



ORIGINAL ARTICLE

Technology

Instagram Versus Reality: Who Are Actually Plastic Surgeons?

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Background: Instagram has become one of the most powerful marketing tools available to plastic surgeons because patients have increasingly turned to online resources to find physicians. Within, we review the online presence of self-ascribed plastic surgeons in the United States to identify potential misinformation and dishonest advertising.

Methods: The Inflact database was queried for the search terms: "plastic surgeon/surgery," "plastic and reconstructive surgeon/surgery," "aesthetic surgeon/surgery," and "cosmetic surgeon/surgery." US physician account information, history of medical training, American Board of Plastic Surgery (ABPS) certification status, and posts were reviewed.

Results: In total, 1399 physicians practicing within the United States were identified. Most attended medical school in the United States (93%), a minority received integrated plastic surgery training in the United States (14%), and the majority attended general surgery residency in the United States (57%) followed by independent plastic surgery residency in the United States (50%). Altogether, 1141 individuals were explicitly listed as "plastic surgeons" on Instagram, nearly a quarter of these (325 individuals, 28%) were not certified by the ABPS, and nearly a fifth (251 individuals, 22%) received no training in plastic surgery.

Conclusions: Nearly one-third of "plastic surgeons" on Instagram are not certified through the ABPS. This is detrimental to the reputation of plastic surgery and has the potential to create broader consequences and may lead to patients mistakenly receiving care from unqualified physicians. It is paramount that plastic surgeons create a united front against such endeavors through advocacy efforts within the American Society of Plastic Surgeons. (*Plast Reconstr Surg Glob Open 2025*; 13:e6426; doi: 10.1097/GOX.0000000000006426; Published online 10 January 2025.)

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INTRODUCTION

Instagram (Menlo Park, CA) is a prominent visual social media platform with more than 143 million users in the United States as of 2023.¹ Instagram's visual focus lends itself well to sharing visual results, and as such, may be influential for those undergoing plastic surgery. This platform can serve as a 2-way access point that allows surgeons to advertise and patients to learn more about their surgeon.²-5 Previous studies indicate that patients utilize social media when performing their own research on plastic surgery.²,6-9 Instagram is a powerful social media platform with a tremendous potential for marketing and as such is a major focus for advertisement across business sectors, markets, and consumer age groups.

There has been an increase in the rates of cosmetic and aesthetic surgery, following the increase of remote working and video calls.^{7,10} According to the American Society of Plastic Surgeons (ASPS) 2022 Plastic Surgery Statistics Data, there has been a notable 19% increase in cosmetic surgery performed between 2019 and 2022.¹⁰

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This substantial increase is indicative of plastic surgery's high demand, and as such, there exists a strong motivation for many within medicine to offer cosmetic procedures or surgery. Despite this increase in cosmetic surgery, the number of training positions within plastic surgery has remained stable, propagating the nationwide shortage of plastic surgeons. ^{11,12}

The scope of plastic surgery, including both aesthetic and reconstructive procedures, has traditionally been performed by plastic surgeons in the United States.¹³ Facial plastic surgery and oculoplastic surgery are subspecialties stemming from otolaryngology and ophthalmology, respectively. 14,15 These subspecialties allow trained specialists to perform cosmetic procedures within their area of expertise. However, there exists a burgeoning group of physicians and nonphysicians conducting cosmetic and aesthetic procedures outside their scope of training. 16,17 A myriad of individuals across most specialties have been implicated in this, as demonstrated in prior studies.^{17,18} It is unsafe for those without formal training in plastic surgery to perform plastic surgery and/or pose as a plastic surgeon. Within, we review the Instagram presence of selfascribed plastic surgeons in the United States to identify potential misinformation and dishonest advertising. We sought to evaluate which of these clinicians were practicing outside their scope of practice. This is the first study to examine the qualifications of surgeons in the US marketing themselves as plastic surgeons on Instagram.

METHODS

This study was institutional review board–exempt, as publicly available data was accessed. Inflact is an open access web-based marketing tool that was used to search Instagram for accounts. ¹⁹ Queries through the Instagram application itself are limited to only 60 results. Inflact was queried for the search terms: "plastic surgeon," "plastic surgery," "plastic and reconstructive surgeon," "plastic and reconstructive surgeon," "aesthetic surgery," "cosmetic surgeon," and "cosmetic surgery." A total of 3314 Instagram accounts were identified in January 2023, and a systematic search on Instagram was performed from January to February 2023.

