

Chapter 11

Social Media and Networking in Surgical Practice

Erin Bresnahan, Adam C. Nelson, and Brian P. Jacob

Introduction

Social media (SM) has become an important means of communication allowing people from across the world to exchange ideas based upon their common interests. The use of SM has risen dramatically in a relatively short period of time and has quickly affected the way surgeons acquire and consume information. By embracing the transparency afforded by the platforms and the ability to globally collaborate in real time using smart phones, by using closed Facebook™ groups, surgeons have discovered a new way to educate each other, and in return optimize the treatments and outcomes for their patients (Fig. 11.1).

E. Bresnahan, B.A.
Icahn School of Medicine at Mount Sinai, New York, NY, USA

A.C. Nelson, M.D.
Department of General Surgery, Mount Sinai Hospital,
New York, NY, USA

B.P. Jacob, M.D. (✉)
Department of Surgery, Mount Sinai Health System,
1010 Fifth Ave, New York, NY 10028, USA
e-mail: bpjacob@gmail.com

Social Networking Use Has Shot Up in Past Decade

% of all American adults and internet-using adults who use at least one social networking site

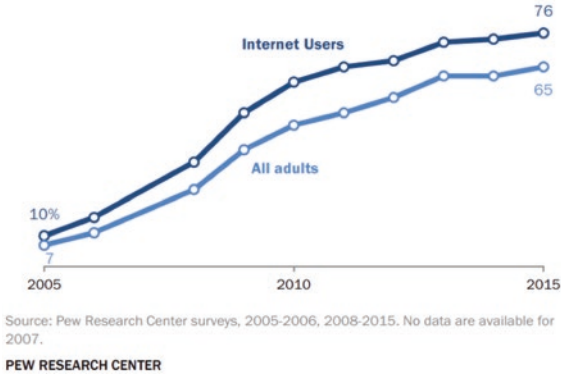


FIG. 11.1 The percentage of all American adults and Internet-using adults who use at least one social networking site

Usage of SM among medical professionals has been observed to mirror the growth trends of the general population. A 2010 nationwide survey reported SM use by 93.5% of medical students, 79.4% of residents, and 41.6% of practicing physicians [2]. While the majority of respondents used SM for personal purposes only, it is obvious that the exchange of information afforded by SM has numerous applications within the professional realm of surgery as well. Indeed, the role of SM in surgical practice is increasingly being advocated as a means of professional collaboration and as a way to augment the patient–doctor relationship [3]. With these new opportunities come challenging questions regarding ethics, patient privacy, and professionalism. Therefore, the goal of this chapter is to serve as guide to those who are transitioning into surgical practice by addressing the following:

- Definition and explanation of SM
- How can SM benefit surgeons?

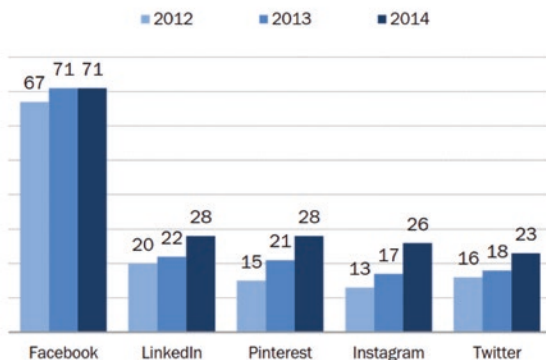
- How can SM benefit patients?
- How does one maintain professionalism and compliance?
- Specific examples of SM as a tool in surgical practice

Definition of Social Media

Social media refers to websites where users can both post content and generate discussion, with the end goal being to engage audiences and facilitate relationships. The total number and variety of SM platforms can seem endless; however, a handful of platforms have consistently been among the most popular over several years (Fig. 11.2). Facebook continues to be the most used SM platform with 71% of Internet users having an account [4]. While the growth of Facebook has shown little change over the past few years,

Social media sites, 2012-2014

% of online adults who use the following social media websites, by year



Pew Research Center's Internet Project Surveys, 2012-2014. 2014 data collected September 11-14 & September 18-21, 2014. N=1,597 internet users ages 18+.

