# Surgeons on Social: Associations Between Social Media Activity and Online Provider Reviews Across Orthopedic Subspecialties

Antonio Vandoros Da Costa, Hans K Nugraha, Darin Roberts, Arun Hariharan

INTRODUCTION: Online reviews play an increasingly influential role in patient decision-making, particularly in orthopedics, where 38.4% of patients report relying heavily on internet sources to select a physician. While clinical reputation and outcomes remain critical, digital presence, including physician review websites (PRWs) and social media platforms, has emerged to become a key component of perceived provider quality. Platforms such as Facebook, X, and Instagram offer orthopedic surgeons the ability to increase patient engagement, share educational content, and build professional visibility. Prior studies have shown associations between social media presence and higher PRW ratings, yet little is known about how posting frequency and platform-specific engagement relate to review metrics across orthopedic subspecialties. This study evaluates the relationship between social media activity and PRW ratings among orthopedic surgeons and explores whether patterns differ by subspecialty and practice setting.

METHODS: This cross-sectional study included 1,039 orthopedic surgeons randomly selected from seven major orthopedic organizations (POSNA, AOSSM, NASS, AOFAS, AAHS, AAHKS, OTA), with up to three surgeons per state. Publicly available data were collected on Google and Healthgrades ratings, total reviews, number of social media profiles, and posting frequency across five platforms (Facebook, X, Instagram, YouTube, LinkedIn). Demographic information included years in practice, board certification, and number of PubMed-indexed publications. ANOVA compared social media activity across subspecialties and practice settings. Multivariate regression identified predictors of average ratings and total reviews.

RESULTS:

Private practice status (B=0.27, p=0.036) and Facebook post volume (B=0.0013, p=0.034) were associated with higher average Google ratings. For Healthgrades, years in practice (B=0.02, p<0.001) and private practice (B=0.28, p=0.006) predicted higher ratings. Subspecialty analysis revealed minimal associations between specific platforms and ratings, such as Instagram activity with Google ratings in OTA surgeons ($R^2=0.08$) and X (Twitter) activity with Healthgrades in AAHS members ($R^2=0.27$).

For total Google reviews, Facebook total posts (B=0.082, p=0.003), number of social media profiles (B=3.59, p=0.009), and private practice status (B=30.46, p<0.001) were significant predictors. Total Healthgrades reviews were also associated with Facebook (B=0.10, p<0.001), YouTube (B=0.53, p<0.001), and LinkedIn post counts (B=0.13, p<0.001), as well as years in practice (B=0.92, p<0.001).

Social media activity differed significantly across subspecialties (ANOVA p=0.018), with AOSSM members having the highest mean post count (37.26) and POSNA the lowest (1.46). No difference was observed between private and academic settings (p=0.09). Board certification and PubMed-indexed publication count showed no significant association with either Google or Healthgrades ratings.

DISCUSSION AND CONCLUSION: Social media activity among orthopedic surgeons is associated with online ratings in a multifaceted manner, with varying impact by platform and subspecialty. While regression models demonstrated limited explanatory power, significant associations with Facebook, Instagram, and LinkedIn activity suggest that digital engagement may influence both patient visibility and the number of online reviews. These results highlight opportunities for orthopedic surgeons to optimize their professional image and outreach by aligning social media strategies with subspecialty trends and platform strengths. As patients increasingly turn to online sources to guide provider selection, a strategic and consistent digital presence may serve as a valuable complement to clinical expertise and traditional markers of reputation.



Web plot of the Correlation Matrix
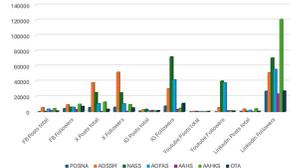


| | Total no. of Surgeons | Average Age (± SD) | Average Years in practice (± SD) | Total no. of Publications | Total No. of Social Media profiles | Total No. of posts |
|---|---|---|---|---|---|---|
| POSNA | 147 | 51.0 ± 12.09 | 23.8 ± 12.83 | 5737 | 95 | 7492 |
| AOSSM | 150 | 57.3 ± 11.03 | 28.2 ± 11.46 | 6698 | 178 | 50287 |
| NASS | 149 | 47.9 ± 9.05 | 19.6 ± 9.38 | 5539 | 115 | 22662 |
| AOFAS | 144 | 49.3 ± 7.92 | 21.8 ± 7.80 | 5380 | 108 | 17558 |
| AAHS | 150 | 48.7 ± 9.75 | 20.3 ± 10.05 | 3778 | 73 | 3656 |
| AAHKS | 149 | 48.8 ± 8.94 | 20.2 ± 8.88 | 4012 | 186 | 21879 |
| OTA | 150 | 45.2 ± 7.86 | 17.1 ± 8.14 | 3883 | 112 | 7363 |

| Organization | LinkedIn (Followers / Posts) | Facebook (Followers / Posts) | X (Twitter) (Followers / Posts) | Instagram (Followers / Posts) | YouTube (Followers / Posts) |
|---|---|---|---|---|---|
| POSNA | 27,076 / 383 | 4,443 / 214 | 6,028 / 5,858 | 7,597 / 1,037 | 0 / 0 |
| AOSSM | 51,383 / 3,621 | 9,319 / 5,482 | 51,884 / 38,148 | 30,311 / 2,798 | 5,361 / 624 |
| NASS | 70,557 / 861 | 6,207 / 776 | 24,949 / 25,282 | 72,038 / 3,548 | 40,298 / 361 |
| AOFAS | 55,719 / 2,137 | 5,988 / 3,618 | 10,675 / 10,807 | 41,961 / 1,526 | 38,161 / 62 |
| AAHS | 23,550 / 109 | 2,968 / 1,499 | 772 / 310 | 3,046 / 1,321 | 1,468 / 53 |
| AAHKS | 120,962 / 4,024 | 10,018 / 4,286 | 9,515 / 12,806 | 4,791 / 1,275 | 1,537 / 194 |
| OTA | 27,306 / 599 | 7,169 / 1,166 | 5,211 / 3,433 | 11,076 / 1,642 | 1,049 / 523 |