

# Personalized Letters Improve Patient Comprehension of Foot and Ankle Pathology and Procedures

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Rec date:

Acc date:

Pub date:

Copyright:

## Abstract

**Keywords** Consent; Readability; Patient information; Foot and ankle surgery

## Introduction

It has been shown that 15% of the adult United Kingdom population are 'functionally illiterate', with a reading age of 11 years or younger [1]. Yet patient educational materials and consent forms are frequently pitched at higher reading ages [2,3] despite General Medical Council (GMC) recommendations [4].

As a result, many patients fail to fully understand either their procedure or their condition, particularly in less familiar specialties such as foot and ankle, hand, and spine, where the array and intricacy of pathologies and procedures can appear daunting.

Non-confusing communication of the volume and depth of information required by patients in order to make informed treatment decisions is a major challenge for health professionals working in these areas.

The 2008 GMC guidelines required clinicians to give patients the information they want or need on all treatment options, to include the

conditions such as hallux valgus, hallux rigidus, and lesser toe deformities.

Readability was assessed using the following five instruments: Flesch-Kincaid grade level [6], Gunning fog index [7], Simple Measure of Gobbledygook (SMOG) index [8] and Coleman-Liau index [9].

Multiple tools are used to assess readability with no gold standard test validated for health specific literature.

We therefore used multiple instruments commonly used in previous readability papers to improve validity of results.

Each produces an approximate representation of the American school grade or formal education level needed to easily comprehend the text.

The algorithms take into account core measures of sentence and word length.

We calculated the mean of the five scores expressed as a school grade (with corresponding age) for ease of comparison with previous studies.

We then ran the same test battery on 50 personalized letters produced for his patients by the corresponding author (NH) explaining the patient's individual pathology and proposed treatment plan, including alternatives, risks and anticipated benefits. We compared the results with those for the existing standardized material (Tables 1 and 2).

Score	Notes

**Table 1:** Flesch-Kincaid reading ease: the higher the score, the greater the ease.

	Fleschkincaid reading ease score	Fleschkincaid grade level	Gunningfog score	Coleman-Liau index	SMOG index	Average grade level	Corresponding Age

**Table 3** Readability of the literature materials

Discussion

Improving patient comprehension s. eo

- 8 <http://www.readabilityformulas.com/smog-readability-formula.php>
- 9 <http://www.readabilityformulas.com/coleman-liau-readability-formula.php>
- 10 Berkman