

# YouTube as a Source of Medical Information about Basivertebral Nerve Ablation (Intrasept Procedure)



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### Abstract

- Introduction:** YouTube is an important source of information accessed by patients prior to planned interventions. The purpose of this study was to appraise the quality of medical information available on YouTube for the topic of basivertebral nerve ablation (Intrasept Procedure).
- Study Design:** Forty-four (44) videos were appraised using 5 video scoring scales for appraisal: 1) the Modified DISCERN scale (5 questions, 0-5 points), 2) the JAMA Benchmark scoring (4 questions 0-4 points), and 3) the Global Quality Scale GQS (1 question 5 points), 4) the PEMAT Audio and Visual scale (11 questions 0-100%, and 5) the PEMAT Actionability scale (4 questions 0-100%). Videos were selected through keyword search. Seven Anesthesiology residents evaluated the videos. Interclass reliability using intraclass correlation coefficient was calculated to evaluate grader agreement per scoring instrument.
- Results:** Interclass reliability values per grading scale ranged from 0.53-0.65, suggesting moderate reliability among graders. The mean DISCERN score was 2.33, while the mean GQS, JAMA, PEMAT A/V and PEMAT Actionability scores were 2.66, 2.3, 0.74 and 0.19, respectively. Of the 44 included videos, n=35 (79.5%) were from a private source, while n=8 (18.2%) were from industry sources and n=1 (2.3%) was from an academic source (i.e., University of Kentucky Healthcare). Videos using the Relievable animations did have significantly higher PEMAT A/V scores when compared to those that did not use the animation (mean 0.90 vs. 0.68, p <0.01).
- Discussion:** With moderate inter-rater reliability across scales, overall quality of videos about Intrasept on YouTube was variable and dependent on the scale used. Lower scores were found on the JAMA and PEMAT Actionability items, pointing to the need for further videos to better attribute sources, disclose conflicts, and suggest next steps. There were no mean significant differences in grading scores between private, industry, and academic source. Videos that shared the use of the Relievable animation did have higher PEMAT A/V scores, suggesting that A/V cues may be standardized successfully across videos if they are of a high quality. The limitations of this study include inter-grader variability, reviewing videos from one video hosting platform, and multiple videos based on the same industry-provided animation.

### Introduction

- Basivertebral nerve ablation is a relatively new treatment for chronic lower back pain that was first demonstrated efficacious in 2011 by Heggeness et al. Since then multiple clinical trials have demonstrated the utility of this treatment in select patients<sup>1</sup>.
- YouTube is commonly cited as the world’s second-largest search engine (after Google) in terms of query volume. Media outlets, device manufactures, hospitals, and individual physicians host videos on the platform ranging from the promotional to more informational. Notable topics that have been previously evaluated include spinal cord stimulation, atrial fibrillation ablation, and gender affirming surgery<sup>2</sup>.
- Although trustworthy and verifiable health authorities such as the Mayo Clinic and NIH post videos on Youtube, it is ultimately a for-profit website where videos are hosted with little regulation or verification<sup>3</sup>.
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- We hypothesize that a) the majority of available videos will be industry sponsored, or come from private sources (i.e. non-academic), b) low-quality videos will have lower DISCERN and JAMA scores, c) we hypothesize that videos using the Relievable animation will be of higher quality than those not using the animation.

### Methods

- Two search terms: “Intrasept” and/or “basivertebral nerve ablation” were queried. Forty four (44) items were returned by the initial search, which was sorted based on upload date.
- View count, duration, and number of thumbs-up were recorded. The author of the video was sorted into one of the following categories by one grader (AB) by the corresponding author: academic, private practice, or industry.
- Mean scores were calculated and reported based on video author type. One-way analysis of variance (ANOVA) was used to compare means in groups, and post hoc pairwise Tukey’s test (HSD) was used to evaluate for significant differences among means.
- Percentages of videos considered acceptable quality (>3 on DISCERN, JAMA, and GQS) based on author type were calculated and reported. Subgroup analysis included comparing mean Modified DISCERN, GQS, and JAMA scores for videos with above-average view count, below-average view count, above-average thumbs-up, and below-average thumbs-up.

### References

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### Results

- The mean video length was 4 minutes and 57 seconds. The mean number of views was 9225.
- Table 1 reports the average instrument scores.

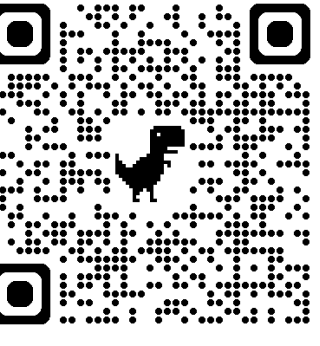
| Scoring Instrument  | Average score |
|---------------------|---------------|
| DISCERN             | 2.33          |
| GQS                 | 2.66          |
| JAMA                | 2.30          |
| PEMAT A/V           | 0.74          |
| PEMAT ACTIONABILITY | 0.19          |

Table 1. Table shows the average instrument for modified discern, JAMA, Global Quality Scale, PEMAT A/V, AND PEMAT actionability

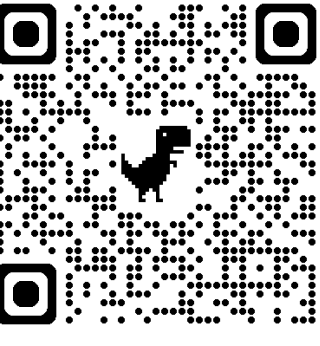
- Thirty five (35) videos (79.5%) were from a private source, while 8 (18.2%) were from industry sources and n=1 (2.3%) was from an academic source.
- No difference in grading score between video source was observed.

### Discussion

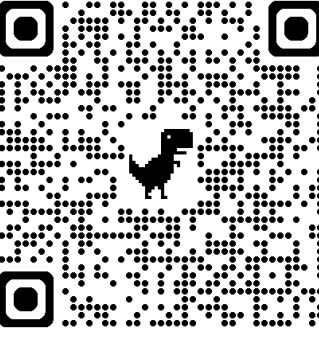
- None of the 5 scoring instruments had mean scores equal to or above the acceptable video score. Higher scores were noted for GQS and PEMAT A/V.
- JAMA, Discern, and PEMAT actionability instruments award points for citations, conflict of interest disclosure information, risk versus benefits, patient eligibility, and proposed next steps for patients, which most videos lacked <sup>4</sup>.
- Scores on the PEMAT Actionability were demonstrably low across video graders suggesting that the Intrasept videos did a poor job of identifying actionable items or connecting presented data to actionable next steps.
- Another JAMA criteria that was poorly scored for most videos were proper disclosures.
- A key limitation of our study was the moderate agreement between video graders, suggesting that that even with “objective grading scales” the medical education content of videos can be interpreted differently or graders did not have a uniform understanding of the scoring systems.
- Producers of medical procedure and medical device videos should ideally incorporate feedback which shows videos often did not adequately inform and prepare patients.
- Limitations of our study include only moderate agreement amongst video graders, only evaluating videos hosted on youtube, and a large proportion of videos using the same industry provided animation, which limited the originality and scope of most videos.



Click the QR code to watch the playlist of videos.



Click the QR code to review the PEMAT instruments



Click the QR code to review DISCERN, JAMA & GQS instruments

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