

# Spine Surgeons Social Dilemma: Benefits and Risks of Social Media for Spine Surgery Practice in the 21st Century

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## Abstract

**Study Design:** Cross-sectional observational.

**Background:** The use of social media by providers can enhance patient education, complement offline information, facilitate patient support, stimulate brand building, and strengthen the organization's market position. Risks of social media include, but are not limited to, a lack of quality, reliability, misrepresentation of credentials, influence of hidden and overt conflicts of interest, content that may jeopardize patient privacy, HIPAA regulations, and physicians' credentials and licensure. Physicians' use of social media may also expose him/her to lawsuits if providing specific medical advice on media platforms.

**Objective:** To document the social media presence of a broad cohort of spine surgeons, and to discuss the benefits and risks of a social media presence.

**Methods:** Cross-sectional observational of 325 Spine Surgeons from 76 institutions across the US. Description statistic and Pearson's correlation were used to investigate the relationships between the variables.

**Results:** Out of the 325 surgeons, 96% were male with an average age of  $51.5 \pm 10.7$  years and  $14.1 \pm 9.6$  years of experience. The frequency of social media use included 57.2% of surgeons had professional LinkedIn, 17.8% had professional Facebook, and less than 16% had other social media platforms. When combining all platforms together, 64.6% of all surgeons had at least one professional social media platform. 64.0% of these surgeons had no social media activity in the past 90 days, while 19.4% and 10.9% were active once and twice a month, respectively. Surgeon age ( $P = 0.004$ ), years in practice ( $P < 0.001$ ), and practice type ( $P < 0.001$ ) were strongly correlated with social media activity.

**Conclusions:** Given the scarcity of research on this topic and the novelty of the platforms, social media and online services continue to be utilized at a low level by spine surgeons. Issues regarding the risks of privacy issues with social media users continue to be a concern among medical professionals adopting this technology. This can largely be mitigated with the combination of physician education and informed consent from patients. The ability to connect with patients directly, and provide access to high-quality education and information will be of considerable benefit to our field well into the future.

## Keywords

social media, Web 2.0, spine surgery, internet, spine surgeons

## Introduction

The definition of “social media” is broad and constantly evolving. The term generally refers to internet-based tools that allow individuals and communities to gather, communicate, share information and ideas, and to collaborate with other users in real-time.<sup>1</sup> Social media is also known as “Web 2.0” and allows millions of users of different geographic, political,

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socioeconomic, and national backgrounds to communicate and exchange information worldwide.<sup>2</sup> This can be advantageous, specifically for healthcare providers. The use of social media by providers can enhance patient education,<sup>3</sup> complement offline information, allows patients to receive support, stimulate brand building, and strengthen the organization's market position.<sup>4</sup> Healthcare professionals can use social media to improve health outcomes by empowering patients, allowing direct access to clinicians,<sup>5</sup> developing professional networks, and providing health information to the community.<sup>6</sup>

The internet and social media use have sky-rocketed in the past 15 years. Facebook reported having 2.38 billion monthly active users with 1.56 billion daily active users. This number is projected to increase to 3.29 billion users in 2022.<sup>7</sup> According to a Pew Study in 2005, 68% of American Adults in 2005 used the internet. This value increased to 90% in 2019. In addition, 72% of all adults have used social media to gather healthcare information.<sup>3</sup> This growth demonstrates the changing times that we are facing as physicians. In the face of increasing competition, patients are seeking medical information and provider information online, which highlights the necessity of providers to meet the changing needs of the patients.

With knowledge of this growing trend, spine surgeons should be familiar with the intricacies of social media use and understand the risks of doing so. In addition, the COVID-19 pandemic has caused not only a suspected further increase in internet use, but has also helped accelerate the changing nature in which patients acquire information about their health online and their willingness to receive care in a virtual format.<sup>8,9</sup> As patients delay care for medical problems, they spend more time researching their symptoms. The number of patients showing up to their doctor's office with a diagnosis in hand from the internet continues to grow compared to as little as 10-15 years ago.<sup>3</sup> Although this aspect of internet transparency can cause frustration for physicians, it also reveals a potential new avenue for patient engagement. Social media can be utilized by a technologically savvy spine surgeon to grow their exposure, brand, and subsequently improve their practice.

