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## Navigating social media in #ophthalmology

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Social media has become a mainstay in today's society as an easy and rapidly accessible means to exchange information. There were 2.46 billion active social media users worldwide as of 2017.<sup>1</sup> Within medicine, use of social media has been growing significantly given its potential reach to a broad and diverse global audience. Social media has become an avenue to increase one's online presence, meet and engage with colleagues, increase an institution's or journal's exposure, stay informed with current events, and disseminate research advances, policy and fundraising initiatives. When assessing social media use within other medical subspecialties, particularly specialties that rely heavily on imaging, such as dermatology, radiology, pathology, and plastic surgery, there are many studies that evaluate patient preferences, communication, and how to build one's clinical practice.<sup>2,3</sup>

Within ophthalmology, use of social media continues to expand and our aim of this editorial is to describe how social media platforms may be best utilized. As of October 2018, there were 2.2 billion monthly active users on Facebook, 1 billion on Instagram, and 335 million on Twitter.<sup>1</sup> A study by Micieli reported on the presence of ophthalmology on various social networking platforms.<sup>4</sup> At the time of the study in October 2014, the American Academy of Ophthalmology (AAO) Twitter account ([https://twitter.com/ao\\_ophth](https://twitter.com/ao_ophth)) had 11,800 followers

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and as of February 2019, AAO's Twitter account has 23,500 followers. Since imaging plays a key role in ophthalmology, image-sharing platforms, such as Twitter, Facebook, and Instagram are becoming more widely employed. Indeed, by February 2019, AAO's Instagram (<https://www.instagram.com/aaoyeye>) account has amassed over 4,700 followers in just over 5 months. On social media platforms, discussions can be initiated via comments or by tagging other accounts and using relevant hashtags (#). The use of hashtags serves as a method of indexing posts and permits easy searching of keywords. For example, if one searches for a specific hashtag, such as #ophthalmology, only posts containing this material will result, thus creating a filtered list. To further increase visibility of posts, across Twitter, Facebook, and Instagram there is the ability to "tag" other accounts to identify individuals or organizations within a post or image. Within these platforms, mechanisms exist to share posts of interest made by other accounts. On Twitter, one can "re-tweet" a post made by another account, which will then share that post to their respective followers. Similarly on Facebook, a "Share" button accompanies each post, which allows your network to see the shared post. Instagram also has a "Stories" function, which permits 24-hour temporary posts that can also be re-shared by users tagged in the post.

## Creating A Professional Online Presence

A professional social media account is often what a patient may come across first when searching online for a healthcare provider. Posts, images, and videos attached to one's account may serve as the first impression and influence a patient seeking care with that provider. A professional account should use your real name, photograph and institutional affiliations. When engaging in discussion or commenting on other posts, the same level of honesty and courtesy should be extended to the online environment as would be expected in the clinical setting. One should consider separation of personal and professional social media accounts to aid in maintaining personal boundaries. In general, friend or follow requests from patients should not be accepted on personal social media accounts. Direct patient contact is not encouraged and should be referred to the traditional communication methods instead.

## Use of Social Media in Clinical Practice

Social media has redefined communication between patients and physicians. The online presence of ophthalmologists and clinical practices can serve as an avenue for patients to connect to their healthcare provider and simultaneously facilitate growth of the practice.<sup>5</sup> The Pew Research Center Surveys in 2018 demonstrated that approximately 88% of those aged 18–29 years use some form of social media. However, this decreases with age with 78% between ages of 30 to 49 years, 64% between 50 to 64 years and only 37% of those 65 or older.<sup>6</sup> As the younger population ages, these proportions may continue to shift, however physicians should know that many patients may still prefer traditional methods of obtaining medical information and communicating with their physician, such as in-person visits or telephone calls. Reviews of practices on social media may be helpful in obtaining feedback about patient care and visits.<sup>7</sup> This could be applied to further improve the patient experience and optimize the flow and efficiency of ophthalmic practices.

There are major opportunities for incorporating social media into patient education since an increasing proportion of patients actively use the Internet to learn more about their conditions. However, information online may be incorrect or interpreted incorrectly by patients.<sup>8</sup> Moreover, dissemination of eye health information may be coupled to sponsored content, in ways that may be obvious or subtle. For instance, companies that sell medically related products such as scrub wear, laboratory/white coats, skin creams, and other retail products may offer compensation or “swag” to so-called “medical influencers” (medical students, physicians, institutions, and brands who command large followings on social media). In exchange, the medical influencer will devote a post to prominently display the sponsored item (or tag it) and often an eponymous discount code to purchase it, while simultaneously discussing a topic related to eye health.<sup>9</sup> This often occurs on image/video-heavy social media services, such as Instagram and YouTube. However, it is not necessarily clear to the patient/consumer whether the content is sponsored or not, since the paid content is often not marked as an advertisement. In response to concerns about transparency, the Federal Trade Commission recently provided guidance, stating that when there is “a connection that might affect the weight or credibility that consumers give the endorsement – that connection should be clearly and conspicuously disclosed.”<sup>10</sup> We recommend that physicians clearly separate dissemination of eye health information from commercially sponsored content. If paid content must be included, it should be divulged as an advertisement within the first few lines of the post.