PEW RESEARCH CENTER

FIG. 11.2 The percentage of online adults who use the following social media websites, by year

growth of other popular SM platforms (LinkedIn, Pinterest, Instagram, and Twitter) has been increasing steadily. Furthermore, the number of adults who use more than one SMN platform is rapidly increasing, up to 52% in 2014 [4]. Other platforms are also considered social media, like rating websites, blogs, and even Google, in the sense that all of these sites offer a platform where transparent dialogue can be posted in real time.

Also important to consider is the way in which people are accessing these platforms. Usage on mobile devices has increased considerably, meaning that more people can have access to social media at times when they are not tied down to a computer—which offers great potential for reaching busy physicians. The ability to scroll through a newsfeed while grabbing lunch in the cafeteria, or read an article someone posted while on the train, enables an audience of busy professionals to connect more frequently with others on SM during breaks in their schedule, through the freedom of mobile usage.

The ease of access of social media websites as well as the widespread network of daily users already in place makes social media an optimal platform for connecting physicians with patients, physicians with others in their field, patients with other patients, and patients with information about their health and illnesses. People are more likely to read something or accommodate it into their practice if it is easy to access and if the information is channeled through means that are already incorporated into their daily routines. A large percentage of the population checks their social media accounts daily, so information posted to these sites would reach many more people than that of a site which had to start from the bottom up in first recruiting users and then working up enough engagement to support daily usage.

In addition to the mainstream platforms mentioned above, there are a multitude of smaller, niche sites which target a more specific audience. Such platforms are increasingly being used for health-related purposes. For example, Chronology

[5] is a social media network (SMN) patient-to-patient network specifically for people with Crohn's disease, which features a "health timeline" where patients log their symptoms over time alongside the various treatments they have used. Not only can patients use these niche sites, but physicians are employing their use as well, to interact with or provide information and support to the communities they serve.

How Can SMN Benefit Surgeons?

SMN is now being used to establish an online presence for surgical practices and healthcare organizations, which can serve functions of advertising and patient recruitment. Online content can highlight the specialized features of an organization and be used to promote patient awareness. This will likely be important in a time of increasing transparency where surgical outcomes are publicly available [6]. This is especially true given recent data which suggests that the public may not be able to spot outliers in risk-adjusted data in order to better inform their healthcare decisions [7]. SMN may provide an opportunity for organizations to clarify the significance of outcome data. The use of SMN as a marketing tool for surgical practices has also been documented. In a 2013 survey of 500 members of the American Society of Plastic Surgeons, 50.4% reported the incorporation of SMN into their professional practice [8]. Use as a tool for effective marketing and patient education were among the most common reasons for utilization of SMN, and the majority of those surveyed felt it had positively impacted their practice. Notably, a significant proportion also felt more oversight was needed in order to uphold ethical standards.

Surgical colleges around the world are also utilizing SM in order to communicate with a greater audience and distribute information on a larger scale. An analysis of Twitter use by five prominent surgical colleges in the US and UK determined that these organizations have attained a significant

international reach with their use of SM⁹. The content of posts was also included in the analysis and found to vary among the colleges. Those in the UK focused more on professional and educational development, while the American College of Surgeons (ACS) posted more content regarding patient outcomes. The ACS was the only surgical college with explicit plans regarding its goals for SM, which is to (1) promote the organization to prospective members and the public and (2) to enable interaction across the house of surgery [10]. The ACS has launched “ACS Communities”, which is basically a social media platform where surgeons can exchange ideas, educate, collaborate, and optimize patient care in a protected online environment similar to closed Facebook groups. Having clearly defined SM policies may soon be considered best practice in order to focus online content.

