

Reliability and Quality of YouTube Videos as a Source of Information About Felon

✉ Mehmet Murat Bala¹, ✉ Hilmi Alkay², ✉ Ali Said Nazlıgöl³

¹ Department of Orthopaedics and Division of Hand Surgery, Faculty of Medicine, University of Hacettepe, Ankara, Türkiye

² Department of Orthopaedics, Ankara Etlik City Hospital, Ankara, Türkiye

³ Department of Orthopaedics, Sincan Training and Research Hospital, Ankara, Türkiye

Abstract

Aim: YouTube is easily preferred because it offers people free and readily accessible information. The aim of this study was to determine the reliability, popularity and quality of YouTube videos as a patient-education resource on felon (finger pulp abscess).

Methods: On 28 December 2024 the keywords “Felon Finger” and/or “Finger Felon” were entered into the YouTube search engine. Of roughly 51 000 results, the first 50 were evaluated. Videos were analysed according to source and content using the Video Power Index (VPI), Quality Criteria for Consumer Health Information (DISCERN), Journal of the American Medical Association (JAMA) benchmark criteria, Global Quality Score (GQS) and Felon Specific Score (FSS). All scores were assigned independently by three observer surgeons and analysed using their mean values.

Results: Comparisons of VPI, JAMA, DISCERN, GQS, and FSS by video source and content revealed significant differences for JAMA, GQS, and FSS according to source, but no significant difference for VPI. Medical-source videos had significantly lower JAMA scores than those by physicians and non-physician healthcare workers ($p < 0.05$), but higher GQS and FSS values ($p < 0.05$). No significant effects of video duration, view count, view-rate, or like-rate were detected. YouTube videos concerning felon were found not to possess adequate reliability or quality for patients.

Conclusions: Internet use for health information is increasing. Most videos about felon on YouTube® are produced by non-physicians, but their quality and reliability are lower than those from physicians.

Keywords: Felon; YouTube; online search; internet information

1. Introduction

Finger-tip injuries are common and are prone to infection. These infections may be superficial or deep.¹ The infections most frequently encountered at the fingertip are superficial.² Among them, paronychia and felon are the most common; herpetic whitlow is rarer.³ A felon is an inflammatory process that develops in the pulp of the finger tip.⁴ It usually follows events of everyday life such as a splinter, small glass cuts or abrasions.^{3,5}

Diagnosis is generally made by history, physical examination and the cardinal signs of abscess. Ultrasonography may be required to detect a foreign body.^{6,7} Although surgical drainage alone is sufficient, some clinicians prescribe antibiotics.⁸ Antibiotics are recommended for diabetic or immune compromised patients.⁴

If an abscess has formed, surgery is mandatory; otherwise spontaneous drainage may be incomplete and complications may ensue.⁹ During surgery the neurovascular bundle may be injured. Complica-

tions related to anaesthesia may occur, and advanced cases may develop lymphangitis or osteomyelitis.^{5,10} After blunt dissection, soaking the finger for ten minutes in 48 °C warm water provides relief, and the finger should be kept elevated above heart level post-operatively.³

Six out of ten people use the internet as a source of health information.¹¹ YouTube, which provides free and readily accessible content, is therefore popular. However, the accuracy, reliability and quality of this content are not supervised and users often lack the means to apply what they have seen.¹²

To our knowledge, no study has evaluated the popularity, content quality and reliability of YouTube videos related to felon. The aim of this study was to determine the reliability, popularity and quality of YouTube videos as a patient-education resource on felon (finger pulp abscess).

2. Materials and Methods

On 28 December 2024 the keywords “Felon Finger” and/or “Finger Felon” were entered into YouTube. Users generally cease searching after the third results page (13); therefore, the first 50 of ~51 000 results were examined (sorting: “relevance”). Duplicate videos, videos unrelated to fingertip infection, silent videos, videos shorter than 20 s or longer than 1 h, videos in which likes/comments were disabled and videos with fewer than 5 000 views were excluded. Browser cookies were cleared before each search. Web sites targeting professionals, commercial sales sites, fora and chat sites were not considered.

