Review of “Video-Based Learning in Surgery Establishing Surgeon Engagement and Utilization of Variable-Duration Videos.” by Andrew Yee, BS and William M. Padovano, BS. *Ann Surg* 2020;272:1012–1019

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Video-based learning (VBL) has been proven to facilitate surgical education by providing opportunities for focused clinical and technical instruction, standardization of best practices, and expansion of international teaching. Additionally, VBL allows viewers the flexibility to watch surgical videos at their own pace and analyze technique for personalized learning. However, because these videos have not been optimized across platforms and factors impacting quality have not been thoroughly assessed, there exists a gap in educational value for surgical learners. Key variables that contribute to varying degrees of surgical video quality include cognitive load of the content, viewer expertise, audience engagement and retention, and video duration.

To provide insight into viewer behavior, the authors analyzed 117 of their own surgical videos on treatments for peripheral nerve injuries over a seven-year period, which were published on YouTube (youtube.com/nervesurgery) and an accompanying pilot VBL platform, PASSIO Education (passioeducation.com). The PASSIO Education (PASSIO) website offered patient information, surgical indications, and operative technique, with the ability to view specific operative steps and modify playback speed. Based on their time length, videos of the same procedure were categorized as either short or long, and corresponding survey assessment of PASSIO members was used to evaluate duration preferences.

Data analysis found that the videos were cumulatively watched over 3.2 million times with around 70% of views from countries outside of the United States. Additional exploration of audience engagement, defined as the average percent of the video watched, found that PASSIO videos had significantly higher rates of engagement than those on YouTube (48.4% versus 34.3%). On both platforms, short videos had markedly higher engagement rates as opposed to long videos. Surgeon members of PASSIO attested to using short videos primarily for routine surgeries or when preparing with limited time, while long videos were more useful to learn new techniques, train for infrequent cases, improve patient outcomes, and teach trainees.

Additional research is required to best understand viewer habits and desires and consequently optimize video design for targeted audiences. Suggestions include novel methods of video editing to better condense extensive procedures, language translations to capture more diverse audiences, and holding the video authors to higher teaching standards to improve coaching. Importantly, limitations in the analytics algorithms used could have led to inconsistent analysis of viewership data and complicated the comparison of video metrics across different platforms. Nevertheless, the authors have established a successful benchmark in the use of YouTube and a novel VBL website in the effort to improve surgical learning and patient care globally.

Review of “Elective Surgery and COVID-19: A Framework for the Untested Patient” by Lu AC, Burgart AM. *Annals of Surgery* 2020;272(6):e291-e295

The authors of this paper discuss the management of patients untested for COVID-19 in elective surgeries. COVID-19 has changed health care practices in all fields, and surgery is no exception. Societies have created guidelines for the management of COVID-19 patients, generally calling for universal COVID-19 testing in surgical candidates whenever possible. However, in some cases, patients may be either unable to receive the test or they may refuse the test. In these cases, the authors describe how a framework can be used to help decide how to proceed.

Although patients have the right to refuse testing, they are not the sole decision-maker in access to surgical care. When considering an elective operation, the risk-benefit ratio is important to balance in untested patients. For the patient, there is an increased chance of perioperative complications. For healthcare workers, there is a risk of disease transmission. The acuity of the elective operation must be considered, as well as the potential course of the patient if they are denied or have delayed treatment. It is necessary to consider the needs of all involved parties to come to a decision.

The authors describe many different reasons why patients may refuse care. In the case of a test refusal, it is important to explore the rationale behind the decision. Reasons can include medical contraindications and worries about cost or potential impact on future care. Patients may also think the test is uncomfortable or doubt the validity or necessity of the test. When addressing concerns, communication should be relationship-centered. Steps should be taken to understand the reason and address any misunderstandings the patient may have. It is important to ensure that the refusal is an informed refusal.

Some patients may still refuse testing despite attempts to address concerns. In this case, certain points must be considered: the likelihood of the patient being positive based on community healthcare trends, the availability of resources necessary to deal with a potentially positive patient, the possibility of postponing the operation, and the healthcare workers' comfort and ability to deal with an untested patient. Health systems should create testing policies that reflect these issues. Using these factors, the authors created a framework to decide when and how to operate.

Clear communication and education for both patients and staff are also important to address concerns. Communication should seek

to de-escalate and avoid conflict. This can be done through addressing patient emotion and active listening. Coercion or the perception of coercion should be avoided. Third-party facilitators provided by the institution may also be beneficial. Education should proactively cover common concerns and ensure patients and staff have up to date information. Information about local disease prevalence should be gathered from local public health departments. Personal Protective Equipment should be provided for both patients and staff.

At the author's institution, healthcare workers have been able to deal with untested patients using guidelines according to the framework described above. Patients' concerns were addressed in a way that decreased patient refusals, accommodated specific

patient needs, and created an environment where workers felt comfortable throughout encounters. As elective surgeries become more common, hospitals must be prepared for situations where a COVID-19 test is not possible. Proactively planning for these situations can help respect patient autonomy, protect employees, and continue to provide for public health.

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