



Background

Hallux valgus (HV) or a bunion is one of the most common forefoot deformities.¹ Approximately one in four adults will develop HV with a higher prevalence in adult females.¹ Up to 80% of adult internet users reference online sources for health related information.² Overall, the high prevalence of HV combined with the numerous treatment options, we believe patients are likely turning to internet search engines for questions germane to HV. Previous orthopaedic investigations have used Google’s “People Also Ask” box to characterize frequently asked questions (FAQs) regarding total knee and hip arthroplasty.³ Yet, no such investigation has been conducted for HV. Using Google’s FAQs, we sought to classify these questions, categorize the sources, as well as assess their levels of quality and transparency.

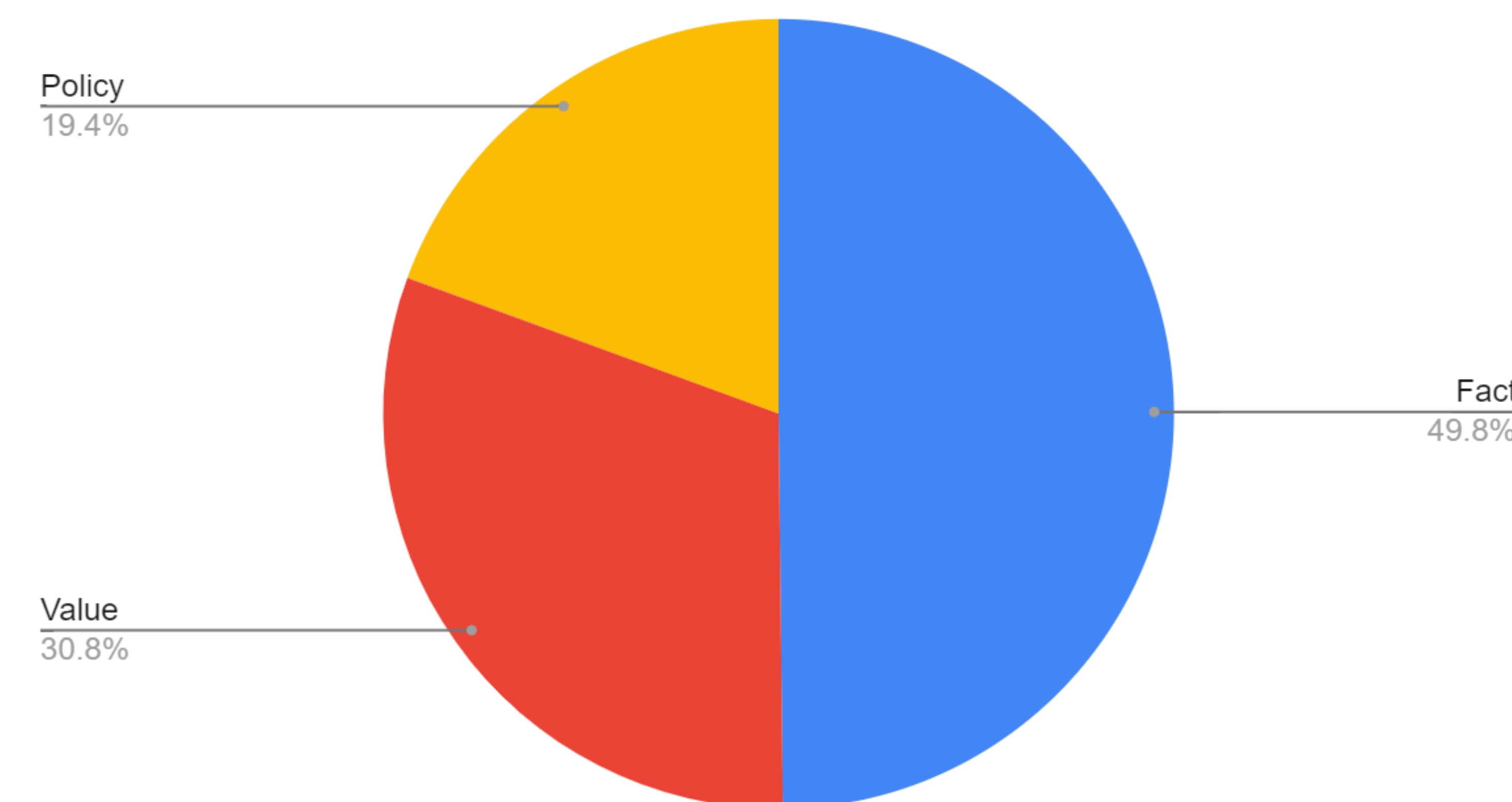
Methods

On October 9, 2022, we searched Google using these four phrases, “Hallux Valgus treatment,” “Hallux Valgus Surgery,” “Bunion treatment,” and “Bunion surgery.” For each search, we used a free Chrome extension, SEO Minion, until a minimum of 200 FAQs were produced; the extension extracted both the FAQs and sources. Information transparency was classified using Rothwell Classification. Next we categorized sources and assessed the level of transparency and quality using the Journal of the American Medical Association’s (JAMA) Benchmark tool and Brief DISCERN, respectively.

