Objective(s): Patients and families are increasingly turning to the internet for information and resources regarding their medical conditions. These searches are independent and unsupervised by their providers. Reports in the oncology literature have cast significant doubt on the accuracy and currency of the data being presented. The aim of this study is to critically appraise online resources that are targeted to patients seeking information on hemodialysis access.

Methods: A recently validated search strategy using the meta-search engines Google, Dogpile, and Yippy with the query “hemodialysis access” was performed on a cleared-cache web browser during January 2018. Inclusion criteria for the study were websites intended for patient education in English. Exclusions criteria consisted of online monographs, academic journals, and sites requiring paid subscription. Three independent reviewers evaluated the websites using a validated, structured rating tool that scored the Affiliation, Accountability, Interactivity, Structure and Organization, Readability, and Content of the websites.

Results: Out of more than 27 million collective search results using the three meta-search engines, the first 269 hits were considered for analysis. Only 63 unique patient-oriented sites were acceptable for analysis. 46% were sponsored by commercial entities. Accountability and interactivity were weak across sites. Readability as determined by Flesch-Kincaid and SMOG indices ranged from 6th grade to post-graduate level. 19% were written at a college reading level or higher, however these sites had content quality comparable to those utilizing more elementary prose. Commercial domains contained more inaccurate information compared to non-commercial domains (Table 1). Non-commercial domains trended toward more comprehensive content as well as superior readability. The average composite score of the websites was 2.8 out of a maximum possible weighted score of 7.8, indicating poor global quality of websites.

Conclusions: This is the first report on the quality of online patient resources in vascular surgery. The study demonstrates that online patient education resources regarding hemodialysis access are poor and require input from the vascular surgery community. Providers need to be aware and understand this issue and seek to inform and mitigate misinformation and potential misguidance. The vascular surgery community should invest in more readable and comprehensive web resources.