



Increasing patient knowledge after surgery

A randomized controlled study¹ with Mount Sinai Medical Center's Department of Ear, Nose, and Throat (ENT) Surgery

Philips (formerly Medumo) and Mount Sinai Medical Center's ENT Department designed a novel digital education program to help enhance knowledge and satisfaction for patients undergoing functional endoscopic sinus surgery. The SMS-based program has become a cornerstone for efforts to improve perioperative education and optimize staff time.

29%

Increase in patient's self-reported knowledge

21%

Increase in clinic staff assessment of patient knowledge

The challenge

Mount Sinai Medical Center's Department of ENT Surgery is ranked among the best in the nation² and is at the cutting edge of treating common ENT-related conditions using minimally invasive surgery. They recognized that many patients scheduled for functional endoscopic sinus surgery (FESS) lacked sufficient understanding of their condition, of the preparation required before surgery, and of proper post-operative treatment. This knowledge gap was leading to delayed or cancelled surgeries — creating financial and staffing burden. Mount Sinai identified a need to improve patient knowledge and satisfaction and to address it they implemented a digital navigation platform (Patient Navigation Manager) to provide perioperative educational content and reminders for patients scheduled for FESS.

The solution








Mount Sinai partnered with Philips, a leader in patient engagement technology, to implement an SMS-based education program to guide patients through pre-procedure preparation and post-procedure follow-up. The digital program provided time-release instructions to assist patients with perioperative FESS care, including video-based patient education, automated medication, and nasal irrigation reminders (Figure 1). At the same time, Mount Sinai conducted a randomized controlled trial to assess the effectiveness of the program in strengthening patient knowledge.

The results

Seventy-three patients were randomized into the full application (n = 46) and control groups (n = 27). 95.7% of patients said that Patient Navigation Manager helped them understand their condition and its treatment, compared to 74.1% of patients from the control group (p = 0.011). The staff's assessment of patient knowledge also differed between the full application and control, with the group receiving PNM's messages scoring significantly higher than the control group (3.68 ± 1.41 versus 3.04 ± 1.05, p = 0.043). In summary, there was a 29% increase in self-reported patient understanding of their condition and treatment and a 21% increase in clinic staff assessment of patient knowledge.

By launching and testing Patient Navigation Manager, Mount Sinai enhanced patient knowledge. Results suggest that the SMS-based patient navigation solution may also improve patient compliance, satisfaction, treatment outcomes, and reduce costs and healthcare resource utilization in ENT departments.

Figure 1: Digital navigation platform for CRS patients undergoing FESS.

Day	Content sent
T-7	 Video: what is CRS?  Reminder to take medications for pre-op medical optimization
T-3	 Video: how to use nasal sprays and perform nasal irrigations?
T-2	 Video: what is functional endoscopic sinus surgery?
T-1	 Reminder for surgery the next day, NPO at midnight, obtain an escort for surgery
Surgery	 Video: what to expect after functional endoscopic sinus surgery?
Day after surgery	 Reminder to take medications and perform nasal sprays and irrigations  Reminder to follow up in one week

"Reminder" content delivers a text message; "video" content delivers a link to a video. The content is delivered on a schedule determined by the patient's surgery date. "T-# days" in the figure represents the number of days prior to the patient's surgery that the associated content is delivered. CRS = chronic rhinosinusitis; FESS = functional endoscopic sinus surgery; NPO = nothing by mouth.

¹ Ma Y, Zeiger J, McKee S, et al. Double-blinded randomized controlled trial to evaluate a multimedia surgical care tour in improving patient satisfaction and knowledge after functional endoscopic sinus surgery. *International forum of allergy & rhinology*. 2019;9(3):286-291.9"

²"Mount Sinai Hospital." U.S. News & World Report, <https://health.usnews.com/best-hospitals/area/ny/mount-sinai-medical-center-6213140>. Accessed 9/29/2021.