

# An Analysis on the Readability of Online Resources for Forehead Flap Nasal Reconstruction

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Davis S. Chong, BS<sup>a,†</sup>; Nina D. Ham, BA<sup>a,†</sup>; Alice R. Su, MD<sup>b</sup>, Travis T. Tollefson, MD, MPH<sup>b</sup>, Alexander P. Marston, MD<sup>b</sup>

<sup>a</sup> University of California Davis School of Medicine

<sup>b</sup> Department of Otolaryngology – Head and Neck Surgery, University of California Davis Health, Sacramento, California, USA

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Head and Neck Surgery

## Background

Forehead flap nasal reconstruction offers a versatile technique to repair both the external and internal nasal defects when the extent of the defect cannot be sufficiently repaired with more simple techniques.<sup>1</sup> Given the growing accessibility and widespread use of the internet as a source of health information, patients are increasingly relying on online, self-driven research to inform their medical decision-making.<sup>2,3</sup> Thus, evaluating the readability of online patient educational materials (PEM) on forehead flap nasal reconstruction may help assess the accessibility of patient centered education for patients receiving treatment for nasal defects.<sup>4,5</sup>

## Methods

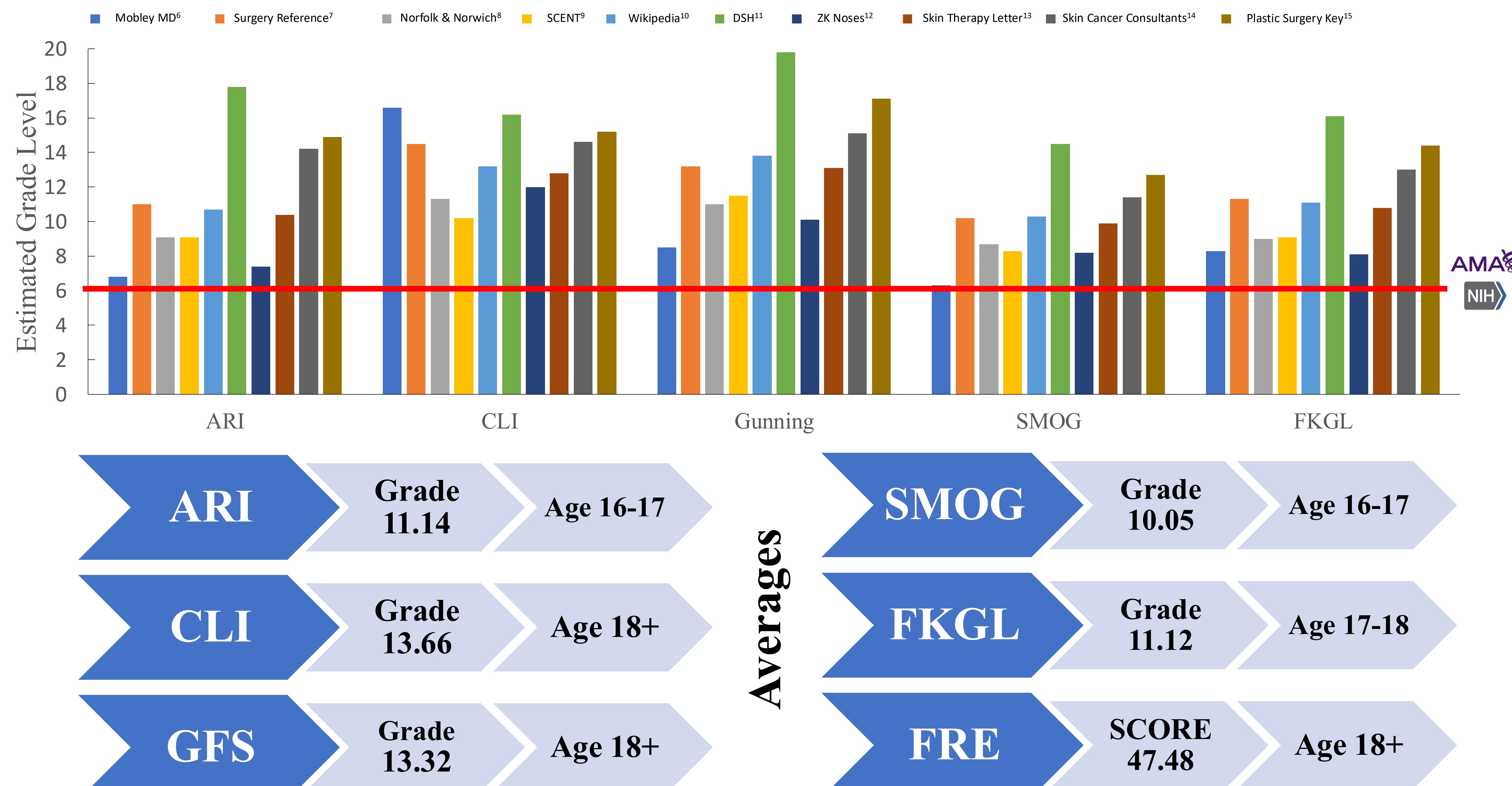
A Google Search query conducted August 2025 included the terms: “forehead flap nasal reconstruction” or “paramedian forehead flap nasal reconstruction.” The first 10 non-duplicate websites, including all first-page results, were analyzed. Non-English, paywalled articles, and research publications were excluded. Readability was assessed using six standardized metrics as seen below:

	Formula	Score Type	Goal
Automated Readability Index (ARI)	$G = (4.71 * (C/W)) + 0.5 * (W/S) - 21.43$	US School Grade Level	≤6-8
Coleman Liau Index (CLI)	$G = ((5.88 * C) / W) - ((29.5 * S) / W) - 15.8$	US School Grade Level	≤6-8
Gunning Fog Score (GFS)	$G = 0.4 * (W/S + ((X/W) * 100))$	US School Grade Level	≤6-8
Simple Measure of Gobbledygook (SMOG)	$G = 1.0430 * \sqrt{X + (30/S)} + 3.1291$	US School Grade Level	≤6-8
Flesch Kincaid Grade Level (FKGL)	$G = (11.8 * (B/W)) + (0.39 * (W/S)) - 15.59$	US School Grade Level	≤6-8
Flesch Reading Ease (FRE) score	$I = 206.835 - (84.6 * (B/W)) - (1.015 * (W/S))$	Index score (out of 100)	≥60-70

G = Grade; C = characters; W = words; S = sentences; X = complex words; B = syllables; I = Index score

## Results

10 websites were included in the analysis. Mean FRE score was 47.48.



## Conclusion

## References

Current online educational resources of forehead flap nasal reconstruction are likely to be written above the ideal 6th grade readability level, as described by the thresholds recommended by the American Medical Association.<sup>16</sup> Developing and widely dispersing accessible online resources will better support patient health literacy and informed decision-making.