For each video the following were recorded: source, content, title, upload date, daily views, likes/dislikes, duration and VPI(Video Power Indeks). Sources were categorised as medical, physician, non-physician healthcare worker, patient, academic, trainer or institution. Content categories were post-operative care, disease-specific information, patient experience, surgical technique, non-surgical management and advertisement.

The reproducibility of the calculation criteria DISCERN (Quality Criteria for Consumer Health Information), JAMA (Journal of the American Medical Association) benchmark, GQS (Global Quality Score), FSS (Felon Specific Scoring) was tested before the first analysis. Video popularity was assessed with VPI. All scores were scored separately by three surgeon observers, and statistical analysis was performed using the mean values.

2.1. Tests and Scoring

The JAMA (Journal of American Medical Association) benchmark criteria are designed to evaluate the quality of medical information on the internet (14). A score of one point is given for a positive response to each parameter, while zero points are given if the criterion is not met. The JAMA score ranges from 0 (no criteria met) to 4 points (all 4 criteria met). The four parameters evaluated are shown in Table 1.

Table 1
JAMA (Journal of American Medical Association) benchmark criteria

1.Authorship: Authors, contributors, their affiliations, and credentials
2.Attribution: References, sources for all content, and relevant copyright information
3.Disclosure: Conflicts of interest, sponsorship, advertising, support, and video ownership must be fully disclosed
4.Currency: The date of the data published

All videos were also rated using the Global Quality Score (GQS) to quantify their educational and informational value (15). On a 5-point scale: 1=poor quality, unlikely to be useful; 2=low quality, somewhat useful; 3=fair quality, some important elements missing; 4=good quality, useful; 5=excellent quality, very useful as shown in Table 2.

For a more comprehensive evaluation of YouTube videos regarding felon-specific diagnosis, classification, treatment options, and complications, a scoring system called Felon Specific Scoring (FSS) was used in this study. We adapted and modified it to felon-specific content, taking into account the literature and expert opinions(Table 3). Based on the FSS checklist, 1 point was given if each topic was presented verbally or in writing in the video. K-means clustering analysis was used to classify the quality of videos according to FSS scores. Videos were grouped as low quality (FSS score <

1.85), low quality (FSS score between 1.85 and 9.8), and good quality (FSS score > 9.8).

In evaluating the popularity of videos, view and like rates were considered. Since the Video Power Index (VPI) is a frequently used index in the literature, the same formula was used(16): like rate * view rate / 100. Information about the video uploader, number of viewers, upload date, number of commenters, and number of likers and dislikers were recorded.

Table 2
GQS (Global Quality Score)

1.Grade: Low quality and unlikely to be useful for patient education.
2.Grade: Low quality and fluent; somewhat useful for patients as some information is available.
3.Grade: Low quality and fluent; some important topics are missing; some information is available.
4.Grade: Good quality and fluent; somewhat useful for patients as most important topics are covered.
5.Grade: Excellent quality and fluent; highly useful for patients.

Table 3
The Felon Specific Score Criteria

A— Pre-operative Evaluation
1-Patient age
2- Patient sex
3- Comorbidities
4- Previous surgical history
5- Prior treatment
6- Finger anatomy
7- General disease information
8- Timing of intervention
9- Clinical diagnosis
10- Differential diagnosis
11- Initial treatment
12- Imaging modalities
B— During surgery
1- Surgical indications
2- Surgical contraindications
3- Intervention techniques
4- Were materials to be used for blunt dissection specified?
5- Was surgical sterilization explained?
6- Possible complications during surgical drainage
C— Postoperative
1- Was it stated in the video whether postoperative complications developed?
2- Was hospital stay or discharge time specified in the video?
3- Post-operative care

a: Questions answered yes or no, yes = 1 point, no = 0 point

DISCERN (Consumer Health Quality Criteria) is a scoring system developed by Charnock et al.(17). It determines the educational quality of videos with a five-question scoring. It consists of 3 sections (Table 4). The first section with 8 questions concerns reliability, the second section with 7 questions concerns treatment/care options, and the third section with 1 question concerns the overall evaluation of the material. Each criterion is arranged as yes or no

and scored up to a maximum of five. The total score is classified as excellent for 63-75 points, good for 51-62 points, moderate for 39-50 points, insufficient for 27-38 points, and very insufficient for 16-26 points.