Accounts were excluded if they were not in English, were outside of practice in the United States, were nonphysicians, or were trainees. Instagram account information collected included handle, full name, sex, number of followers, and number following. Each physician's education and training history were ascertained using information on Instagram and Google searches of each physician. Posts and website links were reviewed to determine services offered, if an open pricing scheme was available, and whether injectable treatments were offered. Procedures considered with an increased risk included Brazilian butt lift, tummy tuck/abdominoplasty, body lift, and liposuction due to their well-established heightened and potentially severe complications.^{20–22} American Board of Plastic Surgery (ABPS) certification status was verified using the ABPS website board certification verification search.¹³ Three reviewers independently produced raw data for

Takeaways

Question: Are self-ascribed "plastic surgeons" on Instagram actually plastic surgeons?

Findings: A review of those listed as plastic surgeons on Instagram found that nearly a third of physicians were not board certified by the American Board of Plastic Surgery. Over a fifth of physicians had no training in plastic surgery whatsoever.

Meaning: An inaccuracy in those who identify as plastic surgeons on Instagram is unsafe for patients and is detrimental to the reputation of plastic surgery. Advocacy efforts to broaden awareness and enable action are needed.

each physician, including board certification status and scope of practice. A fourth reviewer analyzed each list for inclusion and exclusion criteria. Physicians who appeared more than once were used only once in the analysis. All nonboard-certified "plastic surgeons" had their training qualifications reviewed. Descriptive statistics and independent samples t tests were conducted using Microsoft Excel (Seattle, WA) and Statistical Package for the Social Science (Armonk, NY) with a predetermined level of statistical significance at a Pvalue less than 0.05.

RESULTS

In total, 1399 physicians practicing within the United States were identified. Within this group, 1292 physicians attended medical school in the United States (93%). A minority (14%, 193 physicians) received integrated plastic surgery training in the United States, whereas 796 (57%) attended general surgery residency training in the United States followed by 704 (50%) who completed independent plastic surgery residency in the United States. The discrepancy of 92 physicians represents general surgeons who self-advertised as a plastic/ aesthetic/cosmetic surgeon without having completed a residency in plastic surgery. Altogether, 1141 individuals were explicitly listed as "plastic surgeons" on Instagram, nearly a quarter of these (325 individuals, 28%) were not certified by the ABPS, and nearly a fifth (251 individuals, 22%) received no training in plastic surgery. We identified 3 plastic surgeons who had their board certification suspended (Table 1; Fig. 1).

A total of 171 physicians were listed as facial plastic surgeons, and one-third (95 individuals, 56%) identified themselves as a "plastic surgeon"; however, only 20% were trained in plastic surgery (10 integrated, 24 independent) and only 29 (17%) were board certified in plastic surgery. A total of 40 oculoplastic surgeons were identified, of which nearly half (19 individuals, 48%) identified themselves as a "plastic surgeon," whereas none had completed training in plastic surgery, and none were board certified in plastic surgery. A total of 118 aesthetic/cosmetic surgeons were identified, and nearly half (55 physicians, 47%) identified themselves as a "plastic surgeon." Of this group, only 12 (10%)

Table 1. The Total Number of US Physicians Identified, Stratified by Training, Listing as a "Plastic Surgeon," and Board Certification Status

| | Total | Listed as Plastic Surgeon (%) | Board Certified in Plastic Surgery (%) |
|--------------------------------------|-------|-------------------------------|--|
| All US physicians | 1399 | 1141 (82) | 818 (72) |
| Integrated plastic surgery training | 193 | 193 (100) | 166 (86) |
| Independent plastic surgery training | 704 | 699 (99) | 639 (91) |
| General surgery training | 796 | 753 (95) | 626 (79) |
| Otolaryngology training | 168 | 100 (60) | 17 (10) |
| Ophthalmology | 42 | 19 (45) | 0 (0) |
| Aesthetic/cosmetic surgery | 118 | 55 (47) | 12 (0) |
| Bariatric surgery training | 1 | 0 (0) | 0 (0) |
| OMFS/dentistry training | 14 | 5 (36) | 2 (14) |
| Dermatology training | 72 | 7 (10) | 0 (0) |
| Hair transplant | 2 | 1 (50) | 0 (0) |
| OBGYN training | 24 | 9 (38) | 0 (0) |
| Pain management training | 1 | 0 (0) | 0 (0) |
| Vascular surgery training | 3 | 1 (33) | 0 (0) |

OBGYN, obstetrics and gynecology; OMFS, oral and maxillofacial surgery.