Thus, as ophthalmologists, we are uniquely positioned to disseminate accurate eye health information, free from commercial bias, via social media. Official social media accounts of organizations such as AAO’s EyeSmart public information program (<http://twitter.com/academyeyesmart>) can raise awareness of eye diseases and provide the general public with information on basic eye health as well as public service announcements. Individual professional accounts may then retweet or share posts from professional organizations. Miceli et al., found that patient advocacy groups on Facebook lead the way in social networking, likely because they appeal to the general public. Facebook support groups may also serve as a way for patients to discuss common ailments with one another, create supportive networks, and ask questions. Facebook also offers physicians an opportunity to network and communicate professionally in a private, online setting since “closed” or “secret” moderated groups can easily be created and a moderator must approve or invite members prior to joining. Physicians may query the group on research, de-identified cases, or for general networking.

YouTube is another social media platform that can serve as a potential patient education avenue. However, many videos on YouTube may be misleading or even incorrect since videos are not screened for scientific accuracy. A study by Bae et al., evaluated the quality of cataract patient education videos on YouTube and found that the majority of videos were not adequately educational. Furthermore, they found that over 20% of the videos were promoting a practice or product. They also report that videos from medical organization were more useful than videos from other sources, even from individual medical professionals. This emphasizes the need to have official curated videos by recognized organizations that should be free of commercial bias.<sup>11,12</sup> Videos that pertain to retinopathy of prematurity and retinitis pigmentosa have also been demonstrated to have a high

incidence of misleading information.<sup>11,13</sup> Thus it is important for physicians to note the inaccuracies that may be portrayed on social media and be prepared to address these potential misconceptions with patients.

## Use of Social Media in Academia

Dissemination of research findings from ophthalmology journals via social media has become a convenient, real-time method of sharing research with a broad audience. The journal, *Ophthalmology* (<https://twitter.com/AAOjournal>), provides tweets with articles that are in press. Tagging relevant parties and using relevant hashtags to increase visibility of their posts further increase engagement. AAO has taken the lead in applying social media by providing official meeting hashtags to enable quick filtering of relevant posts. Following the annual AAO meeting, Christiansen et al. evaluated Twitter activity in 2014 and 2015.<sup>14</sup> Meeting hashtags, #AAO2014 and #AAO2015, were queried, to gauge the quantity, content and impressions of tweets during these meetings. They found that 60% of tweeting ophthalmologists at the annual meetings were either currently in residency or fellowship or less than 10 years in practice, suggesting that social media will continue to be used by younger ophthalmologists through their careers.<sup>14</sup> Utilization of conference specific hashtags can allow attendees to have topic specific discussions, interact with speakers, and share conference updates on a real-time global scale. This also permits individuals who are not present at the sessions to participate as well. The use of Twitter can facilitate online journal clubs, which serve to connect scientists and clinicians in discussions on a global scale.<sup>15</sup> Furthermore, there is an ongoing demand amongst ophthalmologists to learn more about the use of social media, demonstrated by the increasing number of social media-related sessions at the annual AAO meetings. A search of all annual meeting sessions for “social media” resulted in 3 hits in 2011, while 2018 had 14 hits.<sup>16</sup> Examples of sessions in the past 2018 meeting titled, “Social Media for the Serious Ophthalmology Practice” or “Social Media Exploits and How to Protect Yourself” demonstrate the breadth of topics that can be explored within social media.<sup>16</sup>

The use of social media by academic ophthalmology departments is still developing. A recent study performed by Melendez et al. of 118 ophthalmology departments in the United States found that 34% were present on Facebook, 23% on Twitter, and 4% on Instagram.<sup>17</sup> In a similar study by Clarke et al., as of March 2017 just over half of the top 30 academic eye centers on Doximity had active Twitter accounts and only 2 of these programs were on Instagram.<sup>5</sup> By engaging in social media, departments can promote their research and share their faculty and trainees’ accomplishments.

## Privacy and Social Media

The nature of the patient-physician relationship has been challenged with the increasing ease of online communication and social media. Given the visual nature of our field, striking clinical images are often obtained. Social media has enabled physicians to share interesting de-identified cases with their colleagues and the general public. However, even with patient consent, physicians should still exercise caution when sharing information online. Thus, while the use of social media can bring educational and health benefits to patients, ethical

challenges are important to consider and respect for confidentiality and privacy should be adhered to in the online setting as well.<sup>18</sup> The AAO has an Advisory Opinion as a guide for appropriate use of social media.<sup>19</sup> The American Medical Association has developed formal professionalism guidelines for responsible use of social media by physicians.<sup>20</sup> Additionally, the American College of Physicians and the Federation of State Medical Boards have also issued policy statements regarding physician and the use of social media.<sup>18</sup> The Healthcare Insurance Portability and Accountability Act (HIPAA) safeguards personal health information and these laws should be adhered to. Each institution often has their own online privacy policies and some institutions may have a designated chief social media medical officer who can provide guidance about responsible use of social media.

## The Potential of Social Media

Social media can provide researchers with the ability to gauge search and interaction patterns. The wealth of readily available public “big data” from social media is emerging as a possible surveillance tool. A recent study by Deiner et al. evaluated Twitter posts, blog and forum comments to detect patterns in conjunctivitis.<sup>21</sup> The authors suggested this could potentially be used in epidemiologic monitoring, particularly in non-reportable conditions. Sentiment analysis, by determining if a social media post is positive, negative, or neutral can provide real world insight into attitudes of diseases or treatments.<sup>22</sup> Pertaining to other aspects of public health, social media can be used to rapidly disseminate information or public service announcements.

In conclusion, social media offers a new avenue for ophthalmologists to engage with audiences in an unprecedented manner, allowing for communication on a larger and more rapid scale than traditional print methods. Much like other content on the Internet, social media content is not regulated, so both patients and physicians must be careful when interpreting information, especially when it is mixed with sponsored content. As the reach and influence of social media continues to grow, implementing this into a department, research group or clinical practice may serve to improve patient care and increase research visibility.

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