Unfortunately, establishing an online and social media presence can be daunting for a lot of providers as the learning curve is steep even for younger providers without marketing or social media experience. While establishing a social media presence, a surgeon has to find the balance between appealing to the general public while still operating within the confines of professional and legal boundaries.<sup>10</sup> As described in a paper by Eisenacher and Sanghani—physicians may have a full understanding of HIPAA and PHI, but unfortunately, they do not necessarily know how it applies to social media use.<sup>11</sup> It is therefore imperative that anyone hoping to utilize the internet to grow their business has a full understanding of HIPAA and PHI and its extension and applicability to social media. Therefore, the purpose of this paper is to document the social media presence of a broad cohort of spine surgeons and to discuss the benefits and risks of a social media presence.

## Methods

This study design was cross-sectional observational. This review did not involve patient care or any clinical prospective or retrospective review of patient information and thus did not warrant an institutional review board approval. We performed online searches of spine surgeons at 76 institutions, using systematic sampling in the North American Spine Society Fellowship Database. Then we identified the surgeon demographics along with how many at each institution had an "active" online presence. For their demographic, we examined surgeons' age, gender, years of experience, clinic type and size, years at the current practice, and publication record. Moreover, we investigated the surgeon's social media involvement by evaluating personal websites and participation on social media platforms such as Facebook, Twitter, Instagram, Youtube, LinkedIn, and their activity level on each. We defined an "active" presence as the frequency (number of posts per month) and type of social media posts (text only, image, video, or reshare information) relating to spine surgery. We described the sample using frequency (percent) for categorical variables and mean (standard deviation) for continuous variables. Moreover, we used Pearson's correlation to investigate the relationships between the variables. Statistical analyses were conducted using SPSS, Version 23.0 (IBM, Inc., Chicago, IL).

## Results

Our review consisted of the social media presence for 325 Spine Surgeons from 76 institutions across the US. Out of 325 surgeons, 96% were male with an average age of  $51.5 \pm 10.7$  years and  $14.1 \pm 9.6$  years of experience (Table 1). 67.8% of the surgeons did not have any peer-reviewed publication record with an average of  $1.84 \pm 5.9$  publications per surgeon. 56.0% of the surgeons were associated with a private practice, while the rest were associated with an academic hospital (Table 1). 41.4% of these practices included at least 8 spine surgeons, and 25.2% and 19.0% for more than 20 surgeons and less than 2 surgeons, respectively (Table 1). 53.4% and 43.5% of the practices did not have and residency or fellowship program, respectively (Table 1). The 76 practices that were reviewed in this paper can be found in Table 2.

The frequency for social media consisted of 57.2% of surgeons that had a professional LinkedIn profile, 17.8%, 15.7%, 13.8%, 7.1%, and 6.5% with professional Facebook, practice websites, Twitter, Instagram, and YouTube, respectively (Figure 1). When combining all platforms together, 64.6% of all surgeons had at least one professional social media platform. 64.0% of the surgeons with a social media presence had no social media activity in the past 90 days, while 19.4% and 10.9% were active once and twice a month, respectively (Figure 2). 67.5% of surgeons held an active social media account on 1 platform while the rest had at least 2 platforms. Figure 3 presents the relationships between social media activity, surgeon experience and practice type.

**Table 1.** Surgeon Demographic.

	Mean	Std. deviation	Minimum	Maximum		
Age (Years)	51.55	10.69	32	81	Gender	
Year in practice (Years)	14.15	9.61	1	43	Male	Female
Years in the current practice (Years)	11.74	9.34	1	43	315	10
Clinic Size (# of Surgeons)	2.78	1.49	1	5	Clinic Type	
# of Residences	3.69	4.51	0	14	Private	Academic
# of Fellows	1.48	1.71	0	5	56%	44%
# of Scientific Publications	1.44	5.92	0	65		