Breakdown of Physicians' Board Certification

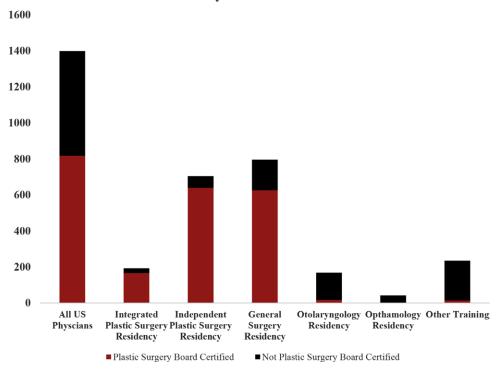


Fig. 1. Composition of training history of US physicians and their status of board certification in plastic surgery. Other training pathways included dermatology, obstetrics and gynecology, oral maxillofacial surgery/dentistry, aesthetic/cosmetic surgery, medicine, hair transplantation, pain management, and vascular surgery.

received training in plastic surgery, and 7 (6%) were board-certified plastic surgeons (Table 1).

Most accounts (51%) self-reported the sex of the physician, with 109 reported as female and 581 reported as male. In total, 1261 (91%) advertised injectables on their Instagram page and 156 (11%) provided information about the cost of the procedures they provide. Board-certified plastic surgeons were more likely to advertise injectables (95%) compared with non-plastic surgery

board-certified physicians (90%) (P= 0.003). Those who were non–plastic surgery board-certified were more likely to advertise procedures with known increased complication rates (74%) compared with board-certified plastic surgeons (40%) (P< 0.001). Nonboard-certified "plastic surgeons" (53,478 followers) and aesthetic/cosmetic surgeons (76,379 followers) had more followers than board-certified plastic surgeons (32,224 followers) on average (P= 0.009 and P< 0.001, respectively) (Table 2).

Table 2. Comparison Between Varying Physician Groups and Number of Instagram Posts and Followers

| Individual Categorization | Number | Mean Cumulative No. Posts (SD) | P value No. Posts | Mean No. Followers (SD) | P value No. Followers |
|---|--------|-----------------------------------|----------------------|----------------------------|--------------------------|
| Board-certified plastic surgeons | 818 | 864 (955) | 1.0 | 32,224 (101,714) | 1.0 |
| Nonplastic surgery board-certified physicians | 581 | 866 (950) | 0.95 | 45,042 (155,809) | 0.07 |
| Nonboard-certified "plastic surgeons" | 325 | 993 (1069) | 0.047 | 53,478 (162,928) | 0.009 |
| Facial plastic surgeons | 171 | 706 (720) | 0.04 | 26,667 (75,935) | 0.50 |
| Oculoplastic surgeons | 40 | 658 (501) | 0.18 | 15,464 (33,326) | 0.30 |
| Aesthetic/cosmetic surgeons | 118 | 890 (892) | 0.77 | 76,379 (249,132) | < 0.001 |
| Other physicians | 286 | 954 (1092) | 0.19 | 45,766 (141,666) | 0.08 |

Independent sample *t* tests determined significance against board-certified plastic surgeons. Values in boldface are statistically significant.

DISCUSSION

Instagram is a high-traffic online platform with a wide breadth of reach. It is being used by plastic surgeons to advertise online. ^{23,24} Our study reveals that nearly one-third of physicians advertising as plastic, aesthetic, or cosmetic surgeons on Instagram lack ABPS board certification, and nearly one-fifth are not trained in plastic surgery. This discrepancy poses a significant concern for the online presence of plastic surgeons, as misrepresentation is inappropriate and potentially harmful to patients. These levels of misidentification are unacceptable, especially considering that the terminology used to describe surgeon certifications can be complicated and confusing to patients. ^{17,25–27} This highlights the unreliability of information on Instagram.