2.2. Ethical approval

This study did not involve human participants or animal experiments; analysed videos were publicly available, and therefore no ethics-committee approval was required.

2.3. Statistical analysis

Statistical analyses were performed with IBM SPSS Statistics v.22 (IBM SPSS, Turkey). Descriptive statistics (mean, standard deviation, median, first/third quartile, frequency, percentage, minimum, maximum) were calculated. Normality of continuous variables was tested using the Shapiro–Wilk test and graphical methods. Independent sample t-tests compared normally distributed variables between two groups; the Mann–Whitney U test was used for non-normal distributions. The Kruskal–Wallis test compared non-normal variables among multiple groups, with Bonferroni correction for post-hoc validation. K-means clustering identified groupings in the data. Consistency and maintainability among observer surgeons were analyzed using Kappa analysis. Statistical significance was accepted at $p < 0.05$.

3. Results

There After clearing the browser history, the keywords “Felon Finger” and/or “Finger Felon” were entered into YouTube, and the first 50 videos meeting the inclusion criteria were analysed (Table 5).

Kappa analysis demonstrated excellent agreement between observers (DISCERN $\kappa = 0.949$; FSS $\kappa = 0.931$; JAMA $\kappa = 0.942$; GQS $\kappa = 0.952$; $p \leq 0.001$). After applying the inclusion criteria, 50 videos were analysed from 103 screened.

Total video duration was 1997 s (mean 359.12 ± 309.89 ; range 58–1.598).

Total views numbered 989.765 (mean 138.821 ± 259.987 ; range 10.143–987.891). Mean view ratio was 98.77 ± 147.98 (min 5.69, max 650.09) and mean like ratio 96.59 ± 3.29 (min 84.98, max 101). Mean VPI was 101.98 ± 145.01 (min 4.7, max 640.03). Mean days since upload were $1\,621.12 \pm 1\,099.87$ (min 89, max 4.398).

By source, 16 videos (32 %) were uploaded by non-physician healthcare workers, 15 (30 %) by physicians, 11 (22 %) by medical sources, 6 (12 %) by academics and 2 (4 %) by patients. By content, 28 videos (56 %) covered disease-specific information, 12 (24 %) treatment options, 8 (16 %) surgical technique, 1 (2 %) patient experience and 2 (4 %) advertisement.

Mean JAMA score was 1.9 ± 0.65 (range 1–4); mean GQS 2.80 ± 1.10 (range 1–5). Authorship was present in 69 % of videos, attribution 7 %, currency 100 % and disclosure 5 %. Mean FSS was 5.85 ± 3.98 (range 1–15).

Although there was no significant difference for the VPI value, the analysis showed a significant difference for JAMA score, DISCERN, GQS, and FSS for video source. JAMA scores of videos from medical sources were significantly lower than those of doctors and other healthcare professionals (non-physicians) ($p < 0.05$). The GQS and DISCERN of videos from medical sources was significantly higher than those of healthcare professionals (non-physicians) ($p < 0.05$). For FSS, the significance is due to the difference between medical source and healthcare professional (non-physician) and between doctor and healthcare professional (non-physician) ($p < 0.05$). The analysis showed that video source had no significant effect on duration ($p = 0.0895$), views ($p = 0.5788$), view rate ($p = 0.5599$), or like rate ($p = 0.0781$). Furthermore, it was shown that

video content had no significant effect on duration ($p = 0.3517$), views ($p = 0.4989$), view rate ($p = 0.1756$), or like rate ($p = 0.1842$). FSS of healthcare professionals (non-physicians) are significantly lower than those of medical sources and physicians ($p < 0.05$). Linear regression showed that the continent, source, content, or duration of the video had no significant effect on VPI ($p > 0.05$). Linear regression showed that the continent, content, duration, views, view rate, or like rate of the video had no significant effect on JAMA score, DISCERN, GQS, or FSS ($p > 0.05$).