SM usage for professional purposes by physicians has thus far been mostly through groups, profiles, or “pages” that are public, in which they can circulate publications, new research findings, or guidelines to patients and colleagues. However, more recently, physicians have been using the Facebook private groups feature or similar forums to engage in an online community of professionals in their field through discussion-based forums. These groups enable physicians to ask questions—either general, or about specific patient cases—to other physicians and provide a more private environment where the membership (and thus who can view or comment on posts) can be restricted.

Surgical practice, perhaps even more so than other specialties, engages in collaborative learning and quality improvement. Frequent morbidity and mortality conferences are perhaps the most notable form of this real-time peer review. However, not all surgeons work in practices with enough experienced surgeons to collaborate in person. With SM being increasingly used to facilitate discussion among a global community of surgeons, the scope of input a surgeon can receive regarding a particular case may increase exponentially. These types of forums can be particularly helpful for more rare conditions or complications which occur at a

low frequency, since any individual physician may have little or no experience with a given issue, but drawing on the collective experience will help inform the best way to approach a rarer case.

The real-time nature of social media forums is perhaps one of the most valuable features for clinicians. The publication process in medicine is lengthy and time-consuming and ultimately causes significant delays between obtaining research results and disseminating findings to colleagues and then the general public. Additionally, in surgery in particular, the value of anecdotal evidence and personal experience cannot be denied, especially when referring to a complex case to which the results of carefully controlled clinical trials are not wholly generalizable. However, surgical journals tend to not focus on these types of information, although they can provide valuable insight to physicians in learning how to practically manage cases. Discussion of patient cases or general questions on SM forums may enable exchange of information more rapidly, without sacrificing the integrity of the peer-review process, since information can be disseminated instantaneously and discussion and questioning of anyone's information can ensue following the post. This peer-review process occurs on a much shorter time-scale than normal journal review, however, and may allow for discussions of more qualitative aspects of cases that don't necessarily fit into metrics commonly used in research.

Also important in advances in surgery are laboratory research, the technology and materials used to operate, and policies of hospitals and governing bodies in medicine. The exchange of ideas for research, changes in care models, different technique modifications, etc. can occur much more rapidly when information can be exchanged digitally and instantaneously from anywhere where there is an Internet connection. This information is able to cross hospital, regional, and national borders and broaden the perspectives of social media users greatly. Developing a framework of thinking that considers the opinions and practices of surgeons, scientists, and other medical professionals around the

world may lead to new innovative solutions to problems that are generalizable and scalable to more than just one practice or hospital. Fostering an environment in which interdisciplinary collaboration can easily occur can contribute to increased cooperation between different branches of medicine and improvement in healthcare as a whole. Having an easy way to keep the lines of communication open between different spheres of medical research and care will make translational research and public health initiatives more in tune to what patients and physicians need and bring different perspectives together to create meaningful projects, policies, and products.

How Can SMN Benefit Patients?

When physicians are learning more about ways to improve their practice, patients are those who ultimately benefit. A means to engage physicians in a form of continuing medical education that they are enthusiastic about and voluntarily seek out will ultimately translate into continuous quality improvement that reflects in patient outcomes. Outside of the benefits patient glean from improved physician knowledge, there are additional ways SM can help patients manage their diseases and surgeries.

SM can be used to connect patients with resources to educate them about their disease or procedure. Social media is a sphere which, unlike medicine, most patients will feel comfortable navigating on their own due to personal experience with it on a daily basis. Breaking down barriers to health literacy by moving conversations about diseases and healthy lifestyles into an arena where patients feel they have more expertise and autonomy in the discussion can make them more engaged in their care. In an age where access to information online is rapidly changing the typical patient–physician encounter, doctors can help to guide patients to more informed decision-making by having social media resources at the ready to provide a reliable source for

patients to learn more about their condition, rather than just searching through non-credible sources that may misinform or scare them. Physicians should be familiar with online information sources and social media resources for the diseases they treat, so that they can actively engage their patients and provide multiple channels for learning more about their conditions.