Prospective patients may encounter those who selfpromote as plastic surgeons without appropriate board certification. Previous studies have reported that board certification is the most important factor for patients selecting an aesthetic surgeon.^{28,29} However, patients may be misled by the myriad of non-Accreditation Council for Graduate Medical Education board-certified specialties such as the American Board of Cosmetic Surgery and the American Board of Aesthetic Medicine. 30,31 These non-Accreditation Council For Graduate Medical Educationaccredited boards mislead patients and are detrimental to patients. Nonboard-certified "plastic surgeons" could subject patients to unsafe practices, resulting in adverse outcomes.^{32,33} This is also damaging to the reputation of plastic surgery, as nonoptimal outcomes would be more likely achieved without adequate and safe training in plastic surgery. Regardless of the outcome, misidentifying oneself as a physician of a different specialty is misleading and manipulative to patients.

The composition of nonplastic surgeons included physicians such as general surgeons, obstetrics and gynecologists, dermatologists, otolaryngologists, ophthalmologists, oral surgeons and dentists, vascular surgeons, and internal medicine physicians. Although these inconsistencies are present on social media, they have also been identified on hospital websites. ^{34,35} As explored in Table 1, there is a large discrepancy between those listed as plastic surgeons and those who are board certified in plastic surgery. This dishonest advertising is detrimental to our patients and the reputation of plastic surgery. Awareness of such misleading classifications by plastic surgeons, patients, practice owners, and hospital systems can help mitigate this potentially

adverse reality.^{36,37} Research has consistently emphasized the importance of board certification and surgeon qualifications in patient selection.^{28,29} Current advocacy initiatives have focused on discouraging misidentification and educating patients on the dangers of misinformation.^{17,18,38} The American Medical Association has been encouraging the use of "truth-in-advertising laws," which only allow board-certified physicians to label themselves as such and mandate plastic surgery ads to display the practitioner's training level.³⁸ However, the effectiveness of these in decreasing misrepresentation has yet to be demonstrated.³⁸

There exists a minority of physicians who received training in plastic surgery but are not ABPS-certified. This can be explained in part by those who are board eligible or have allowed their certification to expire. Three plastic surgeons identified had their ABPS board certification suspended but still maintained Instagram accounts. This may be indicative of continued active practice.

It is concerning that nonboard-certified surgeons appear to advertise procedures with an increased risk (liposuction, abdominoplasty, Brazilian butt lift) compared with board-certified plastic surgeons.³⁹ Board-certified plastic surgeons are the best equipped to perform such operations, and despite advanced training, these procedures maintain significant complication potential.²⁰⁻²² Performance of these procedures by nonboard-certified surgeons may place patients at increased and unnecessary risk. It is also notable that nonboard-certified "plastic surgeons" and aesthetic/cosmetic surgeons had more followers on average than board-certified plastic surgeons. Accounts with larger follower counts are more likely to appear in patient searches, influenced by Instagram's search algorithms.40 This posits a serious conundrum in our increasingly online-driven society.

This study raises the question of whether plastic surgeons should advocate for stricter penalties for those misrepresenting themselves. There is no assurance that state boards will consistently enforce penalties, nor are there clear provisions outlining the extent of these penalties.³⁸ In a manner akin to the ASPS's "Find a Surgeon" tool, we may consider creating a platform to publicly list Instagram accounts misrepresented within plastic surgery. This could even be translated to an ASPS-specific verification tool for plastic surgery accounts.

This study is the first to broadly assess the issue of misrepresentation of plastic surgeons on the Instagram app. This study has limitations, including its retrospective nature. It is possible that our search criteria may not have been comprehensive enough, potentially missing accounts using unconventional fonts, emojis, or languages other than English to identify themselves. We used a third-party search system which may not identify every account under the aforementioned search criteria. Also, this study is subject to selection bias, as the search results of Instagram accounts may not accurately represent the true population of surgeons operating in the United States.

CONCLUSIONS

There is a significant number of physicians who are using Instagram to advertise themselves as plastic surgeons while performing plastic surgery without a board certification by the ABPS. This group is the minority. However, their Instagram presence is greater, suggesting that they may be more visible options for patients. We advocate for the standardization of training in plastic surgery to promote patient safety.

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DISCLOSURE

The authors have no financial interest to declare in relation to the content of this article.

REFERENCES

- Statista. Number of internet and social media users worldwide as of April 2023. 2023. Available at https://www.statista.com/statistics/578364/countries-with-most-instagram-users/. Accessed September 13, 2023.
- Shauly O, Marxen T, Goel P, et al. The new era of marketing in plastic surgery: a systematic review and algorithm of social media and digital marketing. Aesthet Surg J Open Forum. 2023;5:ojad024.
- 3. Thawanyarat K, Hinson C, Gomez DA, et al. #PRS: a study of plastic surgery trends with the rise of instagram. *Aesthet Surg J Open Forum.* 2023;5:ojad004.
- Ananthasekar S, Patel JJ, Patel NJ, et al. The content of US plastic surgery private practices' websites. Ann Plast Surg. 2021;86:S578–S584.
- Singh NP, Boyd CJ. Response to: the impact of social media on plastic surgery residency applicants. Ann Plast Surg. 2022;89:251.
- Arab K, Barasain O, Altaweel A, et al. Influence of social media on the decision to undergo a cosmetic procedure. *Plast Reconstr Surg Glob Open*. 2019;7:e2333.
- Gould DJ, Grant Stevens W, Nazarian S. A primer on social media for plastic surgeons: what do i need to know about social media and how can it help my practice? *Aesthet Surg J.* 2017;37:614–619.
- 8. Gould DJ, Leland HA, Ho AL, et al. Emerging trends in social media and plastic surgery. *Ann Transl Med.* 2016;4:455.
- Ravikumar V, Kapadia K, Dalena M, et al. Is TikTok the New Instagram? Analysis of plastic surgeons on social media. *Plast Reconstr Surg.* 2021;147:920e–922e.
- 2022 Cosmetic Surgical Procedures. 2022. American Society of Plastic Surgeons (ASPS). Available at https://www.plasticsurgery. org/documents/News/Statistics/2022/cosmetic-proceduretrends-2022.pdf. Accessed October 10, 2023.