Table 4

DISCERN(Quality Criteria for Consumer Health)

Section 1:

IS THE PUBLICATION RELIABLE?

1. Are the aims clear?
2. Does it achieve its aims?
3. Is it relevant?
4. Is it clear which sources of information were used to compile the publication (other than the author or producer)?
5. Is it clear when the information used or reported in the publication was produced?
6. Is it balanced and unbiased?
7. Does it provide details of additional support and information sources?
8. Does it refer to areas of uncertainty?

Section 2:

HOW GOOD IS THE QUALITY OF INFORMATION ABOUT TREATMENT CHOICES?

9. Does it explain how each treatment works?
10. Does it explain the benefits of each treatment?
11. Does it explain the risks of each treatment?
12. Does it explain what will happen if no treatment is used?
13. Does it explain how treatment choices affect the overall quality of life?
14. Is it clear that there may be more than one possible treatment option?
15. Does it support shared decision-making?

Section 3:

OVERALL ASSESSMENT OF THE PUBLICATION

16. Based on the answers to all the above questions, rate the overall quality of the publication as a source of information about treatment choices.

4. Discussion

This study analysed YouTube videos on felon in detail, examining topics, engagement and quality. Most videos provided general information about the disease. The highest GQS and DISCERN scores were achieved by videos prepared by physicians, yet these high-quality videos did not receive more views or likes than lower-quality videos created by non-physician sources. Thus, non-physician videos, although inferior in quality, were more successful in public engagement.

Table 5**Mean and standard deviations DISCERN, JAMAS, GQS, FSS, and VPI Values of the Videos Based on Source and Content**

	GQS	VPI	JAMA	FSS	DISCERN
Video Source					
Physician	2.89 (1.13)	91.12 (109.979)	2.19 (0.28)	5.59 (3.39)	36.79 (21.51)
Academician	3.29 (0.61)	47.98 (50.12)	2.00 (0)	6.29 (1.49)	26.51 (23.09)
non-physician healthcare worker	2.21 (0.89)	119.98(159.89)	1.89 (0.69)	3.21 (2.11)	36.19 (20.69)
Patient	3.00 (.)	14.98 (.)	2.00 (.)	6.00 (.)	24.49 (19.21)
Trainer or institution	3.50 (0.50)	99.01 (180.11)	1.00 (0)	6.71 (1.49)	28.61 (25.29)
	p = 0.0050 ^a	p = 0.4849	p = 0.0020 ^b	p = 0.0019 ^c	(p= 0.021)
Video Content					
Disease-specific information	3.11 (0.89)	76.201 (111.09)	1.59 (0.71)	5.61 (2.89)	
Post-operative care	1.89 (0.91)	179.87 (181.12)	2.19 (0.39)	2.59 (1.49)	
Surgical technique,	2.69 (1.31)	189.65 (289.97)	2.00 (0.79)	5.00 (2.21)	
non-surgical management	2.31 (0.89)	41.98 (27.61)	2.00 (0)	3.50 (2.12)	
Patient experience,	3.00 (.)	14.98 (.)	2.00 (.)	6.00 (.)	
Advertisement.	3.00 (.)	22.09 (.)	1.00 (.)	4.00 (.)	
	p=0.0812	p = 0.1801	p = 0.1512	p = 0.0569	

Abbreviations: GQS, Global Quality Score; JAMA, Journal of American Medical Association; FSS, Felon Specific Scoring; DISCERN, Consumer Health Quality Criteria; VPI, video power index.

Note: p-Value < 0.05 was considered significant.

^a GQS is significantly affected by the video's source in the ANOVA test. Post-hoc test showed a significant difference between medical source and non-physician ($p = 0.005$).

