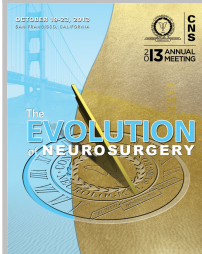


# Competency of Online Patient Education Materials for Spinal Cord Injury

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## Introduction

The use of online materials by healthcare consumers to access medical information presents unique challenges. Most Americans have access to the Internet and frequently turn to it as a first-line resource.

## Methods

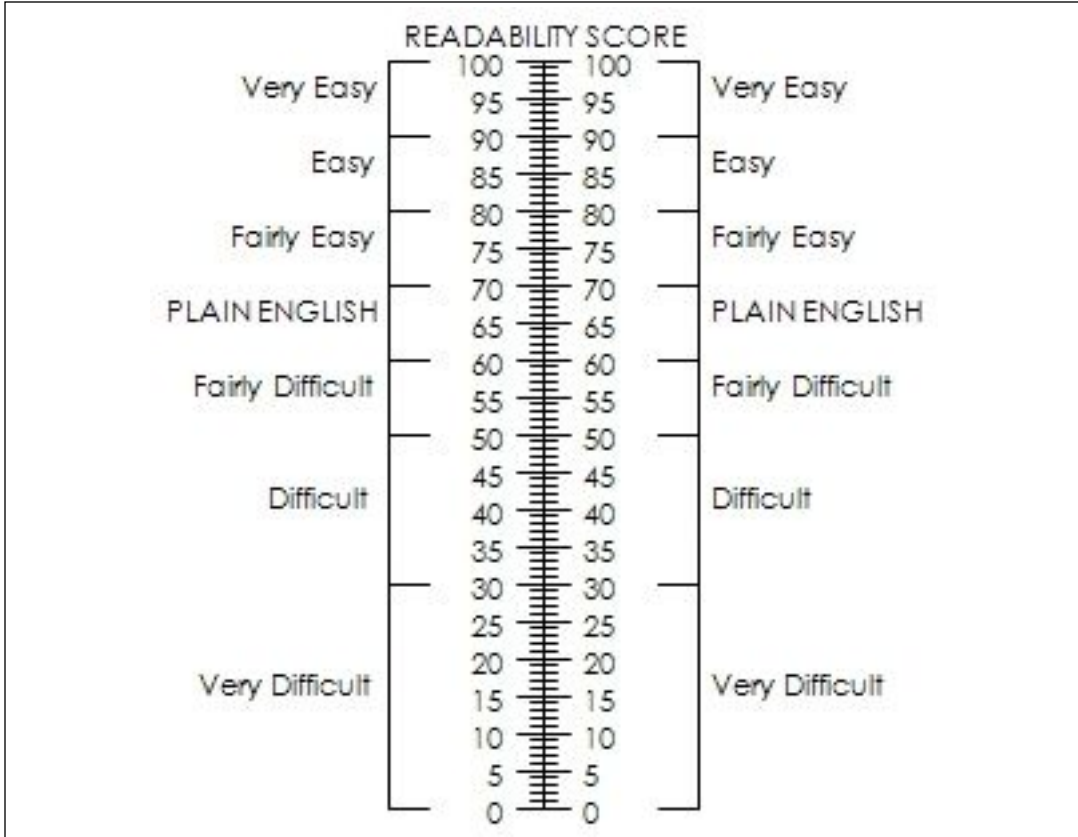
The readability of online patient education materials was evaluated. Materials provided by the National Institute of Neurological Disorders and Stroke (NINDS), the Centers for Disease Control (CDC), and the American Association of Neurological Surgeons (AANS) were assessed using the Flesch Reading Ease (FRE) and Flesch-Kincaid Grade Level (FKGL) evaluations with Microsoft Office Word software. Unnecessary formatting was removed and the readability was evaluated with the Spelling and Grammar function.

## Results

A total of 51 sections from 3 different websites were analyzed. Overall, the average values of the Flesch-Kincaid Grade Level (12.7) and Flesch Reading Ease (35.7) indicated that most Americans would not be able to fully comprehend this material (Table 1). A one-way ANOVA was performed to determine differences in the Flesch Reading Ease amongst the subsections and the 3 websites overall.

## Conclusions

Results indicate that the language used on materials provided by the NINDS, CDC, and AANS is perhaps too advanced for the average American to fully comprehend. Website revisions might be beneficial for improved patient utilization.



Organization	FRE	FKGL
National Institute of Neurological Disorders and Stroke (NINDS)	32.5	14.0
Centers for Disease Control (CDC)	46.7	10.3
American Association of Neurological Surgeons (AANS)	41.9	11.9
National Spinal Cord Injury Association (NSCIA)	51.5	10.1
Mayo Clinic (Mayo)	49.2	10.1
Department of Veterans Affairs (VA)	39.8	9.2
Kessler Institute for Rehabilitation (Kessler)	14.0	17.4
American Academy of Neurology (AAN)	28.4	14.7
Paralyzed Veterans of America (PVA)	47.7	10.6
Shepherd Center (SC)	50.2	11.0
<b>Arithmetic Mean ± Standard Deviation</b>	<b>40.2 ± 5.4</b>	<b>11.9 ± 1.1</b>

Readability assessments of patient education resources on spinal cord injury.



## References

1. Flesch R. How to write plain English : a book for lawyers and consumers. 1st ed. New York: Harper & Row, 1979.
2. Flesch R. A new readability yardstick. J Appl Psychol 1948;32:221-33.
3. Pew Internet & American Life Project. The Social Life of Health Information, 2010. Available from: