Using
SOCIAL MEDIA
to enhance
surgeon and patient education
and communication

by
Sani Z. Yamout, MD; Zack A. Glick;
D. Scott Lind, MD, FACS; Rebekah A. Z. Monson, JD;
and Philip L. Glick, MD, FACS

Social media has taken the world by storm and terms like "facebooked" and "tweeted" have become part of our daily language. The popularity of these sites and their use for the spread and exchange of information, whether for personal or professional purposes, is on the rise. Surgeons' and surgical organizations' use of social media is also increasing, as reflected by the recent panel discussion at the 2010 Clinical Congress in Washington, DC, and other materials and articles published by American College of Surgeons (ACS) addressing this subject.[1-3] Despite this progress, many physicians still do not fully realize social media's potential. Social media is a powerful tool that can be used effectively and efficiently for peer, patient, and family communication, as well as a vehicle for learning, as part of patient education, graduate medical education (GME), and continuing medical education (CME). Reasons for the delay in adoption of social media by surgeons include doubts about its utility, time constraints, and medicolegal risks. This article will address the Internet and social media sites, particularly Twitter, as a means for information access and exchange between surgeons, current trends of Internet use by surgeons and patients, and the subject of online security and medicolegal implications for surgeons using this technology.

Online social networking refers to the use of social media (websites that allow for the creation and exchange of user-generated content) for communication between people who usually share common interests.

Surgeons must constantly acquire up-to-date information to help provide the best care for their patients, and therefore they would greatly benefit from the ability to share and exchange knowledge, experience, and expertise through this time-efficient and cost-effective tool, often referred to as Web 2.0. However, practicing surgeons and surgical trainees with diverse levels of training and specialization can be overwhelmed by an abundance of information sources available through the Internet. Using social media, surgeons with similar interests and levels of training can exchange information that is relevant to them and their peers, and thus make the process of GME and CME a more streamlined and productive one. As an example, pediatric surgery fellows have access to a group of social media sites designed to be a tool for GME. This group of websites, named Pediatric Surgery Zone, includes a Twitter account (@PedSurgZn), Facebook page (*http://www.facebook.com/group.php?v=wall&viewas=851385296&gid=247787279780*), and a medical blog (*http://pedsurgzone.blogspot.com*), that discuss educational and other issues related to pediatric surgery.

Current status of social media use by surgeons

Most surgeons already use some form of social media for personal use. A survey conducted by the American College of Surgeons (ACS) in September 2010 to assess the patterns of use of social media by its members showed that a substantial percentage

Table 1. How often do you engage in the following social media sites? Total surveyed: 315						
	Daily (%)	Weekly (%)	Monthly (%)	Rarely (%)	Never (%)	Never heard of it (%)
Twitter*	5.6	3.0	1.3	10.5	79.0	0.7
Facebook†	23.4	13.1	3.2	15.1	44.9	0.3
YouTube	7.4	22.3	19.4	32.4	17.8	0.6
Flickr	0.0	3.0	2.6	14.9	65.9	13.6
LinkedIn	1.6	5.9	5.3	19.4	52.3	15.5
Sermo	1.4	5.8	2.4	8.5	41.2	40.8

Sources: http://www.surveymonkey.com/sr.aspx?sm=K1Fal2kH861MhqHLI5WbVcuC2xCZAOz6PgpLBiB6hWA_3d, *http://www.convinceandconvert.com/twitter/7-surprising-statistics-about-twitter-in-america/, †http://www.socialmediatoday.com/roywells1/158020/416-us-population-has-facebook-account.

engages in social media sites such as Facebook, Twitter, and LinkedIn (see Table, page 8). Interestingly, only about a third of surgeons reported reading or contributing to online health forums or blogs. Although there are no available statistics to reflect the number of surgeons who actually use social media on a professional level, one would assume that number must be smaller. There are many reasons why surgeons might be hesitant to incorporate online social media into their practice for educational or patient communication purposes. These reasons can be divided into three main categories: doubts about the benefits of social media sites, time constraints, and medicolegal concerns.

Looking beyond the "bad rap"

Because the majority of people use social media for seemingly trivial purposes, it is not surprising that many surgeons are skeptical about the use of social media for education and training. What many surgeons do not realize is that social media is a cost-effective and efficient means to share information and create and maintain professional relationships. Although the medical community in general, and the surgical community in particular, has lagged behind many professional organizations in utilizing these tools, social media sites are rapidly becoming an integral part of many medical organizations' armamentarium.

In an effort to keep surgeons and their patients in touch through the power of the Internet, the ACS has a presence on Facebook (*http://www.facebook.com/group.php?gid=36660331571*), Twitter (@AmCollSurgeons), YouTube (*http://www.youtube.com/user/AmCollegeofSurgeons*), and Flickr (*http://www.flickr.com/photos/americancollegeofsurgeons*).

To test the advisability and usefulness of social media for surgeons, the ACS unveiled a rural surgeons pilot community at this year's Rural Surgery Symposium, which was held May 5–8 in Chicago, IL. The secure online pilot community is accessible via *e-FACS.org* as well as via a mobile application for both iPhone and iPad (and coming soon to Android devices). Like existing Web portal communities, this pilot community can be used as a repository of valuable resources. However, the pilot community also uses social technology to break down traditional communication barriers, thereby providing rural sur-

Web 2.0 is a term used to describe the "second generation" of the Web, with applications that facilitate interactive information sharing and contribution by users, who can generate their own content and thus directly contribute to available information through blogs, social networking sites, and other social media tools.

9

geons who are participating in the pilot project with the opportunity to do three things that they have not been able to do before:

• Establish and maintain meaningful and professional connections among peers and share information with members of similar interests either openly or privately via secure social networking tool

• Create content, including updates, documents, images, tags, and videos, as well as comment on content created by themselves and others

• Receive notifications via handheld devices or computer when relevant content, posts, and so on, are added

This pilot community will be used to evaluate the effectiveness of a secure, interactive, online platform. The College believes this pilot may have the potential to transform the way rural surgeons presently communicate and collaborate. The pilot project will be evaluated, and if successful, these new capabilities may be extended to other communities on the ACS Web portal.

Twitter as a tool for GME and CME

One of the more rapidly expanding social media tools is Twitter, an online social networking site with more than 190 million users. Twitter allows users to communicate and exchange messages that are limited to 140 characters. Even with this character limitation, a vibrant Twitter community has emerged, with users who share their thoughts and opinions and exchange information relevant to their profession. Twitter is an example of how the powers of social media can be used for education purposes in the surgical community.

One of the main advantages of Twitter is that, within its 140 character-limited messages, users can include shortened URLs (Uniform Resource Locator: the online address of a source of information) that direct the user to other online resources such as journal websites, YouTube videos, and medical blogs. This ability to seamlessly direct users to online sources of information greatly augments Twitter's potential applications for education and exchange of information in the surgical community. Twitter, in addition to being used for direct communication between surgeons, can be used as a point source of exchange of information by a group of surgeons with common interests as they locate information on the Web. For example, by sifting through a sea of information, surgical residents who interact as a group on Twit-

ter can combine their efforts and collect and share information that is relevant to their level of training. Additionally, they can enrich this information with commentary and advice that reflects their personal experience, thus creating a dynamic and practical database. Additionally, faculty members can become involved by contributing to, commenting on, and providing a "peer review" of this information, thus adding to the value of this information exchange. When groups of surgeons with similar interests search the Web and share what's relevant to them, they effectively organize the Web content into a personal learning network. When used in this manner, Twitter can be a potent tool as part of a GME curriculum for resident education and for practicing surgeons as part of CME. It can also be used for advocacy, administration of surveys, patient education, and, more controversially, communication with patients.

The e-patient is "in" and here to stay

Understandably, surgeons have been hesitant to use social media to communicate with patients because of the time commitment and the medicolegal risks. For professionalism and confidentiality concerns, surgeons should avoid "friending" patients on Facebook or dispensing patient-specific medical advice on blogs. On the other hand, surgeons should contribute to the medical information available online to benefit patients seeking health-related information on the Web. Surgeons can also safely interact directly with established patients to address their specific concerns and questions through secure e-mail servers.[4]

"E-patient" is a term that refers to health consumers who use the Internet to obtain information about medical issues of interest to them. They use online tools, including social media sites, to discuss and learn more about specific medical topics. Pew Internet surveys have shown that 80 percent of Internet users have turned to the Web for health-related information at some point.[5] Health consumers seek information for themselves, family members, or others in an attempt to obtain the latest medical information.

The Internet is replete with lay opinions and medical misinformation. Surgeons who use social media have a unique opportunity and non-legal responsibility to critically review and correct this misinformation. The importance of surgeons' contribution to patient education through the use of social media sites can be

better appreciated when one looks at the demographics of patients' use of the Web. Between 1995 and 2010, the percentage of American adults with access to the Internet grew from 10 percent to 75 percent. Broadband access—an important contributor to increased Internet use—is now available in two-thirds of American homes.[6] In fact, President Barack Obama, in his State of the Union address in February 2011, discussed a plan to provide high-speed wireless services to at least 98 percent of all Americans in the next five years.[7] Another contributing factor to the pattern of increased access to online information is the increased availability of smartphones and other mobile access devices. Six in 10 American adults go online wirelessly with a laptop or mobile device.[6] Access is not the limiting point anymore; it's what people are doing with the access that matters. Mobile devices are changing people's behavior as Internet users, making patients more likely to share—and more likely to access—information on the go.

Surgeons' role in the online conversation

As patients rely more and more on medical information found on the Web, one must question who is providing this information. If only one-third of surgeons access—and a smaller fraction contribute to—online health forums, who is providing these patients with the information they seek and are armed with on arrival at the surgeon's office? As more patients go online for health information, the presence of surgeons online through blogs, Twitter, and other social media sites allows them to contribute expertise and science to a conversation that is frequently dominated by lay people and inaccurate information. This opportunity is where surgeons can play an important role. Surgeons can add data, science, and evidence to what is, in many instances, anecdotal information. Surgeons must have a clear and loud voice online.

In addition to obtaining information from health-related media sites, a substantial number of patients are giving each other information and advice. As patients exchange stories and share information online, surgeons who engage in social media can actively participate in these online patient conversations. The ability to monitor, or listen to, what patients are saying to each other provides an unprecedented opportunity to have insight into their viewpoints, concerns, and expectations.

Another reason surgeons should have an online presence is related to their online reputation, both individually and as a group. As more and more physician rating websites are created, surgeons' reputations are becoming progressively more dependent on feedback left on physician rating sites. Based on a recent Pew

> **The ACS has created a "find a member of ACS" service on the College website to help patients find ACS members: http://www.facs.org/patienteducation/patient-resources/surgery/acsmember.html. This service automatically notifies ACS members when they have been recommended to patients.**

Internet survey, 44 percent of Internet users look online for information about their doctors and health care providers (N = 3,001).[5] Another Pew survey showed that 24 percent of Internet users, looking for health information online, visit sites that provide online ranking or reviews of doctors and other health care providers (N = 2,253).[8] As more patients turn to the Web when selecting their surgeon, surgeons need to know what is presented on those sites and have some input into that information. When a surgeon has an online presence through social media sites, he or she can take charge of their online reputation and the information available about them on the Web. By interacting and contributing to online health information, they can establish a positive image that can help counteract any negative or inaccurate information on physician rating sites.

Online presence can take the form of participation in health forums or blogs, or establishing personal or group websites that allow for patient interaction and commentary. When a patient searches for a specific surgeon and finds that he or she contributes accurate and useful information to health forums and has positive online feedback from patients and other surgeons, the effect of an aberrant negative report found on a rating site is less remarkable than if that same surgeon had no other online presence. A proactive online strategy by a surgeon may help restore his or her reputation after having been discredited by unfair or inaccurate physician grading sites.[9]

Surgeons, social media, and patient interaction

The use of social media for direct communication with patients for the purpose of dispensing patient-specific medical information and advice is strongly discouraged. The reasons are obvious and relate mainly to issues of confidentiality and professionalism. Alternatively, contact between physicians and pre-established patients via e-mail through a secure server is a safe and efficient communication option that can enhance and potentially replace some outpatient visits as well as improve patient care. In fact, communication with patients by e-mail, as part of the meaningful use of electronic health records, was one of the objectives of the American Recovery and Reinvestment Act (ARRA) of 2009, the economic stimulus package enacted by the U.S. Congress that year.[10] The effectiveness of physician-patient communication via e-mail was illustrated in a recent study conducted through the Kaiser Health System. In this study, e-mail communication—when used as part of a comprehensive electronic record system —was associated with a significant improvement in the effectiveness of patient care.[4]

The issue of time constraints facing busy surgeons was a concern raised at a panel discussion on social media use by surgeons held at last year's Clinical Congress meeting in Washington, DC. How is a busy surgeon supposed to tweet and/or write blogs? The answer is simple. He or she doesn't have to actively tweet or post something online. Merely listening and gathering information from social media sites can be very educational. In fact, the majority of people who use social media fall in this category. As users become more involved, they may choose to start sharing information they find interesting or useful with others in their network. At the other end of the spectrum are those users who actively create online content for others to use and share.

Operating safely on social networks

Security concerns and the medicolegal risks of Web-based information exchange, particularly when related to patient care, are real. To protect themselves, surgeons using social media sites must be familiar with basic online security settings. The safest online security setting creates a "read-only" format where users can access information posted by the person running the website, but they cannot change or comment on this information.

Clearly, social networking presents a number of legal risks and challenges for surgeons.[11] The legal consequences of publishing medical media—including photos and videos—on sites such as Facebook without patient consent are obvious, given the clear breach of confidentiality and privacy. The boundaries of right and wrong are less clear when it comes to issues such as protection of patient information, liability exposure, inadvertent establishment of physician-patient relationships, and potential reliance on misinformation.

A significant challenge for networking surgeons is compliance with federal and state laws governing the privacy of patient information. The Health Insurance Portability and Accountability Act of 1996 (HIPAA), and the HIPAA Privacy and Security Rules regulate when protected health information (PHI) may be used or disclosed by covered entities (such as physicians, hospitals, and others) and require safeguards to protect the information. The passage of the ARRA, including the Health Information Technology for Economic and Clinical Health Act, added new and more stringent requirements for protecting PHI, and enhanced penalties.[12]

In certain circumstances, PHI disclosure is permitted —if the information is used to advance the patient's treatment, if the information is related to the payment for the service, or if the patient consents to the specific disclosure. Additionally, information de-identified within the HIPAA safe harbor may be disclosed; however, the information must be truly de-identified. Surgeons should be extremely cautious in deciding what information to share on social networks. Determining how much information qualifies as "too much"

twitter 🐦 101

Twitter is a website that allows for social networking through brief messages (140-character limit) called "tweets." Although tweets, by default, are visible to the general public, these messages can be modified so only specific people can see them.

Users of Twitter can "follow" other users, and thus receive updates of their tweets. These "followers" can choose whom they follow, usually based on topics of interest (for example, "pediatric surgery" or "trauma"). As users follow more people, they may wish to organize their twitter feeds into separate subjects. Many third-party applications, such as TweetDeck, are available to help organize and make Twitter accounts more manageable and compatible with mobile devices.

Messages

In order to organize and control content, several prefixes have been established:
• Hashtag: The pound symbol ("#") preceding a word or phrase helps group twitter posts by topic.
• Direct message: "DM" or "d" followed by a user name allows users to send private messages.
• The "at" symbol: "@" followed by a user name can be used to respond or mention a user. This message is public.