- Rohrich RJ, McGrath MH, Lawrence WT, et al; American Society of Plastic Surgeons Plastic Surgery Workforce Task Force. Assessing the plastic surgery workforce: a template for the future of plastic surgery. *Plast Reconstr Surg.* 2010;125:736–746.
- Yang J, Jayanti MK, Taylor A, et al. The impending shortage and cost of training the future plastic surgical workforce. *Ann Plast Surg.* 2014;72:200–203.
- 13. American Board of Plastic Surgery. Is your surgeon certified? Available at https://www.abplasticsurgery.org/public/verifycertification/VerifyCert?section=SurgeonSearch. 2024. Accessed September 14, 2023.
- 14. Chuang J, Barnes C, Wong BJF. Overview of facial plastic surgery and current developments. *Surg J (N Y)*. 2016;2:e17–e28.
- Mehta S, Belliveau MJ, Oestreicher JH. Oculoplastic surgery. Clin Plast Surg. 2013;40:631–651.
- Liu TS, Miller TA. Economic analysis of the future growth of cosmetic surgery procedures. Plast Reconstr Surg. 2008;121: 404e-412e
- Shah A, Patel A, Smetona J, et al. Public perception of cosmetic surgeons versus plastic surgeons: increasing transparency to educate patients. *Plast Reconstr Surg.* 2017;139:544e–557e.
- Barr JS, Sinno S, Cimino M, et al. Clinicians performing cosmetic surgery in the community: a nationwide analysis of physician certification. *Plast Reconstr Surg.* 2015;135:92e–98e.
- Inflact by Ingramer. Inflact. 2023. Available at: https://inflact.com/. Accessed February 1, 2023.
- Cárdenas-Camarena L, Andrés Gerardo LP, Durán H, et al. Strategies for reducing fatal complications in liposuction. *Plast Reconstr Surg Glob Open*. 2017;5:e1539.
- 21. Pazmiño P, Garcia O. Brazilian butt lift-associated mortality: the South Florida experience. *Aesthet Surg J.* 2023;43:162–178.
- 22. Vidal P, Berner JE, Will PA. Managing complications in abdominoplasty: a literature review. *Arch Plast Surg.* 2017;44:457–468.
- Dorfman RG, Vaca EE, Mahmood E, et al. Plastic surgery-related hashtag utilization on instagram: implications for education and marketing. Aesthet Surg J. 2018;38:332–338.
- Thawanyarat K, Hinson C, Gomez DA, et al. Content and engagement among plastic surgeons on instagram. Aesthet Surg J Open Forum. 2023;5:0jac096.
- Shah A, Patel A, Smetona J, et al. Reply: public perception of cosmetic surgeons versus plastic surgeons: increasing transparency to educate patients. *Plast Reconstr Surg.* 2018;141:188e–189e.
- Tessler O, Bourn L, Lin SJ, et al. Cosmetic surgeon representation: ensuring board certification transparency and patient awareness. Ann Plast Surg. 2018;80:S431–S436.
- 27. Girardi A, Singh NP, Boyd CJ. Using social media in health care research should proceed with caution. Comment on "The use of social media for health research purposes: scoping review." Letter to the Editor. *J Med Internet Res.* 2022;24:e35286.
- Nowak LI, Washburn JH. Patient sources of information and decision factors in selecting cosmetic surgeons. *Health Mark Q*. 1998;15:45–54.
- 29. Waltzman JT, Scholz T, Evans GR. What patients look for when choosing a plastic surgeon: an assessment of patient preference by conjoint analysis. *Ann Plast Surg.* 2011;66:643–647.
- Surgery ABoC. American Board of Cosmetic Surgery Homepage. American Board of Cosmetic Surgery. 2024. Available at: https://www.americanboardcosmeticsurgery.org/. Accessed January 11, 2024.
- 31. Medicine ABoA. American Board of Aesthetic Medicine homepage. 2024. Available at: https://abamedicine.com/. Accessed January 11, 2024.
- 32. D'Amico RA, Saltz R, Rohrich RJ, et al. Risks and opportunities for plastic surgeons in a widening cosmetic medicine market: future demand, consumer preferences, and trends in practitioners' services. *Plast Reconstr Surg.* 2008;121:1787–1792.

- 33. O'Donnell J. Some non-plastic-surgeons disciplined for disastrous results. *USA Today*. 2011:4.
- 34. Awad SK, Cowen J, Patel J, et al. Plastic surgeons are underrepresented when searching hospital websites for a hand surgeon. *Plast Reconstr Surg.* 2023;151:1055e–1058e.
- **35.** Singh NP, Boyd CJ, Aluri A, et al. One in three chance of finding a plastic surgeon on major hospital websites. *Plast Reconstr Surg Glob Open.* 2023;11:e4781.
- 36. Boudreau H, Singh N, Boyd CJ. Understanding the impact of social media information and misinformation producers on health information seeking. comment on "health information seeking behaviors on social media during the COVID-19 pandemic among American social networking site users: survey study." Letter to the Editor. J Med Internet Res. 2022;24:e31415.
- 37. MacLeod S, Singh NP, Boyd CJ. The unclear role of the physician on social media during the COVID-19 pandemic. Comment

- on "Emergency physician Twitter use in the COVID-19 pandemic as a potential predictor of impending surge: retrospective observational study." Letter to the Editor. *J Med Internet Res.* 2022:24:e34870.
- **38.** Chattha A, Muste J, Chen AD, et al. Truth-in-advertising laws: are they working? A cross-sectional analysis of a "plastic surgeon" patient search simulation. *Plast Reconstr Surg.* 2021;147:231–238.
- 39. Reyes EA. She died after liposuction by a pediatrician. Doctors warn of cosmetic surgery's 'Wild West'. *The Los Angeles Times*. 2024. Available at https://www.latimes.com/science/story/2024-03-31/california-cosmetic-surgery. Accessed April 15, 2024.
- Instagram.com. Break down how instagram search works. 2021.
 Available at https://about.instagram.com/blog/announce-ments/break-down-how-instagram-search-works. Accessed April 15, 2024.