

## Readability of Trauma-Related Patient Education Materials from the AAOS and OTA Websites

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**Abstract :** Introduction: Web-based resources serve as a fundamental educational platform for orthopaedic trauma patients; however, they are notoriously written at a high grade reading level and are often too complicated for patients to benefit from them. The aim of this study is to perform an updated assessment of the readability of the AAOS trauma-related educational articles and compare their readability with that of injury-specific patient education materials developed by the OTA. Methods: All forty-six trauma-related articles on the AAOS patient education website were analyzed for readability. Two independent reviewers used the (1) Flesch-Kincaid Grade Level (FKGL) and the (2) Flesch Reading Ease (FRE) algorithms to calculate the readability level. Mean readability scores were compared across body part categories. One-sample t-test was done to compare mean FKGL with the recommended 6th-grade readability level and the average American adult reading level. Two-sample t-test was used to compare the readability scores of the AAOS trauma-related articles to those of the OTA. Results: The average FKGL and FRE for the AAOS articles were  $8.9 \pm 0.74$  and  $57.2 \pm 5.8$ , respectively. All articles were written above the 6th-grade reading level. The average readability of the AAOS articles was significantly greater than the recommended 6th-grade and average American adult reading level. The average FKGL ( $8.9 \pm 0.74$  vs  $8.1 \pm 1.14$ ) and FRE ( $57.2 \pm 5.8$  vs  $65.6 \pm 6.6$ ) for all AAOS articles was significantly greater compared to that of OTA articles. Excellent agreement was observed between raters for the FKGL 0.956 (95%CI 0.922 - 0.975) and FRE 0.993 (95%CI 0.987 - 0.996). Discussion: Our findings suggest that, after almost a decade, the readability of the AAOS trauma-related articles remains unchanged. The AAOS and OTA trauma patient education materials have high readability levels and may be too difficult for patient comprehension. A need remains to improve the readability of these commonly used trauma education materials.

**Keywords :** american academy of orthopaedic surgeons, FKGL, FRE, orthopaedic trauma association, patient education, readability

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