^b JAMA score is significantly affected by the video's source in the Kruskal-Wallis test. Post-hoc test showed a significant difference between medical source and physician ($p < 0.001$) and between medical source and non-physician ($p = 0.001$).

^c FSS is significantly affected by the video's source in the Kruskal-Wallis test. Post-hoc test showed a significant difference between medical source and non-physician ($p = 0.007$) and between physician and non-physician ($p = 0.047$).

Felon videos on YouTube have a high view rate, with the first 50 videos having a total view count of 5,125,971. The average JAMA score of the videos is 1.9, which indicates a low score. The average GQS and FSS are 2.80 and 5.85, respectively, which were interpreted as low educational quality(18). It was found that if the video source related to felon surgery on YouTube® was a medical doctor or a professional healthcare institution, the content was of good quality in terms of information and educational quality, but videos prepared for commercial purposes were of medium-low quality. It was determined that the video providers were non-physician healthcare professionals and created content related to the most common findings of the disease. The video source emerged as an independent predictor for understanding the reliability and educational quality of the videos.

It has been found that most people who visit a doctor in society also search the internet(19). In our study, the average view count was determined as 112,716 in the evaluation of the first 103 videos on YouTube as information sources. Looking at similar studies, the number of views for Kyphosis was 131,644, for PCL tear 50,477, for CTS 140,916, and for meniscus tear 288,597(15). It can be seen that the more frequent orthopedic problems are in society, the more internet research is done by patients. When other YouTube videos related to orthopedic diseases were examined, it was determined that the source was mostly healthcare professionals (non-physicians). In the videos examined in our research, consistent with the literature, non-physician healthcare professionals were observed as the video source.

A study by Ishack and Lipner found that the overall quality of

videos related to nail biopsy procedures was low, with an average DISCERN score of 1.60 out of 5, indicating insufficient information(20). They also identified significant deficiencies in basic details such as anesthesia techniques and repair methods, highlighting the need for higher quality educational content for patients and physicians. The paucity of content on incision techniques in felon videos likewise highlights a need for better educational material.

Gong et al. (21) demonstrated that a six-minute educational video improved knowledge levels in carpal-tunnel-syndrome patients compared with controls. As a result of our study, we suggested that a similar training video should be prepared.

4.1. Study limitations

A limitation of this study is that scoring systems such as JAMA, GQS and DISCERN, although based on AAOS guidelines, have not been fully validated; nonetheless, they remain widely used (22). In the clinical setting, patients often request web-site recommendations from their doctors. Our results show that existing YouTube videos on felon do not offer patients sufficient reliability or quality.

5. Conclusion

Internet use for health information is steadily increasing. We believe it is the duty of physicians and professional societies to provide accurate, high-quality educational videos on common conditions. Facilitating access to reliable knowledge will reduce confusion and support healthier decision-making. Most videos about felon on YouTube® are produced by non-physicians, but their quality and

reliability are lower than those from physicians.

genAI

No artificial intelligence-based tools or generative AI technologies were used in this study. The entire content of the manuscript was originally prepared, reviewed, and approved by both authors.

Funding

This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

Conflict of interest statement

The authors declare that they have no conflict of interest.

Availability of data and materials

This Data and materials are available to the researchers.

Author contributions

Both authors contributed equally to the article. Both authors read and approved the final manuscript.