**Table 2.** Participated Spine Surgeons' Institutions.

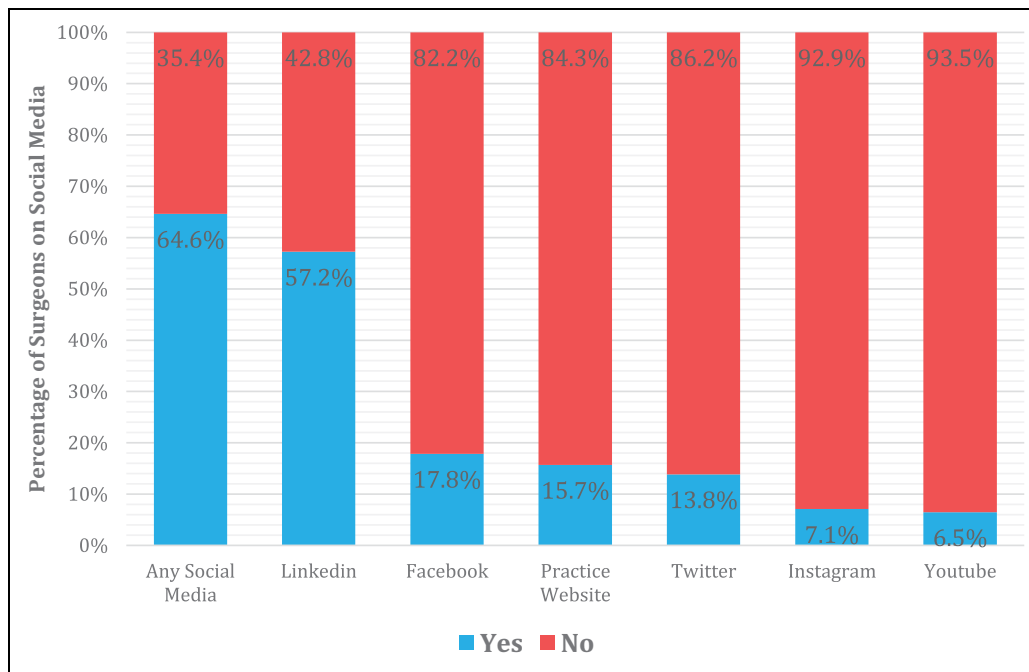
Practice	Number of surgeons
Atlanta Brain and Spine Care	8
Atlanta Spine Institute	1
Austin NeuroSpine	1
Austin Neurosurgical Institute	1
Austin Spine Surgery	3
Capital Brain and Spine	1
The Carrel Clinic	4
Cedars-Sinai Hospital	7
Central Texas Spine Institute	1
University of Colorado Hospital	2
Columbia University Irving Medical Center	7
Emory University Hospital	7
Englewood Spine Associates	1
Gotto Medical Care	1
Hoag Institute	7
Hospital for Special Surgery	22
Houston Methodist Hospital	1
Inova Spine	1
Island Spine and Sports	1
Kaiser Permanente	8
KSF Orthopedic Center	3
Long Island Brain and Spine	1
MD SpineCare	1
Memorial Herman Orthopedic and Spine Hospital	1
University of Miami Health System	6
Michigan Ortho and Spine	4
Michigan Spine and Brain	6
Mount Sinai Hospital	13
Neuro and Spine	2
NeuroTexas	4
New York Orthopedic Spinal Associates	2
New York Spine Institute	3
New York—Presbyterian Och Spine	7
Northwestern Memorial Hospital	3
New York Orthopedics	3
New York University Langone Hospital	1
New York University Langone Medical Center	29
Ortho Manhattan	1
Ortho Specialists of Austin	2
Ortho Virginia	7
Orthopedic Associates Manhasset	1
Orthopedic Associates of Central Texas	2
Rush University Medical Center	6
Surgical Associates in Spine	2

(continued)

