To better characterize the amount of time that our nursing staff devoted to addressing pre- and postoperative patient concerns, we supplemented retrospective data collection with a prospective observation of patient phone calls. We were able to observe 64 patient phone calls and measure length of time associated with each call. Although not all categories measured in the retrospective portion of the study were observed during the prospective measurement, many categories were captured and conversation times recorded. Among preoperative phone calls, discussions of results ranged from 3 to 14 minutes in duration with median call length of 9 minutes. Conversations about medications ranged from 2–11 minutes with median length 3.5 minutes. The remaining phone calls discussing preoperative workup, logistics/preparation for surgery, and questions about the surgery ranged from 1 to 2 minutes in duration. Postoperative phone calls lasted from a median of 2 to 3 minutes and these included questions about results of labs/pathology, medications, treatment coordination, and discussion of symptoms.

DISCUSSION

The current study was designed to capture a realistic picture of issues that generate conversations between patients and the endocrine surgical team outside of the clinic visit and day of surgery. We found that pre- and postoperative phone calls involving patient care are the norm rather than the exception. Nearly half of patients were involved in at least one phone call prior to surgery and over 60% in the 30 days after surgery.

There are two important findings that are useful from a quality improvement standpoint. First, patient calls relating to complications or concerning symptoms provide an opportunity to enhance care by identifying and treating complications before they progress. In our study, 16 patients (9% of the total) had concerning symptoms ranging from tightness and swelling of the neck to refractory symptomatic hypoparathyroidism. In each of these cases, patients were appropriately brought in for evaluation and treatment in the early phase of progression. The prompt and necessary intervention by our nursing staff potentially saved costs that could result from delay in diagnosis or missed complications. At the same time, unnecessary readmission or emergency room visits were avoided in 7 patients because our nurses were able to calmly and thoroughly address their problems over the phone and provide the necessary reassurance for successful outpatient management.[4]

Second, we identified considerable room for improvement regarding patient education and preparation for surgery. Prior to surgery, there were many conversations involving medication changes and preoperative laboratory/imaging evaluations. These issues could be

addressed by better explaining our plan and providing appropriate written material outlining what to expect from surgery. Avoiding these calls would then free up time for our nurses to pursue other clinical activities to enhance patient care. Similarly, postoperative phone calls discussing laboratory or pathology results could be reduced by discussing the indications for tests and the expected time between the lab draw and the final result. Patients could also utilize electronic portals to view their health records.

Improving communication of treatment plans leads to greater patient engagement, resulting in fewer unplanned readmissions and emergency room visits after surgery.[5] Many studies have addressed issues related to improving patient engagement and comprehension of treatment plans for inpatient medical and surgical diagnoses. Coleman et al. and Naylor et al. demonstrated that home visits from trained nurses can reduce readmissions by improving care coordination and patient understanding of treatment plans. [5–7] Unfortunately, these programs are designed for complicated inpatients and considerably less attention has been devoted to improving outcomes for outpatient surgery. The current study addresses this knowledge deficit by focusing on issues that prompt additional effort via phone conversations before and after endocrine surgery. This provides a very practical guide to identifying areas for improvement in education and planning for surgery.

Although our study does raise several potential issues for future quality improvement efforts, there are several limitations. First, information on phone calls, readmissions and emergency visits was evaluated retrospectively. Events are generally more complex than indicated in the notes documenting conversations. We also do not have an accurate indication issues that were discussed during clinic visits. The lack of information on the original conversation makes it difficult to determine whether subsequent calls occur because an issue was not addressed at all or whether it was just poorly explained. However, we would argue that the simple fact that a call occurred is a reasonable argument for evaluating clinic interactions with patients to identify areas for improvement. The current study represents the first step in helping to improve communication and coordination of care for endocrine surgery patients. Future projects will delve further into the mechanism behind patient calls and identify additional areas for improvement.