In addition to pure information, patients can read on social media about their illnesses, social media pages, and forums can recommend or provide tools to patients to help manage and keep track of symptoms, such as mobile apps or side effect journals. SM can also provide patients with support networks of others who suffer from similar conditions and information on local services available to a patient, such as discounted bus passes for handicapped patients. Social media can thus supplement medical treatment of a condition by helping address more of the social and emotional aspects of illness and helping patients feel more engaged in their health and treatment.

Maintaining Professionalism and Compliance

With the increase in SM usage among medical trainees and physicians comes concerns over professionalism. While SM provides the ability to share information quickly with a large audience, it also creates a lasting online record which often cannot be erased. Numerous cases of unprofessional behavior by medical students, resident, and practicing physicians have been memorialized online. For example, a recent nationwide assessment of surgical residents with publicly accessible Facebook accounts found that 14.1% had posted potentially unprofessional content and 12.2% had posted clearly unprofessional content [11]. The most commonly found offenses consisted of binge drinking, sexually suggestive photos, and Health Insurance Portability and Accountability Act (HIPAA) violations. The same assessment of attending surgeons yielded similar findings: 10.3% with potentially unpro-

fessional content and 5.1% with clearly unprofessional content [12]. Such indiscretions have the potential to undermine the credibility of both individual surgeons and the medical profession as a whole.

In response to this need for professional self-regulation, the American Medical Association issued a report in 2011 which discusses the ethical implications of SM use by trainees and physicians [13]. It acknowledges that while SM use can support personal expression and foster professional collaboration, it also creates new challenges to the patient–physician relationship. The report offers several recommendations which are summarized as follows:

- Maintain standards of patient privacy.
- Liberal use of personal privacy settings with the realization that they are not infallible and that any content posted to the Internet is likely permanent.
- Any online communication with patients must be in-line with a professional patient–physician relationship.
- Separation of personal and professional content to help ensure professional boundaries.
- Taking action if witness to inappropriate content posted by colleagues. This may consist of notifying the offending colleague vs. an authority depending on the severity of the violation.
- Recognition that online content has the potential to harm one’s own reputation and that of their colleagues and institution.

HIPAA regulations do state that patient case information can be shared outside of the patient’s clinical care team if it is for the purposes of quality improvement. Although social media still falls into a “gray area” of the regulations given that it was not as prevalent when the law was written, many physicians believe that posting information about a de-identified patient case on social media is acceptable under HIPAA standards if it is for the purposes of either quality improvement and education or to consult other physicians for help managing the patient’s treatment.

Posting information about a specific patient case to get advice or feedback for quality improvement when a complication occurs may be one of the most valuable ways to use social media and garner tips from professionals all over the world with different experiences. However, this type of situation offers the most potential for violations of patient privacy and HIPAA. To remain in compliance, physicians should at a minimum maintain the following standards for patient case posts:

- These should be restricted to private groups in which membership is monitored and controlled by a board of administrators. Members of the group ideally should also be held to a code of conduct in which they agree that any information they see posted in the group is for educational and quality improvement purposes only, or to help in that patient's treatment, and should not be disseminated in any way.
- All medical imaging, photos, or other content posted within the private group should be anonymized/de-identified. It should also be kept in mind that even though information such as name and date of birth may be removed from an image or video, patients with certain characteristics (very rare conditions, tumors, or hernias that have particularly unique features, very old age) may still be considered "identifiable" by HIPAA standards.
- Whenever possible, consent should be obtained from patients to share their case with a professional Facebook group. This should always be documented in writing if the case is being presented in a public forum, or if any identifying information will be included. For de-identified cases posted to professional private groups, consent may not be necessary but verbal consent at least is preferred. Patients will often appreciate a physician's desire to seek other opinions and input on the case and may even place more confidence in the management plan if their surgeon can present evidence to the patient that other experts agree with the course of treatment.

