

AAO Foundation Final Report Form

Type of Award Research Aid Award

Name(s) of Principal Investigator(s) Timothy Levine DMD

Title of Project Improving memory of orthodontic treatment information by using a humorous video.

Period of AAOF Support 07-01-15 to 12-31-16

Amount of Funding

\$5000 for video production

- \$1000 pre-production
- \$300 storyboard artist
- \$2500 animation
- \$400 for music and sound
- \$800 for editing and post-production

Summary/Abstract

Communication of treatment information is critical in orthodontics. The challenge is in communicating it effectively in a way patients will both understand and remember. Information memory has been shown to increase with multimedia presentations and humor. The study aimed to investigate if a humorous video presenting informed consent information to new orthodontic patients led to improved memory of that information. Two videos, humorous and non-humorous, were produced with identical information about orthodontic treatment consent. 38 randomly selected new orthodontic patients were divided into groups, 20 watched the humorous (H) and 18 the non-humorous (N). Identical questionnaires regarding content were completed, immediately following the video (T1) and six weeks later (T2). A one-sided Welch's t-test analyzed scores. At T1, there was no significant difference between H and N, while at T2 there was a significant difference ($p=0.003989$). The intra-group score difference was also analyzed, with no significant change found from T1 to T2 in group H ($p=0.1927$), but a significant change in group N ($p=0.01901$). Subjective questions were also asked, regarding content. No significant difference were found between the groups regarding how informative each video was, but willingness to watch again was significantly higher in H ($p = 0.03049$) and how memorable the content was ($p=2.157e-05$). This study showed that a humorous video improved memory of treatment consent information, that is more likely to be re-watched and is subjectively more. Humor in orthodontic information may be an effective way of improving communication.

Response to the following questions:

1. Were the original, specific aims of the proposal realized?

The original aim of the study was to investigate if patient memory of orthodontic treatment information could be increased by the use three communications elements (standardized instructions, multimedia presentations, and humor) that have been established by evidence to significantly increase information retention and recall. The statistical analysis showed that, after six weeks, the group that watched the humorous video indeed had better performance on a questionnaire about the presented information compared to that of the control group. Additionally, that group found the video more memorable and were more willing to watch the video again than the control, which can

suggests patients may willingly revisit these kinds of materials.

2. Were the results published?

The results have not yet been published. A final manuscript is being composed and will be submitted to an appropriate journal (either AJODO or JCO) upon completion. AAOF support will be gratefully acknowledged in the text.

3. Have the results of this proposal been presented?

The results have not yet been presented, as the data collection was not complete as of the AAO deadline. As the manuscript is nearing completion, I will begin to look at alternative venues for presentation or submit for the 2018 AAO meeting. At the time of presentation, AAOF support will be gratefully acknowledged.

4. To what extent have you used, or how do you intend to use, AAOF funding to further your career?

The support I received from the AAOF was critical to conducting this research. Without the grant, I cannot say that my department chair would have been as eager to let me embark on my own project, as no one at my institution focuses on communication in their research. Additionally, securing internal funding to produce the videos in the project may have been near-impossible, as such funding for such novel research is essentially nonexistent at my institution. The grant also gave me financial leeway to produce a video that was of professional quality. Had I been forced to create the video myself, the product would have been significantly rougher, as I am not a trained animator. I would imagine that, if the subjects were asked to watch a video that was of poor quality, the results may have been impacted. By hiring a professional animator, I was able to produce a video that can stand on its own merits and be viewed as if it were a professional product. Avoiding issues where subjects are distracted by production value and instead can focus on content was, I believe, critical to evaluating results.

My personal goals in conducting this research were manifold. I wanted to meld my personal, semi-professional experiences with comedy and art with my professional training in orthodontics; that desire certainly was met in doing this research project. My interest in researching patient communication was also met, as this was the focus of the study. I believe several follow-up projects have been suggested by these promising results which are certainly worth pursuing. I would also like to see if there is a way to use the positive results that suggest using entertainment to teach basic orthodontic instructions could be brought into our profession on a large scale, and I hope to explore this in the near future.