

Providing Access to Care through a 24-Hour Dedicated Stone Line

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Abstract

Introduction: Many patients with urolithiasis are seen acutely in the emergency department for initial treatment. In an effort to improve cost and quality of care increasing focus has been placed on shifting management of low acuity conditions from emergency departments to outpatient settings. One barrier to such initiatives is timely access to outpatient services. We established a telephone stone line to provide access to outpatient urological care of kidney stones and we report our initial experience.

Methods: A 24-hour dedicated telephone stone line was created with calls answered by dedicated staff. A computer program was created to track stone line calls and post-call care. We retrospectively analyzed all stone line calls received in a 4-year period with the focus on utilization and cost. An e-mail survey was performed to assess patient satisfaction.

Results: Between January 2009 and July 2013 the mean call volume was 2,107 per year. A significant distribution of calls was seen across all days and hours. Duration was less than 15 minutes in 7,761 calls (82%). Patients or family members placed 77% of calls and physicians placed 16%. As a result of a stone line call, 4,173 patients (76%) were seen by a urologist within 48 hours. Of the patients 88% reported satisfaction with the stone line. The mean annual cost of providing the telephone stone line was \$233,425.

Conclusions: Our experience demonstrates sustained utilization of and satisfaction with the telephone stone line. Further, stone line use results in timely outpatient evaluation in the majority of patients. Further analysis to assess for a cost benefit is ongoing.

Key Words: kidney calculi, telephone, triage, health services accessibility, costs and cost analysis

Abbreviations and Acronyms

ED = emergency department

ESWL = extracorporeal shock wave lithotripsy

SL = telephone stone line

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Urolithiasis represents an increasing health care problem across the world. The prevalence of kidney stones in the United States is estimated to be 10.6% in men and 7.1% in women.¹ Further, the prevalence and incidence of kidney stone disease are increasing.²

Given the prevalence of kidney stones, the financial impact is significant. The presentation of kidney stones is often acute with associated renal colic, causing patients to frequently seek care in emergency facilities as opposed to primary care settings. While managing renal colic in the ED is effective, it is often inefficient and costly. The annual medical expenditure for urolithiasis in the United States is estimated to be more than \$5 billion with a large percent due to ED evaluation and treatment.³ In addition, evaluation of patients with stone disease often delays definitive treatment, which is most commonly performed in an outpatient setting.

Numerous health policy changes are focused on decreasing ED utilization in an effort to reduce cost and improve quality of care. Such measures include financial incentives, patient education and managed care methods.⁴ Other measures focus on improving access to outpatient services through outreach clinics and adding capacity in nonED settings.^{4,5}

In an effort to provide increased access for patients with kidney stones we established a dedicated SL for these patients. The SL enables 24-hour access for patients and providers to provide efficient and directed care of acute kidney stone disease in an outpatient setting. This analysis is a preliminary assessment of the SL with a focus on utilization and cost outcomes.

Methods

The SL was established in the setting of a large (30 physicians) urology practice. This practice, which has more than 45,000 active patients, provides imaging services, ambulatory surgery and ESWL. Calls to the SL were answered by a staff of 3 dedicated personnel 24-hours a day, 7 days a week. The full-time nonmedical clerical staff was trained, provided with a policy manual and equipped with a wireless phone and laptop computer to allow for access to the office and hospital electronic medical records. In the office electronic medical records a computer program was created to document SL calls and track post-call care.

Importantly, the function of the SL was to help efficiently direct appropriate patients with acute renal colic to the clinic setting for outpatient evaluation instead of delivering care via telephone. For this reason clerical staff highly trained in practice scheduling software were chosen, in contrast to medical personnel (eg physician assistants and nurses), who

would also be associated with higher cost. The SL program was overseen by a supervising physician and physician supervision was available at all times.

In the brief summary of SL policy and direction provided staff members were instructed to record complete demographic and clinical details for each call and were provided with a list of required details. Patients reporting defined symptoms of concern (fever, retention, nausea and/or uncontrollable pain) were referred immediately to a supervising urologist. Patients not reporting these symptoms were offered expedient evaluation in clinic (same day or next day).

Staff were instructed not to provide medical advice regarding clinical scenarios such as the use of prescription pain medications, or fluid consumption or restriction. Importantly, staff were provided with a detailed list of options for clinical assessment depending on the day and time of call and they made these arrangements for all patients. When ED referral was deemed necessary, they were responsible for calling the ED charge nurse and providing patient clinical and demographic information. All patients were offered the option of speaking to the physician on call if concerns or questions remained after SL triage.

In an effort to improve outreach and access the SL number was advertised to the general public via radio and print media. Letters introducing the SL service were sent to existing patients and referring physicians. Finally, SL business cards were distributed to established patients with stone, and local ED and primary care physicians.

Stone Line Analysis

We retrospectively reviewed all SL calls received between January 2009 and July 2013 with the focus on feasibility, utilization, cost and patient satisfaction. Institutional review board exemption was granted for this analysis. Data assessed included total number of calls, day and time of call, and duration of call. Financial analysis was performed to determine the overall cost of providing the SL service.

Patient satisfaction was assessed using e-mail survey provided to a cohort of patients who used the SL between October 2013 and July 2014. The survey consisted of 4 items assessing satisfaction with the SL with an additional free text item for comment (see Appendix). Data are presented as the mean \pm SD.

Results

Between January 2009 and July 2013 the SL received 9,482 calls. The mean annual volume of calls was $2,107 \pm 103$

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