Content

In addition to standard messages, users can imbed links to online sites, pictures, and videos in their tweets. With the 140-character limit, the use of abbreviations is very popular. Additionally, many applications have a built-in URL shortener that can abbreviate an embedded URL and conserve space.
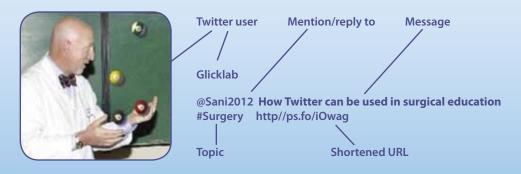
Registering/participation

Registering for Twitter can be accomplished on a computer running Windows or Macintosh by visiting *https://twitter.com/signup*. Once registered, users can participate in this online community. The simplest way to get one's feet wet is to find individuals to follow who are posting messages about a subject of interest to the user. The Twitter website has a "Suggested Users" feature that allows the a new member to browse through better-known users, for a start. Twitter can also search a user's e-mail contact list and find friends who are already on Twitter.

A Twitter user does not have to immediately dive in. Participation on Twitter can be a gradual process, with three basic levels of use. Some users simply "listen" and gather information, without actual participation. Others share information; they act as filters that sift through information and share what is relevant to them and their audience. On the "deep end of the pool," as Susannah Fox put it (see reference 6 on page 15), are the users who create information on blogs and other network sites. As users become more familiar and comfortable with Twitter, they may wish to move from simply listening (80 percent of online users), to sharing and contributing.

Sample tweet

Glicklab sent a message (public) to Sani2012 regarding a website (http//ps.fo/iOwag) that discusses the use of Twitter in surgical education. Glicklab labeled the Tweet with #Surgery so other users interested in topics related to Surgery can easily locate his tweet. When Sani2012 sees this tweet, all he needs to do is "click" on the shortened URL and it will direct him to the website.

Twitter user   **Mention/reply to**   **Message**

Glicklab

@Sani2012 How Twitter can be used in surgical education
#Surgery   http//ps.fo/iOwag

Topic   **Shortened URL**

and what information makes the posted information identifiable can be problematic.

In addition to the myriad privacy concerns presented by social media, exchanges between surgeons and individuals via social media can give rise to other areas of liability exposure. Areas of potential liability include the following: when a social media interaction establishes a physician-patient relationship (and potential patient abandonment); unlicensed practice of medicine (if the physician is not licensed in the individual/patient's state); and medical malpractice. Dispensing, or appearing to dispense, medical advice via social media is a grey area and surgeons should exercise caution if they provide information through these channels.

Surgeons looking to increase their social media usage should consider taking the following steps to help safeguard their online interactions:

• *Social networking policies.* Surgeons should create

Dr. Yamout is a pediatric surgery fellow, department of surgery, division of pediatric surgery, State University of New York at Buffalo.

Mr. Glick is a web developer for the merged information technology departments of the City of Syracuse and the Syracuse school districts, Syracuse, NY.

social networking policies with guidelines and requirements for their practice's (including their employees') online interactions. While there is no "one-size fits all" policy, a well-designed policy can limit the risks while taking advantage of the benefits afforded by social media.

• *Disclaimers, consents, and notices.* Surgeons who post on social networking sites, blog, tweet, and so on, should be certain that their postings are not interpreted by readers as providing diagnosis or treatment, which could violate the prohibition against the unlicensed practice of medicine in a particular state or jurisdiction, and expose surgeons to medical malpractice, patient abandonment, and so on. All Web pages or social networking pages should contain appropriate, noticeable disclaimers informing visitors and readers that the sites are for information purposes only and do not provide medical advice, diagnosis, or treatment. Media sites such as Twitter and others present obvious problems with disclosures due to their limited character requirements.

• *Utilize networking safeguards.* Facebook, Twitter, and other social networking sites allow users to regulate the security features on their individual pages. Surgeons should carefully consider before accepting "friend requests" and other invitations to connect with users or groups. Additionally, surgeons should be wary of accepting invitations from patients or posting personal images and videos, and all providers should closely monitor, or disable altogether, the comment feature on their YouTube, Facebook, and Twitter sites. While it is beyond the scope of this discussion, there are ethical concerns with practices such as "friending" patients.