References

1. Coleman EA. Lost in transition: challenges and opportunities for improving the quality of transitional care. *Ann Intern Med.* Oct 5; 2004 141(7):533–6. [PubMed: 15466770]
2. Sun GH, DeMonner S, Davis MM. Epidemiological and economic trends in inpatient and outpatient thyroidectomy in the United States, 1996–2006. *Thyroid.* Jun; 2013 23(6):727–33. [PubMed: 23173840]
3. Carter Y, Chen H, Sippel RS. An intact parathyroid hormone-based protocol for the prevention and treatment of symptomatic hypocalcemia after thyroidectomy. *J Surg Res.* Jan; 2014 186(1):23–8. [PubMed: 24144426]
4. Mazeh H, Khan Q, Schneider DF, Schaefer S, Sippel RS, Chen H. Same-day thyroidectomy program: eligibility and safety evaluation. *Surgery.* Dec; 2012 152(6):1133–41. [PubMed: 23158183]
5. Coleman EA, Parry C, Chalmers S, Min SJ. The care transitions intervention: results of a randomized controlled trial. *Arch Intern Med.* Sep 25; 2006 166(17):1822–8. [PubMed: 17000937]

6. Naylor MD, Brooten D, Campbell R, Jacobsen BS, Mezey MD, Pauly MV, Schwartz JS. Comprehensive discharge planning and home follow-up of hospitalized elders: a randomized clinical trial. *JAMA*. Feb 17; 1999 281(7):613–20. [PubMed: 10029122]
7. Naylor M, Brooten D, Jones R, Lavizzo-Mourey R, Mezey M, Pauly M. Comprehensive discharge planning for the hospitalized elderly. A randomized clinical trial. *Ann Intern Med*. Jun 15; 1994 120(12):999–1006. [PubMed: 8185149]

SUMMARY

This study found that the majority of patients having endocrine surgery will contact their surgeon's office with questions before or after surgery. We identified several potential areas for improvement in preoperative patient education. We also found that highly trained nursing staff can significantly improve outcomes when patients contact their surgeon's office.

Table I**Demographics & Indications for Surgery**

	N = 183
	N (%)
Age in years, median (range)	47 (18–85)
ASA 3	19 (10)
Female Gender	155 (85)
Number of Medications	
0	11 (6)
1–5	98 (54)
>5	74 (40)
Insurance	
Private	149 (81)
Medicare/Medicaid	34 (18)
Procedure Type	
Inpatient	115 (63)
Outpatient	68 (37)
Graves' Disease	52 (28)
Hashimoto's Thyroiditis	40 (22)
Additional Procedures	
Parathyroidectomy	12 (7)
Implantation of Parathyroid	29 (16)
Unilateral Central Neck Dissection	5 (3)
Bilateral Central Neck Dissection	4 (2)
Modified Radical Neck Dissection	6 (3)
Indication for Surgery	
Local Symptoms	46 (25)
Cancer/Concerning Nodule	79 (43)
Graves' or Hyperthyroid	56 (31)
Other	2 (1)
Prior Surgery	
Neck	6 (3)
Non-Neck	136 (74)

Values represent number of patients (N) and percentage (%)

Table II

Reasons for Preoperative Phone Calls

Reason for Phone Call	N (%)
Preoperative	
Preoperative Workup	39 (21)
Medications	33 (18)
Insurance/Work	22 (12)
Symptoms	12 (7)
Results	12 (7)
Logistics	7 (4)
Questions About Surgery	4 (2)
Other	7 (4)
Postoperative	
Symptoms	
Wound	22 (12)
Pain	13 (7)
Hypocalcemia	12 (7)
GI (nausea, vomiting, constipation, dysphagia)	7 (4)
Voice Changes	2 (1)
Shortness of Breath/Chest Pain	2 (1)
Other	15 (8)
Results	43 (23)
Medications	42 (23)
Insurance/Work	16 (9)
Treatment Coordination	10 (5)

Values represent number of patients (N) and percentage (%)