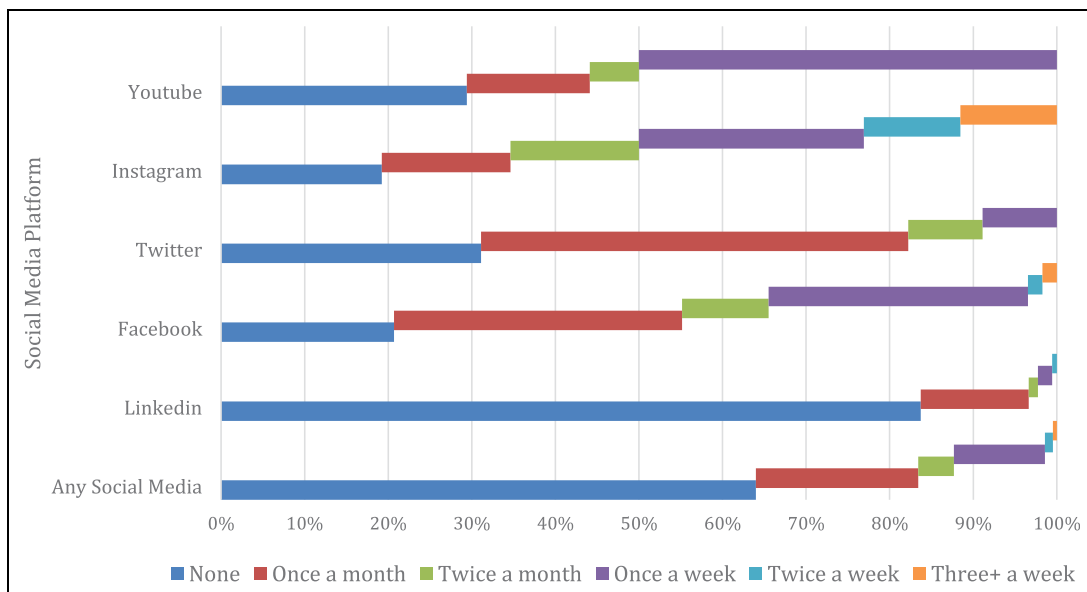
**Table 2.** (continued)

Practice	Number of surgeons
San Diego Spine Fellowship	2
The San Antonio Orthopedic Group	3
Sinkov Spine Center	1
Sonoran Spine	6
Spine Care Long Island	1
Spine Institute of Arizona	6
Spine Institute of Louisiana	6
SpineBeGone	1
Spine Care Medical Group	3
Stanford University Hospital	5
South Texas Spine Clinic	11
Tailored Medical New York City	2
Texas Back Institute	21
Texas Neurosurgical Spine	3
Texas Orthopedics Sports and Rehab Associates	2
Texas Spine and Scoliosis	3
Texas Spine Care	1
The Center for Musculoskeletal Disorders	2
The Mount Sinai Hospital	1
The Spine Hospital	7
The University of Alabama at Birmingham Hospital	3
University of Arkansas for Medical Sciences	3
University of California Davis Medical Center	2
University of California Irvine Medical Center	4
University of Connecticut Health Center	3
University of California San Diego Hospital	3
University of California San Francisco Medical Center	13
University of the District of Columbia	1
University of Southern California Spine Center	3
Weill-Cornell Brain and Spine Center	3
West Lake Ortho	1
Yale New Haven Hospital	4
<b>76</b>	<b>325</b>

Table 3 summarizes the relationships between surgeon demographic measurements and social media activity variables. Surgeon age ( $P = 0.004$ ), years in practice ( $P < 0.001$ ), and practice type ( $P < 0.001$ ) were positively correlated with social media activity. Professional social media activity level was not correlated with surgeon age nor experience but was correlated to their publication record ( $P = 0.019$ ), having a personal practice website ( $P < 0.001$ ), and the number of active social media ( $P < 0.001$ ).



**Figure 1.** Social media distribution among spine surgeons.

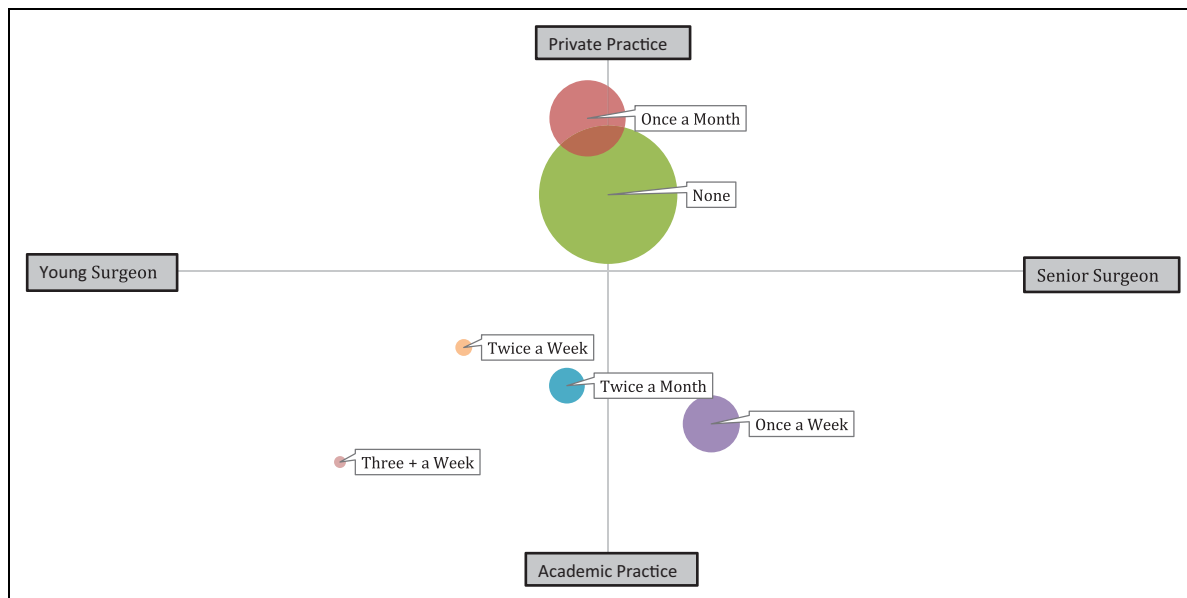


**Figure 2.** Level of activity of the surgeons with social media.

## Discussion

The purpose of this paper was to document the social media presence of a broad cohort of spine surgeons, and to discuss the benefits and risks of a social media presence. We provided data on social media activity levels in the US. Our findings suggested that Spine Surgeons in the US may be underutilizing their potential social media presence. Moreover, we presented that surgeon age, years in practice, and practice type was highly correlated with their social media activity. A study in 2017 by

Lander et al used the Pediatric Orthopaedic Society of North America (POSNA) directory to review each active member's presence on social media using an internet search.<sup>12</sup> Of the 987 POSNA members, 95% had a professional webpage, 14.8% had a professional Facebook page, 2.2% a professional Twitter pager, 36.8% a LinkedIn profile, and 33% YouTube. This study suggested that Pediatric Orthopedic Surgeons may be underutilizing their potential social media presence. In our paper, we reviewed 325 Spine Surgeons from 76 institutions and looked