References

- Patel DB, Emmanuel NB, Stevanovic MV, et al. Hand infections: anatomy, types and spread of infection, imaging findings, and treatment options. *Radiographics*. 2014;34(7):1968–86. [\[Crossref\]](#)
- Barger J, Garg R, Wang F, Chen N. Fingertip infections. *Hand Clin*. 2020;36(3):313–21. [\[Crossref\]](#)
- Jebson PJ. Infections of the fingertip. Paronychias and felons. *Hand Clin*. 1998;14(4):547–55, viii. [\[Crossref\]](#)
- Koshy JC, Bell B. Hand infections. *J Hand Surg Am*. 2019;44(1):46–54. [\[Crossref\]](#)
- Watson PA, Jebson PJ. The natural history of the neglected felon. *Iowa Orthop J*. 1996;16:164–6.
- Subramaniam S, Bober J, Chao J, Zehtabchi S. Point-of-care ultrasound for diagnosis of abscess in skin and soft tissue infections. *Acad Emerg Med*. 2016;23(11):1298–306. [\[Crossref\]](#)
- Adhikari S, Blaivas M. Sonography first for subcutaneous abscess and cellulitis evaluation. *J Ultrasound Med*. 2012;31(10):1509–12. [\[Crossref\]](#)
- Tosti R, Ilyas AM. Empiric antibiotics for acute infections of the hand. *J Hand Surg Am*. 2010;35(1):125–8. [\[Crossref\]](#)
- Langer MF, Grünert JG. [Diagnostic and therapeutic problems in paronychia and felons]. *Handchir Mikrochir Plast Chir*. 2021;53(3):259–66.
- Dikhtyar A, Stack LB. Felon caused by foreign body. *Vis J Emerg Med*. 2021;24:101059. [\[Crossref\]](#)
- Erdem O, Erdemir VA, Alpdoğan EE, et al. Assessment of YouTube videos about nail health and conditions in Turkish. *Turkderm*. 2025;59(2):45–53. [\[Crossref\]](#)
- Osman W, Mohamed F, Elhassan M, Shoufan A. Is YouTube a reliable source of health-related information? A systematic review. *BMC Med Educ*. 2022;22(1):382. [\[Crossref\]](#)
- Singh AG, Singh S, Singh PP. YouTube for information on rheumatoid arthritis -- a wakeup call? *J Rheumatol*. 2012;39(5):899–903. [\[Crossref\]](#)
- Silberg WM, Lundberg GD, Musacchio RA. Assessing, controlling, and assuring the quality of medical information on the Internet: Caveant lector et viewer--Let the reader and viewer beware. *JAMA*. 1997;277(15):1244–5. [\[Crossref\]](#)
- Özbek EA, Armangil M, Karaca MO, Merter A, Dursun M, Kocaoğlu H. Evaluation of the reliability and quality of information in carpal tunnel syndrome shared on YouTube. *J Wrist Surg*. 2022;11(4):295–301. [\[Crossref\]](#)
- Erdem MN, Karaca S. Evaluating the accuracy and quality of the information in kyphosis videos shared on YouTube. *Spine (Phila Pa 1976)*. 2018;43(22):E1334–9. [\[Crossref\]](#)
- Charnock D, Shepperd S, Needham G, Gann R. DISCERN: an instrument for judging the quality of written consumer health information on treatment choices. *J Epidemiol Community Health*. 1999;53(2):105–11. [\[Crossref\]](#)
- Zhuang T, Kortlever JTP, Shapiro LM, Baker L, Harris AHS, Kamal RN. The influence of cost information on treatment choice: a mixed-methods study. *J Hand Surg Am*. 2020;45(10):899–908.e4. [\[Crossref\]](#)
- Cassidy JT, Baker JF. Orthopaedic patient information on the World Wide Web: an essential review. *J Bone Joint Surg Am*. 2016;98(4):325–38. [\[Crossref\]](#)
- Ishack S, Lipner SR. Evaluating the impact and educational value of YouTube videos on nail biopsy procedures. *Cutis*. 2020;105(3):148–9;E1.
- Gong HS, Park JW, Shin YH, Kim K, Cho KJ, Baek GH. Use of a decision aid did not decrease decisional conflict in patients with carpal tunnel syndrome. *BMC Musculoskelet Disord*. 2017;18(1):118. [\[Crossref\]](#)
- Erdem MN, Karaca S. Evaluating the accuracy and quality of the information in kyphosis videos shared on YouTube. *Spine (Phila Pa 1976)*. 2018;43(22):E1334–9. [\[Crossref\]](#)