• *Use common sense.* The underlying issues of physician/patient boundaries are not new; however, the social networking medium recasts the issues. Be sure to keep in mind that what is posted, tweeted, blogged, and so forth, remains "out there" to be viewed either currently, or conceivably at any time in the future. Using common sense can help surgeons avoid, or at least limit, a whole host of risks. A physician should be sure to consider what he or she is doing and whom it could affect. And if there ever is a doubt, don't hit the "send" button!

Conclusion

Social media is not a fad or craze; it is a fundamental shift in the way we communicate. Social media is here to stay, whether we like it or not. It is a powerful

communication tool, allowing for time-efficient and cost-effective exchange and spread of information. This tool, when understood and used properly, can give surgeons tremendous leverage over the availability and quality of online information, and it is a major potential source of education for the surgical community, and, perhaps more importantly, the patient population. The infrastructure is there—surgeons just need to learn to use it. Ω

References

1. Peregrin, T. Time to Tweet: Social networking for surgeons. *Bull Am Coll Surg.* 2011;96(2):46-48.
2. Pozo ME, Casey K, Kushner AL. Can Twitter campaigns increase awareness about health issues? *Bull Am Coll Surg.* 2011;96(2):44-45.
3. Santry HP, Dhemer JJ, Nelson JS, Raman SR. Modern surgical communication and the practice of surgery. *Bull Am Coll Surg.* 2010;95(7):33-39.
4. Zhou YY, Kanter MH, Wang JJ, Garrido T. Improved quality at Kaiser Permanente through e-mails between physician and patients. *Health Aff.* 2010;29(7)1370-1375.
5. Pew Internet and American Life Project: 80% of Internet users look for health information online. Available at: http://www.pewinternet.org/~/media//Files/Reports/2011/PIP_HealthTopics.pdf. Accessed February 18, 2011.
6. Fox S: The power of mobile. Available at: http://www.pewinternet.org/Commentary/2010/September/The-Power-of-Mobile.aspx. Accessed December 4, 2011.
7. The White House. Office of the Press Secretary. Press release. President Obama details plan to win the future through expanded wireless access. Available at: http://www.whitehouse.gov/the-press-office/2011/02/10/president-obama-details-plan-win-future-through-expanded-wireless-access. Accessed February 20, 2011.
8. Pew Internet and American Life Project: The social life of health information. Available at: http://www.pewinternet.org/~/media//Files/Reports/2009/PIP_Health_2009.pdf. Accessed February 17, 2011.
9. Betancourt B. Pediatric Inc (blog). How does one deal with physician rating sites? Available at: http://pediatricinc.wordpress.com/2010/02/21/how-does-one-deal-with-physician-rating-sites/. Accessed January 2, 2011.
10. American Recovery and Reinvestment Act of 2009. H.R.1. Available at: http://readthestimulus.org/hr1_final.pdf. Accessed April 17, 2011
11. Siegel AJ. Social networking sites present legal risks for health care providers. Available at: http://www.pepperlaw.com/publications_update.aspx?ArticleKey=1600. Accessed February 17, 2011.
12. Nicastro D. Strengthening your HIPAA compliance and training programs; Prepare for the new laws under the American Recovery and Reinvestment Act of 2009. Available at http://blogs.hcpro.com/patientaccess/wp-content/uploads/2009/06/hipaa-hitech.pdf. Accessed February 21, 2011.

Dr. Lind *is the Jarrell Distinguished Professor and chief of surgical oncology, Georgia Health Sciences University, Augusta.*

Ms. Monson *is a senior attorney in the health care services practice of Pepper Hamilton LLP, Philadelphia, PA.*

Dr. Glick *is pediatric surgeon and vice-chair for finance and development, department of surgery; and professor of surgery, pediatrics, and obstetrics/gynecology, State University of New York at Buffalo.*