**Figure 3.** Perceptual map of social media activity with surgeon experience and practice type.

**Table 3.** Pearson Correlation Between Social Media and Its Activity Level to Surgeons Demographics.

		Age	Year in practice	Clinic type	Clinic size	Publication record
Combined Social Media	r Value	<b>.172**</b>	<b>.216**</b>	<b>-.155**</b>	-0.037	-0.100
	p Value	<b>0.004</b>	<b>&lt;0.001</b>	<b>0.006</b>	0.598	0.173
Activity Level	r Value	0.039	0.073	-0.132	-0.030	<b>.215*</b>
	P Value	0.601	0.314	0.063	0.734	<b>0.019</b>
LinkedIn	r Value	<b>.201**</b>	<b>.229**</b>	<b>-.220**</b>	-0.081	-0.138
	P Value	<b>0.001</b>	<b>&lt;0.001</b>	<b>&lt;0.001</b>	0.242	0.060
Activity Level	r Value	-0.082	0.023	-0.035	0.042	0.040
	P Value	0.313	0.771	0.655	0.675	0.693
Facebook	r Value	-0.017	-0.069	0.079	0.092	-0.090
	P Value	0.770	0.238	0.168	0.184	0.220
Activity Level	r Value	-0.060	-0.045	<b>-.524**</b>	0.067	0.224
	P Value	0.670	0.751	<b>&lt;0.001</b>	0.668	0.170
Practice Website	r Value	0.005	-0.061	0.088	<b>.145*</b>	<b>-.164*</b>
	P Value	0.945	0.387	0.188	<b>0.046</b>	<b>0.025</b>
Activity Level	r Value	-0.165	-0.222	-0.097	-0.095	0.088
	P Value	0.262	0.125	0.503	0.549	0.555
Twitter	r Value	-0.013	-0.022	<b>-.257**</b>	0.012	0.004
	P Value	0.826	0.707	<b>&lt;0.001</b>	0.859	0.956
Activity Level	r Value	<b>-.422**</b>	<b>-.322*</b>	0.029	0.092	-0.025
	P Value	<b>0.007</b>	<b>0.037</b>	0.857	0.678	0.906
Instagram	r Value	<b>.147*</b>	<b>.138*</b>	-0.049	0.054	<b>-.207**</b>
	P Value	<b>0.013</b>	<b>0.018</b>	0.392	0.434	<b>0.004</b>
Activity Level	r Value	<b>-.436*</b>	-0.338	-0.122	0.162	0.372
	P Value	<b>0.033</b>	0.099	0.562	0.549	0.141
YouTube	r Value	0.058	0.025	0.009	0.046	0.019
	P Value	0.342	0.673	0.884	0.529	0.805
Activity Level	r Value	-0.211	-0.212	-0.024	0.298	-0.201
	P Value	0.449	0.414	0.930	0.347	0.472

Bold represent all significant results.

Values of  $P < 0.05$ .

\* Correlation is significant at the 0.05 level (2-tailed).

\*\* Correlation is significant at the 0.01 level (2-tailed).

at their social media presence. We found that Spine Surgeons at these institutions uniformly lacked an online presence and activity. The result of our study found to be similar to pediatric orthopedic surgeons, orthopedic spine and neurosurgeons may be underutilizing their potential social media presence.<sup>12</sup> Many surgeons in our web-based search had LinkedIn accounts 57.6% and professional Facebook pages 17.8%. The least social media presence was found on Instagram, Twitter, personal websites, and YouTube. It is worth noting that LinkedIn is more peer-to-peer and less likely to target patients directly however it could be seen as a referral source. Further studies would have to be performed to determine its efficacy in this regard.

### **Why Should Spine Surgeons Care?**

Unfortunately, since the internet is open source and anyone can publish information online, it is full of inaccurate information. While social media for physicians and surgeons holds great promise, it is not without risks. Risks of social media include, but are not limited to, a lack of quality, reliability, and credibility<sup>13</sup> misrepresentation of credentials, influence of hidden and overt conflicts of interest, and content that may jeopardize patient privacy, HIPAA regulations, and physicians' credentials and licensure.<sup>14-17</sup> As physicians' use of social media may expose him/her to lawsuits if providing specific medical advice on media platforms, informed consent should be obtained prior to online discussions regarding medical care between health care providers and individual patients.<sup>1</sup> Importantly, all conversations regarding interactions on social media platforms between physicians and patients should be documented in the patient's chart.<sup>1</sup> De Martino et al suggested that a large portion of the information shared on social media is of poor quality, because of the lack of regulatory review.<sup>3</sup> MacLeod et al published a systematic review of the quality of YouTube videos on femoroacetabular impingement and noted that 19% of videos were found to have no usefulness, 54% were found to be somewhat useful, and 21% were found to be moderately useful.<sup>18</sup> In another systematic review performed by Madathil et al,<sup>19</sup> many therapies, despite increasing popularity, endorsed on YouTube have not been approved. Specifically, in regard to spine, Brooks et al examined videos of lumbar discectomy and assessed their quality.<sup>20</sup> They analyzed 81 videos, with only 16 rated as good, whereas 40 were poor or inadequate. They noted that the most common information the video was lacking was the option of non-surgical management and potential complications following surgery. Elhassan et al, looked at the information regarding discectomy online with similar findings.<sup>21</sup> Just one-third of the sites were rated to be of good quality, with a slight trend toward improvement compared to 10 years ago. Given our current climate, access to accurate information disseminated by healthcare professionals is paramount.