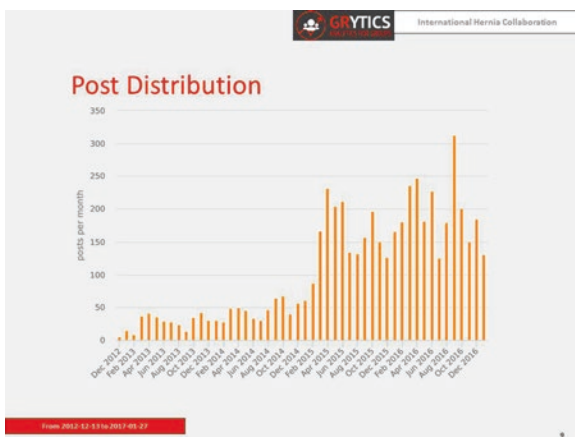
- If you are part of an institution, there will often be official policies regarding usage of social media by members of the institution. To avoid any potential violations and conflicts, these should be reviewed to make sure your practices are in line with the policies.

We believe surgeons who embrace social media platforms designed for quality improvement, with intent of continuing medical education or patient care optimization, should be protected from discoverability. That said, as of the writing of this manuscript, it is our belief that anything posted in a closed group or online community is subject to discoverability. We hope that should the situation arise, that the education gained from any post will help both the surgeon and the patient alike.

Specific Examples of SMN as a Tool in Surgical Practice

There are several examples of online collaborative engagements by surgeons. Some that exist on Facebook are: The International Bariatric Club, The Robotic Surgery Collaboration, SAGES Foregut Surgery Collaboration, and The International Hernia Collaboration (IHC). The International Hernia Collaboration (IHC) is a Facebook group established in December 2012 by Dr. Brian P. Jacob, which has grown into a community of hernia surgeons from around the world. The goal of the group is to facilitate discussion about all things related to hernias, to enable physicians to ask for advice, discuss the risks and benefits of different strategies and practices, debate the merits of new findings in the field, and disseminate information instantaneously to the global hernia surgery community. As a closed Facebook group, only vetted and approved members have access to create and view content. Additionally, posts are required to have any identifying information removed unless the patient has given express permission for their information to be shared with the forum. Posts that are unprofessional or that violate HIPAA compliance laws are deleted.

As of January 2017, membership has grown to 3100 members, with users being a mix of attending physicians, residents, medical students, and industry members. At any given day, there are over 500 surgeons in the vetting queue process, and an average of 4 to 6 new requests to join arrive daily. The administration is selective to admissions, with the goal being to optimize the quality and value of the discussion. Members represent over 63 different countries, with the vast majority of users being concentrated in the United States. Over the past year, there has been an average of 178 posts per month and 17 comments per post. There is a total of over 4300 posts in the forum, which can be searched with keywords by group members. Engagement is high, with 96% of posts being responded to, and both membership and group engagement have drastically increased since the creation of the group. These groups are a model for how SM can be used as a tool in continuing medical education, particularly by enabling interactive learning in real-time and providing access to the experience of experts in multiple subspecialties. The forum has direct applicability to clinical practice and patient outcome improvement, promotes awareness of differing resources and practices around the world, provides enhancement of research potential, and facilitates interdisciplinary collaboration.



Summary guide for new surgeons establishing a digital footprint online: when starting out, we recommend every surgeon consider buying a **website** domain name that defines the practice well. Hospital employees or large group employees will not need to do this as the hospital or group will already have a website that they will add you to. If that hospital policy permits, it is always a good idea to still get your own website since many surgeons do move institutions throughout a career. This website should offer patient education, recovery information, and a way to contact the surgeon to promote dialogue. Next, surgeons should create at least one individual professional **Twitter** or **Facebook** account, and use it only for professional communication. Enrolling in an existing, or creating a new, closed Facebook **GROUP** or online specialty Community is a great way to collaborate and educate yourself and others within your specialty. In addition, your surgical practice can create a Facebook **PAGE** so that patients can interact with the business. Posting compliant videos on those sites or others like Youtube can be very beneficial to certain viewers. Use of other social media sites by surgeons, like SnapChat for example, continues to evolve, but we do not have enough experience to comment. Finally, you should check your **Google** status at least monthly. You will be automatically listed on rating websites like **HealthGrades and Vitals** (for example), but sites like **ZocDoc and Yelp** (for example) are paid by surgeons to keep a listing. All can be helpful, or hurtful. Learning how to manage all of those accounts is extremely important. Remember that you may move from hospital to hospital, but your online footprint will remain the same. Hundreds of patients will review you online in those sites, so you must review yourself often and learn how to contact those sites and optimize your presence on them.