Results

Our Google search returned 299 unique FAQs after removing duplicates and unrelated FAQs. The majority were classified as fact based questions (149/299, 49.8%), followed by value (92/299, 30.8%) and policy questions (58/299, 19.4%). Overall the most common topic searched was related to the evaluation of treatment or surgery (79/299, 26.4%). The frequent answer sources were medical practices (158/299, 52.8%), followed by commercial (69/299, 23.1%) and academic (38/299, 12.7%). The one-way analysis of variance revealed a significant difference in mean quality scores among the 5 source types (F= 54.49, P<.001) with medical practices averaging the worst score (12.1/30) compared to academic sources which were found to have the highest score (21.8/30).

Figure 1. Rothwell Classification



Recording Link Here



Summary

Patients seeking online information concerning treatment options for HV appear to search for questions related to treatment efficacy and the restrictions associated with the treatment. The most common source type encountered by patients are medical practices; these were found to have both poor transparency and poor quality. In order to increase the transparency and quality of online information regarding HV treatment, online sources should refer to established rubrics such as JAMA benchmark and Brief DISCERN when publishing online information. Physicians should be aware that patients are commonly encountering information of low quality. Our findings reinforce the importance of well informed, evidence-based patient counseling before and after HV treatment.

References

- 1 Kuhn J, Alvi F. Hallux Valgus. In: StatPearls. Treasure Island (FL): StatPearls Publishing, <https://www.ncbi.nlm.nih.gov/pubmed/31971732> (2022).
- 2 Sculco PK, McLawhorn AS, Fehring KA, de Martino I. The future of social media in orthopedic surgery. *Curr Rev Musculoskeletal Med.* 2017;10(2):278–2789. <https://doi.org/10.1007/s12178-017-9412-9>
- 3 Shen TS, Driscoll DA, Islam W, et al. Modern Internet Search Analytics and Total Joint Arthroplasty: What Are Patients Asking and Reading Online? *J Arthroplasty.* Epub ahead of print 20 October 2020. DOI: 10.1016/j.arth.2020.10.024.

	Source Type					Total n= 299	Chi-Square (DF = 4), P
	Academic n= 38	Commercial n= 69	Government n= 14	Medical Practice n= 158	Media Outlet n= 20		
JAMA Benchmark							
=3	26 (8.7)	45 (15.1)	12 (4.0)	12 (7.6)	20 (6.7)	115 (38.5)	144.09, P <.001
<3	12 (4.0)	24 (8.0)	2 (0.7)	146 (48.9)	0	184 (61.5)	
Authorship							
No	26 (8.6)	22 (7.4)	9 (3.0)	116 (38.8)	4 (1.3)	175 (58.5)	48.74, P <.001
Yes	12 (4.0)	47 (15.7)	5 (1.7)	42 (14.0)	16 (5.4)	124 (41.5)	
Attribution							
No	16 (5.4)	61 (20.4)	2 (0.7)	156 (52.2)	7 (2.3)	242 (80.9)	139.73, P <.001
Yes	22 (7.4)	8 (2.7)	12 (4.0)	2 (0.7)	13 (4.3)	57 (19)	
Currency							
No	11 (3.7)	17 (5.7)	0	103 (34.4)	0	87 (29.1)	69.55, P <.001
Yes	27 (9.0)	52 (17.4)	14 (4.7)	55 (18.4)	20 (6.7)	212 (71.0)	
Disclosure							
No	0	0	0	27 (9.0)	0	27 (9.0)	26.48, P <.001
Yes	38 (12.7)	69 (23.0)	14 (4.7)	131 (43.8)	20 (6.7)	272 (91.0)	
Brief DISCERN	Academic	Commercial	Government	Medical Practice	Media Outlet	Average	ANOVA
Score (mean; SD)	21.76 (5.07)	15.30 (3.26)	19.14 (4.49)	12.07(3.98)	18.20 (4.20)	14.79 (5.27)	F = 54.49, P <.001

Figure 2. Topic By Source