### **Benefits of Social Media Use to a Spine Practice**

**Marketing to patients and practice building.** Marketing a spine practice online is often more cost-efficient than marketing other consumer goods online. This is due to a medical practice focusing more on information sharing than advertising.<sup>22</sup> When a patient has a disc herniation, they are extremely motivated to seek care for their symptoms, they are often directly searching for information on their condition. Patients today are much more interested than ever before in gathering information about their symptoms and treatment options online. Spine surgeons with a successful marketing strategy will utilize their social media account to become go-to repositories for this information in their communities. Once the patient is on social media (i.e. personal website, Facebook, Instagram, Twitter, or Blog), they can have access to high-quality, trustworthy information to convert that "online visit" to an "office visit." Social media platforms typically have the ability to stay more current in comparison to a static website that generally does not get updated often. The ability to stay relevant, up-to-date, and on top of your patient's "news feed" provides a constant reminder of your availability and interest in keeping up with your field.

**Patient education.** As discussed, there is an unmet need for high-quality trustworthy health information online. Most reputable websites like WebMD and NASS (knowyourback.org) provide good information but tend to be very generic. Many other websites contain information that is inaccurate and can be harmful to patients to read. The most discerning readers will appropriately review the credentials of the author of the information.

There are multiple studies that speak to the poor quality of medical information patients are able to access through the Internet.<sup>23-25</sup> This highlights the need for high-quality educational resources that Spine Surgeons can disseminate on their social media sites for patients to access. Social media can be used as a marketing tool to engage a patient and actively direct them to your website where high-quality health information can be readily viewed. In a systematic review regarding web-based patient education in orthopedic surgery, Dekkers et al noted that "Web-based patient education may be offered as a time and cost-effective alternative to current educational interventions when the objective is to improve patients' knowledge and satisfaction."<sup>26</sup> In another study by Burrus et al,<sup>27</sup> they looked at over 1200 patients and noted that "84.9% of patients reported access to the internet."<sup>12</sup> Of patients with internet access, 64.7% reported using the internet for obtaining orthopedic information. 43.1% of the respondents who searched for orthopedic information rated it as "very useful," and 56.3% found it "somewhat useful." This study, showing that over 99% of patients in their study found online information useful further highlights the need for surgeons to control some of the information their patients are finding.

**Professional education.** The use of Web 2.0 services has grown substantially during the 2020 Covid-19 pandemic.<sup>2</sup> The



transition to online learning continues to be a necessity and allows other spine surgeons to attend courses, journal clubs, webinars, lectures, and other events that would not normally be accessible to them. There has been an explosion of social media accounts by various orthopedic residency and fellowship programs with content generation including discussions on interesting cases and dissemination of newly published research. Patients use social media to discuss their healthcare and seek other patients with similar conditions. Having physicians involved in these areas can help shape the framework of the conversations and dispel misinformation before it spreads. From a patient education standpoint, it is clear by studies on this topic that having an online presence can significantly benefit a spine surgeon.<sup>28-30</sup> Unfortunately, due to the paucity of research on the subject, finding the exact combination of social media services to optimize return appears challenging. Despite this, spine surgeons can still benefit from having a presence online. This is evidenced by the growing number of patients using social media and web 2.0 services, as well as the lack of high-quality physician lead education content available online. The literature demonstrates this lack of high-quality patient education available.<sup>3,13,24,26</sup> Having a website and engaging your patients can fill obviate that problem.

**How to get started.** In a recent study, in the hand surgery literature, “physicians with a personal website received higher Healthgrades scores than those without one.”<sup>31</sup> Although this does not demonstrate that owning a social media account causes a surgeon to be more liked by their patients, it begs the question as to whether the surgeon that makes the effort to be more available, open, and informative can allow patients to feel more heard, understood, and informed. A JAMA study published in 2014 reported that only 5% of the US population left a review of a physician and 3% of a hospital system.<sup>32</sup> Despite that, there does exist some evidence to suggest that reviews may correlate with patient satisfaction scores on HCAHPS. Bardach et al correlated positive Yelp Scores to high HCAHPS ratings for hospitals that had as few as 5 Yelp ratings.<sup>33</sup> Although patient satisfaction does not always correlate with good patient care, it is still a metric used by patients when identifying with which physician to have a consultation. Higher patient satisfaction has the potential to increase and diversify your payer mix, leading to possible long-term revenue gain for the physician and hospital system.