Conclusion

Social media is a rapidly growing means of networking and communication among medical professionals, and has potential as a forum for discussion and education among

surgeons and patients alike. While there are challenges to be faced regarding professionalism and privacy, the potential benefits far outweigh the negatives. We recommend that all surgeons, especially those new to practice, maintain an Internet presence that include the ways listed in Table 11.1. Surgeons should employ professional pages or profiles for their practice and/or themselves on several social media sites and also follow major academic and research organizations in their field on their respective pages. Maintaining a website with an independent domain name, where blogs and information for patients can be posted, is also highly recommended. As SM continues to make the world a smaller place, further opportunities for its use will surely present themselves. As surgeons, it is crucial that we remain innovators in this ever-changing technology.

TABLE 11.1 Social media and Internet usage recommendations for surgeons entering practice

| New Surgeon guide to Internet presence | |
|---|--|
| Personal/Practice website | Unique domain name |
| | Blogs or testimonials |
| | Information for patients |
| Rating Website awareness | Yelp |
| | ZocDoc |
| | Vitals |
| | Healthgrades |
| | Google |
| Facebook | Member of a group or groups for your specialty |
| | Page for your patients and practice |
| Twitter | Professional handle for yourself (separate from personal handle) |

References

1. Perrin A. Social networking usage: 2005–2015. Pew Research Center. October 2015.
2. Bosslet G, Torke A, Hickman S, et al. The patient–doctor relationship and online social networks: results of a national survey. *J Gen Intern Med.* 2012;26(10):1168–74.
3. Steele S, Arshad S, Bush R, et al. Social media is a necessary component of surgery practice. *Surgery.* 2015;158(3):857–62.
4. Maeve D, Ellison NB, Lampe C, Lenhart A, Madden M. Social Media Update 2014. Pew Research Center: Internet, Science & Tech. 2015 Jan 19; <http://www.pewinternet.org/2015/01/09/social-media-update-2014/>.
5. Crohnology. Web. 4 July 2016. <http://www.crohnology.com>.
6. Hospital Compare. Web. 4 July 2016. <https://www.medicare.gov/hospitalcompare/>
7. Bhalla A, Mehrotra P, Amawi F, et al. Surgeon-level reporting presented by funnel plot is understood by doctors but inaccurately interpreted by members of the public. *J Surg Educ.* 2015;72(3): 500–3.
8. Vardanian A, Kusnezov N, Im D, et al. Social media use and impact on plastic surgery practice. *Plast Reconstr Surg.* 2013;131(5):1184–93.
9. Ralston M, O’Neill S, Wigmore S, et al. An exploration of the use of social media by surgical colleges. *Int J Surg.* 2014;12(12): 1420–7.
10. Hoyt D. American College of Surgeons and social media efforts. *Surgery.* 2011;150(1):13–4.
11. Langenfeld S, Cook G, Sudbeck C, et al. An assessment of unprofessional behavior among surgical residents on Facebook: a warning of the dangers of social media. *J Surg Educ.* 2014;71(6):e28–32.
12. Langenfeld S, Sudbeck C, Luers T, et al. The glass houses of attending surgeons: an assessment of unprofessional behavior. *J Surg Educ.* 2014;71(6):e280–5.
13. Shore R, Halsey J, Shah K, et al. Report of the AMA Council on ethical and judicial affairs: professionalism in the use of social media. *J Clin Ethics.* 2011;22(2):165–72.