Although it may seem daunting at first, having an online presence is readily accessible and manageable by any practicing spine surgeon. First and foremost, it is important to have a marketing plan with clear objectives and quantify goals. It is the opinion of the authors that physicians should have separate personal and professional pages on all social media platforms. They must establish and maintain boundaries of the physician-patient relationship. This includes considerations like how they want to utilize direct messaging on various sites. It also includes limiting personal photos of their family members or other topics that might not be related to their practice of medicine. The next step would be to create a website that has high-

quality healthcare information that patients have direct access to. This static website should be supplemented with constantly updated information on your social media platforms. These social media posts can typically contain a link to direct users to your website or to book an appointment. The social media platforms should actively engage in discussion and community. Engaging users on social media sites such as Facebook, Twitter, YouTube, and Instagram can allow current and potential patients to have meaningful conversations with surgeons without ever meeting them in person. The surgeon or the surgeon’s assistant can devote 30 minutes or less a day which can often be enough to maximize outcomes while minimizing the time commitment needed to maintain an active and healthy online presence.

Search engine optimization (SEO) is the process of improving the quality and quantity of traffic to your website. This is the critical first step to having a strong online presence beyond social media. Due to the nuanced nature of SEO, the best suggestion for optimization would be hiring a firm that specializes in this. This can range in cost depending on your market and the needs of your website. Search engines return results from user searches based on many factors. Your website should be optimized to rank high in search engine results. This involves assuring that content on your website is in-depth, coherent, and utilizes keywords related to the search terms that potential patients might be looking for. For instance, having several paragraphs about back pain that include phrases like “strain,” “physical therapy,” “sciatica,” “lumbago,” etc. will score high on the algorithms used by search engines to determine which websites to display to patients. When your website is properly optimized, your spine surgery practice will benefit from a web presence that is capable of generating a steady stream of new patients.

Antheunis et al performed a survey of 153 healthcare professionals and noted that one of the biggest barriers to adoption of social media was the perceived level of time-intensity and inefficiency associated with its use.<sup>34</sup> However, many physicians have been able to engage in social media for a maximum of 30 minutes per day.<sup>35</sup> With the use of websites that help physicians aggregate information, they are kept updated with the engagement of potential patients. The physician can then use this information to decide what to post on their social media platforms when to post it, and to what demographic groups they might wish to “boost” their posts with advertising money. Although on the surface it seems complex, using a social media account or 2 combined with a website to establish a clear online presence is doable for any surgeon. Doing so will benefit their practice, keep younger potential patients interested, and allow patients a clear path to seeing the surgeon in person. It should be noted that there are limitations to be noted in our study. Out of approximately 2,500 spine surgeons in the USA, this paper investigates a representative portion of the NASS database. Moreover, this paper doesn’t have a good way to evaluate how much patients interact with these surgeons’ pages or accounts. This paper doesn’t know how many patients are acquired via social media to determine marketing aspect.

## Conclusion

Given the scarcity of research on this topic and the novelty of the platforms, social media and online services continue to be utilized at a low level by spine surgeons. Given our dataset, young surgeons tend to use more than 1 social media platform, and their age, years in practice, and practices were correlated with having a social media presence. Issues regarding the risks of privacy issues with social media users continue to be a concern among medical professionals adopting this technology. This can largely be mitigated with the combination of physician education and informed consent from patients to use their images or information when desired. The virtues of an online presence cannot be overstated. The ability to connect with patients directly and provide high-quality education and information will continue to benefit our field well into the future. Continued research into the patients' perceptions of their provider having a social media presence must be collected to guide future decisions. With the rapidly evolving nature of social media platforms, surgeons who do not stay abreast will likely fall behind and lose influence over time. What is clear now is the drastic need for high-quality, physician-driven content online to provide appropriate, timely, and accurate information to patients. Social media's impact on inter-professional relationships and education will likely continue to evolve over the coming years as well. As leaders in our communities, spine surgeons should strive to stay involved and be constantly ready to adapt to the changing online landscape.


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